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



# 63rd CONSOLIDATED MONTHLY EM&A REPORT

January 2022

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/1148

**Prepared by :** Toby Wan

Reviewed by : Calvin Leung

Certified by : Colin Yung

Independent Environmental Checker

Fugro Technical Services Limited

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



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Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Fax: +852 2450 8233
Fuen Mun, N.T.,
Fax: +852 2450 6138
Fe-mail: matlab@fugro.com
Website: www.fugro.com



#### **EXECUTIVE SUMMARY**

- i. This is the 63<sup>rd</sup> Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 January and 31 January 2022.
- ii. The construction activities undertaken in the reporting month are summarized as follow:

#### Contract No. KL/2014/01:

- Architectural features works at landscaped deck and ground floor open space
- Defect work of pedestrian streets
- E&M works
- Laying of paving blocks for footpath
- · Planting works along footpath and at deck level, and
- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road

#### Contract No. KL/2015/02:

- Construct the top slab of lift shaft at SKLR playground
- Construct pillar box for electrical supply of SW6
- Carry out re-bar fixing at Bay 13 of SW6 under Stage 4 Decking
- Carry out outstanding works for irrigation system at Road L7 and D1

#### Contract No. ED/2018/01:

- North Approach Ramp Construction of wall, roof slab, utilities trough
- Bridge D3 Construction of Bridge Deck and abutments
- North Depressed Road Construction of wall & top slab
- Underpass Construction of walls and roof slab
- South Approach Ramp Construction of Permanent Structure
- District Cooling System seawater intake box culvert Installation of precast units and backfilling works, reinstatement of the seawall and backfilling works
- Lift 3 –Construction of linking platform
- Lift 4 Construction of Wall and Roof Slab / Installation of Steelworks and Glass Panel
- South Depressed Road –Installation of ELS system / construction of permanent works
- Rising Main and Water Pipe Laving of sewage
- Landscaped Deck -Construction of pile caps and installation of columns
- Transformer Room –Installation of ELS system and construction of permanent structure
- Road D3 Junction –Road works
- Lift 1 &2 -Installation of ELS system

#### **Contract No. ED/2018/05:**

- Bored pile works for landscape elevated walkway LW-02
- ELS and excavation at Pier 9 and Pier 10 for Elevated Walkway LW-02
- Underground utility diversion works at Sa Po Road
- ELS and excavation at launching shaft for subway SB-01
- Drainage works for Pedestrian Street No. 1, No. 2, No. 3 & No. 4
- Construction of Crowd Dispersal Route
- Construction works for Road L16
- Construction of DCS Pre-bored socket H-piles construction for Subway KS10
- Twin rising mains diversion works

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



#### **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 for Contract No. KL/2014/01, Contract No. KL/2015/02, Contract No. ED/2018/01 and Contract No. ED/2018/05 in this reporting month.

#### **Reporting Changes**

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

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



#### **Future Key Issues**

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

| -  | e I Summary of Key Issues for the Coming Month and Control Measures   |  |  |  |
|--|---|--|--|--|
| Major Impact<br>Prediction                                   | Control Measures  |  |  |  |
| Contract No. KL/2014/01:                                     |   |  |  |  |
| Air quality impact (dust)                                    | <ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>  |  |  |  |
| Water quality impact (surface run-off)                       | <ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>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</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul> |  |  |  |
| Noise Impact   | <ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>  |  |  |  |
| Waste/<br>Chemical<br>Management                             | <ul> <li>Maintenance involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</li> <li>Chemical wastes should be hold by suitable containers with clear label and stored at a safe location.</li> </ul>  |  |  |  |
| Contract No. KL/2  | 015/02:   |  |  |  |
| Air quality impact (dust)                                    | <ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>  |  |  |  |
| Water quality impact (surface run-off)                       | <ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>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</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul> |  |  |  |
| Noise Impact   | <ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>  |  |  |  |
| Contract No. ED/2018/01:                                     |   |  |  |  |
| Air Quality, Construction Noise, Water Quality, Chemical and | <ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> </ul>   |  |  |  |

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

Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



| Major Impact<br>Prediction  | Control Measures   |
|---|--|
| Waste<br>Management,<br>Landscape<br>and Visual   | <ul> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul>  |
| Contract No. ED/2   | <u>:018/05:</u>  |
| Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual | <ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul> |

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



#### 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 63<sup>rd</sup> Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 January and 31 January 2022.

#### 1.2 Summary of relevant Contract Information of Key Personnel

| Party                                | Position                 | Name             | Telephone | Fax       |  |  |
|--------------------------------------|--------------------------|------------------|-----------|-----------|--|--|
| Contract No. KL/2014/0               | Contract No. KL/2014/01: |                  |           |           |  |  |
| Project Proponent                    | Senior Engineer          | Mr. Keith Chu    | 3579 2450 | 3579 4516 |  |  |
| (CEDD)                               | Engineer                 | Ms. Adonia Yung  | 3579 2124 | 3379 4316 |  |  |
| Engineer's<br>Representative (AECOM) | CRE                      | Mr. Clive Cheng  | 3746 1801 | 2798 0783 |  |  |
| IEC (KSMC)                           | IEC                      | Dr. Douglas Wong | 2618 2166 | 2120 7752 |  |  |
|                                      | ET Leader                | Mr. K.S Lee      | 2151 2091 |           |  |  |
| ET (Cinotech)                        | Audit Team<br>Leader     | Ms. Betty Choi   | 2151 2072 | 3107 1388 |  |  |
| Main Contractor (CCJV)               | EO                       | Mr. Jack Lai     | 2960 1398 | 2960 1399 |  |  |
| Contract No. KL/2015/0               | <u>2:</u>                |                  |           |           |  |  |
| 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<br>Leader     | Ms. Betty Choy   | 2151 2072 | 3107 1388 |  |  |
| Main Contractor                      | Site Agent               | Mr. W. M. Wong   | 6386 3535 | 2398 8301 |  |  |

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



| Party                             | Position        | Name              | Telephone | Fax       |
|-----------------------------------|-----------------|-------------------|-----------|-----------|
| (PWHJV)                           |                 |                   |           |           |
| Contract No. ED/2018/0            | <u>1:</u>       |                   |           |           |
| Project Proponent                 | Senior Engineer | Mr. Alex Wong     | 3579 2452 | 2739 0076 |
| (CEDD)                            | Engineer        | Ms. Chan Ka Yan   | 3579 2458 | 2739 0076 |
| Engineer's Representative (AECOM) | CRE             | Mr. Clive Cheng   | 3911 4201 | 3911 4288 |
| IEC (Ramboll)                     | IEC             | Mr. Y H Hui       | 3465 2850 | 3465 2899 |
| ET (Ka Shing)                     | ET Leader       | Mr. Chan Pang     | 6082 2973 | 2120 7752 |
| Main Contractor (Penta-Ocean)     | EO              | Mr. Lulu Mar      | 6845 0626 | 3465 8898 |
| Contract No. ED/2018/0            | <u>5:</u>       |                   |           |           |
| Drainet Present                   | Senior Engineer | Mr. George Ng     | 3842 7107 | 2739 0076 |
| Project Proponent (CEDD)          | Engineer        | Mr. Albert Tse    | 3842 7137 | 2739 0076 |
| (CEDD)                            | Engineer        | Mr. Perry Lo      | 3842 7143 | 2739 0076 |
| Engineer's Representative (AECOM) | CRE             | Mr. Leung Wai Kit | 2412 3410 | 2798 0783 |
| IEC (Acuity)                      | IEC             | Mr. Kevin Li      | 2698 6833 | 2698 9383 |
| ET (Ka Shing)                     | ET Leader       | Ir. Chan Pang     | 2618 2166 | 2120 7752 |
| Main Contractor<br>(BK- STEC)     | EO              | Mr. Raymond Lam   | 9713 6817 | 3850 8508 |

#### 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 report.
- 1.3.2 The major construction activities undertaken in the reporting month are summarized as follow:

#### Contract No. KL/2014/01:

- Architectural features works at landscaped deck and ground floor open space
- · Defect work of pedestrian streets
- E&M works
- Laying of paving blocks for footpath
- · Planting works along footpath and at deck level, and
- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road

#### Contract No. KL/2015/02:

- · Carry out backfilling works around Staircase ST1 at SKLR Playground
- Erect scaffolding and construct the top slab of lift shaft at SKLR playground
- Construct pillar box for electrical supply of SW6
- Excavate with ELS installation at PERE TTA Stage 4
- Remedial works for the defects identified by maintenance parties, e.g. DSD, HyD
- Landscaping works at Road L7 and Road D1
- Outstanding works for irrigation system at Road L7 and D1
- Construction of additional street furniture at Road D1 and L7
- Road marking at Road D1 and L7

#### Contract No. ED/2018/01:

• North Approach Ramp – Construction of wall, roof slab, utilities trough

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



- Bridge D3 Construction of Bridge Deck and abutments
- North Depressed Road Construction of wall & top slab
- Underpass Construction of walls and roof slab
- South Approach Ramp Construction of Permanent Structure
- District Cooling System seawater intake box culvert Installation of precast units and backfilling works, reinstatement of the seawall and backfilling works
- Lift 3 –Construction of linking platform
- Lift 4 –Construction of Wall and Roof Slab / Installation of Steelworks and Glass Panel
- South Depressed Road –Installation of ELS system / construction of permanent works
- Rising Main and Water Pipe Laying of sewage
- Landscaped Deck -Construction of pile caps and installation of columns
- Transformer Room –Installation of ELS system and construction of permanent structure
- Road D3 Junction -Road works
- Lift 1 &2 -Installation of ELS system

#### Contract No. ED/2018/05:

- Bored pile works for landscape elevated walkway LW-02
- ELS and excavation at Pier 9 and Pier 10 for Elevated Walkway LW-02
- Underground utility diversion works at Sa Po Road
- ELS and excavation at launching shaft for subway SB-01
- Drainage works for Pedestrian Street No. 1, No. 2, No. 3 & No. 4
- Construction of Crowd Dispersal Route
- Construction works for Road L16
- Construction of DCS Pre-bored socket H-piles construction for Subway KS10
- Twin rising mains diversion works

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



# 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/2014/01:   | Contract No. KL/2014/01:   |  |  |  |  |
| Noise, dust impact, water quality and waste generation   | <ul> <li>Sufficient watering of the works site with active dust emitting activities;</li> <li>Properly cover the stockpiles;</li> <li>On-site waste sorting and implementation of trip ticket system</li> <li>Appropriate desilting/sedimentation devices provided on site for treatment before discharge;</li> <li>Use of quiet plant and well-maintained construction plant;</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;</li> <li>Provide mitigation measure to temporary use of chemicals;</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.</li> </ul>  |  |  |  |  |
| Contract No. KL/2015/02:   |  |  |  |  |  |
| Noise, dust impact, water quality and waste generation   | <ul> <li>Sufficient watering of the works site with active dust emitting activities;</li> <li>Properly cover the stockpiles;</li> <li>On-site waste sorting and implementation of trip ticket system</li> <li>Appropriate desilting/sedimentation devices provided on site for treatment before discharge;</li> <li>Use of quiet plant and well-maintained construction plant;</li> <li>Provide movable noise barrier;</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.</li> </ul>   |  |  |  |  |
| Contract No. ED/2018/01:   |  |  |  |  |  |
| The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented: | <ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses,</li> </ul> |  |  |  |  |

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



| Major Environmental Impact   | Control Measures  |
|--|---|
|  | <ul> <li>and</li> <li>Provide sufficient mitigation measures as recommended in<br/>Approved EIA Reports.</li> </ul> |
| Contract No. ED/2018/05:   |   |
| The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented: | Cameron matering or the member of the mine accurate dates   |

#### 1.5 Summary Status of Environmental Licences, Notifications and Permits

1.5.1 Detailed relevant environmental licenses, permits and/or notifications on environmental protection for this EP are presented in the appendices of the corresponding Monthly EM&A report.

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



#### 2. ENVIRONMENTAL MONITORING AND AUDIT

#### 2.1 Results and Observations

#### Air Quality

- 2.1.1 The schedule of air quality monitoring in reporting month is provided in the appendices of the corresponding Monthly EM&A report.
- 2.1.2 The weather conditions during the monitoring are provided in the appendices of the corresponding Monthly EM&A report.
- 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 report.

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

| Monitoring<br>Station    | Average<br>(μg/m³)  | Range<br>(µg/ m³)   | Action Level (μg/ m³)   | Limit Level<br>(µg/ m³)  |
|--------------------------|---|---|---|--|
| KL/2014/01:              |   |   |   |  |
| uality monitoring is re  | quired for the Proje  | ect)  |   |  |
| KL/2015/02:              |   |   |   |  |
| AM2                      | 42.9  | 26.0 - 66.0   | 346   | 500  |
| AM2(A)                   | 67.4  | 38.5 – 80.8   | 157   | 260  |
| ED/2018/01:              |   |   |   |  |
| AM3                      | 62  | 33 – 92   | 182   | 260  |
| AM4(A)                   | 58  | 33 – 72   | 187   |  |
| AM7                      | 56  | 36 – 89   | 181   |  |
| AM3                      | 47  | 20 – 89   | 297   |  |
| AM4(A)                   | 52  | 25 – 91   | 326   | 500  |
| AM7                      | 48  | 24 – 96   | 315   |  |
| Contract No. ED/2018/05: |   |   |   |  |
| AM2(A)                   | 59  | 28 – 81   | 175   | 200  |
| AM3                      | 62  | 33 – 92   | 172   | 260  |
| AM2(A)                   | 44  | 20 – 60   | 302   | F00  |
| AM3                      | 47  | 20 – 89   | 301   | 500  |
|                          | Station  KL/2014/01:  Jality monitoring is re  KL/2015/02:  AM2  AM2(A)  ED/2018/01:  AM3  AM4(A)  AM7  AM3  AM4(A)  AM7  AM7  AM7  AM7  AM7  AM7  AM7  A | Station         (μg/m³)           KL/2014/01:         μality monitoring is required for the Project           KL/2015/02:         42.9           AM2         42.9           AM2(A)         67.4           ED/2018/01:         58           AM4(A)         58           AM7         56           AM3         47           AM4(A)         52           AM7         48           ED/2018/05:         AM2(A)           AM3         62           AM3         62           AM3         64           AM2(A)         44 | Station         (μg/m³)         (μg/ m³)           KL/2014/01:           μαlity monitoring is required for the Project)           KL/2015/02:           AM2         42.9         26.0 – 66.0           AM2(A)         67.4         38.5 – 80.8           ED/2018/01:           AM3         62         33 – 92           AM4(A)         58         33 – 72           AM7         56         36 – 89           AM3         47         20 – 89           AM4(A)         52         25 – 91           AM7         48         24 – 96           ED/2018/05:         AM2(A)         59         28 – 81           AM3         62         33 – 92           AM2(A)         44         20 – 60 | Station         (μg/m³)         (μg/ m³)         (μg/ m³)           KL/2014/01:           μαlity monitoring is required for the Project)           KL/2015/02:           AM2         42.9         26.0 – 66.0         346           AM2(A)         67.4         38.5 – 80.8         157           ED/2018/01:           AM3         62         33 – 92         182           AM4(A)         58         33 – 72         187           AM7         56         36 – 89         181           AM3         47         20 – 89         297           AM4(A)         52         25 – 91         326           AM7         48         24 – 96         315           ED/2018/05:           AM2(A)         59         28 – 81         175           AM3         62         33 – 92         172           AM2(A)         44         20 – 60         302 |

- 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 report.
- 2.1.7 The Event and Action Plan for air quality is given in the appendices of the corresponding Monthly EM&A report.

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



#### Noise

- 2.1.8 The schedule of noise monitoring in reporting month is provided in in the appendices of the corresponding Monthly EM&A report.
- 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 report.

Table 2.2 Summary of Noise Impact Monitoring Results

| Monitoring<br>Stations   | Construction Noise Level<br>Leq <sub>(30min)</sub> dB(A)<br>(Range) | Action Level            | Limit Level<br>dB (A) |
|--------------------------|---|-------------------------|-----------------------|
| Contract No. KL/2014/01: |   |                         |                       |
| (No Construction noise m |   | NA                      |                       |
| Contract No. KL/2015/02: |   |                         |                       |
| M3(A)                    | 57.8 – 73.9 #   | When one                | 75                    |
| M4                       | 72.8 – 76.4 #   |                         | 70*                   |
| M5(C)                    | 59.1 – 77.4 #   | documented complaint is | 75                    |
| Contract No. ED/2018/01: | received.   |                         |                       |
| M11                      | 65.5 – 68.8   |                         | 75                    |
| M12                      | 60.3 – 68.1   |                         | 75                    |
| Contract No. ED/2018/05: |   |                         |                       |
| M4(A)                    | 69.4 – 71.2   |                         | 75                    |
| M5(A)                    | 72.1 – 74.3   |                         | 75                    |

<sup>(\*)</sup> Noise Limit Level is 65 dB(A) during school examination periods.

- 2.1.10 The noise monitoring data was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A report.
- 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 report.

#### 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 report.

<sup>(&</sup>lt;sup>#</sup>) Measured noise level ≤ background / baseline noise level, detailed data refer to the corresponding Monthly EM&A report.

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



#### 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.
- 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 Report.

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



#### 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 are 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/2014/01:                             |                         |        |
| 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     |
| Contract No. ED/2018/05:                             |                         |        |
| 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 report.

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



#### 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 report.

#### 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 report.

Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Fax: +852 2450 8233
Fuen Mun, N.T.,
Fax: +852 2450 6138
Fe-mail: matlab@fugro.com
Website: www.fugro.com



#### 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/2014/01:

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

#### Contract No. KL/2015/02:

- Install lift glazing panel of LT1 at SKLR Playground
- Install steel staircase cover of ST1 at SKLR Playground
- · Carry out backfilling works around Staircase ST1 at SKLR Playground
- Install lift inside the lift shaft of LT1 at SKLR Playground
- Carry out structural works of subway at PERE TTA Stages 3 & 4
- Preparation works for road-opening of Road D1 and L7
- Additional works as requested by maintenance parties
- Construction of additional street furniture at Road D1 and L7
- · Construction of vehicle gates and chain-link fence
- Carry out water supply connection at Pedestrian Street

#### Contract No. ED/2018/01:

- North Approach Ramp Construction of utilities trough
- Bridge D3 Construction of Bridge Deck and abutments
- North Depressed Road Construction of wall & top slab
- Underpass Construction of walls and roof slab
- South Approach Ramp Construction of Permanent Structure
- District Cooling System seawater intake box culvert Installation of precast units and backfilling works, reinstatement of the seawall and backfilling works
- Lift 3 Construction of linking platform
- Lift 4 Construction of Wall and Roof Slab / Installation of Steelworks and Glass Panel
- South Depressed Road Installation of ELS system / construction of permanent works
- Rising Main and Water Pipe Laying of sewage
- Landscaped Deck Construction of pile caps and installation of columns
- Transformer Room Installation of wailing & strut for the cofferdam / Construction of Permanent Structure
- Road D3 Junction Road works Lift 1 &2- Installation of ELS system

#### Contract No. ED/2018/05:

- Advance works for traffic diversion at Sa Po Road
- · Bored pile works for landscape elevated walkway
- Pre-drilling work for S14
- Drainage works for Pedestrian Street No. 1, No. 2 & No.3
- · Construction of Crowd Dispersal Route
- Rising main construction
- Sheet pile installation for launching shaft of SB-01

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

Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website: www.fugro.com



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

| Table 6.1 Summar   | y of Key Issues for the Coming Month and Control Measures   |  |  |  |  |
|--|---|--|--|--|--|
| Major Impact<br>Prediction   | Control Measures  |  |  |  |  |
| Contract No. KL/2014/01:   |   |  |  |  |  |
| Air quality impact (dust)  | <ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>  |  |  |  |  |
| Water quality impact (surface run-off)   | <ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>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</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul> |  |  |  |  |
| Noise Impact   | <ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>  |  |  |  |  |
| Waste/<br>Chemical<br>Management   | <ul> <li>Maintenance involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</li> <li>Chemical wastes should be hold by suitable containers with clear label and stored at a safe location.</li> </ul>  |  |  |  |  |
| Contract No. KL/2  | <u>015/02:</u>  |  |  |  |  |
| Air quality impact (dust)  | <ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>  |  |  |  |  |
| Water quality impact (surface run-off)   | <ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>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</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul> |  |  |  |  |
| Noise Impact   | <ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>  |  |  |  |  |
| Contract No. ED/2018/01:   |   |  |  |  |  |
| Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, | <ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for</li> </ul>   |  |  |  |  |

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



| Major Impact<br>Prediction  | Control Measures   |
|---|--|
| Landscape and Visual  • 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 Approve Reports. |  |
| Contract No. ED/2   | 018/05:  |
| Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual   | <ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul> |

#### 6.2 Monitoring Schedules for the Next Three Months

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

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



#### 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 for Contract No. KL/2014/01, Contract No. KL/2015/02, Contract No. ED/2018/01 and Contract No. ED/2018/05 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.**

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



#### Appendix A

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

# 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 January 2022

(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.

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

# 嘉誠管理顧問有限公司





Our ref: 09-02-2022

09-02-2022

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

Monthly EM&A report for January 2022 (version 1.0)

Reference is made to the Environmental Team's submission of the draft Monthly EM&A Report (version 1.0) for January 2021 provided to Independent Environmental Checker (IEC) via email dated on 09-02-2022 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

Ir. Dr. Douglas WONG

Independent Environmental Checker

c.c. CEDD Mr. Patrick Lee (By email: patricksllee@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 號啟如商業大廈 13 樓 2 室

Tel: (852) 2618 2166 電話: (852) 2618 2166 Fax: (852) 2120 7752 傳真: (852) 2120 7752 Web Site: www.ka-shing.net 網站: www.ka-shing.net





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OHS 717629

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#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 70<sup>th</sup> 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 January 2022.
- 2. 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 while 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 2018, the hospital is considered as the only relevant monitoring location and therefore the monitoring is required.
- 3. The major site activities undertaken in the reporting month included:
  - Architectural features works at landscaped deck and ground floor open space;
  - Defect work of pedestrian streets;
  - E&M works:
  - Laying of paving blocks for footpath;
  - Planting works along footpath and at deck level, and;
  - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road.

#### **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

| Parameter | No. of Project-rela | Action Taken |              |
|-----------|---------------------|--------------|--------------|
| rarameter | Action Level        | Limit Level  | Action Taken |
| Noise     | 0                   | 0            | N/A          |

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-RE0442-20, GW-RE0639-20, GW-RE0045-21, GW-RE0717-21 & GW-RE0656-21)

#### **Key Information in the Reporting Month**

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

Table II Summary Table for Key Information in the Reporting Month

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

#### **Future Key Issues**

- 13. The future key environmental issues in the coming month include:
  - Architectural features works at landscaped deck and ground floor open space;
  - Defect work of pedestrian streets;
  - E&M works;
  - Laying of paving blocks for footpath;

- Noise barrier modification
- Planting works along footpath and at deck level, and;
- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road.

#### **Reporting Changes**

14. Since the major parts of Works under Contract no. KL/2014/03 has been completed, the environmental monitoring works of EM&A monitoring station, KTD1a, was then handed over to the ET of Contract no. ED/2018/04 in August, 2020. In order to obtain the environmental impact monitoring data with higher representativeness based on several factors, such as distance between monitoring location and the sensitive receiver, non-project related interference, obstruction to the construction works on site and the power supply problem, the monitoring location KTD1a was relocated to the original location as proposed in the EM&A manual (AEIAR-174/2013), and renamed as KTD1 on 3 August 2020.

#### 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 70<sup>th</sup> Monthly EM&A report summarizing the EM&A works for the Project in January 2022.
- 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: https://www.epd.gov.hk/eia/english/register/index8/vep4492014\_content.html

#### **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).
- 1.8 The key contacts of the Project are shown in **Table III.**

**Table III Key Project Contacts** 

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

#### Construction Activities undertaken during the Reporting Month

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

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

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

| Construction<br>Works       | Major Environmental<br>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 2018, 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 (KTD1), the corresponding monitoring results for January 2022 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. No Action/Limit Level exceedance at KTD1 was recorded. The summary of exceedance record in reporting month is shown in **Appendix B**.
- 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 2018, 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 (KTD1), the corresponding monitoring results for January 2022 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 at KTD1 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 6, 13, 20 & 28 January 2022 in the reporting month. IEC joint site inspection was conducted on 28<sup>th</sup> January 2022. 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 V**.

Table V Summary of Environmental Licensing and Permit Status

| Downit No               | Valid Period              |           | Details  | Status                               |  |  |
|-------------------------|---------------------------|-----------|--|--------------------------------------|--|--|
| Permit No.              | From                      | To        | Details  | Status                               |  |  |
| <b>Environmental Po</b> | Environmental Permit (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<br>Development roads D3A and D4A   | Valid                                |  |  |
| Effluent Discharge      | License                   |           |  |                                      |  |  |
| WT00023634-<br>2016     | -1                        | 31/03/21  | Wastewater from the construction site including effluent treated by screen and sedimentation tank; There are no more need for the license after 31 March 2021 as the project is close to completion and no significant waste water is being generated from site. | Expired on 31<br>March 2021          |  |  |
| Registration of Che     | emical Waste              |           |  |                                      |  |  |
| 5213-247-C4004-<br>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      |                           |           |  |                                      |  |  |
| GW-RE0442-20            | 14/6/20                   | 13/12/20  | Construction Noise Permit for the  | Expired on<br>13<br>December<br>2020 |  |  |
| GW-RE0639-20            | 3/8/20                    | 19/1/21   | use of powered mechanical equipment for carrying out construction work other than percussive pilling and performing  | Expired on<br>19<br>February<br>2021 |  |  |
| GW-RE0045-21            | 20/1/21                   | 19/7/21   | prescribed construction work. Construction Noise Permit for the use of powered mechanical equipment for carrying out   | Expired on<br>19 July<br>2021        |  |  |
| GW-RE0656-21            | 9/7/21                    | 30/9/21   | construction work other than percussive pilling and performing prescribed construction work.   | Valid                                |  |  |
| GW-RE0717-21            | 30/7/2021                 | 19/1/2022 |  | Valid                                |  |  |

### **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 VI**.

Table VI Observations and Recommendations of Site Inspections

| Parameters                       | Date | Observations and Recommendations | Follow-up |
|----------------------------------|------|----------------------------------|-----------|
| Water<br>Quality                 |      |                                  |           |
| Air Quality                      |      |                                  |           |
| Noise                            |      |                                  |           |
| Waste/<br>Chemical<br>Management |      |                                  |           |
| Landscape<br>and Visual          |      |                                  |           |
| Permits/<br>Licenses             |      |                                  |           |

### **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 Dust**

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

#### **Construction Noise**

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

### Landscape and visual

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

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

5.12 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:
  - Architectural features works at landscaped deck and ground floor open space;
  - Defect work of pedestrian streets;
  - E&M works;
  - Laying of paving blocks for footpath;
  - Noise barrier modification
  - Planting works along footpath and at deck level, and;
  - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road.
- 6.2 Key environmental issues in the coming month include:
  - Wastewater and runoff discharge from site;
  - 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;
  - Dust generating activity and on haul road;
  - 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. February and March 2022 are summarized as follows:

| Construction<br>Works       | Major Impact<br>Prediction  | Control Measures  |
|-----------------------------|---|---|
| As mentioned in Section 6.1 | Air quality impact (dust)  Water quality impact (surface run-off) | <ul> <li>a) Frequent watering of haul road and unpaved/exposed areas;</li> <li>b) Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>c) Watering of any earth moving activities.</li> <li>a) Diversion of the collected effluent to desilting facilities for treatment prior to discharge to public storm water drains;</li> <li>b) Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>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</li> <li>d) Provision of measures to prevent discharge into the stream.</li> </ul> |
|                             | Waste/<br>Chemical<br>Management                                  | <ul> <li>a) Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>b) Controlling the number of plants use on site;</li> <li>c) Regular maintenance of machines; and</li> <li>d) Use of acoustic barriers if necessary.</li> <li>a) Maintenance involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</li> <li>b) Chemical wastes should be hold by suitable containers with clear label and stored at a safe location.</li> </ul>  |

### 7. CONCLUSIONS AND RECOMMENDATIONS

#### **Conclusions**

7.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken in January 2022.

### 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.

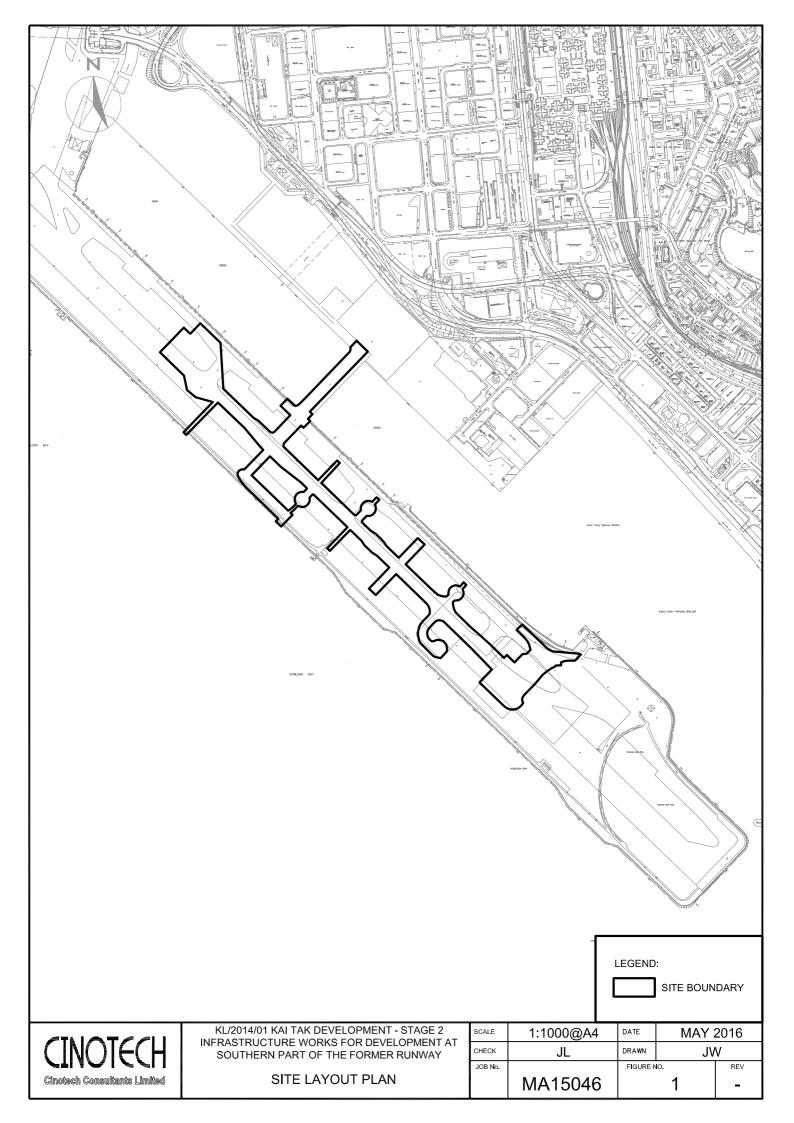
### Recommendations

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.

### **FIGURES**



# APPENDIX A ACTION AND LIMIT LEVELS

### **Appendix A - Action and Limit Levels**

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

| Monitoring<br>Station | Parameter | Action Level (μg/ m³) | Limit Level <sup>(1)(2)</sup> (μg/ m³) |
|-----------------------|-----------|-----------------------|--|
| KTD1                  | 24-hr TSP | 177                   | 260                                    |
| KTD1*                 | 1-hr TSP  | 285                   | 500                                    |

<sup>\* 1-</sup>hr TSP monitoring should be required in case of complaints.

**Table A-2** Action and Limit Levels for Construction Noise Monitoring

| Time Period                      | Action Level                              | Limit Level <sup>(1)(2)</sup> |
|----------------------------------|---|-------------------------------|
| 0700-1900 hrs on normal weekdays | When one documented complaint is received | 75 dB(A)<br>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.

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

<sup>(\*) 70</sup>dB(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: January 2022

(A) Exceedance Record for Construction Dust

(NIL in the reporting month)

(B) Exceedance Record for Construction Noise

(NIL in the reporting month)

(C) Exceedance Record for Landscape and Visual

(NIL in the reporting month)

### APPENDIX C SITE AUDIT SUMMARY

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

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

| Checklist Reference Number | 220106                |
|----------------------------|-----------------------|
| Date                       | 6 Jan 2022 (Thursday) |
| Time                       | 13:30 – 14:30         |

| Ref. No. | Non Compliance   | Related<br>Item No. |
|----------|--|---------------------|
| Kei. No. | Non-Compliance None identified   | 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  |                     |
|          | No follow-up items are required from the previous site inspection (ref no.: 211230). |                     |

|             | Name        | Signature | Date       |
|-------------|-------------|-----------|------------|
| Recorded by | Becky Tang  | John      | 6 Jan 2022 |
| Checked by  | Colman Wong | Colman    | 7 Jan 2022 |

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

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

| Checklist Reference Number | 220113                 |
|----------------------------|------------------------|
| Date                       | 13 Jan 2022 (Thursday) |
| Time                       | 13:30 – 14:30          |

| ·        |  | 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  |         |
|          | No follow-up items are required from the previous site inspection (ref no.: 220106). |         |

|             | Name        | Signature | Date        |
|-------------|-------------|-----------|-------------|
| Recorded by | Becky Tang  | John      | 13 Jan 2022 |
| Checked by  | Colman Wong | Colman    | 14 Jan 2022 |

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

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

| Checklist Reference Number | 220120                 |
|----------------------------|------------------------|
| Date                       | 20 Jan 2022 (Thursday) |
| Time                       | 13:30 – 14:30          |

| Dof No   | Non Compliance   | Related             |
|----------|--|---------------------|
| Ref. No. | Non-Compliance   | Item No.            |
| _        | None identified  |                     |
| Ref. No. | Remarks/Observations   | Related<br>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  |                     |
|          | No follow-up items are required from the previous site inspection (ref no.: 220113). |                     |

|             | Name        | Signature | Date        |
|-------------|-------------|-----------|-------------|
| Recorded by | Becky Tang  | John      | 20 Jan 2022 |
| Checked by  | Colman Wong | Colman    | 21 Jan 2022 |

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

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

| Checklist Reference Number | 220128               |
|----------------------------|----------------------|
| Date                       | 28 Jan 2022 (Friday) |
| Time                       | 10:00 – 12:30        |

| Dof No   | Non Compliance   | Related<br>Item No. |
|----------|--|---------------------|
| Ref. No. | Non-Compliance None identified   | Item No.            |
| <u>-</u> | None identified  | D-1-4-1             |
| Ref. No. | Remarks/Observations   | Related<br>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  |                     |
|          | No follow-up items are required from the previous site inspection (ref no.: 220120). |                     |

|             | Name        | Signature | Date        |
|-------------|-------------|-----------|-------------|
| Recorded by | Becky Tang  | John      | 28 Jan 2022 |
| Checked by  | Colman Wong | Colman    | 31 Jan 2022 |

### APPENDIX D EVENT ACTION PLANS

## **Appendix D - Event Action Plans**

## Event/Action Plan for Construction Noise

| EVENT                             | ACTION  |  |   |  |
|-----------------------------------|---|--|---|--|
|                                   | ET  | IEC  | ER  | CONTRACTOR   |
| Action Level<br>being<br>exceeded | <ol> <li>Notify ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol>  | 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<br>being<br>exceeded  | <ol> <li>Inform IEC, ER, Contractor and EPD;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency;</li> <li>Identify source and investigate the cause of exceedance;</li> <li>Carry out analysis of Contractor's working procedures;</li> <li>Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol> | 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) | <ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the ER until the exceedance is abated.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol> |

## **Appendix D - Event Action Plans**

## Event/Action Plan for Landscape and Visual

| EVENT<br>ACTION                | ACTION   |   |   |  |
|--------------------------------|--|---|---|--|
| LEVEL                          | ET   | IEC   | ER  | CONTRACTOR   |
| Design<br>Check                | Check final design conforms to the requirements of EP and prepare report.  | Check report.     Recommend remedial design if necessary  | Undertake<br>remedial<br>design if<br>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<br>Contractor     Ensure<br>remedial<br>measures are<br>properly<br>implemented      | Amend working methods     Rectify damage and undertake any necessary replacement |
| Repeated<br>Non-<br>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)

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

| EIA Ref.  | Mitigation Measures   | Status |  |  |
|---|---|--------|--|--|
| Construction Air Qu   | Construction Air Quality  |        |  |  |
| S3.2<br>(AEIAR-130/2009)                                    | 8 times daily watering of the work site with active dust emitting activities.   | ٨      |  |  |
| S4.8<br>(AEIAR-170/2013)                                    | Control measures stipulated in the approved KTD Schedule 3 EIA Report should be strictly followed.  | ٨      |  |  |
| S3.2<br>(AEIAR-130/2009)<br>and<br>S4.8<br>(AEIAR-170/2013) | 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             | ^      |  |  |
| (ALIMIC 170/2013)   | <ul> <li>stockpring site(s) should be fined with imperincable sheeting and builded. Stockprice should be fully covered by impermeable sheeting to reduce dust emission.</li> <li>Misting for the dusty material should be carried out before being loaded into the vehicle.</li> <li>Any vehicle with an open load carrying area should have properly fitted side and tail</li> </ul> | ^      |  |  |
|   | <ul> <li>Any vehicle with an open load earlying area should have properly fitted side and tail boards.</li> <li>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.</li> </ul>   |        |  |  |
|   | • 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.   | ۸      |  |  |
|   | Vehicle washing facilities should be provided at every vehicle exit point.  | ۸      |  |  |

| EIA Ref.                  | Mitigation Measures  | Status |
|---------------------------|--|--------|
|                           | <ul> <li>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.</li> <li>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.</li> <li>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</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul> |        |
| <b>Construction Noise</b> |  |        |
| S3.3<br>(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<br>(AEIAR-130/2009)  | Good Site Practice:  |        |
| (ALIAK-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      |
|                           | <ul> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> </ul>   | ٨      |
|                           | • 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.  | ۸      |
|                           | 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.  | ۸      |
|                           | Material stockpiles and other structures should be effectively utilized, wherever  | ۸      |

| EIA Ref.  | Mitigation Measures   | Status            |
|---|---|-------------------|
|   | practicable, in screening noise from on-site construction activities.   |                   |
| S3.3<br>(AEIAR-130/2009)                                    | Scheduling of Construction Works during School Examination Period   | N/A               |
| S3.8<br>(AEIAR-170/2013)                                    | Provision of a landscaped deck along Roads D3A & D4A.   | N/A               |
| S3.8<br>(AEIAR-170/2013)                                    | <ul> <li>Provision of about 1090 m length of vertical noise barrier (connected to the deck) at Roads D3A &amp; D4A;</li> <li>Provision of about 60 m length of overhang vertical noise barrier (connected to the deck) at Road D4A; and</li> <li>Provision of staircases with noise barriers next to Sites 4A1 and 4B1</li> <li>It should be noted that the exact length of the mitigation measures would be subject to minor refinement during the detailed design stage.</li> </ul> | N/A<br>N/A<br>N/A |
| S3.8<br>(AEIAR-170/2013)                                    | Non-noise sensitive use areas within Sites 4A1 and 4B1.   | N/A               |
| S3.8<br>(AEIAR-170/2013)                                    | Avoid sensitive façade with openable window facing Road D3A.  | N/A               |
| <b>Construction Water</b>                                   | Quality   | •                 |
| S3.4<br>(AEIAR-130/2009)<br>and<br>S5.8<br>(AEIAR-170/2013) | 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                                      | ^ ^               |

| EIA Ref.                 | Mitigation Measures  | Status |
|--------------------------|--|--------|
|                          | Construction site should be provided with adequately designed perimeter channel and pretreatment 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.   | ^      |
| S5.8<br>(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.  | ^      |
| S3.4<br>(AEIAR-130/2009) | Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m <sup>3</sup> capacity, are recommended as a general mitigation measure   | ۸      |

| 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<br>(AEIAR-130/2009)<br>and<br>S5.8<br>(AEIAR-170/2013) | Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m <sup>3</sup> 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.  | ٨      |
| ()  | 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<br>(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.  | ٨      |
| S3.4<br>(AEIAR-130/2009)<br>and<br>S5.8<br>(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<br>(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.  | ۸      |
|                          | 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<br>(AEIAR-130/2009) | 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.   | ٨      |
| S3.4<br>(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. | ٨      |

| EIA Ref.  | f. Mitigation Measures   |   |
|---|--|---|
| S3.4<br>(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.  | ^ |
| S5.8<br>(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. | ^ |
| S3.4<br>(AEIAR-130/2009)<br>and<br>S5.8<br>(AEIAR-170/2013) | 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.   | ٨ |
| 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<br>(AEIAR-130/2009)<br>and<br>S5.8<br>(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<br>(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. | ^      |

| EIA Ref.  | EIA Ref. Mitigation Measures   |   |  |
|---|--|---|--|
|   | 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  | ^ |  |
|   | <ul> <li>spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> </ul>   | ^ |  |
|   | • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.   | ۸ |  |
| <b>Construction Waste</b>                                   | Management   |   |  |
| S6.7<br>(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<br>(AEIAR-130/2009)<br>and<br>S6.7<br>(AEIAR-170/2013) | <ul> <li>Good Site Practices</li> <li>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:         <ul> <li>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</li> <li>Training of site personnel in proper waste management and chemical waste handling procedures</li> </ul> </li> </ul> | ^ |  |
|   | <ul> <li>Provision of sufficient waste disposal points and regular collection for disposal</li> </ul>  | ٨ |  |

| EIA Ref. | Mitigation Measures  | Status |  |  |
|----------|--|--------|--|--|
|          | Appropriate measures to minimise windblown litter and dust during transportation of  | ٨      |  |  |
|          | 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)   | ^      |  |  |
|          | Regular cleaning and maintenance systems, sumps and oil interceptors   | ^      |  |  |
|          | 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:  |        |  |  |
|          | <ul> <li>Sort C&amp;D waste from demolition of the remaining structures to recover recyclable<br/>portions such as metals</li> </ul>   | ^      |  |  |
|          | <ul> <li>Segregation and storage of different types of waste in different containers, skips or</li> </ul>  | ٨      |  |  |
|          | stockpiles to enhance reuse or recycling of materials and their proper disposal  |        |  |  |
|          | <ul> <li>Encourage collection of aluminium cans, PET bottles and paper by providing separate</li> </ul>  | ٨      |  |  |
|          | labelled bins to enable these wastes to be segregated from other general refuse generated by the work force  |        |  |  |
|          | <ul> <li>Any unused chemicals or those with remaining functional capacity should be recycled</li> </ul>  | ٨      |  |  |
|          | <ul> <li>Proper storage and site practices to minimise the potential for damage or</li> </ul>  | ٨      |  |  |
|          | contamination of construction materials  |        |  |  |
|          | Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste  Output  Description:  | ۸      |  |  |
|          | <ul> <li>Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.</li> </ul> | ۸      |  |  |

| EIA Ref.                 | Mitigation Measures  | Status |
|--------------------------|--|--------|
| S3.5<br>(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. | ^      |
|                          | • 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.   | ٨      |
|                          | • 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.   | ٨      |
|                          | • 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.  | ٨      |
|                          | • 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"                                      | ۸      |

| EIA Ref.                  | 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  General Refuse |   |
|---------------------------|--|---|
|                           |  |   |
| S3.5<br>(AEIAR-130/2009)  |  |   |
| <b>Construction Lands</b> | 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.  | ٨ |
| and                       | • Trees unavoidably affected by the works should be transplanted where practical.  | ٨ |
| S7.9<br>(AEIAR-170/2013)  | 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.  | ٨ |
|                           | <ul> <li>Erection of decorative screen hoarding.</li> </ul>  | 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.  | ٨ |

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

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

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

 $\label{eq:complaint} \textbf{Appendix} \ \textbf{F} - \textbf{Summary} \ \textbf{of} \ \textbf{environmental} \ \textbf{complaint}, \ \textbf{warning}, \ \textbf{summon} \ \textbf{and} \ \textbf{notification} \ \textbf{of} \ \textbf{successful} \ \textbf{prosecution}$ 

**Reporting Month**: January 2022

### Contract No. KL/2014/01

| Log<br>Ref. | Location | Received<br>Date | Details of<br>Complaint/warning/summon<br>and prosecution | Investigation/Mitigation<br>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 G. Monthly Summary Waste Flow Table**

| Name of Department: | CEDD | Contract No: | KL/2014/01 |  |
|---------------------|------|--------------|------------|--|
|---------------------|------|--------------|------------|--|

## **Monthly Summary Waste Flow Table for 2022**

|           |                             | Actual Qua                                | antities of Inert C&I     | O Materials Generat           | ed Monthly                 |               | Actual Quantities of C&D Wastes Generated Monthly |                            |             |                |                                |
|-----------|-----------------------------|---|---------------------------|-------------------------------|----------------------------|---------------|---|----------------------------|-------------|----------------|--------------------------------|
| Month     | Total Quantity<br>Generated | Hard Rock and<br>Large Broken<br>Concrete | Reused in the<br>Contract | Reused in other<br>Projects * | Disposed as Public<br>Fill | Imported Fill | Metals  | Paper/ cardboard packaging | Plastics    | Chemical Waste | Others, e.g.<br>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       | 43.77                       | 0   | 0                         | 0                             | 0.00                       | 0             | 0   | 0                          | 0           | 0              | 43.77                          |
| Feb       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Mar       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Apr       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| May       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| June      |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Sub-total |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| July      |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Aug       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Sept      |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Oct       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Nov       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Dec       |                             | 0   | 0                         | 0                             |                            | 0             | 0   | 0                          | 0           | 0              |                                |
| Total     | 43.77                       | 0   | 0                         | 0                             | 0.00                       | 0             | 0   | 0                          | 0           | 0              | 43.77                          |

<sup>\*</sup> Transfer to alterative disposal ground at Lung Kwu Sheung Tan EPD approved recycler

## **FUGRO TECHNICAL SERVICES LIMITED**

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



# Appendix B

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 January 2022

(Version 1.1)

Certified 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



#### FUGRO TECHNICAL SERVICES LIMITED

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

Date 15 February 2022

Our Ref. MCL/ED/0061/2022/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 January 2022

We refer to your emails dated 11 and 15 February 2022 for the captioned report 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 me on 3565 4114 or our Toby Wan on 3565 4450.

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

c.c. CEDD – Attn.: Mr. Ricky Chan

Attn.: Mr. Vincent Yip

AECOM – Attn.: Mr. Vincent Lee

Attn.: Mr. Teddy Shih

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#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 61<sup>st</sup> 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 January 2022.
- 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).

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

| Locations                         | Monitoring Stations In accordance with EM&A Manual | Alternative Monitoring Stations               |  |  |  |  |  |
|-----------------------------------|--|---|--|--|--|--|--|
| Air Quality 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<br>Secondary School  |  |  |  |  |  |
| Noise Monitoring Stations         |  | -   |  |  |  |  |  |
| M3 - Cognitio College             | No   | M3(A) – The Bridge connecting<br>The Latitude |  |  |  |  |  |
| M4 - Lee Kau Yan Memorial School  | Yes  | N/A   |  |  |  |  |  |
| M5 – Nam Yuen                     | No   | M5(C) – Mercy Grace's Home                    |  |  |  |  |  |

- 3. The major site activities undertaken in the reporting month included:
  - Construct the top slab of lift shaft at SKLR playground
  - Construct pillar box for electrical supply of SW6
  - Carry out re-bar fixing at Bay 13 of SW6 under Stage 4 Decking
  - Carry out outstanding works for irrigation system at Road L7 and D1

## **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**.

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

| _         | 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          |

#### 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).

## **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 | Domonic |  |
|--|---------------|--------|--------------|--------|---------|--|
| Event  | Number        | Nature | Action Taken | Status | Remark  |  |
| 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 two months 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; and
  - Wastewater and runoff discharge from 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 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                                    | <b>Contact Person</b>      | Position                                | Phone No. | Fax No.   |
|----------|---|----------------------------|---|-----------|-----------|
| CEDD     | Project Proponent                       | Mr. CHAN Wai Kit,<br>Ricky | Senior Engineer                         | 2116 3753 | 2116 0714 |
| AECOM    | Engineer's Representative               | Mr. Vincent Lee            | Senior Resident<br>Engineer             | 2798 0771 | 2210 6110 |
| Cinotech | Environmental Mr. K.S I                 |                            | Environmental Team<br>Leader            | 2151 2091 | 3107 1388 |
| Cinoteen | Team                                    | Ms. Betty Choi             | Audit Team Leader                       | 2151 2072 | 3107 1300 |
| FTS      | Independent<br>Environmental<br>Checker | Mr. Colin Yung             | Independent<br>Environmental<br>Checker | 3565 4114 | 2450 8032 |
| PWHJV    | Contractor                              | Mr. W.M. Wong              | Site Agent                              | 6386 3535 | 2398 8301 |

## Construction Activities undertaken during the Reporting Month

- 1.8. The site activities undertaken in the reporting month included:
  - -Construct the top slab of lift shaft at SKLR playground
  - -Construct pillar box for electrical supply of SW6
  - -Carry out re-bar fixing at Bay 13 of SW6 under Stage 4 Decking
  - -Carry out outstanding works for irrigation system at Road L7 and D1
- 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

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

## **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 the reporting month.

## 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. No Action/Limit Level exceedance was recorded.
- 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

| <b>Monitoring Stations</b> | Locations                        | <b>Location of Measurement</b> |  |
|----------------------------|----------------------------------|--------------------------------|--|
| AM2<br>(1-hour TSP)        | Lee Kau Yan Memorial School      | Rooftop (about 8/F) Area       |  |
| AM2(A)<br>(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**.

**Table 2.2** Air Quality Monitoring Equipment

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

## 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 (High Precision Chemical Testing 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  $\pm 3$ °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 and 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.21. The weather information for the reporting month is summarized in **Appendix C.**
- 2.22. The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E and F** respectively.
- 2.23. The summary of exceedance record in reporting month is shown in **Appendix H**. No exceedance was recorded for the air quality monitoring.
- 2.24. 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.
- 2.25. 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 three designated monitoring stations (M3(A), M4, and M5(C)). **Figure 3** shows the locations of these stations.

**Table 3.1 Noise Monitoring Stations** 

| <b>Monitoring Stations</b> | Locations                          | <b>Location of Measurement</b>  |
|----------------------------|------------------------------------|---|
| M3(A)                      | The Bridge connecting The Latitide | In the middle of the foot bridge connecting The Latitude  |
| M4                         | Lee Kau Yan Memorial School        | Rooftop (about 7/F) Area  |
| M5(C)                      | Mercy Grace's Home                 | Ground in front of the building entrance facing Prince Edward Road East (noise monitoring is not allowed on the rooftop from 27 February 2020, due to the coronavirus countermeasure in Mercy Grace's Home) |

## **Monitoring Equipment**

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

**Table 3.2** Noise Monitoring Equipment

| Equipment                     | Model and Make     | Qty. |
|-------------------------------|--------------------|------|
| Integrating Sound Level Meter | BSW Atech BSWA 308 | 3    |
| Calibrator                    | SOUNDTEK ST-120    | 2    |

## **Monitoring Parameters, Frequency and Duration**

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

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

| Monitoring<br>Stations | Parameter                       | Period           | Frequency | Measurement |
|------------------------|---------------------------------|------------------|-----------|-------------|
| M3(A)                  | $L_{10}(30 \text{ min.}) dB(A)$ | 0700-1900 hrs on | On so non |             |
| M4                     | $L_{90}(30 \text{ min.}) dB(A)$ |                  | Once per  | Façade      |
| M5(C)                  | $L_{eq}(30 \text{ min.}) dB(A)$ | normal weekdays  | week      | -           |

## 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
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 recalibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, 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**

- 3.5. The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 3.6. The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.7. 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**

- 3.8. 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**.
- 3.9. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.
- 3.10. Noise monitoring results and graphical presentations are shown in **Appendix G**.
- 3.11. The major noise source identified at the designated noise monitoring stations are shown in **Table 3.4**.

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

| <b>Monitoring Stations</b> | Locations                          | Major Noise Source  |
|----------------------------|------------------------------------|---|
| M3(A)                      | The Bridge connecting The Latitude | Traffic Noise<br>Site vehicle movement  |
| M4                         | Lee Kau Yan Memorial<br>School     | Traffic Noise Site vehicle movement Excavation works Piling works Daily school activities |
| M5(C)                      | Mercy Grace's Home                 | Traffic Noise<br>Site vehicle movement  |

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

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

<sup>(\*)</sup> Noise Limit Level is 65 dB(A) during school examination periods.

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

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

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

<sup>(</sup>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:

## 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**.

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

|                                      | Predicted 1-  | hr TSP conc.       |  | asured<br>SP conc. |
|--------------------------------------|---|--------------------|--|--------------------|
| Station                              | Scenario1 (Mid Scenario2 (Mid 2009 to Mid- 2013 to Late |                    | Reporting Month<br>(January 2022), μg/m³ |                    |
|                                      | 2013), $\mu g/m^3$                                      | 2016), $\mu g/m^3$ | Average                                  | Range              |
| AM2 – Lee Kau Yan<br>Memorial School | 290   | 312                | 42.9                                     | 26.0 – 66.0        |

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

| -   | Predicted 24-hr TSP conc.  Scenario1 (Mid 2009 to Mid-2013), Scenario2 (Mid 2013 to Late 2016) |                      | Predicted 24-hr TSP conc.  Measur 24-hr TSP |             |  |
|---|--|----------------------|---|-------------|--|
| Station   |  |                      | Reporting Month<br>(January 2022), μg/m     |             |  |
|   | μg/m <sup>3</sup>  | Late 2016),<br>μg/m³ | Average                                     | Range       |  |
| AM2(A) – Ng Wah<br>Catholic Secondary<br>School | 145  | 169                  | 67.4  | 38.5 – 80.8 |  |

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

| Stations                                   | $\begin{array}{c} \textbf{Predicted Mitigated Construction} \\ \textbf{Noise Levels during Normal} \\ \textbf{Working Hour} \left( L_{eq  (30min)}  dB(A) \right) \end{array}$ | Reporting Month<br>(January 2022),<br>L <sub>eq (30min)</sub> dB(A) |
|--|--|---|
| M3(A) – The Bridge connecting The Latitude | Not predicted in EIA Report  | 57.8 - 73.9 <sup>(2)</sup>  |
| M4 – Lee Kau Yan<br>Memorial School        | 47 – 74  | 72.8 - 76.4 (1)   |
| M5(C) – Mercy Grace's<br>Home              | Not predicted in EIA Report  | 59.1 - 77.4 <sup>(2)</sup>  |

#### Remarks:

<sup>(1)</sup> 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.

<sup>(2)</sup> 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 M4 were slightly higher than the range 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 3, 12, 17, 24 and 31 January 2022 in the reporting month. A joint site inspection with the representative of IEC, ER, the Contractor and the ET was conducted on 12 January 2022. 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**.

Table 6.1 Summary of Environmental Licensing and Permit Status

| <u> </u>                               | mentar Ereensing a        |             |         |  |  |
|--|---------------------------|-------------|---------|--|--|
| December 1                             | Valid Period              |             | G       |  |  |
| Permit No.                             | From                      | To          | Status  |  |  |
| Environmental Permit (EP)              | Environmental Permit (EP) |             |         |  |  |
| EP-337/2009                            | 23 Apr 2009               | N/A         | Valid   |  |  |
| <b>Effluent Discharge License</b>      |                           |             |         |  |  |
| WT00027495-2017                        | 28 Mar 2017               | 31 Mar 2022 | Valid   |  |  |
| Billing Account for Construction Wa    | aste Disposal             |             |         |  |  |
| A/C# 7026164                           | 20 Oct 2016               | N/A         | Valid   |  |  |
| Registration of Chemical Waste Pro     | ducer                     |             |         |  |  |
| WPN5213-229-P3271-01                   | 14 Aug 2017               | N/A         | Valid   |  |  |
| <b>Construction Noise Permit (CNP)</b> |                           |             |         |  |  |
| GW-RE0915-19                           | 8 Nov 2019                | 4 May 2020  | Expired |  |  |
| GW-RE0984-19                           | 15 Dec 2019               | 24 Feb 2020 | Expired |  |  |
| GW-RE0083-20                           | 1 Mar 2020                | 1 June 2020 | Expired |  |  |
| GW-RE0266-20                           | 2 May 2020                | 31 Jul 2020 | Expired |  |  |
| GW-RE0779-21                           | 30 Jul 2021               | 30 Nov 2021 | Expired |  |  |
| GW-RE0858-21                           | 31 Jul 2021               | 30 Aug 2021 | Expired |  |  |

## **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**.

| Table 6.2 Observations and Recommendations of Site Inspect | aons |
|--|------|
|--|------|

| Parameters                       | Date        | Observations and Recommendations                                    | Follow-up/Rectification  |
|----------------------------------|-------------|---|--|
| Water Quality                    | N/A         | No environmental deficiency was identified in the reporting period. | N/A  |
| Air Quality                      | N/A         | No environmental deficiency was identified in the reporting period. | N/A  |
| Noise                            | N/A         | No environmental deficiency was identified in the reporting period. | N/A  |
| Waste/<br>Chemical<br>Management | 12 Jan 2022 | Oil stain on the ground should be removed at Stage 3.               | The condition was observed to be improved/rectified by the contractor during the audit session on 17 Jan 2022. |
| Landscape and<br>Visual          | N/A         | No environmental deficiency was identified in the reporting period. | N/A  |
| Permits/<br>Licenses             | N/A         | No environmental deficiency was identified in the reporting period. | N/A  |

## **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

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

## Construction Noise

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

Monthly EM&A Report – January 2022

## Landscape and visual

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

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

6.13. 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:
  - Install lift glazing panel of LT1 at SKLR Playground
  - Install steel staircase cover of ST1 at SKLR Playground
  - Carry out backfilling works around Staircase ST1 at SKLR Playground
  - Install lift inside the lift shaft of LT1 at SKLR Playground
  - Carry out structural works of subway at PERE TTA Stages 3 & 4
  - Preparation works for road-opening of Road D1 and L7
  - Additional works as requested by maintenance parties
  - Construction of additional street furniture at Road D1 and L7
  - Construction of vehicle gates and chain-link fence
  - Carry out water supply connection at Pedestrian Street
- 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
  - 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 runoff)

- 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 runoff 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:

## Water Quality

• The public drainage gully within the construction site shall be bounded by sand bags.

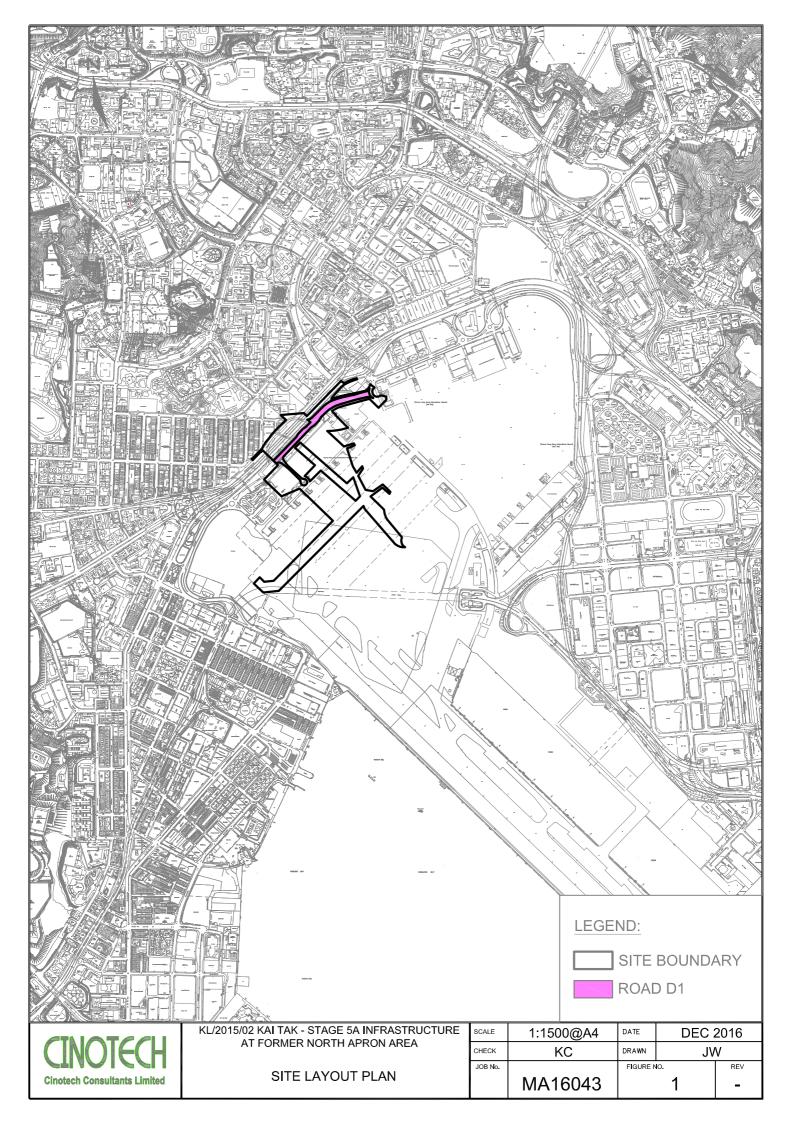
## Air Quality

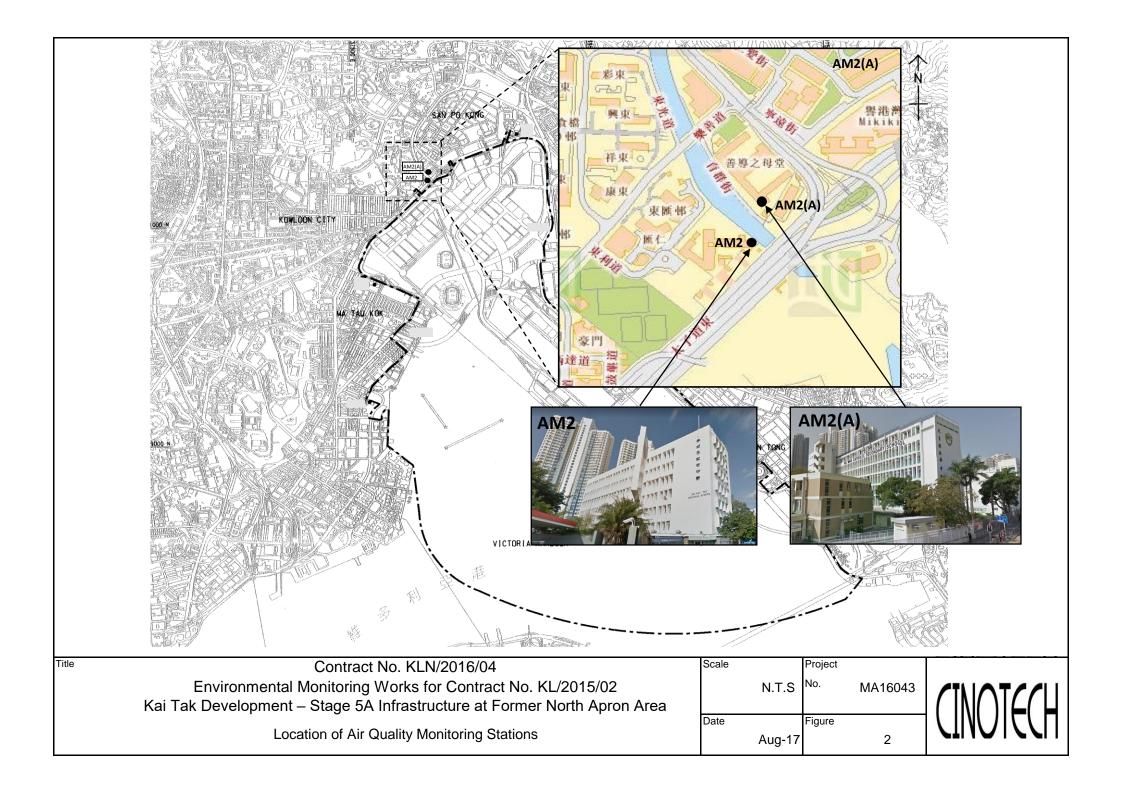
• The Contractor should cover the dusty material by dust screen.

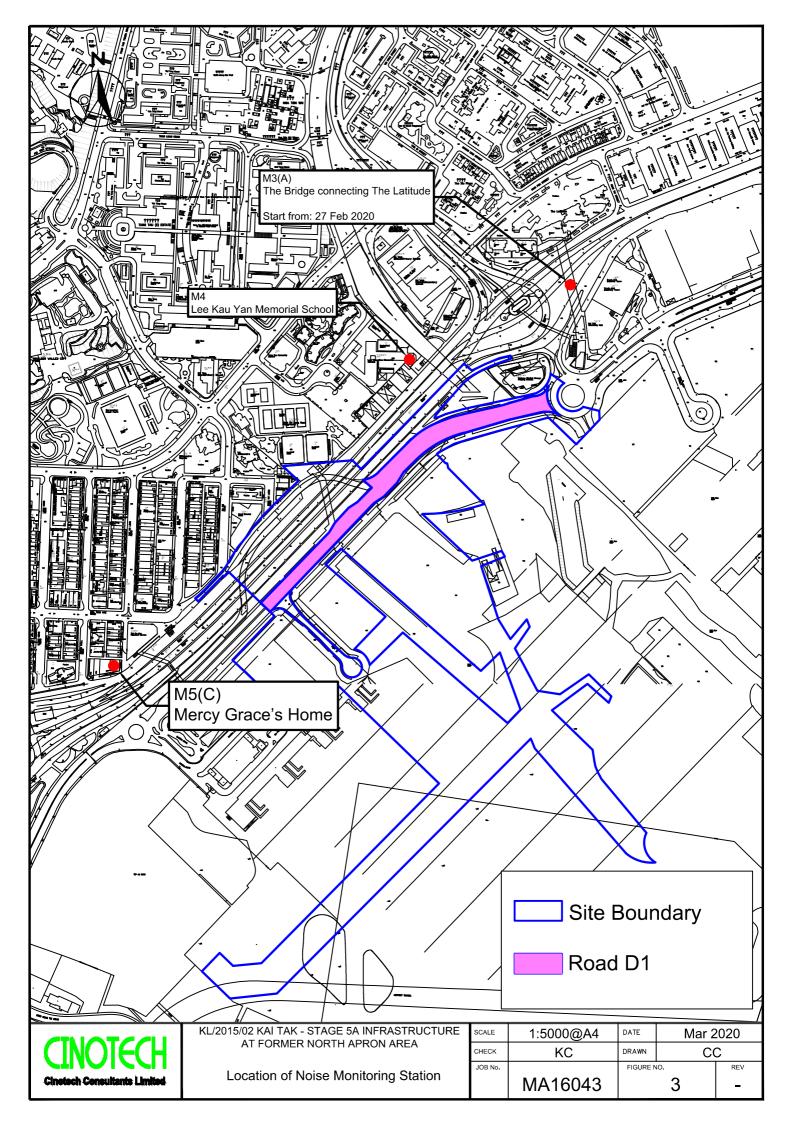
## Waste/Chemical Management

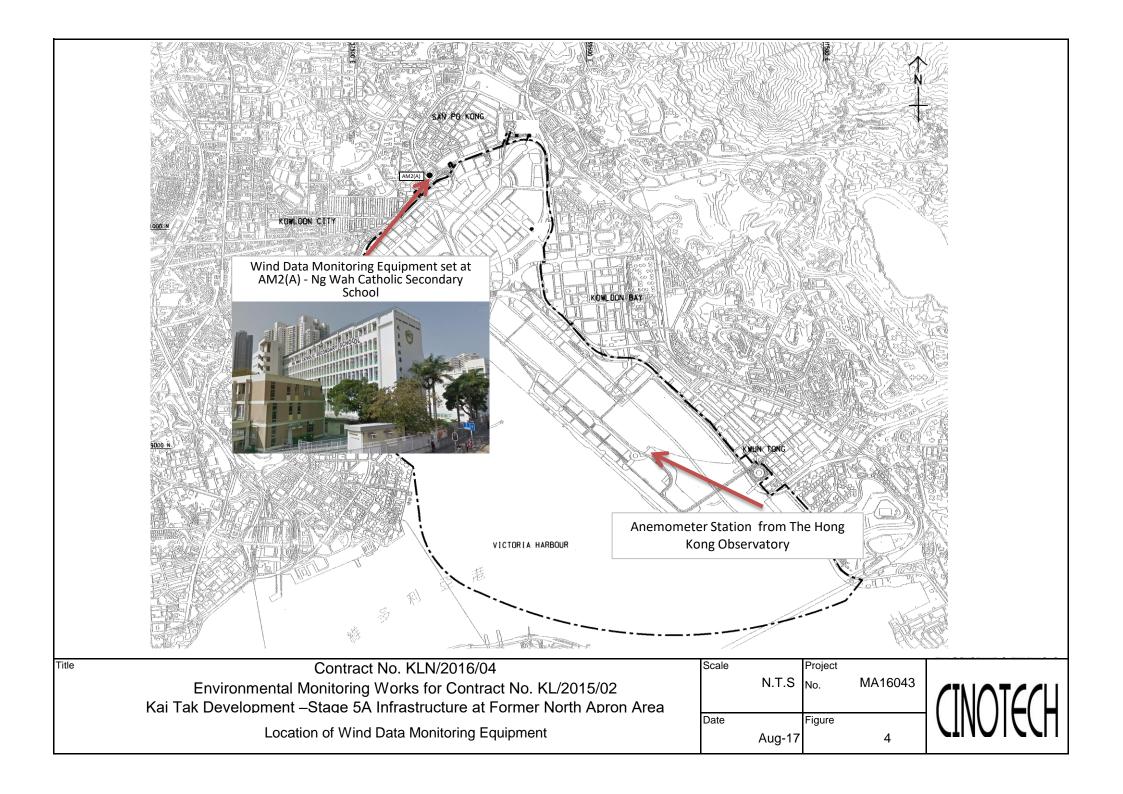
- The Contractor should store the construction/chemical material at the proper place.
- The Contractor was reminded to remove accumulated waste from the site.

# **FIGURES**









APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR
QUALITY AND NOISE

## **Appendix A - Action and Limit Levels**

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

| Location | Action Level, μg/m <sup>3</sup> | Limit Level, μg/m³ |
|----------|---------------------------------|--------------------|
| AM2      | 346                             | 500                |

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

| Location | Action Level, μg/m <sup>3</sup> | Limit Level, μg/m³ |
|----------|---------------------------------|--------------------|
| 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)<br>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)

## **CINOTECH CONSULTANTS LIMITED**

Digital Dust Indicator



Date of Calibration 2-Dec-21

## **Certificate of Calibration**

Description:

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

| Manufacturer:                                    | Sibata Scienti                    | fic Technology LTD.   | _                             | Validity of Calibration Record 2-Feb-22 |                     |                     |
|--|-----------------------------------|---|-------------------------------|---|---------------------|---------------------|
| Model No.:                                       | LD-5R                             |   |                               |   |                     |                     |
| Serial No.:                                      | 972780                            |   |                               |   |                     |                     |
| Equipment No.:                                   | SA-01-09                          |   | Sensitivity                   | 0.001 mg/m3                             | _                   |                     |
| High Volume Sa                                   | mpler No.:                        | A-01-03   | Before Sensitiv               | vity Adjustment                         | 739 CPM             |                     |
| Tisch Calibration                                | n Orifice No.:                    | 3864  | After Sensitivi               | ty Adjustment                           | 739 CPM             |                     |
|  |                                   | Cal   | libration of 1 h              | r TSP                                   |                     |                     |
| Calibration                                      | Lasar Dust Manitar                |   |                               |   | HVS                 |                     |
| Point  | Mass Concentration (μg/m3         |   | m3)                           | Mas                                     | ss concentration (µ | ıg/m³)              |
| 1  |                                   | X-axis  |                               |   | Y-axis              |                     |
| 2  |                                   | 64.0<br>59.0  |                               |   | 123.8<br>117.9      |                     |
| 3  |                                   | 51.0  |                               |   | 109.0               |                     |
| Average  | 58.0                              |   |                               | 116.9                                   |                     |                     |
| By Linear Regr<br>Slope , mw =<br>Correlation co | 1.130                             |   | Interc                        | ept, bw =                               | 51.0093             |                     |
|  |                                   | Set   | t Correlation F               | actor                                   |                     |                     |
| Particaulate Con                                 | centration by F                   | High Volume Sampler (   | $\mu g/m^3$ )                 |   | 116.9               |                     |
| Particaulate Con                                 | centration by I                   | Oust Meter (μg/m <sup>3</sup> )   |                               | 58.0                                    |                     |                     |
| Measureing time                                  | , (min)                           |   |                               |   | 60.0                |                     |
| Set Correlation F SCF = [ K=Higl                 |                                   | npler / Dust Meter, (με   | g/m3) ]                       | 2.0                                     |                     |                     |
| The Dust Monitor<br>Factor (CF) betw             | or was compare<br>veen the Dust N | o the instruction manual of with a calibrated Hig Monitor and High Volumeted by HOKLAS labo | gh Volume Samp<br>me Sampler. |   | was used to gener   | ate the Correlation |
| Calibrated by:<br>Technica                       |                                   | ng Shing Kwai)  | -                             |   | t Manager (Henry    | 1 1                 |



RECALIBRATION
DUE DATE:

January 11, 2022

# Certificate of Calibration

**Calibration Certification Information** 

Cal. Date: January 11, 2021

Rootsmeter S/N: 438320

°K

Operator: Jim Tisch

Ta: 297
Pa: 750.1

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 3864

| Run | Vol. Init<br>(m3) | Vol. Final<br>(m3) | ΔVol.<br>(m3) | ΔTime<br>(min) | ΔP<br>(mm Hg) | ΔH<br>(in H2O) |
|-----|-------------------|--------------------|---------------|----------------|---------------|----------------|
| 1   | 1                 | 2                  | 1             | 1.4470         | 3.2           | 2.00           |
| 2   | 3                 | 4                  | 1             | 1.0210         | 6.4           | 4.00           |
| 3   | 5                 | 6                  | 1             | 0.9140         | 8.0           | 5.00           |
| 4   | , 7               | 8                  | 1             | 0.8670         | 8.8           | 5.50           |
| 5   | 9                 | 10                 | 1             | 0.7140         | 12.9          | 8.00           |

|        | Data Tabulation |   |        |          |                           |  |  |
|--------|-----------------|---|--------|----------|---------------------------|--|--|
| Vstd   | Qstd            | $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$ |        | Qa       | $\sqrt{\Delta H (Ta/Pa)}$ |  |  |
| (m3)   | (x-axis)        | (y-axis)  | Va     | (x-axis) | (y-axis)                  |  |  |
| 0.9860 | 0.6814          | 1.4073  | 0.9957 | 0.6881   | 0.8899                    |  |  |
| 0.9818 | 0.9616          | 1.9902  | 0.9915 | 0.9711   | 1.2585                    |  |  |
| 0.9797 | 1.0719          | 2.2251  | 0.9893 | 1.0824   | 1.4071                    |  |  |
| 0.9786 | 1.1288          | 2.3337  | 0.9883 | 1.1399   | 1.4757                    |  |  |
| 0.9732 | 1.3630          | 2.8146  | 0.9828 | 1.3765   | 1.7798                    |  |  |
|        | m=              | 2.06566   |        | m=       | 1.29348                   |  |  |
| QSTD   | b=              | 0.00315   | QA     | b=       | 0.00199                   |  |  |
|        | r=              | 0.99996   |        | r=       | 0.99996                   |  |  |

|       | Calculations   |     |  |  |  |  |
|-------|--|-----|--|--|--|--|
| Vstd= | ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)  | Va= | ΔVol((Pa-ΔP)/Pa)   |  |  |  |
| Qstd= | Vstd/ΔTime   | Qa= | Va/∆Time   |  |  |  |
|       | For subsequent flow rate calculations:   |     |  |  |  |  |
| Qstd= | $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ | Qa= | $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$ |  |  |  |

| Standard Conditions                      |   |  |  |  |  |  |
|--|---|--|--|--|--|--|
| Tstd:                                    | 298.15 °K                                 |  |  |  |  |  |
| Pstd:                                    | 760 mm Hg                                 |  |  |  |  |  |
|  | Key                                       |  |  |  |  |  |
| ΔH: calibrate                            | ΔH: calibrator manometer reading (in H2O) |  |  |  |  |  |
| ΔP: rootsmeter manometer reading (mm Hg) |   |  |  |  |  |  |
| Ta: actual absolute temperature (°K)     |   |  |  |  |  |  |
| Pa: actual barometric pressure (mm Hg)   |   |  |  |  |  |  |
| b: intercept                             |   |  |  |  |  |  |
| m: slope                                 |   |  |  |  |  |  |

### RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

FAX: (513)467-9009

www.tisch-env.com

## **High-Volume TSP Sampler**

## 5-POINT CALIBRATION DATA SHEET



File No. MA16043/13/0026

| Project No.          | AM2(A) - Ng Wah Catholic Secondary School |                   |  |                        |   |              |  |
|----------------------|---|-------------------|--|------------------------|---|--------------|--|
| Date:                | 6-N                                       | ov-21             | Next Due Date:   | 6                      | Jan-22  | Operator:    | SK                                       |
| Equipment No.:       | A-01-13                                   |                   | Model No.: TE-   |                        | E-5170  | Serial No.   | 1352                                     |
|                      |   |                   | Ambient C  | ondition               |   |              |  |
| Temperatur           | re, Ta (K)                                | 299.4             | Pressure, Pa   | (mmHg)                 |   | 757.5        |  |
|                      |   |                   |  |                        |   |              |  |
|                      |   |                   | ifice Transfer Star  |                        |   | .            |  |
| Serial               |   | 3864              | Slope, mc  | 0.05846                | Intercept   |              | -0.00313                                 |
| Last Calibra         |   | 11-Jan-21         |  |                        | $c = [\Delta H \times (Pa/760)]$<br>$(Pa/760) \times (298/7)$ |              |  |
| Next Calibra         | ation Date:                               | 11-Jan-22         |  | <b>Qsta</b> = { ΔH x   | (Pa//60) X (298/  | 1a) -bc} / n | nc                                       |
|                      |   |                   | Calibration of   | FSP Sampler            |   |              |  |
|                      |   | Or                | fice   | 191 Samplei            |   | HVS          |  |
| Calibration<br>Point | DH (orifice),<br>in. of water             |                   | 50) x (298/Ta)] <sup>1/2</sup>                                   | Qstd (CFM)<br>X - axis | DW (HVS), in.<br>of water                                     | [ΔW x (Pa/7  | 60) x (298/Ta)] <sup>1/2</sup><br>Y-axis |
| 1                    | 13.0                                      |                   | 3.59   | 61.48                  | 10.4  |              | 3.21                                     |
| 2                    | 10.9                                      |                   | 3.29   | 56.30                  | 8.4   |              | 2.89                                     |
| 3                    | 8.0                                       |                   | 2.81   | 48.12                  | 5.6   |              | 2.36                                     |
| 4                    | 5.4                                       | :                 | 2.31   | 39.65                  | 3.4   |              | 1.84                                     |
| 5                    | 3.3                                       |                   | 1.81   | 31.00                  | 1.9   |              | 1.37                                     |
|                      | 0.0608<br>coefficient* =                  | _                 | 9994   | Intercept, bw          | -0.544  | 2            |  |
|                      |   |                   | Set Point Ca   | alculation             |   |              |  |
| From the TSP Fi      | eld Calibration                           | Curve, take Qstd  | = 43 CFM   |                        |   |              |  |
| From the Regres      | sion Equation, t                          | he "Y" value acco | ording to  |                        |   |              |  |
|                      |   | mw x Q            | $\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$ | (Pa/760) x (29         | 98/Ta)] <sup>1/2</sup>  |              |  |
| Therefore, Se        | et Point; W = ( n                         | nw x Qstd + bw)   | <sup>2</sup> x ( 760 / Pa ) x ( T                                | Γα / 298 ) =           | 4.32  |              |  |
| Remarks:             |   |                   |  |                        |   |              |  |
| Conducted by:        | Wong S                                    | hing Kwai         | Signature:   | K                      | <u></u>   | Date: _      | 6-Nov-21                                 |
| Checked by:          | Henry                                     | Leung             | Signature:   | \-lem                  | y day   | Date:        | 6-Nov-21                                 |

## **High-Volume TSP Sampler** 5-POINT CALIBRATION DATA SHEET



File No. MA16043/13/0027

| Project No.          | AM2(A) - Ng Wah Catholic Secondary School |                  |  |                                 |   |                |                                     |
|----------------------|---|------------------|--|---------------------------------|---|----------------|-------------------------------------|
| Date:                | 6-Jan-22                                  |                  | Next Due Date:   | Date: 6-Mar-22                  |   | Operator:      | SK                                  |
| Equipment No.:       | A-(                                       | 01-13            | Model No.:   | TE                              | E-5170  | Serial No.     | 1352                                |
|                      |   |                  | Ambient C  | ondition                        |   |                |                                     |
| Temperatur           | e, Ta (K)                                 | 293              | Pressure, Pa   | (mmHg)                          |   | 764            |                                     |
|                      |   |                  |  |                                 |   |                |                                     |
|                      |   |                  | ifice Transfer Star  |                                 |   |                |                                     |
| Serial               |   | 3864             | Slope, mc  | 0.05846                         | Intercept   |                | -0.00313                            |
| Last Calibra         |   | 11-Jan-21        | -  | nc x Qsta + bo<br>Octa = ([AH v | $c = [\Delta H \times (Pa/760)]$<br>$(Pa/760) \times (298/7)$ | () X (298/1a)] |                                     |
| Next Calibra         | illon Date:                               | 11-Jan-22        |  | <u> </u>                        | (Fa/700) X (298/  | [a)] -bc}/ m   |                                     |
|                      |   | <u>.</u>         | Calibration of   | ΓSP Sampler                     |   |                |                                     |
| G 171 - 41           |   | Oı               | fice   |                                 |   | HVS            |                                     |
| Calibration<br>Point | DH (orifice),<br>in. of water             | [DH x (Pa/70     | 60) x (298/Ta)] <sup>1/2</sup>                                   | Qstd (CFM)<br>X - axis          | DW (HVS), in.<br>of water                                     |                | 0) x (298/Ta)] <sup>1/2</sup> -axis |
| 1                    | 12.9                                      |                  | 3.63   | 62.18                           | 10.6  | 3              | 3.29                                |
| 2                    | 10.9                                      |                  | 3.34   | 57.16                           | 8.4   | 2              | 2.93                                |
| 3                    | 8.0                                       |                  | 2.85   | 48.85                           | 5.6   | 2              | 2.39                                |
| 4                    | 5.4                                       |                  | 2.35   | 40.25                           | 3.4   |                | .86                                 |
| 5                    | 3.3                                       |                  | 1.84   | 31.47                           | 1.9   | 1              | 39                                  |
|                      | 0.0619<br>coefficient* =                  |                  | .9988  | Intercept, bw =                 | -0.593  | 4              |                                     |
|                      |   |                  | Set Point Ca   | alculation                      |   |                |                                     |
| From the TSP Fi      | eld Calibration                           | Curve, take Qstd |  |                                 |   |                |                                     |
| From the Regress     |   |                  |  |                                 |   |                |                                     |
|                      | 1 /                                       |                  | -  |                                 | 1/2   |                |                                     |
|                      |   | mw x (           | $\mathbf{Qstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$ | (Pa/760) x (29                  | 98/Ta)] <sup>1/2</sup>  |                |                                     |
| Therefore, Se        | t Point; W = ( n                          | nw x Qstd + bw ) | <sup>2</sup> x ( 760 / Pa ) x ( 7                                | Γa / 298 ) =                    | 4.18  |                |                                     |
| Remarks:             |   |                  |  |                                 |   |                |                                     |
|                      |   |                  |  |                                 |   |                |                                     |
| Conducted by:        | Wong S                                    | hing Kwai        | Signature:   | K                               | <u></u>   | Date:          | 6-Jan-22                            |
| Checked by:          | Henry                                     | / Leung          | Signature:   | \-lem                           | y day   | Date:          | 6-Jan-22                            |



## **Certificate of Calibration - Wind Monitoring Station**

Description: Ng Wah Catholic Seconday School - Weather Stations

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis 6152, Vantage Pro2</u>

Serial No.: <u>BC180522050</u>

Equipment No.: SA-03-03

Date of Calibration 8-Oct-2021

Next Due Date 8-Apr-2022

## 1. Performance check of Wind Speed

| Wind Sp                                       | peed, m/s | Difference D (m/s) |
|---|-----------|--------------------|
| Wind Speed Reading (V1) Anemometer Value (V1) |           | D = V1 - V2        |
| 0.0   | 0.0       | 0.0                |
| 1.5   | 1.5       | 0.0                |
| 2.0   | 2.1       | -0.1               |
| 3.3   | 3.4       | -0.1               |

#### 2. Performance check of Wind Direction

| Wind Di                     | rection (°)               | Difference D (°) |
|-----------------------------|---------------------------|------------------|
| Wind Direction Reading (V1) | Marine Compass Value (V1) | D = W1 - 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:

Wong Shing Kwai

Approved by:

Henry Leung

APPENDIX B-2 COPIES OF CALIBRATION CERTIFCATES (NOISE)

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00152 Issue Date : 19 Nov 2021

Application No. : HP00034

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-01

Manufacturer: : BSWA Technology

Other information : N

| Model No.      | BSWA 308 |
|----------------|----------|
| Serial No.     | 570183   |
| Microphone No. | 570605   |

Date Received : 10 Nov 2021

Test Period : 10 Nov 2021 to 17 Nov 2021

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the

documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark: 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit Laboratory Manager

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00152 | Issue Date : 19 Nov 2021

Application No. : HP00034

## **Certificate of Calibration**

Measuring equipment

| Description   | Sound Calibrator |
|---------------|------------------|
| Manufacturer  | Brüel & Kjær     |
| Model No.     | TYPE 4231        |
| Serial No.    | 2326353          |
| Equipment No. | N-02-01          |

Test Result :

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---------------------|----------------------|---------------|-----------------------|
| 94.0                | 94.1                 | +0.1          | ± 1.5                 |
| 114.0               | 114.0                | 0.0           | ± 1.5                 |

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00145 Issue Date : 04 Nov 2021

Application No. : HP00029

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-03

Manufacturer: : BSWA Technology

Other information : Mo

| Model No.      | BSWA 308 |
|----------------|----------|
| Serial No.     | 570188   |
| Microphone No. | 570608   |

Date Received : 26 Oct 2021

Test Period : 26 Oct 2021 to 02 Nov 2021

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the

documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit Laboratory Manager

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00145 | Issue Date : 04 Nov 2021

Application No. : HP00029

**Certificate of Calibration** 

Measuring equipment

| Description   | Sound Calibrator |
|---------------|------------------|
| Manufacturer  | Brüel & Kjær     |
| Model No.     | TYPE 4231        |
| Serial No.    | 2326353          |
| Equipment No. | N-02-01          |

Test Result

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---------------------|----------------------|---------------|-----------------------|
| 94.0                | 93.9                 | -0.1          | ± 1.5                 |
| 114.0               | 114.0                | 0.0           | ± 1.5                 |

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00149 | Issue Date : 16 Nov 2021

Application No. : HP00031

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-04

Manufacturer: : BSWA Technology

Other information :

| Model No.      | BSWA 308 |
|----------------|----------|
| Serial No.     | 580238   |
| Microphone No. | 590073   |

Date Received : 05 Nov 2021

Test Period : 08 Nov 2021 to 12 Nov 2021

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the

documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark: 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit Laboratory Manager

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00149 | Issue Date : 16 Nov 2021

Application No. : HP00031

## **Certificate of Calibration**

Measuring equipment

| Description   | Sound Calibrator |
|---------------|------------------|
| Manufacturer  | Brüel & Kjær     |
| Model No.     | TYPE 4231        |
| Serial No.    | 2326353          |
| Equipment No. | N-02-01          |

Test Result :

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---------------------|----------------------|---------------|-----------------------|
| 94.0                | 93.7                 | -0.3          | ± 1.5                 |
| 114.0               | 114.0                | 0.0           | ± 1.5                 |

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

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NT, Hong Kong

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Report No. : 00150 Issue Date : 16 Nov 2021

Application No. : HP00032

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-13-01

Manufacturer: : SOUNDTEK

Other information : Model No. ST-120

Serial No. 181001608

Date Received : 05 Nov 2021

Test Period : 08 Nov 2021 to 12 Nov 2021

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with

the documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit Laboratory Manager

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00150 | Issue Date : 16 Nov 2021

Application No. : HP00032

## **Certificate of Calibration**

Measuring equipment

| Description   | Sound Calibrator |
|---------------|------------------|
| Manufacturer  | Brüel & Kjær     |
| Model No.     | TYPE 4231        |
| Serial No.    | 2326353          |
| Equipment No. | N-02-01          |

| Description    | Sound Meter     |
|----------------|-----------------|
| Manufacturer   | BSWA Technology |
| Model No.      | BSWA 308        |
| Serial No.     | 570188          |
| Microphone No. | 570608          |
| Equipment No.  | N-12-03         |

Test Result

| Reference value, dB | Indication value, dB | Deviation, dB | Allowed deviation, dB |
|---------------------|----------------------|---------------|-----------------------|
| 94.0                | 94.1                 | +0.1          | ± 0.3                 |
| 114.0               | 114.0                | 0.0           | ± 0.5                 |

## Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00151 Issue Date : 16 Nov 2021

Application No. : HP00033

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-13-02

Manufacturer: : SOUNDTEK

Other information : Model No. ST-120

Serial No. 181001636

Date Received : 05 Nov 2021

Test Period : 08 Nov 2021 to 12 Nov 2021

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with

the documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit Laboratory Manager

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00151 | Issue Date : 16 Nov 2021

Application No. : HP00033

## **Certificate of Calibration**

Measuring equipment

| Description   | Sound Calibrator |
|---------------|------------------|
| Manufacturer  | Brüel & Kjær     |
| Model No.     | TYPE 4231        |
| Serial No.    | 2326353          |
| Equipment No. | N-02-01          |

| Description    | Sound Meter     |
|----------------|-----------------|
| Manufacturer   | BSWA Technology |
| Model No.      | BSWA 308        |
| Serial No.     | 570188          |
| Microphone No. | 570608          |
| Equipment No.  | N-12-03         |

Test Result

Reference value, dBIndication value, dBDeviation, dBAllowed deviation, dB94.094.00.0 $\pm 0.3$ 114.0114.1+0.1 $\pm 0.5$ 

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

## APPENDIX C WEATHER INFORMATION

## January 2022

|           |                     | January 2022                 |                               |                    |
|-----------|---------------------|------------------------------|-------------------------------|--------------------|
| Date      | Mean Pressure (hPa) | Air Temperature<br>Mean (°C) | Mean Relative<br>Humidity (%) | Precipitation (mm) |
| 1-Jan-22  | 1024.4              | 17.6                         | 76                            | 0                  |
| 2-Jan-22  | 1022.5              | 18.4                         | 77                            | 0                  |
| 3-Jan-22  | 1021.1              | 18.3                         | 79                            | 0                  |
| 4-Jan-22  | 1019.6              | 19.1                         | 75                            | 0                  |
| 5-Jan-22  | 1017.3              | 20.4                         | 75                            | Trace              |
| 6-Jan-22  | 1019.2              | 20.3                         | 80                            | 0                  |
| 7-Jan-22  | 1021.6              | 18.6                         | 79                            | 0                  |
| 8-Jan-22  | 1020.5              | 17.8                         | 75                            | 0                  |
| 9-Jan-22  | 1018.2              | 18.0                         | 79                            | 0                  |
| 10-Jan-22 | 1017.5              | 18.4                         | 76                            | 0                  |
| 11-Jan-22 | 1020.2              | 15.8                         | 70                            | 1.2                |
| 12-Jan-22 | 1020.9              | 16.1                         | 72                            | 0                  |
| 13-Jan-22 | 1021.5              | 17.0                         | 64                            | Trace              |
| 14-Jan-22 | 1020.7              | 16.6                         | 75                            | 0                  |
| 15-Jan-22 | 1020.1              | 17.9                         | 82                            | 0                  |
| 16-Jan-22 | 1020.4              | 18.8                         | 82                            | 0                  |
| 17-Jan-22 | 1020.7              | 17.8                         | 84                            | 0                  |
| 18-Jan-22 | 1020.9              | 17.3                         | 82                            | 0.2                |
| 19-Jan-22 | 1019.3              | 17.1                         | 70                            | 0                  |
| 20-Jan-22 | 1018.4              | 17.6                         | 73                            | 0                  |
| 21-Jan-22 | 1017.6              | 17.9                         | 80                            | 0                  |
| 22-Jan-22 | 1014.3              | 17.3                         | 91                            | 1.5                |
| 23-Jan-22 | 1013.1              | 19.4                         | 84                            | 0.1                |
| 24-Jan-22 | 1014.3              | 19.7                         | 88                            | 1                  |
| 25-Jan-22 | 1016.7              | 18.6                         | 82                            | 0                  |
| 26-Jan-22 | 1017.1              | 19.2                         | 83                            | Trace              |
| 27-Jan-22 | 1016.8              | 19.8                         | 84                            | Trace              |
| 28-Jan-22 | 1016.3              | 18.8                         | 86                            | Trace              |
| 29-Jan-22 | 1014.4              | 18.1                         | 81                            | 0.1                |
| 30-Jan-22 | 1017.5              | 16.0                         | 64                            | 0                  |
| 31-Jan-22 | 1019.2              | 14.6                         | 70                            | Trace              |

| January 2022         |                                     |                |            |  |  |
|----------------------|-------------------------------------|----------------|------------|--|--|
| Т                    | Table II: Wind Speed and Directions |                |            |  |  |
| Date                 | Time                                | Wind Speed m/s | Direction  |  |  |
| 1-Jan-22             | 0:00                                | 0.5            | W          |  |  |
| 1-Jan-22             | 1:00                                | 0.5            | W          |  |  |
| 1-Jan-22             | 2:00                                | 1.9            | NNW        |  |  |
| 1-Jan-22             | 3:00                                | 1.9            | NNW        |  |  |
| 1-Jan-22<br>1-Jan-22 | 4:00                                | 1.9            | NNW        |  |  |
| 1-Jan-22             | 5:00                                | 1.4            | WNW        |  |  |
| 1-Jan-22             | 6:00                                | 1.0            | NNW        |  |  |
| 1-Jan-22             | 7:00                                | 1.4            | WNW        |  |  |
| 1-Jan-22             | 8:00                                | 1.4            | NW         |  |  |
| 1-Jan-22<br>1-Jan-22 | 9:00                                | 1.4            | NNW        |  |  |
|                      |                                     | 1.4            | NNW        |  |  |
| 1-Jan-22             | 10:00                               |                |            |  |  |
| 1-Jan-22             | 11:00                               | 1.9<br>1.0     | NNW        |  |  |
| 1-Jan-22             | 12:00                               |                | NNW        |  |  |
| 1-Jan-22<br>1-Jan-22 | 13:00<br>14:00                      | 1.4<br>1.0     | NNW<br>NW  |  |  |
|                      |                                     | 1.0            |            |  |  |
| 1-Jan-22             | 15:00                               | 0.5            | WNW        |  |  |
| 1-Jan-22<br>1-Jan-22 | 16:00<br>17:00                      |                | NNW<br>NW  |  |  |
|                      |                                     | 1.0            |            |  |  |
| 1-Jan-22             | 18:00                               | 0.5            | ENE        |  |  |
| 1-Jan-22             | 19:00                               | 0.5            | NW         |  |  |
| 1-Jan-22             | 20:00                               | 0.5            | ESE        |  |  |
| 1-Jan-22             | 21:00                               | 0.1            | NNW        |  |  |
| 1-Jan-22             | 22:00                               | 0.1            | NW         |  |  |
| 1-Jan-22             | 23:00                               | 0.5<br>0.5     | N<br>N     |  |  |
| 2-Jan-22             | 0:00                                | 1.0            |            |  |  |
| 2-Jan-22             | 1:00                                |                | NNW        |  |  |
| 2-Jan-22<br>2-Jan-22 | 2:00<br>3:00                        | 1.4<br>1.4     | NNW<br>NW  |  |  |
| 2-Jan-22<br>2-Jan-22 |                                     | 1.4            |            |  |  |
|                      | 4:00<br>5:00                        | 1.0            | NNW        |  |  |
| 2-Jan-22             |                                     |                | NNW        |  |  |
| 2-Jan-22             | 6:00                                | 1.0            | NNW        |  |  |
| 2-Jan-22             | 7:00                                | 1.0            | NNE        |  |  |
| 2-Jan-22             | 8:00                                |                | NNE        |  |  |
| 2-Jan-22<br>2-Jan-22 | 9:00<br>10:00                       | 1.0<br>0.5     | NNW<br>ENE |  |  |
|                      |                                     |                |            |  |  |
| 2-Jan-22<br>2-Jan-22 | 11:00<br>12:00                      | 0.5<br>0.1     | NNW<br>NNW |  |  |
| 2-Jan-22<br>2-Jan-22 | 13:00                               | 0.5            | NNW        |  |  |
| 2-Jan-22<br>2-Jan-22 |                                     |                |            |  |  |
|                      | 14:00                               | 0.1            | NNW        |  |  |
| 2-Jan-22             | 15:00                               |                | NNW        |  |  |
| 2-Jan-22<br>2-Jan-22 | 16:00<br>17:00                      | 0.5<br>0.1     | N<br>NNW   |  |  |
|                      | 18:00                               | 0.1            | NNW        |  |  |
| 2-Jan-22             |                                     | 0.5            | +          |  |  |
| 2-Jan-22             | 19:00                               | 0.5            | NE<br>NE   |  |  |
| 2-Jan-22             | 20:00                               |                | NE<br>E    |  |  |
| 2-Jan-22             | 21:00                               | 0.5<br>0.5     | E<br>NNW   |  |  |
| 2-Jan-22             | 22:00                               |                |            |  |  |
| 2-Jan-22             | 23:00                               | 1.0            | NNW        |  |  |

| January 2022         |                                     |                |            |  |  |
|----------------------|-------------------------------------|----------------|------------|--|--|
| Tabl                 | Table II: Wind Speed and Directions |                |            |  |  |
| Date                 | Time                                | Wind Speed m/s | Direction  |  |  |
| 3-Jan-22             | 0:00                                | 1.9            | NNW        |  |  |
| 3-Jan-22             | 1:00                                | 2.8            | NW         |  |  |
| 3-Jan-22             | 2:00                                | 3.2            | WNW        |  |  |
| 3-Jan-22             | 3:00                                | 1.9            | NNW        |  |  |
| 3-Jan-22             | 4:00                                | 1.4            | NW         |  |  |
| 3-Jan-22             | 5:00                                | 1.9            | ENE        |  |  |
| 3-Jan-22             | 6:00                                | 1.9            | WNW        |  |  |
| 3-Jan-22             | 7:00                                | 1.4            | WNW        |  |  |
| 3-Jan-22             | 8:00                                | 1.9            | NNW        |  |  |
| 3-Jan-22             | 9:00                                | 1.4            | NNW        |  |  |
| 3-Jan-22             | 10:00                               | 1.4            | WNW        |  |  |
| 3-Jan-22             | 11:00                               | 1.0            | WNW        |  |  |
| 3-Jan-22             | 12:00                               | 1.4            | NNW        |  |  |
| 3-Jan-22             | 13:00                               | 1.9            | NNW        |  |  |
| 3-Jan-22             | 14:00                               | 1.9            | NNW        |  |  |
| 3-Jan-22             | 15:00                               | 2.3            | NNW        |  |  |
| 3-Jan-22             | 16:00                               | 1.0            | WNW        |  |  |
| 3-Jan-22             | 17:00                               | 1.0            | NW         |  |  |
| 3-Jan-22             | 18:00                               | 1.4            | NNW        |  |  |
| 3-Jan-22             | 19:00                               | 1.0            | NNW        |  |  |
| 3-Jan-22             | 20:00                               | 0.5            | S          |  |  |
| 3-Jan-22             | 21:00                               | 0.5            | S          |  |  |
| 3-Jan-22             | 22:00                               | 0.5            | S          |  |  |
| 3-Jan-22             | 23:00                               | 0.5            | S          |  |  |
| 4-Jan-22             | 0:00                                | 0.5            | S          |  |  |
| 4-Jan-22             | 1:00                                | 0.5            | S          |  |  |
| 4-Jan-22             | 2:00                                | 1.0            | WNW        |  |  |
| 4-Jan-22             | 3:00                                | 1.4            | NNW        |  |  |
| 4-Jan-22             | 4:00                                | 1.9            | NNW        |  |  |
| 4-Jan-22             | 5:00                                | 1.9            | NNW        |  |  |
| 4-Jan-22             | 6:00                                | 1.4            | NNW        |  |  |
| 4-Jan-22             | 7:00                                | 1.9            | WNW        |  |  |
| 4-Jan-22             | 8:00                                | 1.9            | NNW        |  |  |
| 4-Jan-22             | 9:00                                | 1.0            | WNW        |  |  |
| 4-Jan-22             | 10:00                               | 1.9            | NNW        |  |  |
| 4-Jan-22             | 11:00                               | 1.4            | WNW        |  |  |
| 4-Jan-22             | 12:00                               | 1.4<br>1.0     | WNW        |  |  |
| 4-Jan-22             | 13:00                               |                | WNW        |  |  |
| 4-Jan-22             | 14:00<br>15:00                      | 1.0<br>1.4     | WNW<br>WNW |  |  |
| 4-Jan-22             | 16:00                               | 1.9            | WNW        |  |  |
| 4-Jan-22<br>4-Jan-22 | 17:00                               | 0.5            | NW         |  |  |
| 4-Jan-22<br>4-Jan-22 | 18:00                               | 0.5            | WNW        |  |  |
| 4-Jan-22             | 19:00                               | 1.0            | NNW        |  |  |
| 4-Jan-22<br>4-Jan-22 | 20:00                               | 1.0            | NW         |  |  |
| 4-Jan-22<br>4-Jan-22 | 21:00                               | 1.0            | NW         |  |  |
| 4-Jan-22<br>4-Jan-22 | 22:00                               | 1.4            | NNW        |  |  |
| 4-Jan-22             | 23:00                               | 1.9            | NNW        |  |  |
| 1 Juli 22            | 23.00                               | 1./            | 111111     |  |  |

|                                    | January 2022 |                        |          |  |
|------------------------------------|--------------|------------------------|----------|--|
| Т                                  |              | nd Speed and Direction | IS       |  |
| Date Time Wind Speed and Direction |              |                        |          |  |
|                                    |              | •                      |          |  |
| 5-Jan-22                           | 0:00         | 1.9                    | NNW      |  |
| 5-Jan-22                           | 1:00         | 2.8                    | NNW      |  |
| 5-Jan-22                           | 2:00         | 2.8                    | NNW      |  |
| 5-Jan-22                           | 3:00         | 2.8                    | NNW      |  |
| 5-Jan-22                           | 4:00         |                        | NNW      |  |
| 5-Jan-22                           | 5:00         | 2.8<br>2.3             | NNW      |  |
| 5-Jan-22                           | 6:00<br>7:00 | 2.3                    | NNW      |  |
| 5-Jan-22<br>5-Jan-22               |              |                        | NNW      |  |
|                                    | 8:00         | 2.8                    | NNW      |  |
| 5-Jan-22                           | 9:00         | 1.9                    | NNW      |  |
| 5-Jan-22                           | 10:00        | 1.9                    | NNW      |  |
| 5-Jan-22                           | 11:00        | 1.4                    | NNW      |  |
| 5-Jan-22                           | 12:00        | 1.0                    | NNW      |  |
| 5-Jan-22                           | 13:00        | 1.0<br>1.0             | NW<br>NW |  |
| 5-Jan-22                           | 14:00        |                        |          |  |
| 5-Jan-22                           | 15:00        | 0.5                    | WNW      |  |
| 5-Jan-22                           | 16:00        | 1.0                    | NW       |  |
| 5-Jan-22                           | 17:00        | 0.5                    | WNW      |  |
| 5-Jan-22                           | 18:00        | 0.5                    | WNW      |  |
| 5-Jan-22                           | 19:00        | 0.5                    | WNW      |  |
| 5-Jan-22                           | 20:00        | 1.0                    | WNW      |  |
| 5-Jan-22                           | 21:00        | 1.0                    | WNW      |  |
| 5-Jan-22                           | 22:00        | 1.0                    | WNW      |  |
| 5-Jan-22                           | 23:00        | 1.4                    | NNW      |  |
| 6-Jan-22                           | 0:00         | 1.9                    | NNW      |  |
| 6-Jan-22                           | 1:00         | 2.8                    | NNW      |  |
| 6-Jan-22                           | 2:00         | 3.7                    | NNW      |  |
| 6-Jan-22                           | 3:00         | 2.3                    | NNW      |  |
| 6-Jan-22                           | 4:00         | 2.3                    | NNW      |  |
| 6-Jan-22                           | 5:00         | 1.9                    | NNW      |  |
| 6-Jan-22                           | 6:00         | 1.4                    | NNW      |  |
| 6-Jan-22                           | 7:00         | 1.0                    | SE       |  |
| 6-Jan-22                           | 8:00         | 0.5                    | SE       |  |
| 6-Jan-22                           | 9:00         | 0.5                    | ESE      |  |
| 6-Jan-22                           | 10:00        | 0.5                    | ESE      |  |
| 6-Jan-22                           | 11:00        | 1.0                    | SE       |  |
| 6-Jan-22                           | 12:00        | 1.0                    | SE       |  |
| 6-Jan-22                           | 13:00        | 1.4                    | ESE      |  |
| 6-Jan-22                           | 14:00        | 1.0                    | ESE      |  |
| 6-Jan-22                           | 15:00        | 1.4                    | ESE      |  |
| 6-Jan-22                           | 16:00        | 1.4                    | SE       |  |
| 6-Jan-22                           | 17:00        | 1.0                    | ESE      |  |
| 6-Jan-22                           | 18:00        | 1.4                    | ESE      |  |
| 6-Jan-22                           | 19:00        | 1.9                    | ESE      |  |
| 6-Jan-22                           | 20:00        | 1.9                    | NNW      |  |
| 6-Jan-22                           | 21:00        | 1.4                    | NNW      |  |
| 6-Jan-22                           | 22:00        | 2.8                    | NNW      |  |
| 6-Jan-22                           | 23:00        | 1.9                    | NW       |  |

| January 2022                        |       |                |           |
|-------------------------------------|-------|----------------|-----------|
| Table II: Wind Speed and Directions |       |                |           |
| Date                                | Time  | Wind Speed m/s | Direction |
| 7-Jan-22                            | 0:00  | 1.9            | WNW       |
| 7-Jan-22                            | 1:00  | 2.3            | NNW       |
| 7-Jan-22                            | 2:00  | 1.9            | NW        |
| 7-Jan-22                            | 3:00  | 2.3            | ENE       |
| 7-Jan-22                            | 4:00  | 1.4            | SE        |
| 7-Jan-22                            | 5:00  | 1.9            | NNW       |
| 7-Jan-22                            | 6:00  | 1.9            | NNW       |
| 7-Jan-22                            | 7:00  | 0.5            | WNW       |
| 7-Jan-22                            | 8:00  | 0.5            | SE        |
| 7-Jan-22                            | 9:00  | 0.5            | NW        |
| 7-Jan-22                            | 10:00 | 1.0            | NNW       |
| 7-Jan-22                            | 11:00 | 0.5            | WNW       |
| 7-Jan-22                            | 12:00 | 0.5            | WNW       |
| 7-Jan-22                            | 13:00 | 0.5            | SE        |
| 7-Jan-22                            | 14:00 | 0.5            | ESE       |
| 7-Jan-22                            | 15:00 | 0.5            | W         |
| 7-Jan-22                            | 16:00 | 0.5            | SE        |
| 7-Jan-22                            | 17:00 | 0.1            | WNW       |
| 7-Jan-22                            | 18:00 | 1.0            | SE        |
| 7-Jan-22                            | 19:00 | 0.5            | SE        |
| 7-Jan-22                            | 20:00 | 0.5            | SSE       |
| 7-Jan-22                            | 21:00 | 0.5            | E         |
| 7-Jan-22                            | 22:00 | 1.0            | E         |
| 7-Jan-22                            | 23:00 | 1.0            | NNW       |
| 8-Jan-22                            | 0:00  | 1.0            | WNW       |
| 8-Jan-22                            | 1:00  | 1.0            | ESE       |
| 8-Jan-22                            | 2:00  | 1.4            | NNW       |
| 8-Jan-22                            | 3:00  | 1.4            | NNW       |
| 8-Jan-22                            | 4:00  | 1.4            | NNW       |
| 8-Jan-22                            | 5:00  | 1.9            | NNW       |
| 8-Jan-22                            | 6:00  | 1.0            | WNW       |
| 8-Jan-22                            | 7:00  | 1.0            | WNW       |
| 8-Jan-22                            | 8:00  | 1.0            | WNW       |
| 8-Jan-22                            | 9:00  | 1.0            | WNW       |
| 8-Jan-22                            | 10:00 | 0.5            | NW        |
| 8-Jan-22                            | 11:00 | 0.5            | NW        |
| 8-Jan-22                            | 12:00 | 0.5            | WNW       |
| 8-Jan-22                            | 13:00 | 1.4            | NNW       |
| 8-Jan-22                            | 14:00 | 1.0            | NNW       |
| 8-Jan-22                            | 15:00 | 0.5            | WNW       |
| 8-Jan-22                            | 16:00 | 0.5            | WNW       |
| 8-Jan-22                            | 17:00 | 0.5            | NNW       |
| 8-Jan-22                            | 18:00 | 0.5            | WNW       |
| 8-Jan-22                            | 19:00 | 0.5            | WNW       |
| 8-Jan-22                            | 20:00 | 0.5            | NW        |
| 8-Jan-22                            | 21:00 | 0.5            | NW        |
| 8-Jan-22                            | 22:00 | 1.9            | NNW       |
| 8-Jan-22                            | 23:00 | 1.0            | NNW       |

| January 2022                        |       |                |           |  |
|-------------------------------------|-------|----------------|-----------|--|
| Table II: Wind Speed and Directions |       |                |           |  |
| Date                                | Time  | Wind Speed m/s | Direction |  |
| 9-Jan-22                            | 0:00  | 1.0            | WNW       |  |
| 9-Jan-22                            | 1:00  | 1.0            | WNW       |  |
| 9-Jan-22                            | 2:00  | 1.4            | NW        |  |
| 9-Jan-22                            | 3:00  | 1.0            | WNW       |  |
| 9-Jan-22                            | 4:00  | 2.3            | NNW       |  |
| 9-Jan-22                            | 5:00  | 1.4            | NW        |  |
| 9-Jan-22                            | 6:00  | 1.4            | NNW       |  |
| 9-Jan-22                            | 7:00  | 1.9            | NNW       |  |
| 9-Jan-22                            | 8:00  | 1.9            | NNW       |  |
| 9-Jan-22                            | 9:00  | 1.4            | NNW       |  |
| 9-Jan-22                            | 10:00 | 1.0            | NNW       |  |
| 9-Jan-22                            | 11:00 | 1.4            | NNW       |  |
| 9-Jan-22                            | 12:00 | 0.5            | NNW       |  |
| 9-Jan-22<br>9-Jan-22                | 13:00 | 1.4            | NNW       |  |
| 9-Jan-22                            | 14:00 | 1.0            | NNW       |  |
| 9-Jan-22                            | 15:00 | 1.4            | WNW       |  |
| 9-Jan-22                            | 16:00 | 1.9            | WNW       |  |
| 9-Jan-22                            | 17:00 | 1.9            | NW        |  |
| 9-Jan-22                            | 18:00 | 1.9            | NW        |  |
| 9-Jan-22<br>9-Jan-22                | 19:00 | 1.4            | NW        |  |
| 9-Jan-22                            | 20:00 | 1.0            | WNW       |  |
| 9-Jan-22                            | 21:00 | 1.0            | WNW       |  |
| 9-Jan-22                            | 22:00 | 0.5            | W         |  |
| 9-Jan-22                            | 23:00 | 0.5            | WNW       |  |
| 10-Jan-22                           | 0:00  | 1.0            | WNW       |  |
| 10-Jan-22                           | 1:00  | 1.9            | WNW       |  |
| 10-Jan-22                           | 2:00  | 1.4            | NW        |  |
| 10-Jan-22                           | 3:00  | 2.3            | NNW       |  |
| 10-Jan-22                           | 4:00  | 1.9            | WNW       |  |
| 10-Jan-22                           | 5:00  | 1.9            | NNW       |  |
| 10-Jan-22                           | 6:00  | 1.4            | NW        |  |
| 10-Jan-22                           | 7:00  | 1.4            | NNW       |  |
| 10-Jan-22                           | 8:00  | 1.4            | NNW       |  |
| 10-Jan-22                           | 9:00  | 1.0            | WNW       |  |
| 10-Jan-22                           | 10:00 | 1.4            | WNW       |  |
| 10-Jan-22                           | 11:00 | 1.0            | WNW       |  |
| 10-Jan-22                           | 12:00 | 1.0            | WNW       |  |
| 10-Jan-22                           | 13:00 | 1.4            | WNW       |  |
| 10-Jan-22                           | 14:00 | 0.1            | SSW       |  |
| 10-Jan-22                           | 15:00 | 0.1            | SSW       |  |
| 10-Jan-22                           | 16:00 | 0.1            | SSW       |  |
| 10-Jan-22                           | 17:00 | 0.1            | S         |  |
| 10-Jan-22                           | 18:00 | 0.1            | SSW       |  |
| 10-Jan-22                           | 19:00 | 0.1            | SSW       |  |
| 10-Jan-22                           | 20:00 | 0.1            | NW        |  |
| 10-Jan-22                           | 21:00 | 0.1            | WSW       |  |
| 10-Jan-22                           | 22:00 | 0.1            | SW        |  |
| 10-Jan-22                           | 23:00 | 0.5            | WNW       |  |
| 10 5411 22                          | 25.00 | 0.5            | 11111     |  |

| January 2022                        |              |                |            |  |
|-------------------------------------|--------------|----------------|------------|--|
| Table II: Wind Speed and Directions |              |                |            |  |
| Date                                | Time         | Wind Speed m/s | Direction  |  |
| 11-Jan-22                           | 0:00         | 0.1            | W          |  |
| 11-Jan-22                           | 1:00         | 0.5            | W          |  |
| 11-Jan-22                           | 2:00         | 0.5            | W          |  |
| 11-Jan-22                           | 3:00         | 0.5            | SW         |  |
| 11-Jan-22                           | 4:00         | 1.0            | WNW        |  |
| 11-Jan-22                           | 5:00         | 1.0            | WNW        |  |
| 11-Jan-22                           | 6:00         | 1.0            | WNW        |  |
| 11-Jan-22                           | 7:00         | 1.0            | WNW        |  |
| 11-Jan-22                           | 8:00         | 0.5            | WNW        |  |
| 11-Jan-22                           | 9:00         | 1.0            | WNW        |  |
| 11-Jan-22                           | 10:00        | 1.0            | NW         |  |
| 11-Jan-22                           | 11:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 12:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 13:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 14:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 15:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 16:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 17:00        | 0.1            | WSW        |  |
| 11-Jan-22                           | 18:00        | 0.1            | W          |  |
| 11-Jan-22                           | 19:00        | 0.1            | WNW        |  |
| 11-Jan-22                           | 20:00        | 0.1            | W          |  |
| 11-Jan-22                           | 21:00        | 0.1            | SSW        |  |
| 11-Jan-22                           | 22:00        | 0.1            | WSW        |  |
| 11-Jan-22                           | 23:00        | 0.1            | S          |  |
| 12-Jan-22                           | 0:00         | 0.1            | WSW        |  |
| 12-Jan-22                           | 1:00         | 0.1            | WNW        |  |
| 12-Jan-22                           | 2:00         | 0.1            | SSW        |  |
| 12-Jan-22                           | 3:00         | 0.1            | SW         |  |
| 12-Jan-22                           | 4:00         | 0.1<br>0.1     | SW         |  |
| 12-Jan-22<br>12-Jan-22              | 5:00         |                | WSW<br>WSW |  |
| 12-Jan-22<br>12-Jan-22              | 6:00         | 0.1<br>0.1     | WNW        |  |
| 12-Jan-22                           | 7:00<br>8:00 | 0.1            | WNW        |  |
| 12-Jan-22                           | 9:00         | 0.1            | S          |  |
| 12-Jan-22                           | 10:00        | 0.1            | ESE        |  |
| 12-Jan-22                           | 11:00        | 0.1            | SE         |  |
| 12-Jan-22                           | 12:00        | 0.1            | SE         |  |
| 12-Jan-22                           | 13:00        | 0.1            | SSW        |  |
| 12-Jan-22                           | 14:00        | 0.1            | SSW        |  |
| 12-Jan-22                           | 15:00        | 0.1            | SSE        |  |
| 12-Jan-22                           | 16:00        | 0.1            | SSE        |  |
| 12-Jan-22                           | 17:00        | 0.1            | SSE        |  |
| 12-Jan-22                           | 18:00        | 0.1            | SSE        |  |
| 12-Jan-22                           | 19:00        | 0.1            | SSW        |  |
| 12-Jan-22                           | 20:00        | 0.1            | SSW        |  |
| 12-Jan-22                           | 21:00        | 0.1            | SSW        |  |
| 12-Jan-22                           | 22:00        | 0.1            | SSW        |  |
| 12-Jan-22                           | 23:00        | 0.1            | SSW        |  |
|                                     |              |                |            |  |

| January 2022                       |                |                        |            |  |
|------------------------------------|----------------|------------------------|------------|--|
| Т                                  |                | nd Speed and Direction | s          |  |
| Date Time Wind Speed m/s Direction |                |                        |            |  |
|                                    |                | _                      |            |  |
| 13-Jan-22<br>13-Jan-22             | 0:00           | 0.1                    | WNW        |  |
| 13-Jan-22<br>13-Jan-22             | 1:00<br>2:00   | 0.5                    | WNW        |  |
|                                    |                |                        | WNW        |  |
| 13-Jan-22<br>13-Jan-22             | 3:00<br>4:00   | 1.0<br>0.5             | WNW<br>SW  |  |
| 13-Jan-22                          | 5:00           | 1.0                    | WNW        |  |
| 13-Jan-22                          |                | 0.5                    | SSW        |  |
| 13-Jan-22                          | 6:00<br>7:00   | 0.3                    | SSW        |  |
| 13-Jan-22                          | 8:00           | 0.1                    | SSW        |  |
| 13-Jan-22                          | 9:00           | 0.1                    | +          |  |
|                                    |                | 0.1                    | NNW        |  |
| 13-Jan-22<br>13-Jan-22             | 10:00<br>11:00 | 0.1                    | NNW        |  |
| 13-Jan-22                          |                | 0.5                    | NNW<br>NW  |  |
| 13-Jan-22                          | 12:00          |                        |            |  |
| 13-Jan-22<br>13-Jan-22             | 13:00<br>14:00 | 0.5<br>0.5             | WNW<br>NNW |  |
| 13-Jan-22                          | 15:00          | 1.9                    | NW         |  |
| 13-Jan-22                          | 16:00          | 1.0                    | ENE        |  |
| 13-Jan-22                          | 17:00          | 0.1                    | SW         |  |
| 13-Jan-22                          | 18:00          | 1.4                    | SW         |  |
| 13-Jan-22                          | 19:00          | 1.9                    | SW         |  |
| 13-Jan-22                          | 20:00          | 0.5                    | NW         |  |
| 13-Jan-22                          | 21:00          | 1.0                    | NW         |  |
| 13-Jan-22                          | 22:00          | 1.4                    | NW         |  |
| 13-Jan-22                          | 23:00          | 1.0                    | NW         |  |
| 13-Jan-22<br>14-Jan-22             | 0:00           | 1.0                    | NW         |  |
| 14-Jan-22                          | 1:00           | 1.0                    | NW         |  |
| 14-Jan-22                          | 2:00           | 1.4                    | NW         |  |
| 14-Jan-22                          | 3:00           | 1.4                    | NW         |  |
| 14-Jan-22                          | 4:00           | 2.3                    | WNW        |  |
| 14-Jan-22                          | 5:00           | 1.4                    | NW         |  |
| 14-Jan-22                          | 6:00           | 1.0                    | NW         |  |
| 14-Jan-22                          | 7:00           | 0.5                    | SSW        |  |
| 14-Jan-22                          | 8:00           | 1.4                    | SW         |  |
| 14-Jan-22                          | 9:00           | 1.4                    | SE         |  |
| 14-Jan-22                          | 10:00          | 1.4                    | SE         |  |
| 14-Jan-22                          | 11:00          | 0.5                    | SE         |  |
| 14-Jan-22                          | 12:00          | 0.5                    | SSE        |  |
| 14-Jan-22                          | 13:00          | 0.1                    | SSW        |  |
| 14-Jan-22                          | 14:00          | 0.1                    | SSW        |  |
| 14-Jan-22                          | 15:00          | 0.1                    | SW         |  |
| 14-Jan-22                          | 16:00          | 0.1                    | SW         |  |
| 14-Jan-22                          | 17:00          | 0.1                    | WNW        |  |
| 14-Jan-22                          | 18:00          | 0.1                    | WNW        |  |
| 14-Jan-22                          | 19:00          | 0.1                    | W          |  |
| 14-Jan-22                          | 20:00          | 0.1                    | W          |  |
| 14-Jan-22                          | 21:00          | 0.1                    | W          |  |
| 14-Jan-22                          | 22:00          | 0.1                    | W          |  |
| 14-Jan-22                          | 23:00          | 0.1                    | W          |  |

| January 2022                        |       |                |           |  |
|-------------------------------------|-------|----------------|-----------|--|
| Table II: Wind Speed and Directions |       |                |           |  |
| Date                                | Time  | Wind Speed m/s | Direction |  |
| 15-Jan-22                           | 0:00  | 0.1            | W         |  |
| 15-Jan-22                           | 1:00  | 0.5            | WNW       |  |
| 15-Jan-22                           | 2:00  | 0.5            | WNW       |  |
| 15-Jan-22                           | 3:00  | 0.5            | WNW       |  |
| 15-Jan-22                           | 4:00  | 0.5            | WSW       |  |
| 15-Jan-22                           | 5:00  | 1.0            | WNW       |  |
| 15-Jan-22                           | 6:00  | 1.0            | WNW       |  |
| 15-Jan-22                           | 7:00  | 0.5            | WNW       |  |
| 15-Jan-22                           | 8:00  | 0.5            | NW        |  |
| 15-Jan-22                           | 9:00  | 0.1            | W         |  |
| 15-Jan-22                           | 10:00 | 0.1            | W         |  |
| 15-Jan-22                           | 11:00 | 0.1            | NW        |  |
| 15-Jan-22                           | 12:00 | 0.1            | NW        |  |
| 15-Jan-22                           | 13:00 | 0.1            | W         |  |
| 15-Jan-22                           | 14:00 | 0.1            | W         |  |
| 15-Jan-22                           | 15:00 | 0.1            | W         |  |
| 15-Jan-22                           | 16:00 | 0.1            | NW        |  |
| 15-Jan-22                           | 17:00 | 0.1            | NW        |  |
| 15-Jan-22                           | 18:00 | 0.1            | W         |  |
| 15-Jan-22                           | 19:00 | 0.1            | NNW       |  |
| 15-Jan-22                           | 20:00 | 0.1            | NNW       |  |
| 15-Jan-22                           | 21:00 | 0.1            | NNW       |  |
| 15-Jan-22                           | 22:00 | 0.1            | NW        |  |
| 15-Jan-22                           | 23:00 | 0.1            | WNW       |  |
| 16-Jan-22                           | 0:00  | 0.1            | NNW       |  |
| 16-Jan-22                           | 1:00  | 0.5            | NW        |  |
| 16-Jan-22                           | 2:00  | 0.5            | ENE       |  |
| 16-Jan-22                           | 3:00  | 0.5            | SSW       |  |
| 16-Jan-22                           | 4:00  | 0.5            | SSW       |  |
| 16-Jan-22                           | 5:00  | 0.5            | SSW       |  |
| 16-Jan-22                           | 6:00  | 0.1            | SW        |  |
| 16-Jan-22                           | 7:00  | 1.0            | WNW       |  |
| 16-Jan-22                           | 8:00  | 1.9            | WNW       |  |
| 16-Jan-22                           | 9:00  | 1.0            | WNW       |  |
| 16-Jan-22                           | 10:00 | 1.4            | W         |  |
| 16-Jan-22                           | 11:00 | 1.0            | WSW       |  |
| 16-Jan-22                           | 12:00 | 1.0            | WSW       |  |
| 16-Jan-22                           | 13:00 | 1.0            | WSW       |  |
| 16-Jan-22                           | 14:00 | 1.4            | WNW       |  |
| 16-Jan-22                           | 15:00 | 1.0            | ENE       |  |
| 16-Jan-22                           | 16:00 | 1.0            | WNW       |  |
| 16-Jan-22                           | 17:00 | 2.3            | WNW       |  |
| 16-Jan-22                           | 18:00 | 1.9            | WNW       |  |
| 16-Jan-22                           | 19:00 | 0.5            | WNW       |  |
| 16-Jan-22                           | 20:00 | 0.5            | WNW       |  |
| 16-Jan-22                           | 21:00 | 1.0            | WNW       |  |
| 16-Jan-22                           | 22:00 | 1.0            | WNW       |  |
| 16-Jan-22                           | 23:00 | 0.5            | NNE       |  |

|           | January 2022 |                        |           |  |
|-----------|--------------|------------------------|-----------|--|
| Т         | able II: Wi  | nd Speed and Direction | ıs        |  |
| Date      | Time         | Wind Speed m/s         | Direction |  |
| 17-Jan-22 | 0:00         | 1.0                    | WNW       |  |
| 17-Jan-22 | 1:00         | 1.0                    | WNW       |  |
| 17-Jan-22 | 2:00         | 1.0                    | WNW       |  |
| 17-Jan-22 | 3:00         | 1.4                    | WNW       |  |
| 17-Jan-22 | 4:00         | 1.4                    | WNW       |  |
| 17-Jan-22 | 5:00         | 3.7                    | WNW       |  |
| 17-Jan-22 | 6:00         | 3.7                    | WNW       |  |
| 17-Jan-22 | 7:00         | 3.7                    | WNW       |  |
| 17-Jan-22 | 8:00         | 3.7                    | WNW       |  |
| 17-Jan-22 | 9:00         | 2.3                    | WNW       |  |
| 17-Jan-22 | 10:00        | 1.9                    | WNW       |  |
| 17-Jan-22 | 11:00        | 1.4                    | WNW       |  |
| 17-Jan-22 | 12:00        | 1.0                    | WNW       |  |
| 17-Jan-22 | 13:00        | 1.9                    | WNW       |  |
| 17-Jan-22 | 14:00        | 1.0                    | WNW       |  |
| 17-Jan-22 | 15:00        | 0.5                    | W         |  |
| 17-Jan-22 | 16:00        | 1.0                    | WNW       |  |
| 17-Jan-22 | 17:00        | 0.5                    | WNW       |  |
| 17-Jan-22 | 18:00        | 0.5                    | WNW       |  |
| 17-Jan-22 | 19:00        | 0.5                    | WNW       |  |
| 17-Jan-22 | 20:00        | 0.5                    | NW        |  |
| 17-Jan-22 | 21:00        | 0.5                    | ESE       |  |
| 17-Jan-22 | 22:00        | 0.1                    | ESE       |  |
| 17-Jan-22 | 23:00        | 0.5                    | NW        |  |
| 18-Jan-22 | 0:00         | 1.4                    | WNW       |  |
| 18-Jan-22 | 1:00         | 1.4                    | WNW       |  |
| 18-Jan-22 | 2:00         | 2.3                    | WNW       |  |
| 18-Jan-22 | 3:00         | 2.8                    | WNW       |  |
| 18-Jan-22 | 4:00         | 5.5                    | WNW       |  |
| 18-Jan-22 | 5:00         | 5.9                    | WNW       |  |
| 18-Jan-22 | 6:00         | 5.5                    | WNW       |  |
| 18-Jan-22 | 7:00         | 4.6                    | WNW       |  |
| 18-Jan-22 | 8:00         | 3.2                    | WNW       |  |
| 18-Jan-22 | 9:00         | 1.0                    | WSW       |  |
| 18-Jan-22 | 10:00        | 0.5                    | WSW       |  |
| 18-Jan-22 | 11:00        | 1.0                    | WNW       |  |
| 18-Jan-22 | 12:00        | 0.5                    | WNW       |  |
| 18-Jan-22 | 13:00        | 1.4                    | WNW       |  |
| 18-Jan-22 | 14:00        | 0.5                    | WSW       |  |
| 18-Jan-22 | 15:00        | 1.0                    | W         |  |
| 18-Jan-22 | 16:00        | 0.5                    | WNW       |  |
| 18-Jan-22 | 17:00        | 1.0                    | W         |  |
| 18-Jan-22 | 18:00        | 0.1                    | WNW       |  |
| 18-Jan-22 | 19:00        | 0.1                    | NNE       |  |
| 18-Jan-22 | 20:00        | 0.5                    | W         |  |
| 18-Jan-22 | 21:00        | 1.0                    | WNW       |  |
| 18-Jan-22 | 22:00        | 1.0                    | WNW       |  |
| 18-Jan-22 | 23:00        | 1.4                    | WNW       |  |

| January 2022                        |       |                |           |  |  |
|-------------------------------------|-------|----------------|-----------|--|--|
| Table II: Wind Speed and Directions |       |                |           |  |  |
| Date                                | Time  | Wind Speed m/s | Direction |  |  |
| 19-Jan-22                           | 0:00  | 1.9            | WNW       |  |  |
| 19-Jan-22                           | 1:00  | 1.9            | WNW       |  |  |
| 19-Jan-22                           | 2:00  | 1.4            | WNW       |  |  |
| 19-Jan-22                           | 3:00  | 2.3            | WNW       |  |  |
| 19-Jan-22                           | 4:00  | 4.1            | WNW       |  |  |
| 19-Jan-22                           | 5:00  | 2.8            | WNW       |  |  |
| 19-Jan-22                           | 6:00  | 2.3            | WNW       |  |  |
| 19-Jan-22                           | 7:00  | 1.0            | WSW       |  |  |
| 19-Jan-22                           | 8:00  | 1.0            | WSW       |  |  |
| 19-Jan-22                           | 9:00  | 1.4            | WSW       |  |  |
| 19-Jan-22                           | 10:00 | 1.0            | WSW       |  |  |
| 19-Jan-22                           | 11:00 | 1.0            | W         |  |  |
| 19-Jan-22                           | 12:00 | 0.5            | NE        |  |  |
| 19-Jan-22                           | 13:00 | 0.5            | ENE       |  |  |
| 19-Jan-22                           | 14:00 | 0.5            | NE        |  |  |
| 19-Jan-22                           | 15:00 | 1.0            | NE        |  |  |
| 19-Jan-22                           | 16:00 | 0.5            | WSW       |  |  |
| 19-Jan-22                           | 17:00 | 1.0            | W         |  |  |
| 19-Jan-22                           | 18:00 | 1.0            | WSW       |  |  |
| 19-Jan-22                           | 19:00 | 0.5            | WSW       |  |  |
| 19-Jan-22                           | 20:00 | 1.0            | WSW       |  |  |
| 19-Jan-22                           | 21:00 | 1.0            | WSW       |  |  |
| 19-Jan-22                           | 22:00 | 1.0            | WNW       |  |  |
| 19-Jan-22                           | 23:00 | 1.4            | WNW       |  |  |
| 20-Jan-22                           | 0:00  | 0.5            | WSW       |  |  |
| 20-Jan-22                           | 1:00  | 1.9            | WNW       |  |  |
| 20-Jan-22                           | 2:00  | 1.0            | WSW       |  |  |
| 20-Jan-22                           | 3:00  | 1.4            | WNW       |  |  |
| 20-Jan-22                           | 4:00  | 1.9            | WNW       |  |  |
| 20-Jan-22                           | 5:00  | 2.3            | WNW       |  |  |
| 20-Jan-22                           | 6:00  | 1.9            | WNW       |  |  |
| 20-Jan-22                           | 7:00  | 1.0            | WNW       |  |  |
| 20-Jan-22                           | 8:00  | 1.0            | ENE       |  |  |
| 20-Jan-22                           | 9:00  | 1.0            | WSW       |  |  |
| 20-Jan-22                           | 10:00 | 1.0            | WSW       |  |  |
| 20-Jan-22                           | 11:00 | 0.5            | SW        |  |  |
| 20-Jan-22                           | 12:00 | 0.5            | E         |  |  |
| 20-Jan-22                           | 13:00 | 1.0            | ENE       |  |  |
| 20-Jan-22                           | 14:00 | 1.4            | ENE       |  |  |
| 20-Jan-22                           | 15:00 | 1.0            | ENE       |  |  |
| 20-Jan-22                           | 16:00 | 1.9            | E         |  |  |
| 20-Jan-22                           | 17:00 | 1.4            | ENE       |  |  |
| 20-Jan-22                           | 18:00 | 1.4            | ENE       |  |  |
| 20-Jan-22                           | 19:00 | 1.4            | ENE       |  |  |
| 20-Jan-22                           | 20:00 | 1.4            | ENE       |  |  |
| 20-Jan-22                           | 21:00 | 1.0            | Е         |  |  |
| 20-Jan-22                           | 22:00 | 1.0            | ESE       |  |  |
| 20-Jan-22                           | 23:00 | 1.4            | E         |  |  |

| January 2022                        |       |                |           |  |  |
|-------------------------------------|-------|----------------|-----------|--|--|
| Table II: Wind Speed and Directions |       |                |           |  |  |
| Date                                | Time  | Wind Speed m/s | Direction |  |  |
| 21-Jan-22                           | 0:00  | 1.9            | ENE       |  |  |
| 21-Jan-22                           | 1:00  | 1.9            | ESE       |  |  |
| 21-Jan-22                           | 2:00  | 1.4            | ENE       |  |  |
| 21-Jan-22                           | 3:00  | 1.4            | ESE       |  |  |
| 21-Jan-22                           | 4:00  | 1.9            | Е         |  |  |
| 21-Jan-22                           | 5:00  | 1.9            | ENE       |  |  |
| 21-Jan-22                           | 6:00  | 1.9            | ESE       |  |  |
| 21-Jan-22                           | 7:00  | 1.9            | ENE       |  |  |
| 21-Jan-22                           | 8:00  | 1.4            | SE        |  |  |
| 21-Jan-22                           | 9:00  | 1.9            | ENE       |  |  |
| 21-Jan-22                           | 10:00 | 1.4            | ENE       |  |  |
| 21-Jan-22                           | 11:00 | 1.0            | ESE       |  |  |
| 21-Jan-22                           | 12:00 | 1.0            | Е         |  |  |
| 21-Jan-22                           | 13:00 | 1.0            | ENE       |  |  |
| 21-Jan-22                           | 14:00 | 1.0            | ENE       |  |  |
| 21-Jan-22                           | 15:00 | 0.5            | ESE       |  |  |
| 21-Jan-22                           | 16:00 | 1.0            | SE        |  |  |
| 21-Jan-22                           | 17:00 | 1.4            | ENE       |  |  |
| 21-Jan-22                           | 18:00 | 1.0            | SW        |  |  |
| 21-Jan-22                           | 19:00 | 1.0            | ENE       |  |  |
| 21-Jan-22                           | 20:00 | 1.0            | Е         |  |  |
| 21-Jan-22                           | 21:00 | 0.5            | SW        |  |  |
| 21-Jan-22                           | 22:00 | 1.0            | ENE       |  |  |
| 21-Jan-22                           | 23:00 | 1.0            | ENE       |  |  |
| 22-Jan-22                           | 0:00  | 1.9            | SW        |  |  |
| 22-Jan-22                           | 1:00  | 0.5            | SW        |  |  |
| 22-Jan-22                           | 2:00  | 1.0            | SSW       |  |  |
| 22-Jan-22                           | 3:00  | 1.0            | SW        |  |  |
| 22-Jan-22                           | 4:00  | 1.0            | SW        |  |  |
| 22-Jan-22                           | 5:00  | 1.9            | SW        |  |  |
| 22-Jan-22                           | 6:00  | 1.0            | SW        |  |  |
| 22-Jan-22                           | 7:00  | 0.5            | SW        |  |  |
| 22-Jan-22                           | 8:00  | 0.1            | SSE       |  |  |
| 22-Jan-22                           | 9:00  | 1.0            | NE        |  |  |
| 22-Jan-22                           | 10:00 | 0.5            | NE        |  |  |
| 22-Jan-22                           | 11:00 | 1.0            | NE        |  |  |
| 22-Jan-22                           | 12:00 | 1.0            | NE        |  |  |
| 22-Jan-22                           | 13:00 | 1.4            | SE        |  |  |
| 22-Jan-22                           | 14:00 | 2.8            | ENE       |  |  |
| 22-Jan-22                           | 15:00 | 2.3            | ENE       |  |  |
| 22-Jan-22                           | 16:00 | 2.8            | ENE       |  |  |
| 22-Jan-22                           | 17:00 | 3.2            | ENE       |  |  |
| 22-Jan-22                           | 18:00 | 2.3            | ENE       |  |  |
| 22-Jan-22                           | 19:00 | 1.4            | ENE       |  |  |
| 22-Jan-22                           | 20:00 | 2.3            | ENE       |  |  |
| 22-Jan-22                           | 21:00 | 1.9            | ENE       |  |  |
| 22-Jan-22                           | 22:00 | 2.3            | ENE       |  |  |
| 22-Jan-22                           | 23:00 | 3.2            | ENE       |  |  |

| January 2022                        |       |                |           |  |  |
|-------------------------------------|-------|----------------|-----------|--|--|
| Table II: Wind Speed and Directions |       |                |           |  |  |
| Date                                | Time  | Wind Speed m/s | Direction |  |  |
| 23-Jan-22                           | 0:00  | 3.2            | ENE       |  |  |
| 23-Jan-22                           | 1:00  | 3.7            | ENE       |  |  |
| 23-Jan-22                           | 2:00  | 2.8            | ENE       |  |  |
| 23-Jan-22                           | 3:00  | 2.3            | ENE       |  |  |
| 23-Jan-22                           | 4:00  | 2.3            | ENE       |  |  |
| 23-Jan-22                           | 5:00  | 2.3            | ENE       |  |  |
| 23-Jan-22                           | 6:00  | 1.4            | ENE       |  |  |
| 23-Jan-22                           | 7:00  | 1.4            | ENE       |  |  |
| 23-Jan-22                           | 8:00  | 2.3            | ENE       |  |  |
| 23-Jan-22                           | 9:00  | 2.8            | ENE       |  |  |
| 23-Jan-22                           | 10:00 | 1.4            | Е         |  |  |
| 23-Jan-22                           | 11:00 | 1.4            | ESE       |  |  |
| 23-Jan-22                           | 12:00 | 1.4            | ENE       |  |  |
| 23-Jan-22                           | 13:00 | 1.9            | ENE       |  |  |
| 23-Jan-22                           | 14:00 | 1.4            | Е         |  |  |
| 23-Jan-22                           | 15:00 | 1.4            | SE        |  |  |
| 23-Jan-22                           | 16:00 | 1.9            | ESE       |  |  |
| 23-Jan-22                           | 17:00 | 1.4            | Е         |  |  |
| 23-Jan-22                           | 18:00 | 1.0            | ESE       |  |  |
| 23-Jan-22                           | 19:00 | 1.0            | ESE       |  |  |
| 23-Jan-22                           | 20:00 | 1.0            | ESE       |  |  |
| 23-Jan-22                           | 21:00 | 1.4            | ENE       |  |  |
| 23-Jan-22                           | 22:00 | 2.3            | ENE       |  |  |
| 23-Jan-22                           | 23:00 | 2.3            | ENE       |  |  |
| 24-Jan-22                           | 0:00  | 2.3            | ENE       |  |  |
| 24-Jan-22                           | 1:00  | 1.0            | SW        |  |  |
| 24-Jan-22                           | 2:00  | 1.4            | SW        |  |  |
| 24-Jan-22                           | 3:00  | 1.0            | SW        |  |  |
| 24-Jan-22                           | 4:00  | 1.0            | SW        |  |  |
| 24-Jan-22                           | 5:00  | 1.0            | SSW       |  |  |
| 24-Jan-22                           | 6:00  | 1.0            | SW        |  |  |
| 24-Jan-22                           | 7:00  | 0.5            | ENE       |  |  |
| 24-Jan-22                           | 8:00  | 0.1            | NE        |  |  |
| 24-Jan-22                           | 9:00  | 1.0            | SSW       |  |  |
| 24-Jan-22                           | 10:00 | 1.0            | SSW       |  |  |
| 24-Jan-22                           | 11:00 | 1.4            | NNW       |  |  |
| 24-Jan-22                           | 12:00 | 1.0            | NNW       |  |  |
| 24-Jan-22                           | 13:00 | 1.0            | NNW       |  |  |
| 24-Jan-22                           | 14:00 | 3.7            | NW        |  |  |
| 24-Jan-22                           | 15:00 | 2.3            | WNW       |  |  |
| 24-Jan-22                           | 16:00 | 1.4            | NNW       |  |  |
| 24-Jan-22                           | 17:00 | 2.3            | NW        |  |  |
| 24-Jan-22                           | 18:00 | 1.9            | ENE       |  |  |
| 24-Jan-22                           | 19:00 | 2.3            | SW        |  |  |
| 24-Jan-22                           | 20:00 | 2.8            | SW        |  |  |
| 24-Jan-22                           | 21:00 | 1.9            | SW        |  |  |
| 24-Jan-22                           | 22:00 | 1.0            | SSW       |  |  |
| 24-Jan-22                           | 23:00 | 1.0            | SSW       |  |  |

| January 2022                        |              |                |           |  |  |
|-------------------------------------|--------------|----------------|-----------|--|--|
| Table II: Wind Speed and Directions |              |                |           |  |  |
| Date                                | Time         | Wind Speed m/s | Direction |  |  |
| 25-Jan-22                           | 0:00         | 1.4            | SW        |  |  |
| 25-Jan-22                           | 1:00         | 1.4            | SW        |  |  |
| 25-Jan-22                           | 2:00         | 1.0            | SW        |  |  |
| 25-Jan-22                           | 3:00         | 1.0            | SW        |  |  |
| 25-Jan-22                           | 4:00         | 1.4            | SW        |  |  |
| 25-Jan-22                           | 5:00         | 1.9            | ENE       |  |  |
| 25-Jan-22                           | 6:00         | 1.0            | ESE       |  |  |
| 25-Jan-22                           | 7:00         | 1.9            | Е         |  |  |
| 25-Jan-22                           | 8:00         | 1.4            | Е         |  |  |
| 25-Jan-22                           | 9:00         | 1.4            | ESE       |  |  |
| 25-Jan-22                           | 10:00        | 1.4            | Е         |  |  |
| 25-Jan-22                           | 11:00        | 1.4            | Е         |  |  |
| 25-Jan-22                           | 12:00        | 1.4            | ENE       |  |  |
| 25-Jan-22                           | 13:00        | 1.0            | ENE       |  |  |
| 25-Jan-22                           | 14:00        | 1.0            | NNE       |  |  |
| 25-Jan-22                           | 15:00        | 1.9            | ENE       |  |  |
| 25-Jan-22                           | 16:00        | 1.9            | ENE       |  |  |
| 25-Jan-22                           | 17:00        | 1.4            | ENE       |  |  |
| 25-Jan-22                           | 18:00        | 1.0            | ENE       |  |  |
| 25-Jan-22                           | 19:00        | 0.5            | WNW       |  |  |
| 25-Jan-22                           | 20:00        | 0.5            | E         |  |  |
| 25-Jan-22                           | 21:00        | 0.1            | ENE       |  |  |
| 25-Jan-22                           | 22:00        | 1.0            | Е         |  |  |
| 25-Jan-22                           | 23:00        | 1.4            | E         |  |  |
| 26-Jan-22                           | 0:00         | 1.0            | E         |  |  |
| 26-Jan-22                           | 1:00         | 1.0            | NW        |  |  |
| 26-Jan-22                           | 2:00         | 1.0            | W         |  |  |
| 26-Jan-22                           | 3:00         | 1.4 2.3        | NW        |  |  |
| 26-Jan-22<br>26-Jan-22              | 4:00<br>5:00 | 2.3            | NW        |  |  |
| 26-Jan-22                           | 6:00         |                | NW        |  |  |
| 26-Jan-22                           | 7:00         | 1.9<br>1.4     | WNW       |  |  |
| 26-Jan-22                           | 8:00         | 1.4            | NW        |  |  |
| 26-Jan-22                           | 9:00         | 0.5            | W         |  |  |
| 26-Jan-22                           | 10:00        | 1.0            | ESE       |  |  |
| 26-Jan-22                           | 11:00        | 0.5            | E         |  |  |
| 26-Jan-22                           | 12:00        | 0.5            | WSW       |  |  |
| 26-Jan-22                           | 13:00        | 0.5            | E         |  |  |
| 26-Jan-22                           | 14:00        | 0.5            | ESE       |  |  |
| 26-Jan-22                           | 15:00        | 0.5            | W         |  |  |
| 26-Jan-22                           | 16:00        | 0.5            | WSW       |  |  |
| 26-Jan-22                           | 17:00        | 0.5            | W         |  |  |
| 26-Jan-22                           | 18:00        | 0.5            | ESE       |  |  |
| 26-Jan-22                           | 19:00        | 0.5            | ENE       |  |  |
| 26-Jan-22                           | 20:00        | 0.5            | NNE       |  |  |
| 26-Jan-22                           | 21:00        | 0.5            | ENE       |  |  |
| 26-Jan-22                           | 22:00        | 0.5            | NNW       |  |  |
| 26-Jan-22                           | 23:00        | 1.0            | W         |  |  |

| January 2022 |              |                     |           |  |  |
|--------------|--------------|---------------------|-----------|--|--|
| Tabl         | e II: Wind S | Speed and Direction | s         |  |  |
| Date         | Time         | Wind Speed m/s      | Direction |  |  |
| 27-Jan-22    | 0:00         | 1.4                 | W         |  |  |
| 27-Jan-22    | 1:00         | 1.9                 | NW        |  |  |
| 27-Jan-22    | 2:00         | 1.9                 | NW        |  |  |
| 27-Jan-22    | 3:00         | 2.8                 | NW        |  |  |
| 27-Jan-22    | 4:00         | 1.9                 | NW        |  |  |
| 27-Jan-22    | 5:00         | 1.4                 | W         |  |  |
| 27-Jan-22    | 6:00         | 1.9                 | NW        |  |  |
| 27-Jan-22    | 7:00         | 1.9                 | NW        |  |  |
| 27-Jan-22    | 8:00         | 1.4                 | W         |  |  |
| 27-Jan-22    | 9:00         | 1.0                 | W         |  |  |
| 27-Jan-22    | 10:00        | 1.0                 | NW        |  |  |
| 27-Jan-22    | 11:00        | 1.0                 | NW        |  |  |
| 27-Jan-22    | 12:00        | 0.5                 | NW        |  |  |
| 27-Jan-22    | 13:00        | 0.5                 | NW        |  |  |
| 27-Jan-22    | 14:00        | 1.0                 | NW        |  |  |
| 27-Jan-22    | 15:00        | 1.4                 | W         |  |  |
| 27-Jan-22    | 16:00        | 1.0                 | W         |  |  |
| 27-Jan-22    | 17:00        | 1.0                 | W         |  |  |
| 27-Jan-22    | 18:00        | 1.4                 | W         |  |  |
| 27-Jan-22    | 19:00        | 1.4                 | WSW       |  |  |
| 27-Jan-22    | 20:00        | 1.0                 | ESE       |  |  |
| 27-Jan-22    | 21:00        | 0.5                 | W         |  |  |
| 27-Jan-22    | 22:00        | 1.0                 | NE        |  |  |
| 27-Jan-22    | 23:00        | 0.5                 | NW        |  |  |
| 28-Jan-22    | 0:00         | 1.0                 | WNW       |  |  |
| 28-Jan-22    | 1:00         | 1.0                 | W         |  |  |
| 28-Jan-22    | 2:00         | 1.4                 | W         |  |  |
| 28-Jan-22    | 3:00         | 1.4                 | NW        |  |  |
| 28-Jan-22    | 4:00         | 1.0                 | WNW       |  |  |
| 28-Jan-22    | 5:00         | 1.4                 | WNW       |  |  |
| 28-Jan-22    | 6:00         | 1.4                 | NW        |  |  |
| 28-Jan-22    | 7:00         | 1.4                 | W         |  |  |
| 28-Jan-22    | 8:00         | 1.4                 | NW        |  |  |
| 28-Jan-22    | 9:00         | 1.0                 | WNW       |  |  |
| 28-Jan-22    | 10:00        | 1.0                 | WNW       |  |  |
| 28-Jan-22    | 11:00        | 1.4                 | WNW       |  |  |
| 28-Jan-22    | 12:00        | 1.4                 | WNW       |  |  |
| 28-Jan-22    | 13:00        | 0.5                 | NE        |  |  |
| 28-Jan-22    | 14:00        | 1.0                 | ENE       |  |  |
| 28-Jan-22    | 15:00        | 0.5                 | ENE       |  |  |
| 28-Jan-22    | 16:00        | 1.0                 | WNW       |  |  |
| 28-Jan-22    | 17:00        | 1.0                 | WSW       |  |  |
| 28-Jan-22    | 18:00        | 1.0                 | W         |  |  |
| 28-Jan-22    | 19:00        | 0.5                 | WSW       |  |  |
| 28-Jan-22    | 20:00        | 0.5                 | WNW       |  |  |
| 28-Jan-22    | 21:00        | 1.4                 | WNW       |  |  |
| 28-Jan-22    | 22:00        | 0.5                 | ESE       |  |  |
| 28-Jan-22    | 23:00        | 0.5                 | Е         |  |  |

| January 2022                        |       |                |           |  |  |
|-------------------------------------|-------|----------------|-----------|--|--|
| Table II: Wind Speed and Directions |       |                |           |  |  |
|                                     |       | _              | 1         |  |  |
| Date                                | Time  | Wind Speed m/s | Direction |  |  |
| 29-Jan-22                           | 0:00  | 0.5            | WNW       |  |  |
| 29-Jan-22                           | 1:00  | 1.9            | NW        |  |  |
| 29-Jan-22                           | 2:00  | 1.0            | W         |  |  |
| 29-Jan-22                           | 3:00  | 1.4            | W         |  |  |
| 29-Jan-22                           | 4:00  | 1.0            | NW        |  |  |
| 29-Jan-22                           | 5:00  | 1.4            | WNW       |  |  |
| 29-Jan-22                           | 6:00  | 1.0            | ENE       |  |  |
| 29-Jan-22                           | 7:00  | 1.0            | ENE       |  |  |
| 29-Jan-22                           | 8:00  | 0.5            | ESE       |  |  |
| 29-Jan-22                           | 9:00  | 1.0            | SE        |  |  |
| 29-Jan-22                           | 10:00 | 1.4            | ENE       |  |  |
| 29-Jan-22                           | 11:00 | 1.0            | SW        |  |  |
| 29-Jan-22                           | 12:00 | 1.0            | ENE       |  |  |
| 29-Jan-22                           | 13:00 | 1.0            | E         |  |  |
| 29-Jan-22                           | 14:00 | 0.5            | SW        |  |  |
| 29-Jan-22                           | 15:00 | 1.0            | ENE       |  |  |
| 29-Jan-22                           | 16:00 | 1.0            | ENE       |  |  |
| 29-Jan-22                           | 17:00 | 1.9            | SW        |  |  |
| 29-Jan-22                           | 18:00 | 0.5            | SW        |  |  |
| 29-Jan-22                           | 19:00 | 1.0            | SSW       |  |  |
| 29-Jan-22                           | 20:00 | 1.0            | SW        |  |  |
| 29-Jan-22                           | 21:00 | 1.0            | SW        |  |  |
| 29-Jan-22                           | 22:00 | 1.9            | SW        |  |  |
| 29-Jan-22                           | 23:00 | 1.0            | SW        |  |  |
| 30-Jan-22                           | 0:00  | 0.5            | SW        |  |  |
| 30-Jan-22                           | 1:00  | 0.1            | SSE       |  |  |
| 30-Jan-22                           | 2:00  | 1.0            | NE        |  |  |
| 30-Jan-22                           | 3:00  | 0.5            | NE<br>NE  |  |  |
| 30-Jan-22                           | 4:00  | 1.0            | NE<br>NE  |  |  |
| 30-Jan-22                           | 5:00  | 1.0            | NE<br>SE  |  |  |
| 30-Jan-22                           | 6:00  | 1.4            | SE        |  |  |
| 30-Jan-22                           | 7:00  | 2.8            | ENE       |  |  |
| 30-Jan-22                           | 8:00  | 2.3            | ENE       |  |  |
| 30-Jan-22                           | 9:00  | 2.8            | ENE       |  |  |
| 30-Jan-22                           | 10:00 |                | ENE       |  |  |
| 30-Jan-22                           | 11:00 | 2.3            | ENE       |  |  |
| 30-Jan-22                           | 12:00 | 1.4            | ENE       |  |  |
| 30-Jan-22                           | 13:00 | 2.3            | ENE       |  |  |
| 30-Jan-22                           | 14:00 | 1.9            | ENE       |  |  |
| 30-Jan-22                           | 15:00 | 2.3            | ENE       |  |  |
| 30-Jan-22                           | 16:00 | 3.2            | ENE       |  |  |
| 30-Jan-22                           | 17:00 | 1.0            | ENE       |  |  |
| 30-Jan-22                           | 18:00 | 1.0            | ENE       |  |  |
| 30-Jan-22                           | 19:00 | 0.5            | ESE       |  |  |
| 30-Jan-22                           | 20:00 | 1.0            | SE        |  |  |
| 30-Jan-22                           | 21:00 | 1.4            | ENE       |  |  |
| 30-Jan-22                           | 22:00 | 1.0            | SW        |  |  |
| 30-Jan-22                           | 23:00 | 1.0            | ENE       |  |  |

|                                     | January 2022 |                |           |  |  |  |
|-------------------------------------|--------------|----------------|-----------|--|--|--|
| Table II: Wind Speed and Directions |              |                |           |  |  |  |
| Date                                | Time         | Wind Speed m/s | Direction |  |  |  |
| 31-Jan-22                           | 0:00         | 1.0            | Е         |  |  |  |
| 31-Jan-22                           | 1:00         | 0.5            | SW        |  |  |  |
| 31-Jan-22                           | 2:00         | 1.0            | ENE       |  |  |  |
| 31-Jan-22                           | 3:00         | 1.0            | ENE       |  |  |  |
| 31-Jan-22                           | 4:00         | 1.9            | SW        |  |  |  |
| 31-Jan-22                           | 5:00         | 0.5            | SW        |  |  |  |
| 31-Jan-22                           | 6:00         | 1.0            | SSW       |  |  |  |
| 31-Jan-22                           | 7:00         | 1.0            | SW        |  |  |  |
| 31-Jan-22                           | 8:00         | 1.0            | SW        |  |  |  |
| 31-Jan-22                           | 9:00         | 1.9            | SW        |  |  |  |
| 31-Jan-22                           | 10:00        | 1.0            | SW        |  |  |  |
| 31-Jan-22                           | 11:00        | 0.5            | SW        |  |  |  |
| 31-Jan-22                           | 12:00        | 0.1            | SSE       |  |  |  |
| 31-Jan-22                           | 13:00        | 1.0            | NE        |  |  |  |
| 31-Jan-22                           | 14:00        | 0.5            | NE        |  |  |  |
| 31-Jan-22                           | 15:00        | 1.0            | NE        |  |  |  |
| 31-Jan-22                           | 16:00        | 1.0            | NE        |  |  |  |
| 31-Jan-22                           | 17:00        | 1.4            | SE        |  |  |  |
| 31-Jan-22                           | 18:00        | 2.8            | ENE       |  |  |  |
| 31-Jan-22                           | 19:00        | 2.3            | ENE       |  |  |  |
| 31-Jan-22                           | 20:00        | 2.8            | ENE       |  |  |  |
| 31-Jan-22                           | 21:00        | 3.2            | ENE       |  |  |  |
| 31-Jan-22                           | 22:00        | 2.3            | ENE       |  |  |  |
| 31-Jan-22                           | 23:00        | 1.4            | ENE       |  |  |  |

## 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 January 2022

| Sunday | Monday             | Tuesday            | Wednesday          | Thursday           | Friday             | Saturday           |
|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ·      | •                  | j                  | ·                  | ž                  | •                  | 1-Jan              |
|        |                    |                    |                    |                    |                    |                    |
|        |                    |                    |                    |                    |                    |                    |
|        |                    |                    |                    |                    |                    |                    |
|        |                    |                    |                    |                    |                    |                    |
| 2-Jan  | 3-Jan              | 4-Jan              | 5-Jan              | 6-Jan              | 7-Jan              | 8-Jan              |
| 2 our  | 3 3411             | 1 3411             | 3 3411             | 1-hr TSP x 3 [AM2] | 7 3411             | o sun              |
|        |                    |                    | 24-hr TSP [AM2(A)] |                    |                    |                    |
|        |                    |                    |                    | Noise [M3(A), M4 & |                    |                    |
|        |                    |                    |                    | M5(C)]             |                    |                    |
| 9-Jan  | 10-Jan             | 11-Jan             | 12-Jan             | 13-Jan             | 14-Jan             | 15-Jan             |
|        | A41                | 1-hr TSP x 3 [AM2] |                    |                    |                    | -41 man -11        |
|        | 24-hr TSP [AM2(A)] |                    |                    |                    |                    | 24-hr TSP [AM2(A)] |
|        |                    | Noise [M3(A), M4 & |                    |                    |                    |                    |
|        |                    | M5(C)]             |                    |                    |                    |                    |
| 16-Jan | 17-Jan             | 18-Jan             | 19-Jan             | 20-Jan             | 21-Jan             | 22-Jan             |
|        | 1-hr TSP x 3 [AM2] |                    |                    |                    | 1-hr TSP x 3 [AM2] |                    |
|        |                    |                    |                    | 24-hr TSP [AM2(A)] |                    |                    |
|        | Noise [M3(A), M4 & |                    |                    |                    |                    |                    |
|        | M5(C)]             |                    |                    |                    |                    |                    |
| 23-Jan | 24-Jan             | 25-Jan             | 26-Jan             | 27-Jan             | 28-Jan             | 29-Jan             |
|        |                    |                    |                    | 1-hr TSP x 3 [AM2] |                    |                    |
|        |                    |                    | 24-hr TSP [AM2(A)] |                    |                    |                    |
|        |                    |                    |                    |                    |                    |                    |
|        |                    |                    |                    | Noise [M3(A), M4 & |                    |                    |
| 30-Jan | 31-Jan             |                    |                    | M5(C)]             |                    |                    |
| 30-Jan | 31-Jan             |                    |                    |                    |                    |                    |
|        | 24-hr TSP [AM2(A)] |                    |                    |                    |                    |                    |
|        | - \ /•             |                    |                    |                    |                    |                    |
|        |                    |                    |                    |                    |                    |                    |
|        |                    |                    |                    |                    |                    |                    |

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

#### **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

<sup>\*</sup> The noise level limit is 65dB(A) during the exam period

### 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 Temtative Impact Air and Noise Monitoring Schedule for February 2022

| Sunday | Monday             | Tuesday            | Wednesday                 | Thursday           | Friday             | Saturday           |
|--------|--------------------|--------------------|---------------------------|--------------------|--------------------|--------------------|
|        |                    | 1-Feb              | 2-Feb                     | 3-Feb              |                    | 5-Feb              |
|        |                    |                    |                           |                    | 1-hr TSP x 3 [AM2] |                    |
|        |                    |                    |                           |                    |                    | 24-hr TSP [AM2(A)] |
|        |                    |                    |                           |                    | Noise [M3(A), M4 & |                    |
|        |                    |                    |                           |                    | M5(C)]             |                    |
| 6-Feb  | 7-Feb              | 8-Feb              | 9-Feb                     | 10-Feb             |                    | 12-Feb             |
|        | 1-hr TSP x 3 [AM2] |                    |                           |                    | 1-hr TSP x 3 [AM2] |                    |
|        |                    |                    |                           | 24-hr TSP [AM2(A)] |                    |                    |
|        |                    |                    |                           |                    |                    |                    |
|        | Noise [M3(A), M4 & |                    |                           |                    |                    |                    |
| 42 F.1 | M5(C)]             | 15 F.1             | 16.11                     | 15.5               | 10.5.1             | 10 F 1             |
| 13-Feb | 14-Feb             | 15-Feb             | 16-Feb                    | 17-Feb             | 18-Feb             | 19-Feb             |
|        |                    |                    | 24-hr TSP [AM2(A)]        | 1-hr TSP x 3 [AM2] |                    |                    |
|        |                    |                    | 24-III 15F [AWI2(A)]      |                    |                    |                    |
|        |                    |                    |                           | Noise [M3(A), M4 & |                    |                    |
|        |                    |                    |                           | M5(C)]             |                    |                    |
| 20-Feb | 21-Feb             | 22-Feb             |                           | 24-Feb             | 25-Feb             | 26-Feb             |
|        |                    |                    | 1-hr TSP x 3 [AM2]        |                    |                    |                    |
|        |                    | 24-hr TSP [AM2(A)] |                           |                    |                    |                    |
|        |                    |                    | Noise IM2(A) M4 P         |                    |                    |                    |
|        |                    |                    | Noise [M3(A), M4 & M5(C)] |                    |                    |                    |
| 27-Feb | 28-Feb             |                    | WI3(C)]                   |                    |                    |                    |
| 27 100 | 20100              |                    |                           |                    |                    |                    |
|        | 24-hr TSP [AM2(A)] |                    |                           |                    |                    |                    |
|        | _ ` ` ` _          |                    |                           |                    |                    |                    |
|        |                    |                    |                           |                    |                    |                    |
|        |                    |                    |                           |                    |                    |                    |

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

### **Air Quality Monitoring Station**

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

### **Noise Monitoring Station**

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

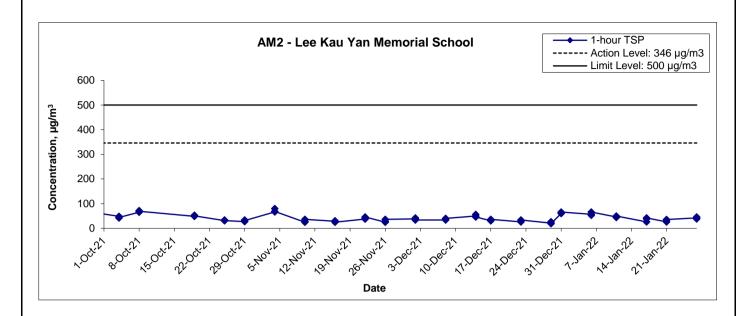
<sup>\*</sup> The noise level limit is 65dB(A) during the exam period

## APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

## **Appendix E - 1-hour TSP Monitoring Results**

| Location AM2 - Lee Kau Yan Memorial School |       |         |                                    |  |  |  |
|--|-------|---------|------------------------------------|--|--|--|
| Date                                       | Time  | Weather | Particulate Concentration ( µg/m³) |  |  |  |
| 6-Jan-22                                   | 11:00 | Sunny   | 57.2                               |  |  |  |
| 6-Jan-22                                   | 12:00 | Sunny   | 52.8                               |  |  |  |
| 6-Jan-22                                   | 13:00 | Sunny   | 66.0                               |  |  |  |
| 11-Jan-22                                  | 13:00 | Sunny   | 46.0                               |  |  |  |
| 11-Jan-22                                  | 14:00 | Sunny   | 44.0                               |  |  |  |
| 11-Jan-22                                  | 15:00 | Sunny   | 50.0                               |  |  |  |
| 17-Jan-22                                  | 14:00 | Fine    | 26.0                               |  |  |  |
| 17-Jan-22                                  | 15:00 | Fine    | 38.0                               |  |  |  |
| 17-Jan-22                                  | 16:00 | Fine    | 42.0                               |  |  |  |
| 21-Jan-22                                  | 15:00 | Sunny   | 26.0                               |  |  |  |
| 21-Jan-22                                  | 16:00 | Sunny   | 34.0                               |  |  |  |
| 21-Jan-22                                  | 17:00 | Sunny   | 36.0                               |  |  |  |
| 27-Jan-22                                  | 9:00  | Sunny   | 42.0                               |  |  |  |
| 27-Jan-22                                  | 10:00 | Sunny   | 38.0                               |  |  |  |
| 27-Jan-22                                  | 11:00 | Sunny   | 46.0                               |  |  |  |
|  |       | Average | 42.9                               |  |  |  |
|  |       | Maximum | 66.0                               |  |  |  |
|  |       | Minimum | 26.0                               |  |  |  |

#### 1-hr TSP Concentration Levels



Title 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
Graphical Presentation of 1-hour TSP Monitoring Results

Jan 22

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APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

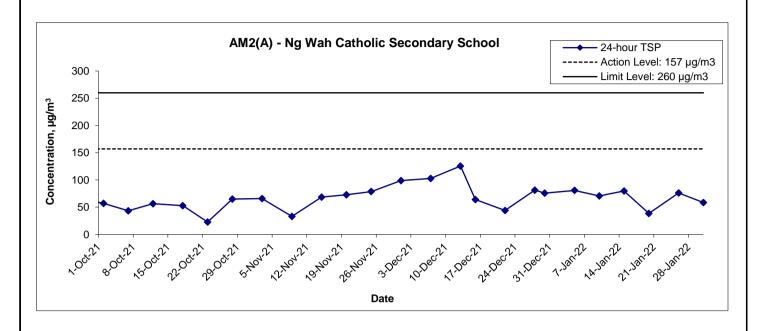
# **Appendix F - 24-hour TSP Monitoring Results**

## Location AM2(A) - Ng Wah Catholic Secondary School

| Start Date | Weather   | Air Temp. | Atmospheric Pressure, | Filter W | eight (g) | Particulate | Elapse  | e Time | Sampling    | Flow Rate | (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) |
| 5-Jan-22   | Sunny     | 293.4     | 763.9                 | 3.3365   | 3.4779    | 0.1415      | 8523.0  | 8547.0 | 24.0        | 1.22      | 1.22      | 1.22     | 1750.8     | 80.8    |
| 10-Jan-22  | Sunny     | 292.9     | 764.4                 | 3.3068   | 3.4305    | 0.1237      | 8547.0  | 8571.0 | 24.0        | 1.21      | 1.22      | 1.22     | 1752.4     | 70.6    |
| 15-Jan-22  | Cloudy    | 291.4     | 765.4                 | 3.2969   | 3.4368    | 0.1398      | 8571.0  | 8595.0 | 24.0        | 1.22      | 1.22      | 1.22     | 1756.8     | 79.6    |
| 20-Jan-22  | Cloudy    | 290.8     | 763.8                 | 3.3837   | 3.4513    | 0.0675      | 8595.0  | 8619.0 | 24.0        | 1.22      | 1.22      | 1.22     | 1756.7     | 38.5    |
| 26-Jan-22  | Sunny     | 292.5     | 763.0                 | 3.3083   | 3.4417    | 0.1335      | 8619.0  | 8643.0 | 24.0        | 1.22      | 1.22      | 1.22     | 1751.9     | 76.2    |
| 31-Jan-22  | Fine      | 292.5     | 763.0                 | 3.3298   | 3.4323    | 0.1025      | 8643.0  | 8667.0 | 24.0        | 1.22      | 1.22      | 1.22     | 1751.9     | 58.5    |
|            |           |           |                       |          |           |             |         |        |             |           |           |          | Min        | 38.5    |
|            |           |           |                       |          |           |             |         |        |             |           |           |          | Max        | 80.8    |
|            |           |           |                       |          |           |             |         |        |             |           |           |          | Average    | 67.4    |

MA16043/App F - 24hr TSP Cinotech

#### 24-hr TSP Concentration Levels



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

Title

Graphical Presentation of 24-hour TSP Monitoring Results



APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

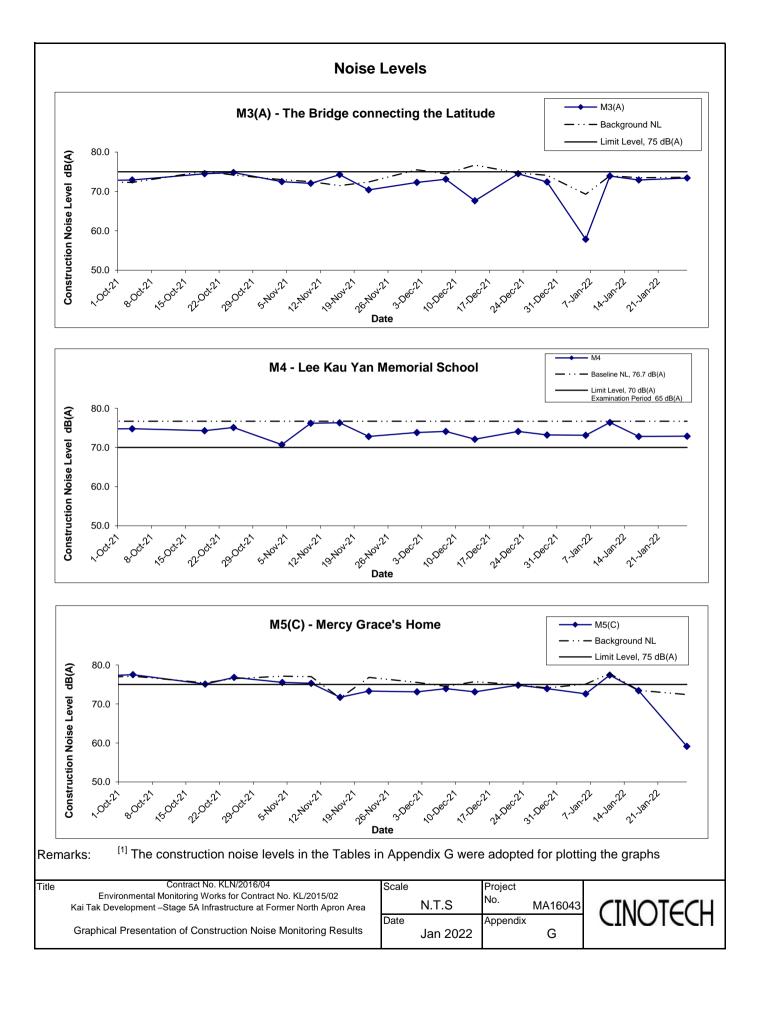
## **Appendix G - Noise Monitoring Results**

| 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 <sub>eq</sub>      | L <sub>10</sub>       | L 90             | L <sub>eq</sub>          |      | L <sub>eq</sub>       |  |
| 6-Jan-22  | 14:30 | Sunny   | 69.6                 | 71.5                  | 67.4             | 69.3                     | 57.8 |                       |  |
| 11-Jan-22   | 11:30 | Sunny   | 73.9                 | 75.7                  | 71.6             | 74.0                     | 73.9 | Measured ≦ Background |  |
| 17-Jan-22   | 11:30 | Sunny   | 72.9                 | 75.7                  | 70.2             | 73.5                     | 72.9 | Measured ≦ Background |  |
| 27-Jan-22   | 11:30 | Sunny   | 73.4                 | 76.2                  | 70.8             | 73.6                     | 73.4 | Measured ≦ Background |  |

| Location M4 - Lee Kau Yan Memorial School |       |         |                      |                       |      |                 |                          |                     |  |  |
|---|-------|---------|----------------------|-----------------------|------|-----------------|--------------------------|---------------------|--|--|
|   |       |         |                      | Unit: dB (A) (30-min) |      |                 |                          |                     |  |  |
| Date                                      | Time  | Weather | Measured Noise Level |                       |      | Baseline Level  | Construction Noise Level |                     |  |  |
|   |       |         | L <sub>eq</sub>      | L <sub>10</sub>       | L 90 | L <sub>eq</sub> |                          | L <sub>eq</sub>     |  |  |
| 6-Jan-22                                  | 10:00 | Sunny   | 73.1                 | 74.5                  | 69.8 |                 | 73.1                     | Measured ≤ Baseline |  |  |
| 11-Jan-22                                 | 14:00 | Sunny   | 76.4                 | 77.7                  | 74.7 | 76.7            | 76.4                     | Measured ≦ Baseline |  |  |
| 17-Jan-22                                 | 14:00 | Sunny   | 72.8                 | 74.4                  | 70.1 | 70.7            | 72.8                     | Measured ≦ Baseline |  |  |
| 27-Jan-22                                 | 9:00  | Sunny   | 72.9                 | 75.7                  | 69.7 |                 | 72.9                     | Measured ≦ Baseline |  |  |

| Location M5(C) - Mercy Grace's Home |       |         |                      |                       |      |                  |                          |                       |  |
|-------------------------------------|-------|---------|----------------------|-----------------------|------|------------------|--------------------------|-----------------------|--|
|                                     |       |         |                      | Unit: dB (A) (30-min) |      |                  |                          |                       |  |
| Date                                | Time  | Weather | Measured Noise Level |                       |      | Background Noise | Construction Noise Level |                       |  |
|                                     |       |         | L <sub>eq</sub>      | L <sub>10</sub>       | L 90 | L <sub>eq</sub>  |                          | L <sub>eq</sub>       |  |
| 6-Jan-22                            | 13:00 | Sunny   | 72.6                 | 75.4                  | 71.9 | 75.1             | 72.6                     | Measured ≦ Background |  |
| 11-Jan-22                           | 13:00 | Sunny   | 77.4                 | 79.6                  | 74.9 | 77.8             | 77.4                     | Measured ≦ Background |  |
| 17-Jan-22                           | 15:00 | Sunny   | 73.4                 | 75.8                  | 70.4 | 73.5             | 73.4                     | Measured ≦ Background |  |
| 27-Jan-22                           | 13:00 | Sunny   | 72.6                 | 75.4                  | 69.8 | 72.4             | 59.1                     |                       |  |

MA16043/App G - Noise Cinotech



### APPENDIX H SUMMARY OF EXCEEDANCE

## Appendix H – Summary of Exceedance

Exceedance Record for Contract No. KL/2015/02 Reporting Month: January 2022

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

### APPENDIX I SITE AUDIT SUMMARY

| Checklist Reference Number | 220103                  |
|----------------------------|-------------------------|
| Date                       | 3 January 2022 (Monday) |
| Time                       | 14:00 – 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   |                  |
|          | 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  |                  |
|          | No follow-up items are required from the previous site inspection (ref no.: 211228). |                  |

|             | Name        | Signature | Date           |
|-------------|-------------|-----------|----------------|
| Recorded by | Echo Hung   | Leng      | 3 January 2022 |
| Checked by  | Colman Wong | Colman    | 4 January 2022 |

| Checklist Reference Number | 220112                      |
|----------------------------|-----------------------------|
| Date                       | 12 January 2022 (Wednesday) |
| Time                       | 9:30 – 10:30                |

| 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   |                  |
| 220112-R1 | Oil stain on the ground should be removed at Stage 3.                                | E8               |
|           | 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  |                  |
|           | No follow-up items are required from the previous site inspection (ref no.: 220103). |                  |

|             | Name        | Signature | Date            |
|-------------|-------------|-----------|-----------------|
| Recorded by | Echo Hung   | Leng      | 12 January 2022 |
| Checked by  | Colman Wong | Colman    | 13 January 2022 |

| Checklist Reference Number | 220117                   |
|----------------------------|--------------------------|
| Date                       | 17 January 2022 (Monday) |
| Time                       | 14:00 – 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   |                  |
|          | 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 (ref no.: 220112): Item 220112-R1 was rectified/improved by the Contractor. |                  |

|             | Name        | Signature | Date            |
|-------------|-------------|-----------|-----------------|
| Recorded by | Echo Hung   | Leng      | 17 January 2022 |
| Checked by  | Colman Wong | Colman    | 18 January 2022 |

| Checklist Reference Number | 220124                   |
|----------------------------|--------------------------|
| Date                       | 24 January 2022 (Monday) |
| Time                       | 14:00 – 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   |                  |
|          | 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  |                  |
|          | No follow-up items are required from the previous site inspection (ref no.: 220117). |                  |

|             | Name        | Signature | Date            |
|-------------|-------------|-----------|-----------------|
| Recorded by | Echo Hung   | Leng      | 24 January 2022 |
| Checked by  | Colman Wong | Colman    | 25 January 2022 |

| Checklist Reference Number | 220131                   |
|----------------------------|--------------------------|
| Date                       | 31 January 2022 (Monday) |
| Time                       | 10:00 – 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  |                  |
|          | No follow-up items are required from the previous site inspection (ref no.: 220124). |                  |

|             | Name        | Signature | Date            |
|-------------|-------------|-----------|-----------------|
| Recorded by | Echo Hung   | Leng      | 31 January 2022 |
| Checked by  | Colman Wong | Colman    | 4 February 2022 |

### APPENDIX J EVENT ACTION PLANS

# Event/Action Plan for Air Quality

| EVENT              | ACTION                                     |                                       |                                   |                                      |  |
|--------------------|--|---------------------------------------|-----------------------------------|--------------------------------------|--|
|                    | ET   | IEC                                   | ER                                | CONTRACTOR                           |  |
| Action Level being | Identify source and investigate the        | Check monitoring data submitted       | 1. Notify Contractor.             | 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 | Identify source and investigate the        | Check monitoring data submitted       | 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  | Identify source and investigate the        | Check monitoring data submitted       | Confirm receipt of notification   | 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   | 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 | Notify ER, IEC and Contractor;         | 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<br>LEVEL                | ET                  | IEC                     | ER                                       | CONTRACTOR              |  |
| Design Check                   | 1. Check final      | 1. Check report.        | Undertake remedial design if necessary   |                         |  |
|                                | design conforms to  | 2. Recommend            |  |                         |  |
|                                | the requirements    | remedial design if      |  |                         |  |
|                                | of EP and prepare   | necessary               |  |                         |  |
|                                | report.             |                         |  |                         |  |
| Non-conformity on one occasion | 1. Identify Source  | 1. Check report         | Notify Contractor                        | Amend working methods   |  |
|                                | 2. Inform IEC and   | 2. Check Contractor's   | 2. Ensure remedial measures are properly | 2. Rectify damage and   |  |
|                                | ER                  | working method          | implemented                              | undertake any necessary |  |
|                                | 3. Discuss remedial | 3. Discuss with ET and  |  | replacement             |  |
|                                | actions with IEC,   | Contractor on possible  |  |                         |  |
|                                | ER and Contractor   | remedial measures       |  |                         |  |
|                                | 4. Monitor remedial | 4. Advise ER on         |  |                         |  |
|                                | actions until       | effectiveness of        |  |                         |  |
|                                | rectification has   | proposed remedial       |  |                         |  |
|                                | been completed      | measures.               |  |                         |  |
|                                |                     | 5. Check implementation |  |                         |  |
|                                |                     | of remedial measures.   |  |                         |  |
| Repeated Non-conformity        | 1. Identify Source  | 1. Check monitoring     | 1. Notify Contractor                     | Amend working methods   |  |
|                                | Inform IEC and      | report                  | 2. Ensure remedial measures are properly | 2. Rectify damage and   |  |

| ER      |                 | 2. Check Contractor's  | implemented | undertake any necessary |
|---------|-----------------|------------------------|-------------|-------------------------|
| 2. Inci | crease          | working method         |             | replacement             |
| monit   | itoring         | 3. Discuss with ET and |             |                         |
| freque  | uency           | Contractor on possible |             |                         |
| 3. Dis  | scuss remedial  | remedial measures      |             |                         |
| action  | ons with IEC,   | 4. Advise ER on        |             |                         |
| ER a    | and Contractor  | effectiveness of       |             |                         |
| 4. Mo   | onitor remedial | proposed remedial      |             |                         |
| action  | ons until       | measures               |             |                         |
| rectifi | fication has    | 5. Supervise           |             |                         |
| been    | n completed     | implementation of      |             |                         |
| 5. If n | non-conformity  | remedial measures.     |             |                         |
| stops   | s, cease        |                        |             |                         |
| additi  | tional          |                        |             |                         |
| monit   | itoring         |                        |             |                         |

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

| EIA Ref.   | Recommended Mitigation Measures   | Implementation |
|------------|---|----------------|
| EIA Kei.   | Recommended Midgadon Measures   | Status         |
| Constructi | on 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        | ٨              |
|            | 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         | ٨              |
|            | 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   | ٨              |
|            | 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      | ٨              |
|            | 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      | ٨              |
|            | 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           | ٨              |
|            | 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.  | 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 | ۸              |
|            | 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 | ۸              |
|            | 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   | ٨              |
|            | three sides.  |                |
|            | Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.                    | ۸              |

| 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                  |     |

|          | dredging operation.   |     |
|----------|---|-----|
|          | 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 be substantially                 |     |
|          | improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be increased.                              |     |
|          | <u>In-situ sediment treatment by bioremediation:</u>  |     |
|          | Bioremediation would be applied to the entire KTAC and KTTS.  | N/A |
| Construc | ction 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 | ٨   |
|          | 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.                     | ۸   |
|          | Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.             | ۸   |
|          | 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         | ٨   |
|          | 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.  | ۸   |
|          | Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction       |     |
|          | activities.   | ۸   |
| S7.9     | Scheduling of Construction Works during School Examination Period   | ۸   |
| 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 |
|          | (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    | Setback 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        | ۸   |
|         | 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    | Installation of retractable roof or other equivalent measures  | N/A |
| Constru | ction Water Quality  |     |
| S8.8    | The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including:                                |     |
|         | <ul> <li>Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply;</li> </ul>           | 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 |

| S8.8 | Construction Phase  |     |
|------|---|-----|
|      | Marine-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 |
| S8.8 | 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.   |     |
| S8.8 | 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 1,000m³ per day using one grab dredger.   |     |
| S8.8 | 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 2,000m³ per day using one grab dredger.                   |     |
| 8.8  | Dredging for Road T2 should be conducted at a maximum rate of 8,000m³ 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).   |     |
| 8.8  | Silt screens shall be applied to seawater intakes at WSD seawater intake.   | N/A |

| S8.8 | <u>Land-based Construction</u>  |   |
|------|---|---|
|      | 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   | ٨ |
| S8.8 | Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed       | ٨ |
|      | 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              | ٨ |
|      | 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 m³ capacity, are recommended as a         | ٨ |
|      | 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 m³ should be covered with tarpaulin or   | ۸ |
|      | 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            | ۸ |
|      | 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  | ۸ |
|      | 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       | ۸      |
|      | 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         | ٨      |
|      | 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.  |        |

| S8.8 | Stormwater Discharges  |     |
|------|--|-----|
|      | Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes   | ^   |
| S8.8 | 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 | ^   |
| S8.8 | 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.  | ۸   |
| S8.8 | 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.  |     |
| S8.8 | 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   |     |
| S8.8 | Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.   | ۸   |
| S8.8 | 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   |
| S8.8 | Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.   | ۸   |
| S8.8 | 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.  |     |
| S8.8 | Construction effluent, site run-off and sewage should be properly collected and/or treated.  | ٨   |
| S8.8 | 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.  |     |
| S8.8 | 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.  |     |
| S8.8 | Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.  | N/A |

| S8.8     | Supervisory staff should be assigned to station on site to closely supervise and monitor the works   | ۸   |
|----------|--|-----|
| S8.8     | Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation.                            | N/A |
| Construc | ction 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.  | ۸   |
|          | Provision of sufficient waste disposal points and regular collection for disposal.   | ۸   |
|          | Appropriate measure to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting              | ۸   |
|          | 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   | ۸   |
|          | Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and    | ۸   |
|          | their proper disposal  |     |
|          | Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated          | ۸   |
|          | from other general refuse generated by the work force  |     |
|          | Any unused chemicals or those with remaining functional capacity should be recycled  | ۸   |
|          | Proper storage and site practices to minimise the potential for damage or contamination of construction materials                                  | ۸   |

| 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 |
| S9.5 | 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                    | ۸   |

## ${\bf Appendix} \; K-Summary \; of \; Implementation \; Schedule \; of \; Mitigation \; Measures \; for \; Construction \; Phase$

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| S9.5                              | General R  | defuse   |        |  |  |  |  |
|-----------------------------------|------------|--|--------|--|--|--|--|
|                                   |            |  |        |  |  |  |  |
|                                   | General re | efuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by | ^      |  |  |  |  |
|                                   | the contra | ctor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed  |        |  |  |  |  |
|                                   | and cover  | ed area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing   |        |  |  |  |  |
|                                   | or leachin | g into the marine environment, or creating odour nuisance or pest and vermin problem   |        |  |  |  |  |
| Construction Landscape and Visual |            |  |        |  |  |  |  |
| S13.9                             | CM1        | All existing trees should be carefully protected during construction.  | ۸      |  |  |  |  |
|                                   | CM2        | Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to     | ۸      |  |  |  |  |
|                                   |            | 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.  |        |  |  |  |  |
|                                   | СМ3        | 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

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

**Complaint Log** 

| EPD<br>Complaint<br>Ref No. | Location                              | Received Date   | Details of Complaint   | Investigation/Mitigation Action   | Status |
|-----------------------------|---------------------------------------|-----------------|--|---|--------|
| 17-34438                    | Dakota Drive<br>and Olympic<br>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 |

Remarks: No complaint was received in the reporting month.

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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

#### Warnings / Summons and Successful Prosecutions received

| 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    |

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

MA16043\App L 2

APPENDIX M SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS Department: CEDD

Contract No.: KL/2015/02

Project : Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area



#### **Monthly Summary Waste Flow Table for 2022**

As at 4 February 2022

|           | Quantities of Inert C & D Materials Generated Monthly |                                  |                           |                                |                            | Quantities of C & D Wastes Generated Monthly |             |                                  |                          |                   |                                   |
|-----------|---|----------------------------------|---------------------------|--------------------------------|----------------------------|--|-------------|----------------------------------|--------------------------|-------------------|-----------------------------------|
| Month     | Total<br>Quantity<br>Generated                        | Hard Rock<br>and Large<br>Broken | Reused in the<br>Contract | Reused in<br>other<br>Projects | Disposed as<br>Public Fill | Imported Fill                                | Metals      | Paper/<br>Cardboard<br>packaging | Plastics (see<br>Note 3) | Chemical<br>Waste | Others, e.g.<br>general<br>refuse |
|           | (in '000m³)   | (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                 | 0.014                             |
| Feb       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Mar       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Apr       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| May       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| June      |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Sub-total | 68.229  | 0                                | 0                         | 0.406                          | 68.229                     | 0  | 0           | 0                                | 0                        | 0                 | 2.73                              |
| July      |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Aug       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Sept      |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Oct       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Nov       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Dec       |   |                                  |                           |                                |                            |  |             |                                  |                          |                   |                                   |
| Total     | 68.229  | 0                                | 0                         | 0.406                          | 68.229                     | 0  | 0           | 0                                | 0                        | 0                 | 2.73                              |

| Forecast of Total Quantities of C&D Materials to be Generated from the Contract* |  |                           |                                |                            |               |             |                                  |                          |                   |                                   |
|--|--|---------------------------|--------------------------------|----------------------------|---------------|-------------|----------------------------------|--------------------------|-------------------|-----------------------------------|
| Total Quantity Generated   | Hard Rock<br>and Large<br>Broken<br>Concrete | Reused in the<br>Contract | Reused in<br>other<br>Projects | Disposed as<br>Public Fill | Imported Fill | Metals      | Paper/<br>Cardboard<br>packaging | Plastics (see<br>Note 3) | Chemical<br>Waste | Others, e.g.<br>general<br>refuse |
| (in '000m³)  | (in '000m³)                                  | (in '000m³)               | (in '000m³)                    | (in '000m³)                | (in '000m³)   | (in '000kg) | (in '000kg)                      | (in '000kg)              | (in '000kg)       | (in '000m³)                       |
| 67   | 0  | 0                         | 1                              | 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 m<sup>3</sup>. (PS Cleuse 25.02A(7) refers).

# APPENDIX N CONSTRUCTION PROGRAMME

KL/2015/02 Construction Programme

|                        |          |        | 2016       | 2017                         | 2018                         | 2019                   | 2020                         | 2021                     | 2022                       |
|------------------------|----------|--------|------------|------------------------------|------------------------------|------------------------|------------------------------|--------------------------|----------------------------|
| Works                  | Commence | Finish | 9 10 11 12 | 1 2 3 4 5 6 7 8 9 10 11 12 1 | 2 3 4 5 6 7 8 9 10 11 12 1 2 | 3 4 5 6 7 8 9 10 11 12 | 1 2 3 4 5 6 7 8 9 10 11 12 1 | 2 3 4 5 6 7 8 9 10 11 12 | 1 2 3 4 5 6 7 8 9 10 11 12 |
| Subways Construction   | Dec-16   | Jun-22 |            |                              |                              |                        |                              |                          |                            |
| Road Works (D1 and L7) | Feb-19   | Jun-21 | _          |                              |                              |                        |                              |                          |                            |
| Landscape              | May-21   | Aug-21 | _          |                              |                              |                        |                              |                          |                            |

#### **FUGRO TECHNICAL SERVICES LIMITED**

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



#### Appendix C

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

# **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

January 2022

(Version 1.1)

Certified By: (Environmental Team Leader)



Ref.: CEDKTDS4EM00\_0\_0212L.22

16 February 2022

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 January 2022**

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for January 2022 (Version 1.1) certified by the ET Leader and provided to us via email on 16 February 2022.

Please be informed that we have no adverse comment on the captioned submission. We hereby verify the captioned submission in accordance with Condition 3.3 of EP-337/2009 and Condition 3.2 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

Y H Hui

Independent Environmental Checker

c.c.

CEDD

Attn.: Mr. Alex Wong

Fax: 2739 0076

Ka Shing

Attn.: Mr. Chan Pang

By email

Penta-Ocean

Attn.: Mr. Daniel Ho

Fax: 2572 4080

C:\Users\theochan\Downloads\CEDKTDS4EM00\_0\_0212L.22.doc

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#### **EXECUTIVE SUMMARY**

This is the 25<sup>th</sup> Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 31 January 2022.

#### **Breaches of Action and Limit Levels**

- 1. 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2. 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3. Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 4. Summary of the non-compliance in the reporting month for the Project is tabulated in Table I.

Table I Non-compliance Record in the Reporting Month

| Parameter          | No. of Ex    | Action Taken |              |
|--------------------|--------------|--------------|--------------|
| 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          |

#### **Complaint log**

5. No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table II.

Table II Summary of complaints in the Reporting Month

| Date of complaint received | Date of complaint | Description of complaint | Investigation / Recommendations / Action take | Close-out date / Status |
|----------------------------|-------------------|--------------------------|---|-------------------------|
| No complaint               | N/A               | N/A                      | N/A   | N/A                     |

| Date of complaint received           | Date of complaint | Description of complaint | Investigation /<br>Recommendations /<br>Action take | Close-out date / Status |
|--------------------------------------|-------------------|--------------------------|---|-------------------------|
| was received in the reporting month. |                   |                          |   |                         |

#### Notifications of summons and successful prosecutions

6. 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.

Table III Summary of summons and successful prosecutions in the Reporting Month

| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action take | Close-out<br>date / Status |
|---|---------------|----------------------|-------------|----------------------------|
| No notification   | NA            | NA                   | NA          | NA                         |
| of summons and  |               |                      |             |                            |
| successful  |               |                      |             |                            |
| prosecutions<br>were                                      |               |                      |             |                            |
| received in   |               |                      |             |                            |
| the reporting   |               |                      |             |                            |
| month.  |               |                      |             |                            |

#### Report changes

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

#### **Key construction works in the reporting month**

8. Major construction activities undertake during the reporting month included:

- North Approach Ramp Construction of wall, roof slab, utilities trough
- Bridge D3 Construction of Bridge Deck and abutments
- North Depressed Road Construction of wall & top slab
- Underpass Construction of walls and roof slab
- South Approach Ramp Construction of Permanent Structure
- District Cooling System seawater intake box culvert Installation of precast units and backfilling works, reinstatement of the seawall and backfilling works
- Lift 3 Construction of linking platform
- Lift 4 Construction of Wall and Roof Slab / Installation of Steelworks and Glass Panel
- South Depressed Road Installation of ELS system / construction of permanent works
- Rising Main and Water Pipe Laying of sewage
- Landscaped Deck Construction of pile caps and installation of columns
- Transformer Room Installation of ELS system and construction of permanent structure
- Road D3 Junction Road works
- Lift 1 &2 Installation of ELS system

#### **Future key issues**

9. The future key issues and potential impact in the coming month are given in Table IV.

Table IV Summary of future key issues and potential impact in the coming month

| Future key issues in the coming month                         | Potential impact                 |  |
|---|----------------------------------|--|
| North Approach Romp Construction of utilities trough          | Noise and Air Quality, Chemical  |  |
| North Approach Ramp – Construction of utilities trough        | and Waste Management             |  |
| Bridge D3 – Construction of Bridge Deck and abutments         | Noise and Air Quality, Landscape |  |
| Bridge D3 – Construction of Bridge Deck and abutments         | and Visual                       |  |
| North Depressed Road – Construction of wall & top slab        | Noise and Air Quality, Chemical  |  |
| North Depressed Road – Construction of wall & top stab        | and Waste Management             |  |
| Underpass – Construction of walls and roof slab               | Noise and Air Quality, Chemical  |  |
| Order pass — Construction of wans and foot stab               | and Waste Management             |  |
| South Approach Ramp – Construction of Permanent Structure     | Noise and Air Quality, Chemical  |  |
| **  | and Waste Management             |  |
| District Cooling System seawater intake box culvert -         |                                  |  |
| Installation of precast units and backfilling works,          | Noise, Air and Water Quality     |  |
| reinstatement of the seawall and backfilling works            |                                  |  |
| Lift 3 – Construction of linking platform                     | Noise and Air Quality, Chemical  |  |
|   | and Waste Management             |  |
| Lift 4 – Construction of Wall and Roof Slab / Installation of | Noise, Air and Water Quality     |  |
| Steelworks and Glass Panel                                    |                                  |  |
| South Depressed Road – Installation of ELS system /           | Noise and Air Quality, Chemical  |  |
| construction of permanent works                               | and Waste Management             |  |
| Rising Main and Water Pipe – Laying of sewage                 | Noise, Air and Water Quality     |  |
| Landscaped Deck – Construction of pile caps and installation  | Noise, Air and Water Quality     |  |
| of columns  | 110150, 7111 and Water Quanty    |  |
| Transformer Room – Installation of ELS system and             | Noise, Air and Water Quality     |  |
| construction of permanent structure                           | 110150, 1111 and Water Quanty    |  |

| Future key issues in the coming month  | Potential impact                |
|--|---------------------------------|
| Road D3 Junction – Road works          | Noise, Air and Water Quality    |
| Lift 1 82 Installation of ELS avotam   | Noise and Air Quality, Chemical |
| Lift 1 &2 – Installation of ELS system | and Waste Management            |

#### 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.

Table 1.1 Contact Information of Key Personnel

| Party   | Role   | Contact Person  | Position                 | Phone No. | Fax No.   |
|---|--|-----------------|--------------------------|-----------|-----------|
| Civil Engineering and                             | Project  | Mr. Alex Wong   | Senior<br>Engineer       | 3579 2452 | 2739 0076 |
| Development Department (CEDD)                     | Proponent  | Ms. Chan Ka Yan | Engineer                 | 3579 2458 | 2739 0076 |
| AECOM Asia<br>Co. Ltd.<br>(AECOM)                 | Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual) | Mr. Clive Cheng | CRE                      | 3911 4201 | 3911 4288 |
| Ramboll Hong<br>Kong Limited<br>(Ramboll)         | Independent<br>Environmental<br>Checker (IEC)                            | Mr. Y H Hui     | IEC                      | 3465 2850 | 3465 2899 |
| Ka Shing Management Consultant Limited (Ka Shing) | Environmental<br>Team (ET)   | Mr. Chan Pang   | ET Leader                | 6082 2973 | 2120 7752 |
| Penta-Ocean Construction Co., Ltd. (Penta-Ocean)  | Contractor   | Mr. Lulu Mar    | Environmental<br>Officer | 6845 0626 | 3465 8898 |

#### **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

| North Approach Ramp – Construction of utilities        | Bridge D3 – Construction of Bridge Deck and     |
|--|---|
| trough   | abutments                                       |
| North Depressed Road – Construction of wall & top slab | Underpass – Construction of walls and roof slab |
|  | District Cooling System seawater intake box     |
| South Approach Ramp – Construction of                  | culvert – Installation of precast units and     |
| Permanent Structure                                    | backfilling works, reinstatement of the seawall |
|  | and backfilling works                           |
| Rising Main and Water Pipe – Laying of sewage          | Lift 3 – Construction of linking platform       |
| Lift 4 – Construction of Wall and Roof Slab /          | South Depressed Road – Installation of ELS      |
| Installation of Steelworks and Glass Panel             | system / construction of permanent works        |
| Landscaped Deck – Construction of pile caps            | Transformer Room – Installation of ELS system   |
| and installation of columns                            | and construction of permanent structure         |
| Road D3 Junction – Road works                          | Lift 1 &2 – Installation of ELS system          |

#### **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.

Table 1.3 Summary of Status of Required Submission of EPs

| EP Condition   | EP Condition   | EP Condition   | Submission  | Submission  |
|----------------|----------------|----------------|---|-------------|
| EP-337/2009    | EP-445/2013    | EP-445/2013/A  | Submission  | Date        |
| Condition 1.11 | Condition 1.12 | Condition 1.12 | Notification of<br>Commencement Date of<br>Construction of the<br>Project | 6 Jan 2020  |
| Condition 2.3  | Condition 2.3  | Condition 2.3  | Management Organization of Main Construction Companies                    | 9 Sep 2019  |
| Condition 2.3  | Condition 2.3  | Condition 2.3  | Updated Management Organization of Main Construction Companies            | 17 Aug 2021 |
| 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  | 13 Nov 2020 |

| EP Condition  | EP Condition  | EP Condition  | Submission                              | Submission  |
|---------------|---------------|---------------|---|-------------|
| EP-337/2009   | EP-445/2013   | EP-445/2013/A | Submission                              | Date        |
|               |               |               | Plans                                   |             |
| Condition 2.1 | Condition 2.5 | Condition 2.5 | Landscape Mitigation Plans (Revision 2) | 18 May 2021 |
| Condition 3.2 | NA            | NA            | Baseline Monitoring Report              | 2 Jan 2020  |
| Condition 3.2 | NA            | NA            | Revised Baseline<br>Monitoring Report   | 28 Mar 2020 |
| Condition 3.3 | Condition 3.2 | Condition 3.2 | Monthly EM&A Report (December 2021)     | 14 Jan 2022 |

### 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.

Table 2.1 Locations of Air Quality Monitoring Stations

| 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   | Rooftop                 |  |
| Factory cum Sheltered Workshop                   | Koonop                  |  |
| AM7 – Hong Kong Children's Hospital              | Rooftop                 |  |

#### **Monitoring Parameters, Frequency and Duration**

2.3 The air quality monitoring locations and monitoring frequency are listed in Table 2.2.

*Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration* 

| Air Monitoring Station                                     | Location for Measurement | Parameter                | Duration               | Frequency           |
|--|--------------------------|--------------------------|------------------------|---------------------|
| AM3 - Sky Tower  | Podium floor<br>near T7  |                          |                        |                     |
| AM4(A) - The Hong Kong Society for the Blind's Factory cum | Rooftop                  | - 24-hour<br>average TSP | - 24 hours<br>- 1 hour | - Once every 6 days |
| Sheltered Workshop AM7 - Hong Kong Children's Hospital     | Rooftop                  | average TSP              | T Hour                 | every 6 days        |

- 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.

#### **Monitoring Equipment**

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.

Table 2.3 Air Quality Monitoring Equipment

| 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        |

- 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.
  - 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 m<sup>3</sup>/min. and 1.7 m<sup>3</sup>/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 and then placed 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 HOKLAS accredited or other internationally accredited laboratory for weighting.

#### Maintenance/Calibration

- 2.18 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

- 2.19 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, spot check reading at each sampling location for data processing.
- Recorded any activities that may generate dust during measurement period.

#### Maintenance/Calibration

- 2.20 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**

- 2.21 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.
- 2.22 The wind data was captured by a data logger and the data was downloaded at least once per month for analysis.
- 2.23 The wind data monitoring equipment will be re-calibrated at least once every six months.
- 2.24 Wind direction is divided into 16 sectors of 22.5 degrees each.
- 2.25 Details of weather information during the monitoring period are shown in Appendix F.

#### **Action and Limit Levels**

2.26 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.

Table 2.4 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring

| Parameter           | Air Monitoring Station | Action Level,<br>µg/m <sup>3</sup> | Limit Level,<br>µg/m <sup>3</sup> |
|---------------------|------------------------|------------------------------------|-----------------------------------|
|                     | AM3                    | 182                                | 260                               |
| 24-hour average TSP | AM4(A)                 | 187                                | 260                               |
|                     | AM7                    | 181                                | 260                               |

Table 2.5 Action and Limit Levels of 1-hour average TSP for Construction Dust Monitoring

| Parameter          | Air Monitoring Station | Action Level,<br>µg/m <sup>3</sup> | Limit Level,<br>µg/m³ |
|--------------------|------------------------|------------------------------------|-----------------------|
|                    | AM3                    | 297                                | 500                   |
| 1-hour average TSP | AM4(A)                 | 326                                | 500                   |
|                    | AM7                    | 315                                | 500                   |

#### **Impact Air Quality Monitoring results**

2.27 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<br>Station | Average TSP<br>Concentration,<br>µg/m <sup>3</sup> | Range,<br>µg/m <sup>3</sup> | Action Level,<br>µg/m <sup>3</sup> | Limit Level,<br>μg/m <sup>3</sup> |
|---------------------------|--|-----------------------------|------------------------------------|-----------------------------------|
| AM3                       | 62   | 33 - 92                     | 182                                | 260                               |
| AM4(A)                    | 58   | 33 - 72                     | 187                                | 260                               |
| AM7                       | 56   | 36 – 89                     | 181                                | 260                               |

<u>Table 2.7 Summary of 1-hour average TSP Monitoring Data during the reporting month</u>

| Air Monitoring<br>Station | Average TSP<br>Concentration,<br>µg/m <sup>3</sup> | Range,<br>μg/m <sup>3</sup> | Action Level,<br>μg/m <sup>3</sup> | Limit Level,<br>μg/m <sup>3</sup> |
|---------------------------|--|-----------------------------|------------------------------------|-----------------------------------|
| AM3                       | 47   | 20 - 89                     | 297                                | 500                               |
| AM4(A)                    | 52   | 25 – 91                     | 326                                | 500                               |
| AM7                       | 48   | 24 – 96                     | 315                                | 500                               |

- 2.28 There was no Action and Limit Level exceedance of 24-hour average TSP and 1-hour average TSP levels recorded during the reporting month.
- 2.29 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.

- 2.30 The Event and Action Plan is provided in Appendix I.
- 2.31 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,  $L_{Aeq, 30\text{-minute}}$ , 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. Table3.1 describes the noise monitoring locations, which are also depicted in Figure 6.

*Table 3.1 Locations of Noise Monitoring Stations* 

| 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)        |

#### **Monitoring Parameters, Frequency and Duration**

3.5 The noise monitoring locations and monitoring frequency are listed in Table 3.2.

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

| Noise Monitoring Station  | Location for Measurement | Parameter   | Frequency and Duration   |
|---|--------------------------|---|--|
| M11 - The Hong Kong<br>Society for the Blind's<br>Factory cum Sheltered<br>Workshop | 1                        | $L_{	ext{Aeq},}L_{	ext{A10}}$ and $L_{	ext{A90}}$ | 30 - minutes measurement at each monitoring station between 0700 – 1900 hrs on normal weekdays |
| M12 - Hong Kong<br>Children's Hospital  | Rooftop<br>(Façade)      |   | (Monday to Saturday) at frequency of once per week.  |

- 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.

#### **Monitoring Equipment**

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              | 2        |
| Sound Level Calibrator | RION NC 74             | 1        |
| Sound Level Calibrator | RION NC 75             | 1        |
| Air Flowmeter          | TSI TA440 Air Velocity | 2        |

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 Construction Noise Monitoring

| Time Period     | Noise Monitoring<br>Station | Baseline Noise<br>Levels, dB (A) | Action Level           | Limit<br>Level ^ |
|-----------------|-----------------------------|----------------------------------|------------------------|------------------|
| 0700 – 1900 on  | M11                         | 68.3                             | When one documented    | 75 dB(A)         |
| normal weekdays | M12                         | 61.9                             | complaint is received. | 75 GD(71)        |

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<br>Monitoring<br>Station | Measured L <sub>Aeq, 30-min</sub> ,<br>Average, dB(A) | Measured L <sub>Aeq, 30-min</sub> ,<br>Range, dB(A) | Action Level          | Limit<br>Level ^ |
|--------------------------------|---|---|-----------------------|------------------|
| M11                            | 68.1  | 65.5 – 68.8   | When one documented   | 75               |
| M12                            | 64.9  | 60.3 – 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 were no action level exceedance of noise monitoring and limit level exceedance of  $L_{\text{Aeq}}$ ,  $_{30\text{min}}$  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.

Table 4.1 Comparison of 24-hour average TSP Monitoring Data with EIA predictions

|   |                          | Predicted Cumulative Maximum 24-hour average TSP concentration |                                  | Measured 24-hr<br>average TSP in |
|---|--------------------------|--|----------------------------------|----------------------------------|
| Air Monitoring Station  | ASR No. in<br>EIA report | Scenario 1<br>(Mid 2009 to                                     | Scenario 2<br>(Mid 2013 to       | Reporting Month (January 2022)   |
|   |                          | Mid 2013),<br>μg/m <sup>3</sup>                                | Late 2016),<br>μg/m <sup>3</sup> | μg/m <sup>3</sup>                |
| AM3 - Sky Tower   | A40^                     | 106  | 138                              | 33 - 92                          |
| AM4(A) - The Hong Kong<br>Society for the Blind's Factory<br>cum Sheltered Workshop | A43^                     | 123  | 195                              | 33 – 72                          |
| AM7 – Hong Kong Children's<br>Hospital  | PA60                     | NA   | NA                               | 36 – 89                          |

Note:

Table 4.2 Comparison of 1-hour average TSP Monitoring Data with EIA predictions

|                                 |            | Predicted Cumulative Maximum |              |                     |
|---------------------------------|------------|------------------------------|--------------|---------------------|
|                                 |            | 1-hour av                    | erage TSP    | Measured 1-hr       |
|                                 | ASR No. in | concen                       | tration      | average TSP in      |
| Air Monitoring Station          | EIA report | Scenario 1                   | Scenario 2   | Reporting Month     |
| _                               | LIA report | (Mid 2009 to                 | (Mid 2013 to | (January 2022)      |
|                                 |            | Mid 2013),                   | Late 2016),  | $\mu g/m^3$         |
|                                 |            | $\mu g/m^3$                  | $\mu g/m^3$  |                     |
| AM3 - Sky Tower                 | A40        | 217^                         | 247^         | 20 - 89             |
| AM4(A) - The Hong Kong          |            |                              |              |                     |
| Society for the Blind's Factory | A43        | 283^                         | 409^         | 25 - 91             |
| cum Sheltered Workshop          |            |                              |              |                     |
| AM7 – Hong Kong Children's      | PA60       | NA                           | NA           | 24 – 96             |
| Hospital                        | 1A00       | INA                          | INA          | 2 <del>4</del> – 90 |

Note:

<sup>^</sup> Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

<sup>^</sup> Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

| Noise Monitoring Station   | NSR No. in<br>EIA report | Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour L <sub>Aeq, 30min</sub> , dB(A) | Measured Noise Level<br>in Reporting Month<br>(January 2022)<br>L <sub>Aeq, 30min</sub> , dB(A) |
|--|--------------------------|--|---|
| M11 - The Hong Kong Society<br>for the Blind's Factory cum<br>Sheltered Workshop | N18                      | 50 – 76*   | 65.5 – 68.8   |
| M12 - Hong Kong Children's<br>Hospital   | PN83,<br>PN84,<br>PN84A  | NA   | 60.3 – 68.1   |

Note:

- 4.2 24-hour TSP monitoring results at AM3 and AM4(A) were recorded lower than the prediction in the EIA Report. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 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 and AM4(A) were recorded lower than the prediction in the EIA Report. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 4.5 No prediction in the EIA Report for 1-hour TSP monitoring results at AM7.
- 4.6 Noise monitoring results at M11 were recorded lower than the prediction in the EIA Report. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 4.7 No prediction in the EIA Report for noise monitoring results at M12.

<sup>\*</sup> Prediction results are given in the Table 3.20 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

#### 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, 20 and 27 January 2022 in the reporting month.
- 5.4 The summaries of site audits are attached in Table 5.1.

Table 5.1 Summary of observations of Landscape and Visual impact during the reporting month

| Inspection<br>Date | Key Observations | Recommendations / Actions | Close-out<br>Date /<br>Status |
|--------------------|------------------|---------------------------|-------------------------------|
| 06 January<br>2022 | No               | NA                        | NA                            |
| 13 January<br>2022 | No               | NA                        | NA                            |
| 20 January<br>2022 | No               | NA                        | NA                            |
| 27 January<br>2022 | No               | NA                        | NA                            |

- 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, 20 and 27 January 2022 in the reporting month.
- 6.3 The summaries of site audits are attached in Table 6.1.

Table 6.1 Summary of site inspections observations during the reporting month

| Inspection<br>Date | Key Observations   | Recommendations / Actions   | Close-out<br>Date / Status             |
|--------------------|--|---|--|
| 06 January<br>2022 | Observation: The accumulated waste should be removed.                                  | Action Taken: The accumulated waste has been removed.                                   | Closed-out<br>on 13<br>January<br>2022 |
| 13 January 2022    | N/A  | N/A   | N/A                                    |
| 20 January<br>2022 | Observation: Dust suppression should be enforced traffic road to reduce dust nuisance. | Action Taken:  Dust suppression has been enforced traffic road to reduce dust nuisance. | Closed-out<br>on 27<br>January<br>2022 |

| Inspection Date    | Key Observations                                      | Recommendations / Actions                        | Close-out<br>Date / Status              |
|--------------------|---|--|---|
| 27 January<br>2022 | Observation: The accumulated waste should be removed. | Action Taken: The accumulated waste was removed. | Closed-out<br>on 10<br>February<br>2022 |

#### **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.

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

| 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 June 2019  | N/A         |
| Wastewater Discharge License under WPCO           | WT00034610-2019   | 26 Sep 2019  | 30 Sep 2024 |
| Waste Disposal Billing Account                    | 7034450           | 28 June 2019 | N/A         |
| Registration as a Chemical Waste Producer         | 5218-286-P3182-03 | 18 Jul 2019  | N/A         |

| Environmental Licenses, Notifications and Permits | Ref. No.     | Valid Form  | Valid Till   |
|---|--------------|-------------|--------------|
| Construction Noise Permit                         | GW-RE0893-21 | 24 Sep 2021 | 19 Mar 2022  |
|   | GW-RE0960-21 | 05 Oct 2021 | 03 Apr 2022  |
|   | GW-RE1054-21 | 27 Oct 2021 | 13 Apr 2022  |
|   | GW-RE1214-21 | 06 Dec 2021 | 01 June 2022 |
|   | GW-RE1262-21 | 30 Dec 2021 | 11 Jun 2022  |
|   | GW-RE1263-21 | 30 Dec 2021 | 17 Jun 2022  |

#### <u>Implementation Status of Environmental Mitigation Measures</u>

- 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 O.
- 6.8 In response to the site audit findings, the Contractor carried out corrective actions with summary given in Appendix O.

#### **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.

Table 6.3 Summary of complaints in the Reporting Month

| Date of complaint received                        | Date of complaint | Description of complaint | Investigation / Recommendations / Action take | Close-out date / Status |
|---|-------------------|--------------------------|---|-------------------------|
| No complaint was received in the reporting month. | NA                | NA                       | NA  | NA                      |

6.10 Complaint log and Complaint Investigation report are shown in Appendix P.

#### 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.

Table 6.4 Summary of summons and successful prosecutions in the Reporting Month

| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action take | Close-out<br>date / Status |
|---|---------------|----------------------|-------------|----------------------------|
| No notification   | NA            | NA                   | NA          | NA                         |
| of summons  |               |                      |             |                            |
| and   |               |                      |             |                            |
| successful  |               |                      |             |                            |
| prosecutions  |               |                      |             |                            |
| were  |               |                      |             |                            |
| received 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 P.

### 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:

Table 7.1 Summary of future key issues and potential impact in the coming month

| Table 7.1 Summary of future key issues and potential impact in t  | ne conting mount                                     |
|---|--|
| Future key issues in the coming month   | Potential impact                                     |
| North Approach Ramp – Construction of utilities trough  | Noise and Air Quality, Chemical and Waste Management |
| Bridge D3 – Construction of Bridge Deck and abutments   | Noise and Air Quality, Landscape and Visual          |
| North Depressed Road – Construction of wall & top slab  | Noise and Air Quality, Chemical and Waste Management |
| Underpass – Construction of walls and roof slab   | Noise and Air Quality, Chemical and Waste Management |
| South Approach Ramp – Construction of Permanent Structure   | Noise and Air Quality, Chemical and Waste Management |
| District Cooling System seawater intake box culvert - Installation of precast units and backfilling works, reinstatement of the seawall and backfilling works | Noise, Air and Water Quality                         |
| Lift 3 – Construction of linking platform   | Noise and Air Quality, Chemical and Waste Management |
| Lift 4 – Construction of Wall and Roof Slab / Installation of Steelworks and Glass Panel  | Noise, Air and Water Quality                         |
| South Depressed Road – Installation of ELS system / construction of permanent works   | Noise and Air Quality, Chemical and Waste Management |
| Rising Main and Water Pipe – Laying of sewage   | Noise, Air and Water Quality                         |
| Landscaped Deck – Construction of pile caps and installation of columns   | Noise, Air and Water Quality                         |
| Transformer Room – Installation of ELS system and construction of permanent structure   | Noise, Air and Water Quality                         |
| Road D3 Junction – Road works   | Noise, Air and Water Quality                         |
| Lift 1 &2- Installation of ELS system   | Noise and Air Quality, Chemical and Waste Management |

- 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

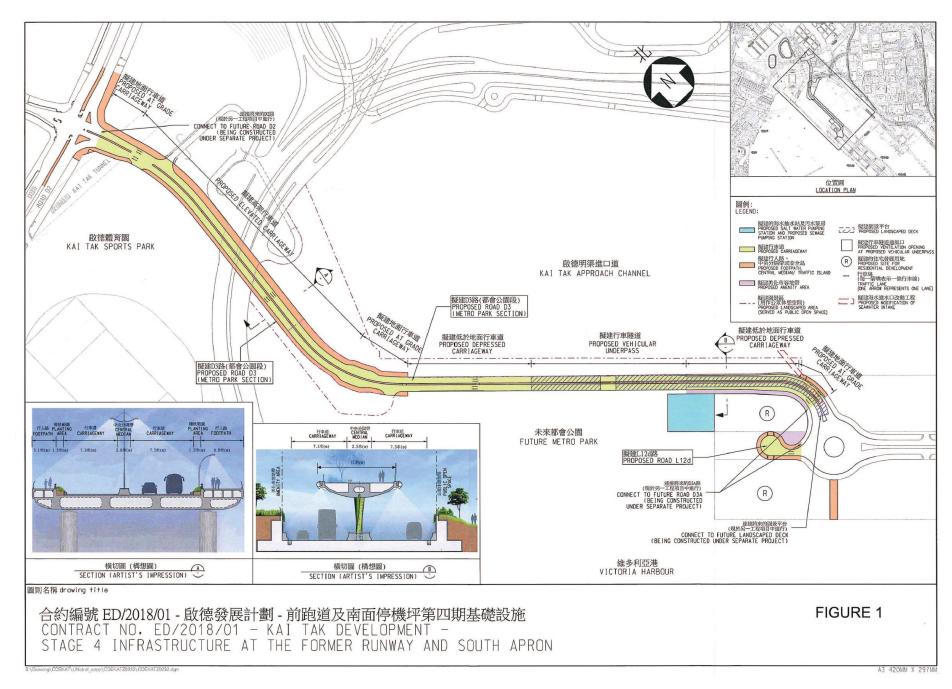


Figure 1 – Proposed works of Contract No. ED/2018/01

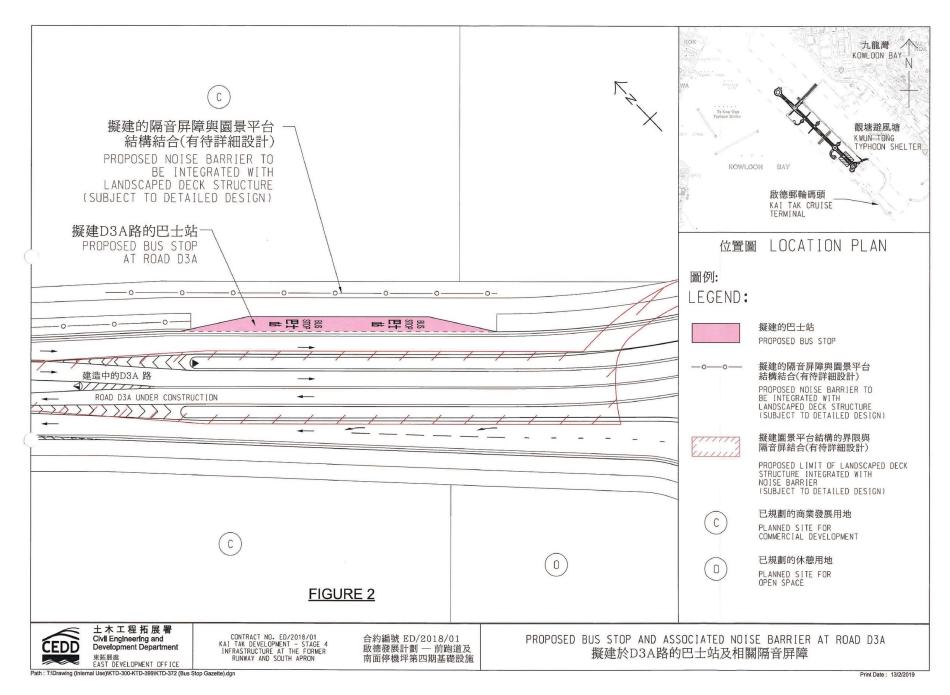


Figure 2 – Proposed Bus Stop And Associated Noise Barrier At Road D3A

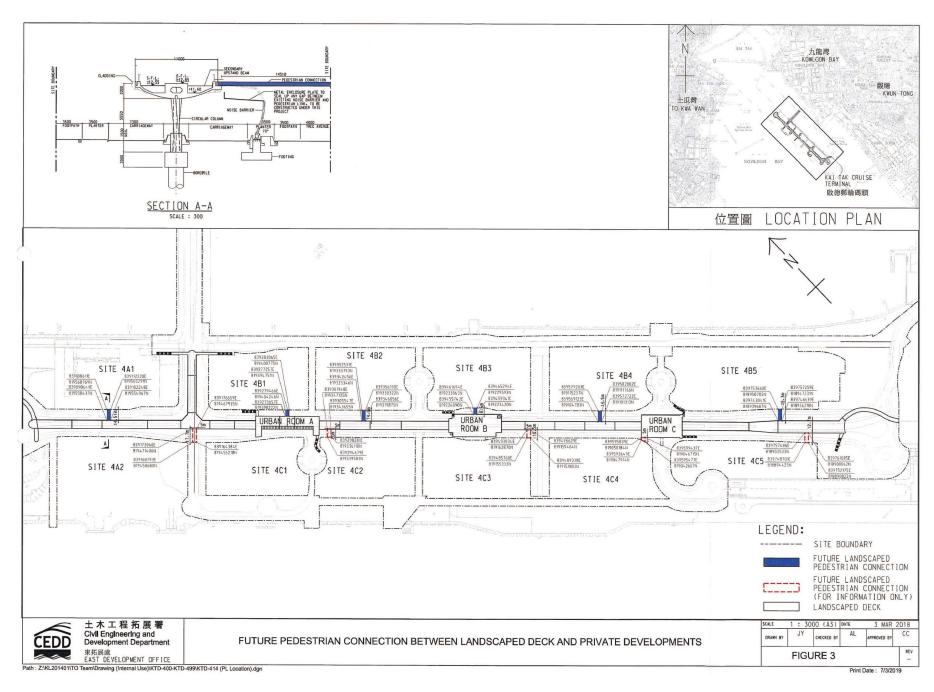


Figure 3 – Future Pedestrian Connection Between Landscaped Deck And Private Developments

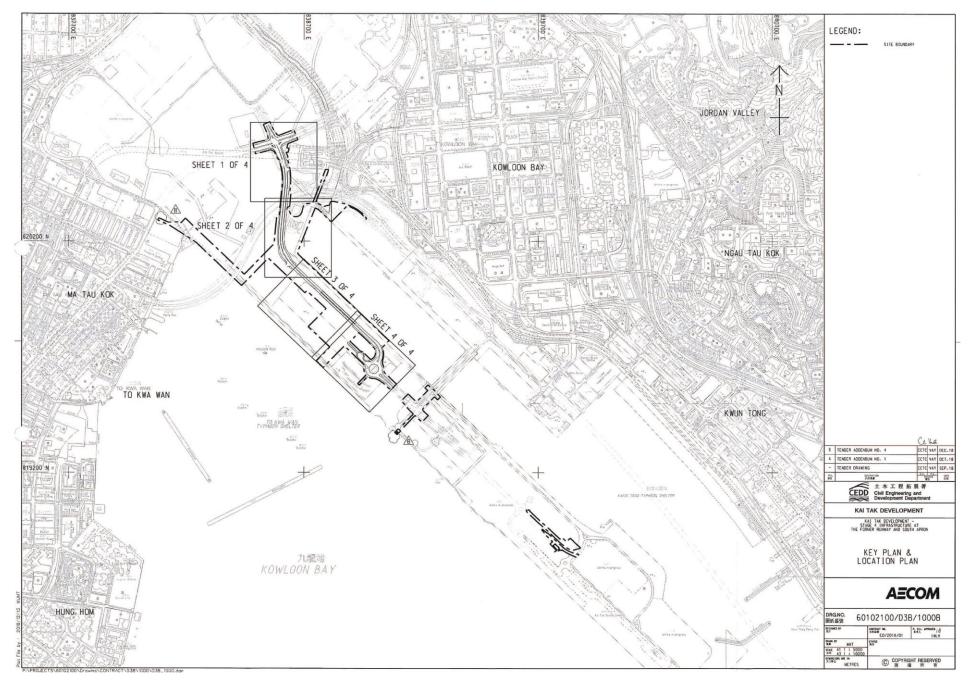


Figure 4 – Site Layout Plan

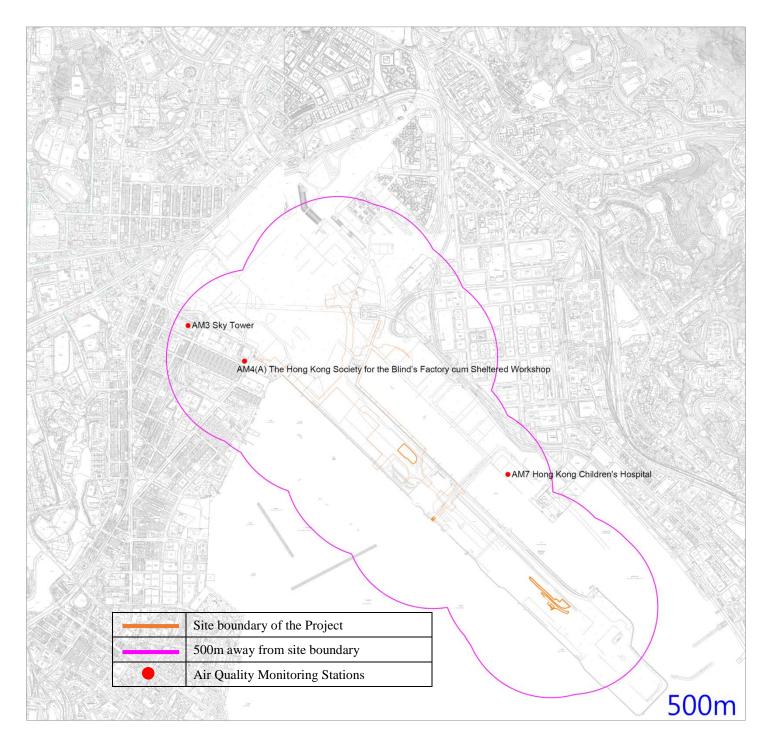
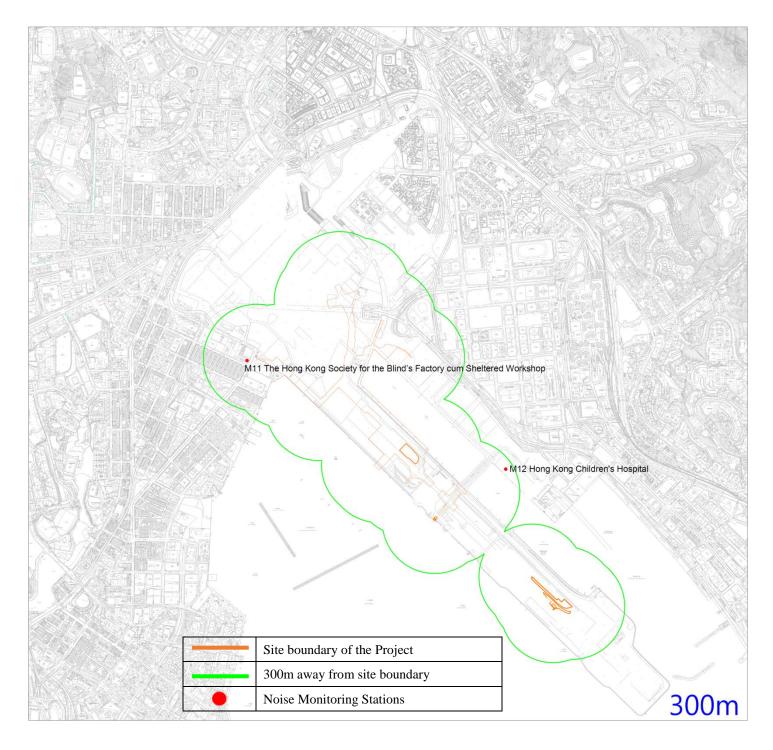
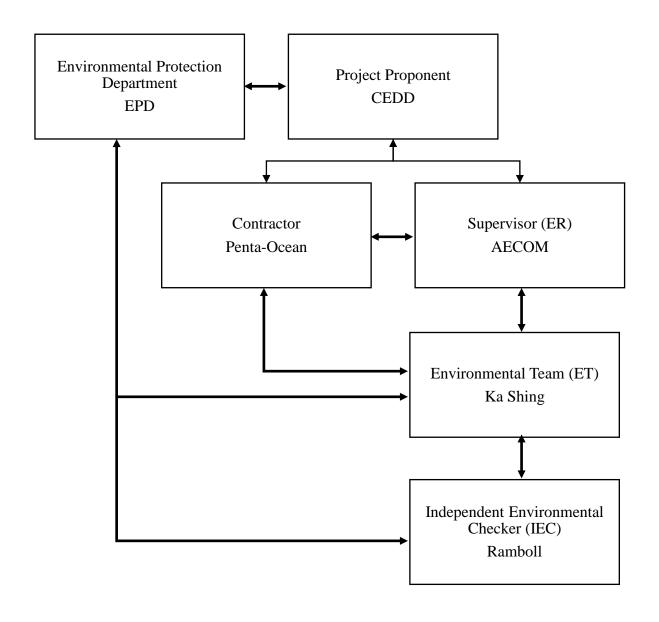


Figure 5 – Air Quality Monitoring Stations



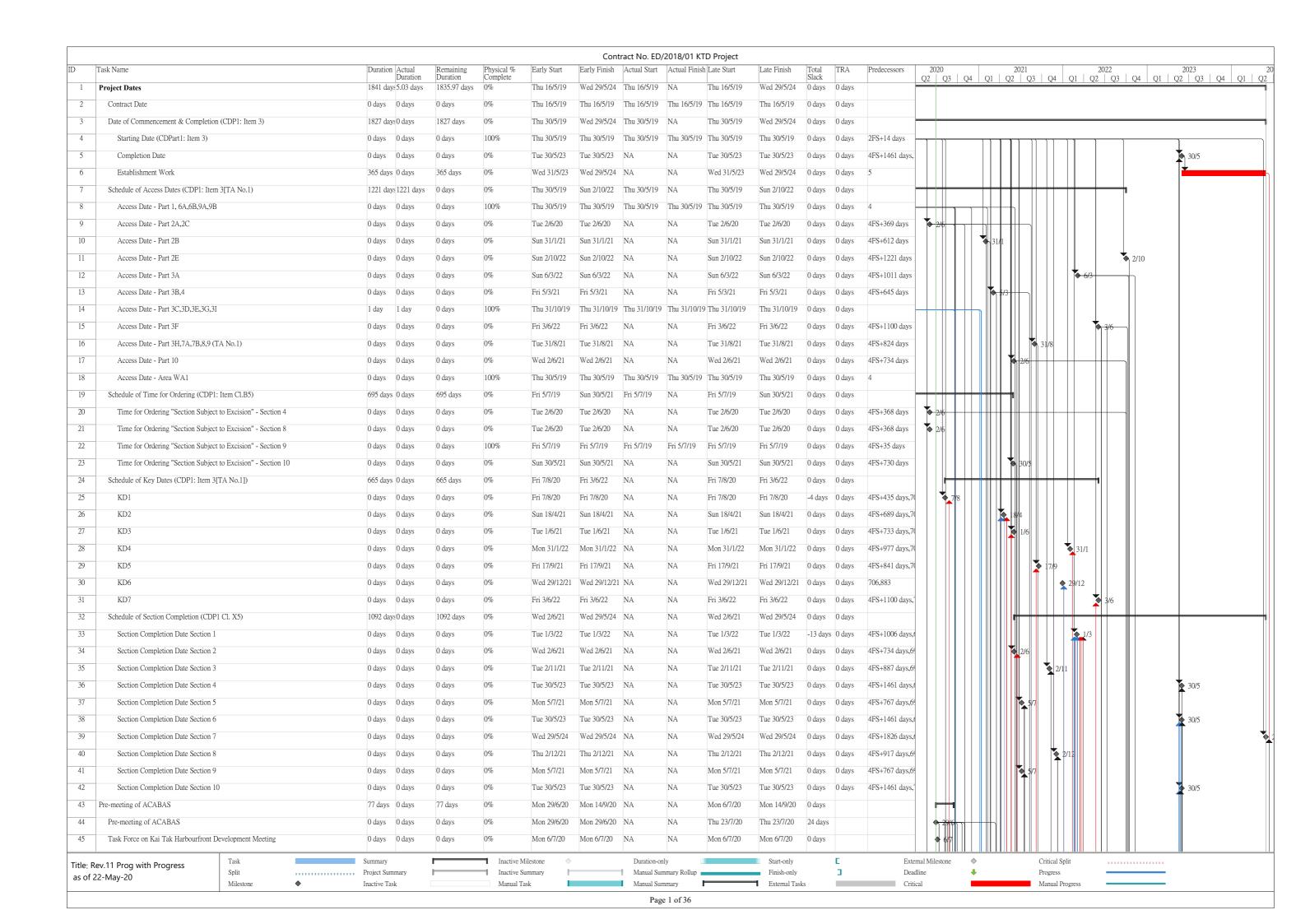
 $Figure\ 6-Noise\ Monitoring\ Stations$ 

## Appendix A – Organization Chart of EM&A Team



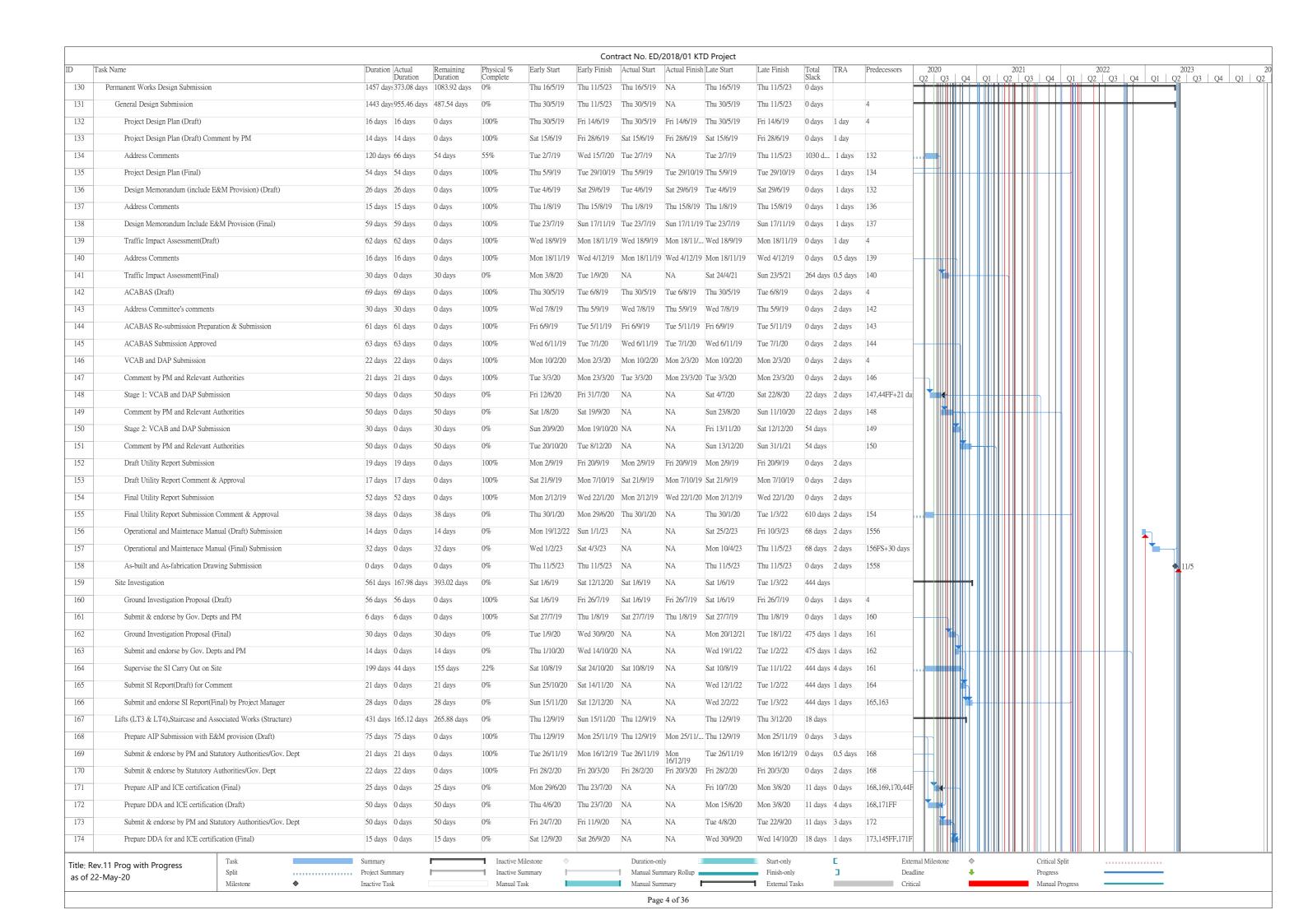
← Link of communication

# **Appendix B – Construction Programme**



|        |   |                        |                    |                       |                        |                            | Cont                   | ract No. ED/            | 2018/01 KI             | D Project    |                        |                |           |                        |                    |        |      |               |     |              |       |                  |
|--------|---|------------------------|--------------------|-----------------------|------------------------|----------------------------|------------------------|-------------------------|------------------------|--------------|------------------------|----------------|-----------|------------------------|--------------------|--------|------|---------------|-----|--------------|-------|------------------|
| )      | Task Name   | Duration               | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start                | Early Finish           | Actual Start            | Actual Finish          | Late Start   | Late Finish            | Total<br>Slack | TRA Prede |                        | 2020<br>  Q3   Q   | 4 01 0 | 2021 | 04 01         |     | 22           |       | )23<br>  Q3   Q4 |
| 46     | District Council Consultation   | 0 days                 |                    | 0 days                | 0%                     | Mon 14/9/20                | Mon 14/9/20            | NA                      | NA                     | Mon 14/9/20  | Mon 14/9/20            | 0 days         |           | 1                      | 14                 | 9      |      |               |     | \(\sqrt{2}\) | Q1 Q2 | <u> </u>         |
| 47     | Project Manager's Instruction   | 8 days                 | 8 days             | 0 days                | 0%                     | Thu 20/2/20                | Fri 28/2/20            | Thu 20/2/20             | Fri 28/2/20            | Thu 20/2/20  | Fri 28/2/20            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 48     | PMI No. 001 - BIM Promenade Walk-through Video for Infrastructure in Kai Tak Stage 4  | 0 days                 | 0 days             | 0 days                | 100%                   | Thu 20/2/20                | Thu 20/2/20            | Thu 20/2/20             | Thu 20/2/20            | Thu 20/2/20  | Thu 20/2/20            | 0 days         |           | 0/2                    |                    |        |      |               |     |              |       |                  |
| 49     | PMI No. 002 - Arranagement of Restricting Site Activities due to Spread of the Noval Coronavirus Between 29 January 2020 to 02 February 2020  | 0 days                 | 0 days             | 0 days                | 100%                   | Fri 28/2/20                | Fri 28/2/20            | Fri 28/2/20             | Fri 28/2/20            | Fri 28/2/20  | Fri 28/2/20            | 0 days         |           | 28/2                   |                    |        |      |               |     |              |       |                  |
| 50     | Compensation Event  | 16 days                | 16 days            | 0 days                | 0%                     | Mon 10/2/20                | Wed 26/2/20            | Mon 10/2/20             | Wed 26/2/20            | Mon 10/2/20  | Wed 26/2/20            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 51     | CE/001: BIM Promenade Walk-through Video for Infrastructure in Kai Tak Stage 4  | 0 days                 | 0 days             | 0 days                | 100%                   | Mon 10/2/20                | Mon 10/2/20            | Mon 10/2/20             | Mon 10/2/20            | Mon 10/2/20  | Mon 10/2/20            | 0 days         |           | V2                     |                    |        |      |               |     |              |       |                  |
| 52     | CE/002 - Arranagement of Restricting Site Activities due to Spread of the Noval Coronavirus Between 29 January 2020 to 02 February 2020   | 0 days                 | 0 days             | 0 days                | 100%                   | Wed 26/2/20                | Wed 26/2/20            | Wed 26/2/20             | Wed 26/2/20            | Wed 26/2/20  | Wed 26/2/20            | 0 days         |           | 16/2                   |                    |        |      |               |     |              |       |                  |
| 53     | Early Warning   | 257 days               | 257 days           | 0 days                | 0%                     | Wed 10/7/19                | Mon 23/3/20            | Wed 10/7/19             | Mon 23/3/20            | Wed 10/7/19  | Mon 23/3/20            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 54     | EW No. 001: CLP's 11kV and 132kV Cable Routing across Utility Trough of Bridge D3 and Alongside Road D3 (Metro Park Section)  | 0 days                 | 0 days             | 0 days                | 100%                   | Wed 10/7/19                | Wed 10/7/19            | Wed 10/7/19             | Wed 10/7/19            | Wed 10/7/19  | Wed 10/7/19            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 5      | EW No. 002: Deep Excavation Basement Construction Works from CKR-BEM Contract   | 0 days                 | 0 days             | 0 days                | 100%                   | Thu 5/9/19                 | Thu 5/9/19             | Thu 5/9/19              | Thu 5/9/19             | Thu 5/9/19   | Thu 5/9/19             | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 56     | EW No. 003: Overhang Cables of CLP Delay the Northern Depressed Road  | 0 days                 | 0 days             | 0 days                | 100%                   | Wed 11/9/19                | Wed 11/9/19            | Wed 11/9/19             | Wed 11/9/19            | Wed 11/9/19  | Wed 11/9/19            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 57     | EW No. 004: Late Commencement on Noise and Air Baseline Monitoring Delay the Northern Depressed Road CH1560 to 1720   | 0 days                 | 0 days             | 0 days                | 100%                   | Mon 4/11/19                | Mon 4/11/19            | Mon 4/11/19             | Mon 4/11/19            | Mon 4/11/19  | Mon 4/11/19            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 8      | EW No. 005: Maintain the SCL RoW which should have been diverted to the RoW Constructed by KTSP caused Disruption to the Construction of North Approach Ramp especially affect the KTD1 | 0 days                 | 0 days             | 0 days                | 100%                   | Wed 13/11/19               | Wed 13/11/19           | Wed 13/11/19            | Wed<br>13/11/19        | Wed 13/11/19 | Wed 13/11/19           | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 9      | EW No. 006: Deferral of Design Deliverables   | 0 days                 | 0 days             | 0 days                | 100%                   | Mon 16/12/19               | Mon 16/12/19           | Mon 16/12/19            | Mon 16/12/             | Mon 16/12/19 | Mon 16/12/19           | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 60     | EW No. 007: Delay on Driven H-piles by KTSP may affect the KD1  | 0 days                 | 0 days             | 0 days                | 100%                   | Fri 20/12/19               | Fri 20/12/19           | Fri 20/12/19            | Fri 20/12/19           | Fri 20/12/19 | Fri 20/12/19           | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 1      | EW No. 008: Not Allow to Extract Sheetpiles of North Approach Ramp beside Kai Tak Sport Park as Discussed at the Interface Meeting  | 0 days                 | 0 days             | 0 days                | 100%                   | Fri 27/12/19               | Fri 27/12/19           | Fri 27/12/19            | Fri 27/12/19           | Fri 27/12/19 | Fri 27/12/19           | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 2      | EW No. 010: Existing 150mm Fresh Water Pipe clashing with Bridge D3 and South Approach Ramp   | 0 days                 | 0 days             | 0 days                | 100%                   | Wed 8/1/20                 | Wed 8/1/20             | Wed 8/1/20              | Wed 8/1/20             | Wed 8/1/20   | Wed 8/1/20             | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 3      | EW No. 011: Additional Requirement for Special Arrangement for Design and Construction of Noise Barrier fir Future Connection of Footbridge FB10 from Development Site 4B5              | 0 days                 | 0 days             | 0 days                | 100%                   | Tue 14/1/20                | Tue 14/1/20            | Tue 14/1/20             | Tue 14/1/20            | Tue 14/1/20  | Tue 14/1/20            | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 4      | EW No. 014: Planning of the Works in Revised Programme (Rev. 6)   | 0 days                 | 0 days             | 0 days                | 100%                   | Mon 10/2/20                | Mon 10/2/20            | Mon 10/2/20             | Mon 10/2/20            | Mon 10/2/20  | Mon 10/2/20            | 0 days         |           | V2                     |                    |        |      |               |     |              |       |                  |
| 5      | EW No. 015: Outbreak of Novel Coronavirus (Constraints on Working Time)   | 0 days                 | 0 days             | 0 days                | 100%                   | Tue 11/2/20                | Tue 11/2/20            | Tue 11/2/20             | Tue 11/2/20            | Tue 11/2/20  | Tue 11/2/20            | 0 days         |           | /2                     |                    |        |      |               |     |              |       |                  |
| 5      | EW No. 016: Outbreak of Novel Coronavirus (Late Supply of Agggregate)   | 0 days                 | 0 days             | 0 days                | 100%                   | Wed 19/2/20                | Wed 19/2/20            | Wed 19/2/20             | Wed 19/2/20            | Wed 19/2/20  | Wed 19/2/20            | 0 days         |           | 9/2                    |                    |        |      |               |     |              |       |                  |
| 7      | EW No. 020: GEO Audit for Underpass D3  | 0 days                 | 0 days             | 0 days                | 100%                   | Fri 13/3/20                | Fri 13/3/20            | Fri 13/3/20             | Fri 13/3/20            | Fri 13/3/20  | Fri 13/3/20            | 0 days         |           | 13/3                   |                    |        |      |               |     |              |       |                  |
| 8      | EW No. 021: Unforessen Underground Water at North Approach Ramp Bay 6   | 0 days                 | 0 days             | 0 days                | 100%                   | Thu 12/3/20                | Thu 12/3/20            | Thu 12/3/20             | Thu 12/3/20            | Thu 12/3/20  | Thu 12/3/20            | 0 days         |           | 12/3                   |                    |        |      |               |     |              |       |                  |
| 9      | EW No. 022:Deferral of Interface Management Plan Submission for Noise Barrier Works   | 0 days                 | 0 days             | 0 days                | 100%                   | Fri 13/3/20                | Fri 13/3/20            | Fri 13/3/20             | Fri 13/3/20            | Fri 13/3/20  | Fri 13/3/20            | 0 days         |           | 13/                    |                    |        |      |               |     |              |       |                  |
| 0      | EW No. 023:Disruption of the Works due to Stockpile was not allowed to dispose to the Proposed Disposal Ground  | 0 days                 | 0 days             | 0 days                | 100%                   | Mon 16/3/20                | Mon 16/3/20            | Mon 16/3/20             | Mon 16/3/20            | Mon 16/3/20  | Mon 16/3/20            | 0 days         |           | 16/                    |                    |        |      |               |     |              |       |                  |
| 1      | EW No. 025: Broken Steel Casing for Bored Pile P02-BP2  | 0 days                 | 0 days             | 0 days                | 100%                   | Mon 23/3/20                | Mon 23/3/20            | Mon 23/3/20             | Mon 23/3/20            | Mon 23/3/20  | Mon 23/3/20            | 0 days         |           | 23/                    | 3                  |        |      |               |     |              |       |                  |
| 2      | Contractor's Notification of Compensation Event   | 14 days                | 0 days             | 14 days               | 0%                     | Thu 28/5/20                | Thu 11/6/20            | NA                      | NA                     | Tue 9/6/20   | Tue 7/7/20             | 12 days        |           |                        | 1                  |        |      |               |     |              |       |                  |
| 3      | Compensation Event (CNCE) No. 009 - Inclement Weather in April 2020   | 0 days                 | 0 days             | 0 days                | 0%                     | Thu 28/5/20                | Thu 28/5/20            | NA                      | NA                     | Tue 7/7/20   | Tue 7/7/20             | 40 days        |           |                        | <del>- 28</del> /5 |        |      |               |     |              |       |                  |
| 4      | Compensation Event - Inclement Weather in May 2020  | 0 days                 | 0 days             | 0 days                | 0%                     | Thu 11/6/20                | Thu 11/6/20            | NA                      | NA                     | Tue 9/6/20   | Tue 9/6/20             | -2 days        |           |                        | <b>◆ 1</b> 1/6     |        |      |               |     |              |       |                  |
| 5      | Project Submission  | 1457 day               | s 401.03 days      | 1055.97 days          | 0%                     | Thu 16/5/19                | Thu 11/5/23            | Thu 16/5/19             | NA                     | Thu 16/5/19  | Thu 11/5/23            | 0 days         | 0 days    |                        |                    |        |      |               |     |              |       |                  |
| 5      | Submit Third Parties Insurance  | 71 days                | 71 days            | 0 days                | 100%                   | Tue 18/6/19                | Tue 27/8/19            | Tue 18/6/19             | Tue 27/8/19            | Tue 18/6/19  | Tue 27/8/19            | 0 days         | 0 days 4  |                        |                    |        |      |               |     |              |       |                  |
| 7      | Works Programme   | 160 days               | 160 days           | 0 days                | 0%                     | Thu 16/5/19                | Tue 22/10/19           | Thu 16/5/19             | Thu 15/8/19            | Thu 16/5/19  | Tue 22/10/19           | 0 days         |           |                        |                    |        |      |               |     |              |       |                  |
| 3      | Submit First Programme  | 20 days                |                    | 0 days                | 100%                   | Thu 16/5/19                | Tue 4/6/19             | Thu 16/5/19             | Tue 4/6/19             | Thu 16/5/19  | Tue 4/6/19             | 0 days         | 0 days 2  |                        |                    |        |      |               |     |              |       |                  |
| )      | Review and Comment by Project Manager   | 9 days                 |                    | 0 days                | 100%                   | Wed 5/6/19                 | Thu 13/6/19            | Wed 5/6/19              | Thu 13/6/19            | Wed 5/6/19   | Thu 13/6/19            | 0 days         | 0 days 78 |                        |                    |        |      |               |     |              |       |                  |
| )      | Revise and Resubmission of Works Programme  | 42 days                |                    | 0 days                | 100%                   | Fri 14/6/19                |                        |                         | Thu 25/7/19            |              |                        |                | 0 days 79 |                        |                    |        |      |               |     |              |       |                  |
| _      | Final Review and Acceptance of the First Programme by Project Manager   | 20 days                |                    | 0 days                | 100%                   | Sat 27/7/19                | Thu 15/8/19            |                         | Thu 15/8/19            |              | Thu 15/8/19            |                | 0 days 80 |                        |                    |        |      |               |     |              |       |                  |
| 2      | Submit Health and Safety Management Plan (ACC Cl. D6(2))  | 6 days                 |                    | 0 days                | 100%                   | Thu 30/5/19                | Tue 4/6/19             | Thu 30/5/19             |                        |              | Tue 4/6/19             |                | 0.5 day 4 |                        |                    |        |      |               |     |              |       |                  |
| 3      | Submit Detailed Programme for Safety Risk (ER Part 7, Cl. 7.3.4)  | 34 days                |                    | 0 days                | 100%                   | Mon 9/12/19                | Sat 11/1/20            |                         | Sat 11/1/20            |              | Sat 11/1/20            |                | 0.5 day 4 |                        |                    |        |      |               |     |              |       |                  |
|        |   |                        |                    |                       |                        |                            |                        |                         |                        |              |                        |                |           |                        |                    |        |      |               |     |              |       |                  |
| 4<br>5 | Submit Environmental Management Plan (ACC Cl. D20(2))  Submit BIM Models Deliverables   | 6 days<br>262 days     | 6 days<br>262 days | 0 days                | 100%                   | Thu 30/5/19<br>Tue 13/8/19 | Tue 4/6/19 Thu 30/4/20 | Thu 30/5/19 Tue 13/8/19 |                        |              | Tue 4/6/19 Thu 30/4/20 | 0 days         | 0.5 day 4 |                        |                    |        |      |               |     |              |       |                  |
|        |   |                        |                    |                       |                        |                            |                        |                         |                        |              |                        |                |           |                        |                    |        |      |               |     |              |       |                  |
|        | Rev.11 Prog with Progress Task Split  | Summary<br>Project Sum | mary               |                       | Inactive M Inactive Su |                            |                        | Duration-on  Manual Sun | ly 📗<br>nmary Rollup 🕳 |              | Start-only Finish-only |                | C<br>3    | External N<br>Deadline | filestone          | ♦      |      | ritical Split |     |              |       |                  |
| s of   | 22-May-20 Milestone   | Inactive Tas           |                    | -                     | Manual Ta              |                            |                        | Manual Sun              |                        |              | External Task          |                | _         | Critical               |                    | *      |      | Ianual Progre | 200 |              |       |                  |

|        |  |                         |                     |                       |                        |                            | COI                     | itract No. ED         | /2018/01 KTD Pi                 | roject     |                            |                  |          |              |                                 |  |       |                |                   |             |             |               |         |
|--------|--|-------------------------|---------------------|-----------------------|------------------------|----------------------------|-------------------------|-----------------------|---------------------------------|------------|----------------------------|------------------|----------|--------------|---------------------------------|--|-------|----------------|-------------------|-------------|-------------|---------------|---------|
| ,      | Гask Name  | Duration                |                     | Remaining<br>Duration | Physical %<br>Complete | Early Start                | Early Finish            | Actual Start          | Actual Finish Late              | e Start    | Late Finish                | Total<br>Slack   | TRA      | Predecessors | 2020                            | 2   04   4                                   |       | 2021           | N 01   1          | 2022        | 04 01 1     | 2023          | 04 01   |
| 86     | Existing Site Model (Topography)   | 46 days                 | Duration<br>46 days | 0 days                | 100%                   | Tue 13/8/19                | Fri 27/9/19             | Tue 13/8/19           | Fri 27/9/19 Tue                 | 13/8/19    | Fri 27/9/19                | 0 days           | 1 day    |              | Q2   Q                          | 3 Q4 (                                       | Q1 Q2 | Q3   Q         | 24   Q1   0       | 22   Q3   C | Q4   Q1   0 | Q2   Q3  <br> | Q4   Q1 |
| 87     | Existing Underground Utilities (UU) Model  | 33 days                 | 33 days             | 0 days                | 100%                   | Mon 26/8/19                | Fri 27/9/19             | Mon 26/8/19           | Fri 27/9/19 Mor                 | n 26/8/19  | Fri 27/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 88     | 3D Digital Survey For Existing Conditions  | 44 days                 | 44 days             | 0 days                | 100%                   | Mon 2/9/19                 | Tue 15/10/19            | Mon 2/9/19            | Tue 15/10/19 Mor                | n 2/9/19   | Tue 15/10/19               | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 89     | 3D Photogrametry Model   | 46 days                 | 46 days             | 0 days                | 100%                   | Mon 16/9/19                | Thu 31/10/19            | Mon 16/9/19           | Thu 31/10/19 Mor                | n 16/9/19  | Thu 31/10/19               | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 90     | AIP Model  | 16.92 day               | 16.92 days          | 0 days                | 100%                   | Fri 6/9/19                 | Sun 22/9/19             | Fri 6/9/19            | Sun 22/9/19 Fri                 | 6/9/19     | Sun 22/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 91     | Interfacing Contract Model   | 53 days                 | 53 days             | 0 days                | 100%                   | Mon 9/9/19                 | Thu 31/10/19            | Mon 9/9/19            | Thu 31/10/19 Mor                | n 9/9/19   | Thu 31/10/19               | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 92     | Monthly Updated BIM Model  | 1 day                   | 1 day               | 0 days                | 100%                   | Thu 31/10/19               | Thu 31/10/19            | Thu 31/10/19          | Thu 31/10/19 Thu                | 1 31/10/19 | Thu 31/10/19               | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 93     | 4D Model Linked Up with Programme  | 0 days                  |                     | 0 days                | 100%                   | Thu 30/4/20                |                         |                       | Thu 30/4/20 Thu                 |            |                            | 0 days           |          |              | ♦ 30/4                          |  |       |                |                   |             |             |               |         |
| 94     | Construction Method Simulation (CMS) in 3D Model   | 0 days                  |                     | 0 days                | 100%                   | Wed 22/4/20                |                         |                       | Wed 22/4/20 Wed                 |            | Wed 22/4/20                | 0 days           |          |              | <b>♦</b> 22/4                   |  |       |                |                   |             |             |               |         |
| 95     | BIM Deliverables Schedule  | 896 days                |                     | 892.28 days           | 0%                     | Thu 16/5/19                |                         | 1 Thu 16/5/19         |                                 |            | Tue 11/1/22                | 76 days          | - uu     |              | - 22/1                          |  |       |                |                   |             |             |               |         |
| 96     | Establish BIM Team   | 0 days                  |                     | 0 days                | 100%                   | Sat 3/8/19                 | Sat 3/8/19              | Sat 3/8/19            |                                 | 3/8/19     | Sat 3/8/19                 | 0 days           | 1 day    |              |                                 |  |       | '              |                   |             |             |               |         |
| 97     | BIM Execution Plan   |                         |                     |                       | 100%                   | Sat 31/8/19                | Sat 31/8/19             | Sat 31/8/19           | Sat 31/8/19 Sat                 |            | Sat 31/8/19                |                  |          |              |                                 |  |       |                |                   |             |             |               |         |
|        |  | 0 days                  |                     | 0 days                |                        |                            |                         |                       |                                 |            |                            | 0 days           |          |              |                                 |  |       |                |                   |             |             |               |         |
| 98     | BIM Submission Schedule  | 0 days                  |                     | 0 days                | 100%                   | Fri 16/8/19                | Fri 16/8/19             | Fri 16/8/19           | Fri 16/8/19 Fri                 |            | Fri 16/8/19                | 0 days           | _        |              |                                 |  |       |                |                   |             |             |               |         |
| 99     | BIM 360 License  | 0 days                  |                     | 0 days                | 100%                   | Sat 31/8/19                | Sat 31/8/19             | Sat 31/8/19           | Sat 31/8/19 Sat                 |            | Sat 31/8/19                | 0 days           |          |              |                                 |  |       |                |                   |             |             |               |         |
| .00    | BIM/Drawing Management Software System   | 0 days                  |                     | 0 days                | 100%                   | Sat 31/8/19                | Sat 31/8/19             | Sat 31/8/19           | Sat 31/8/19 Sat                 |            | Sat 31/8/19                | 0 days           |          |              |                                 |  |       |                |                   |             |             |               |         |
| 101    | CDE Setup  |                         | 1 day               | 0 days                | 100%                   | Sat 31/8/19                | Mon 9/9/19              | Sat 31/8/19           | Mon 9/9/19 Sat                  |            | Mon 9/9/19                 | 0 days           | _        |              |                                 |  |       |                |                   |             |             |               |         |
| 102    | Clash Report Format  | 0 days                  | 0 days              | 0 days                | 100%                   | Thu 12/9/19                |                         |                       | Thu 12/9/19 Thu                 |            | Thu 12/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 103    | Monthly Report Format  | 0 days                  | 0 days              | 0 days                | 100%                   | Thu 12/9/19                | Thu 12/9/19             | Thu 12/9/19           | Thu 12/9/19 Thu                 | 1 12/9/19  | Thu 12/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| .04    | Quality Assurance Plan for BIM   | 0 days                  | 0 days              | 0 days                | 100%                   | Mon 30/9/19                | Mon 30/9/19             | Mon 30/9/19           | Mon 30/9/19 Mon                 | n 30/9/19  | Mon 30/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 105    | BIM Training Plan  | 0 days                  | 0 days              | 0 days                | 100%                   | Thu 10/10/19               | Thu 10/10/19            | Thu 10/10/19          | Thu 10/10/19 Thu                | 10/10/19   | Thu 10/10/19               | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 06     | BIM Training Schedule for CIC Training   | 0 days                  | 0 days              | 0 days                | 100%                   | Mon 30/9/19                | Mon 30/9/19             | Mon 30/9/19           | Mon 30/9/19 Mon                 | n 30/9/19  | Mon 30/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| .07    | Monthly BIM Progress Report  | 0 days                  | 0 days              | 0 days                | 100%                   | Thu 16/5/19                | Tue 31/12/19            | Thu 16/5/19           | Tue 31/12/19 Thu                | 16/5/19    | Tue 31/12/19               | 0 days           | 1 day    |              | ,                               |  |       |                |                   |             |             |               |         |
| 108    | Monthly Clash Report   | 1 day                   | 1 day               | 0 days                | 100%                   | Tue 31/3/20                | Tue 31/3/20             | Tue 31/3/20           | Tue 31/3/20 Tue                 | 31/3/20    | Tue 31/3/20                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 109    | BIM Object Libraries   | 1 day                   | 1 day               | 0 days                | 100%                   | Thu 12/9/19                | Thu 12/9/19             | Thu 12/9/19           | Thu 12/9/19 Thu                 | 12/9/19    | Thu 12/9/19                | 0 days           | 1 day    |              |                                 |  |       |                |                   |             |             |               |         |
| 110    | Trees Preservation and Removal Proposal (TPRP) for tress along promenade open space Submission   | e 0 days                | 0 days              | 0 days                | 0%                     | Mon 2/11/20                | Mon 2/11/20             | NA                    | NA Sun                          | 17/1/21    | Sun 17/1/21                | 63 days          | 1 day    |              |                                 | 2/11   |       |                |                   |             |             |               |         |
| 11     | Trees Preservation and Removal Proposal (TPRP) for tress along promenade open space Submission Comment & Approval by Relevant Government Authories | e 360 days              | 0 days              | 360 days              | 0%                     | Mon 2/11/20                | Wed 27/10/2             | 1 NA                  | NA Sun                          | 17/1/21    | Tue 11/1/22                | 76 days          | 1 day    | 110          |                                 |  |       |                |                   |             |             |               |         |
| 12     | Trees Preservation and Removal Proposal (TPRP) for tress along Sing Kai Submission   | 0 days                  | 0 days              | 0 days                | 0%                     | Fri 31/7/20                | Fri 31/7/20             | NA                    | NA Wed                          | d 30/9/20  | Wed 30/9/20                | 52 days          | 1 day    |              |                                 | 31/7   |       |                |                   |             |             |               |         |
| 113    | Trees Preservation and Removal Proposal (TPRP) for tress along Sing Kai Road Submission Comment & Approval by Relevant Government Authories        | 360 days                | 0 days              | 360 days              | 0%                     | Fri 31/7/20                | Sun 25/7/21             | NA                    | NA Wed                          | d 30/9/20  | Fri 24/9/21                | 61 days          | 1 day    | 112          |                                 |  |       |                |                   |             |             |               |         |
| 14     | Temporary Traffic Management   | 478 days                | 447.84 days         | 30.16 days            | 0%                     | Thu 30/5/19                | Fri 18/9/20             | Thu 30/5/19           | NA Thu                          | 1 30/5/19  | Fri 25/9/20                | 7 days           |          |              |                                 | +  |       |                |                   |             |             |               |         |
| 115    | Submit Traffic Engineering Consultant and TTM Team Leader (PS1.16(3))  | 14 days                 | 14 days             | 0 days                | 100%                   | Thu 30/5/19                | Wed 12/6/19             | Thu 30/5/19           | Wed 12/6/19 Thu                 | 1 30/5/19  | Wed 12/6/19                | 0 days           | 1 day    | 4            |                                 |  |       |                |                   |             |             |               |         |
| 16     | Submit EP Mgt System Co-ordinator (PS Cl. 1.18N(2))  | 7 days                  | 7 days              | 0 days                | 100%                   | Thu 30/5/19                | Wed 5/6/19              | Thu 30/5/19           | Wed 5/6/19 Thu                  | 1 30/5/19  | Wed 5/6/19                 | 0 days           | 1 day    | 4            |                                 |  |       |                |                   |             |             |               |         |
| 117    | Approve of EP Co-ordinator by Project Manager (PS Cl. 1.18N(2))  | 14 days                 | 14 days             | 0 days                | 100%                   | Thu 6/6/19                 | Wed 19/6/19             | Thu 6/6/19            | Wed 19/6/19 Thu                 | 1 6/6/19   | Wed 19/6/19                | 0 days           | 1 day    | 116          |                                 |  |       |                |                   |             |             |               |         |
| 18     | Submit UU detection equipment for Supervisor approval (PS Cl. 1.25A(1))  | 7 days                  | 7 days              | 0 days                | 100%                   | Thu 30/5/19                | Wed 5/6/19              | Thu 30/5/19           | Wed 5/6/19 Thu                  | 1 30/5/19  | Wed 5/6/19                 | 0 days           | 1 day    | 4            |                                 |  |       |                |                   |             |             |               |         |
| 19     | Submit & obtain approval: site office's location and layout plan (PS Cl. 1.45(11)) (7d   | 47 days                 | 47 days             | 0 days                | 100%                   | Thu 30/5/19                | Fri 18/10/19            | Thu 30/5/19           | Fri 18/10/19 Thu                | 1 30/5/19  | Fri 18/10/19               | 0 days           | 1 day    | 4            |                                 |  |       |                |                   |             |             |               |         |
| .20    | submission + 14d approval) Submit Site survey record (PS Cl.1.47(7))   | 34 days                 |                     | 0 days                | 100%                   | Thu 30/5/19                | Tue 2/7/19              | Thu 30/5/19           | Tue 2/7/19 Thu                  |            | Tue 2/7/19                 |                  | 1 day    | 4            |                                 |  |       |                |                   |             |             |               |         |
| 21     | Submit & obtain approval: fencing & hoarding plan (PS Cl. 1.48(10)   | 40 days                 |                     | 40 days               | 0%                     | Mon 10/8/20                |                         | NA                    |                                 |            | Fri 25/9/20                |                  | 0.5 days | 4            |                                 |  |       |                |                   |             |             |               |         |
| 22     | Submit site facilities (PS Cl. 1.50S)  | 65 days                 |                     | 0 days                | 100%                   | Thu 30/5/19                | Fri 2/8/19              | Thu 30/5/19           |                                 |            | Fri 2/8/19                 |                  | 0.5 days |              |                                 |  |       |                |                   |             |             |               |         |
| 23     | Submit security system (PS Cl. 1.53A(5))   | 36 days                 |                     | 0 days                | 100%                   | Thu 30/5/19                | Thu 4/7/19              |                       | Thu 4/7/19 Thu                  |            | Thu 4/7/19                 |                  | 0.5 days | 4            |                                 |  |       |                |                   |             |             |               |         |
| 24     | Submit Interface Management Plan (PS Cl. 1.89(2))  | 47 days                 |                     | 0 days                | 100%                   | Thu 30/5/19                |                         |                       | Mon 15/7/19 Thu                 |            | Mon 15/7/19                |                  | 0.5 days | 4            | $\parallel \parallel \parallel$ |  |       |                |                   |             |             |               |         |
| 25     | Submit Subcontractor Management Plan (ACC Cl. C5(1))   | 13 days                 |                     | 0 days                | 100%                   | Thu 30/5/19                |                         |                       | Tue 11/6/19 Thu                 |            | Tue 11/6/19                |                  | 0.5 days |              |                                 |  |       |                |                   |             |             |               |         |
| .25    | Submit Temporary Drainage and Sewerage Management Plan (PS Cl. 1.24A(1))   | 174 days                |                     |                       | 100%                   | Thu 30/5/19                |                         |                       | Tue 19/11/19 Thu                |            | Tue 19/11/19               |                  |          | 4            |                                 |  |       |                |                   |             |             |               |         |
|        |  |                         |                     | 0 days                |                        |                            |                         |                       |                                 |            |                            |                  |          | 4            |                                 |  |       |                |                   |             |             |               |         |
| 127    | Submit EM&A Manual (ER Part 8, Cl. 8.2)  | 6 days                  |                     | 0 days                | 100%                   | Thu 30/5/19                | Tue 4/6/19              |                       | Tue 4/6/19 Thu                  |            | Tue 4/6/19                 | 0 days           |          | 4            |                                 |  |       |                |                   |             |             |               |         |
| 128    | Submit Proposal of selection of suppliers of Plant and Materials (ACC Cl. C11(1)  Submit Contractor's Management Team (ACC Cl. D1(3))              | 80 days<br>50 days      |                     | 0 days                | 100%                   | Thu 30/5/19<br>Thu 30/5/19 | Sat 17/8/19 Thu 18/7/19 |                       | Sat 17/8/19 Thu Thu 18/7/19 Thu |            | Sat 17/8/19<br>Thu 18/7/19 | 0 days<br>0 days |          | 4            |                                 |  |       |                |                   |             |             |               |         |
|        |  |                         |                     |                       |                        |                            | 23,112)                 |                       |                                 |            |                            | ,                |          |              |                                 | <u>                                     </u> |       |                | 10.5              |             |             |               |         |
|        | ev.11 Prog with Progress Split   | Summary<br>Project Sumr | nary                |                       | Inactive Mi            |                            |                         | Duration-o  Manual Su | nly<br>mmary Rollup             |            | Start-only Finish-only     |                  | ]        |              | ternal Milestor<br>adline       | ıe ♦<br>♣                                    |       | Critic<br>Prog | cal Split<br>ress |             |             |               |         |
| ot 2 ہ | 2-May-20   | Inactive Task           |                     |                       | Manual Ta              |                            |                         | Manual Su             |                                 |            | External Task              | re.              |          |              | itical                          |  |       |                | ual Progress      |             |             |               |         |



|      |  |                      |                     |                |                      | Con          | tract No. ED, | /2018/01 KT    | D Project    |               |                  |          |               |                                  |          |            |             |             |             |         |        |
|------|--|----------------------|---------------------|----------------|----------------------|--------------|---------------|----------------|--------------|---------------|------------------|----------|---------------|----------------------------------|----------|------------|-------------|-------------|-------------|---------|--------|
|      | Task Name  | Duration Actual      | Remaining           | Physical %     | Early Start          |              | Actual Start  |                |              | Late Finish   |                  | TRA      | Predecessors  | 2020                             |          |            | 2021        | 2022        | 2   61   51 | 2023    |        |
| 75   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | Duration 50 days     | Duration<br>50 days | Complete<br>0% | Sun 27/9/20          | Sun 15/11/20 | NA            | NA             | Thu 15/10/20 | Thu 3/12/20   | Slack<br>18 days | 3 days   | 174           | Q2 Q                             | 3 Q4     | Q1 Q2      | Q3   Q4     | Q1   Q2   Q | 3 Q4 Q1     | Q2   Q3 | Q4   Q |
| 76   | Noise barrier fronting to 4B5 at Rd D3A & Bus Lay By (Section 5&9)   | 338 days 215.23 days |                     | 0%             | Mon 4/11/19          | Tue 6/10/20  | Mon 4/11/19   |                | Mon 4/11/19  | Wed 7/10/20   | 1 day            |          |               |                                  | <b></b>  |            |             |             |             |         |        |
| 77   | Prepare AIP Submission (Draft)   | 38 days 38 days      | 0 days              | 100%           | Mon 4/11/19          |              | 9 Mon 4/11/19 |                |              | Wed 11/12/19  | 0 days           | 2 days   |               |                                  |          |            |             |             |             |         |        |
| 78   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 167 days 162 days    | 5 days              | 97%            | Thu 12/12/19         |              | Thu 12/12/19  |                | Thu 12/12/19 | Wed 27/5/20   | 1 day            | 2 days   | 177           |                                  |          |            |             |             |             |         |        |
|      |  |                      |                     |                |                      |              |               |                |              |               |                  |          |               |                                  |          |            |             |             |             |         |        |
| 79   | Prepare AIP and ICE certification (Final)  | 56 days 31 days      | 25 days             | 55%            | Wed 22/4/20          | Tue 16/6/20  | Wed 22/4/20   |                | Wed 22/4/20  | Wed 17/6/20   | 1 day            | 0.5.1    | 178FF+21 days |                                  |          |            |             |             |             |         |        |
| 80   | Prepare DDA Subm (Draft)   | 18 days 18 days      | 0 days              | 100%           | Wed 1/4/20           | Sat 18/4/20  | Wed 1/4/20    |                | Wed 1/4/20   | Sat 18/4/20   |                  | 0.5 days |               |                                  |          |            |             |             |             |         |        |
| 81   | Submit & endorse by PM   | 55 days 35 days      | 20 days             | 64%            | Sat 18/4/20          | Thu 11/6/20  | Sat 18/4/20   | NA             | Sat 18/4/20  | Thu 6/8/20    | 56 days          |          | 180           |                                  |          |            |             |             |             |         |        |
| 32   | Submit & endorse by Statutory Authorities/Gov. Dept  | 50 days 0 days       | 50 days             | 0%             | Wed 17/6/20          | Wed 5/8/20   | NA            | NA             | Thu 18/6/20  | Thu 6/8/20    | 1 day            |          | 180,179       |                                  |          |            |             |             |             |         |        |
| 33   | Prepare DDA for and ICE certification (Final) (Original Contract Scope)  | 12 days 0 days       | 12 days             | 0%             | Thu 6/8/20           | Mon 17/8/20  | NA            | NA             | Fri 7/8/20   | Tue 18/8/20   | 1 day            | 1 days   | 181,182       |                                  |          |            |             |             |             |         |        |
| 84   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days 0 days       | 50 days             | 0%             | Tue 18/8/20          | Tue 6/10/20  | NA            | NA             | Wed 19/8/20  | Wed 7/10/20   | 1 day            | 1 days   | 183           |                                  |          |            |             |             |             |         |        |
| 85   | Decking for Underpass (Rd L14)   | 304 days 0 days      | 304 days            | 0%             | Mon 20/7/20          | Wed 19/5/21  | NA            | NA             | Fri 31/7/20  | Sun 30/5/21   | 11 days          |          |               |                                  |          | +++++      |             |             |             |         |        |
| 6    | Structure Prepare AIP and ICE certification (Draft)  | 25 days 0 days       | 25 days             | 0%             | Mon 20/7/20          | Thu 13/8/20  | NA            | NA             | Fri 31/7/20  | Mon 24/8/20   | 11 days          | 3 days   | 44FF+12 days  |                                  | 4        |            |             |             |             |         |        |
| 37   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days 0 days       | 50 days             | 0%             | Fri 14/8/20          | Fri 2/10/20  | NA            | NA             | Tue 25/8/20  | Tue 13/10/20  | 11 days          | 0.5 days | 186           | -          i                     |          |            |             |             |             |         |        |
| 38   | Prepare AIP and ICE certification (Final)  | 15 days 0 days       | 15 days             | 0%             | Sat 3/10/20          | Sat 17/10/20 | NA            | NA             | Wed 14/10/20 | Wed 28/10/20  | 11 days          | 1 day    | 186,187       |                                  |          |            |             |             |             |         |        |
| 9    | Prepare DDA and ICE certification (Draft)  | 89 days 0 days       | 89 days             | 0%             | Sun 18/10/20         | Thu 14/1/21  | NA            | NA             | Thu 29/10/20 | Mon 25/1/21   | 11 days          | 1 day    | 186,188       |                                  |          |            |             |             |             |         |        |
| 10   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days 0 days       | 50 days             | 0%             | Fri 15/1/21          | Fri 5/3/21   | NA            | NA             | Tue 26/1/21  | Tue 16/3/21   |                  | 0.5 days |               |                                  |          |            |             |             |             |         |        |
| 1    | Prepare DDA and ICE certification (Final)  | 25 days 0 days       | 25 days             | 0%             | Sat 6/3/21           | Tue 30/3/21  |               | NA             | Wed 17/3/21  | Sat 10/4/21   | 11 days          |          | 190           | $+\parallel\parallel\parallel$   |          |            |             |             |             |         |        |
| 2    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days 0 days       | 50 days             | 0%             | Wed 31/3/21          | Wed 19/5/21  |               | NA             | Sun 11/4/21  | Sun 30/5/21   |                  |          | 191           | -                                |          |            |             |             |             |         |        |
|      |  |                      |                     | 0%             |                      |              |               |                |              |               | 11 days          | 1 uay    | 171<br>A      |                                  |          |            |             |             |             |         |        |
| 3    | Road D3 Bridge & Approach Ramps  | 439 days 358.08 days |                     |                | Thu 30/5/19          |              | Thu 30/5/19   |                | Thu 30/5/19  | Thu 8/10/20   | 59 days          |          | 4             |                                  |          |            |             |             |             |         |        |
| 4    | D3 Bridge Substructure   | 439 days 358.08 days | s 80.92 days        | 0%             | Thu 30/5/19          | Mon 10/8/20  |               |                | Thu 30/5/19  | Thu 8/10/20   | 59 days          |          |               |                                  |          |            |             |             |             |         |        |
| 5    | Prepare AIP and ICE certification (Draft)  | 66 days 66 days      | 0 days              | 100%           | Thu 30/5/19          | Sat 3/8/19   | Thu 30/5/19   | Sat 3/8/19     | Thu 30/5/19  | Sat 3/8/19    | 0 days           | 3 days   | 4             |                                  |          |            |             |             |             |         |        |
| 6    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 15 days 15 days      | 0 days              | 100%           | Mon 5/8/19           | Mon 19/8/19  | Mon 5/8/19    | Mon 19/8/19    | Mon 5/8/19   | Mon 19/8/19   | 0 days           | 1 days   | 195,138       |                                  |          |            |             |             |             |         |        |
| 7    | Prepare AIP and ICE certification (Final)  | 30 days 30 days      | 0 days              | 100%           | Mon 23/12/19         | Tue 21/1/20  | Mon 23/12/19  | Tue 21/1/20    | Mon 23/12/19 | Tue 21/1/20   | 0 days           | 0 days   | 195,196       |                                  |          |            |             |             |             |         |        |
| 8    | Prepare DDA and ICE certification (Draft)  | 106 days 106 days    | 0 days              | 100%           | Fri 19/7/19          | Sun 17/11/19 | Fri 19/7/19   | Sun 17/11/19   | Fri 19/7/19  | Sun 17/11/19  | 0 days           | 5 days   | 195           |                                  |          |            |             |             |             |         |        |
| 99   | Submit & endorse by PM   | 17 days 17 days      | 0 days              | 100%           | Wed 20/11/19         | Fri 6/12/19  | Wed 20/11/19  | Fri 6/12/19    | Wed 20/11/19 | Fri 6/12/19   | 0 days           | 3 days   | 198           |                                  |          |            |             |             |             |         |        |
| 0    | Submit & endorse by Statutory Authorities/Gov. Dept  | 45 days 45 days      | 0 days              | 100%           | Fri 24/1/20          | Wed 18/3/20  | Fri 24/1/20   | Wed 18/3/20    | Fri 24/1/20  | Wed 18/3/20   | 0 days           | 1 days   | 198           |                                  |          |            |             |             |             |         |        |
| )1   | Prepare DDA for and ICE certification (Include P02-BP2 Remedial Pile)  | 105 days 75 days     | 30 days             | 71%            | Mon 9/3/20           | Sun 21/6/20  | Mon 9/3/20    | NA             | Mon 9/3/20   | Wed 19/8/20   | 59 days          | 1 days   | 200           |                                  |          |            |             |             |             |         |        |
| )2   | (Contractor Bear DDA Approval Risk)  Submit & endorse by PM and Statutory Authorities/Gov. Dept (Contractor Bear | 50 days 0 days       | 50 days             | 0%             | Mon 22/6/20          | Mon 10/8/20  | NA            | NA             | Thu 20/8/20  | Thu 8/10/20   | 59 days          | 1 days   | 201           | -                                | 44       |            |             |             |             |         |        |
| 03   | DDA Approval Risk) D3 Bridge Superstructure  | 728 days 370.67 days | s 357.33 days       | 0%             | Thu 30/5/19          | Wed 26/5/21  | Thu 30/5/19   | NA             | Thu 30/5/19  | Wed 21/7/21   | 56 days          |          |               |                                  |          |            |             |             |             |         |        |
| )4   | Prepare AIP and ICE certification (Draft)  | 101 days 101 days    | 0 days              | 100%           | Thu 30/5/19          | Sat 7/9/19   | Thu 30/5/19   |                | Thu 30/5/19  | Sat 7/9/19    | 0 days           | 1 day    |               |                                  |          |            |             |             |             |         |        |
| 05   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 19 days 19 days      | 0 days              | 100%           | Mon 9/9/19           | Fri 27/9/19  |               | Fri 27/9/19    |              | Fri 27/9/19   |                  |          | 204           |                                  |          |            |             |             |             |         |        |
|      |  |                      |                     |                |                      |              |               |                |              |               |                  |          |               |                                  |          |            |             |             |             |         |        |
| )6   | Prepare AIP and ICE certification (Final)  | 135 days 135 days    | 0 days              | 100%           | Wed 20/11/19         |              |               | 7 Thu 2/4/20   |              | Thu 2/4/20    |                  |          | 205           |                                  |          |            |             |             |             |         |        |
| )7   | Prepare DDA and ICE certification (Draft)  | 222 days 222 days    | 0 days              | 100%           | Fri 19/7/19          | Tue 25/2/20  |               | Tue 25/2/20    |              | Tue 25/2/20   | 0 days           | 3 days   | 205           |                                  |          |            |             |             |             |         |        |
| 8    | Submit & endorse by PM   | 23 days 23 days      | 0 days              | 100%           | Wed 26/2/20          | Thu 19/3/20  | Wed 26/2/20   | Thu 19/3/20    | Wed 26/2/20  | Thu 19/3/20   | 0 days           | 2 days   | 207           |                                  |          |            |             |             |             |         |        |
| )9   | Submit & endorse by Statutory Authorities/Gov. Dept  | 50 days 0 days       | 50 days             | 0%             | Mon 29/6/20          | Mon 17/8/20  | NA            | NA             | Thu 16/7/20  | Thu 3/9/20    | 17 days          | 2 days   | 207,206FF+12  | d                                |          |            |             |             |             |         |        |
| 10   | Prepare DDA for and ICE certification (Final)  | 21 days 0 days       | 21 days             | 0%             | Tue 18/8/20          | Mon 7/9/20   | NA            | NA             | Fri 4/9/20   | Thu 24/9/20   | 17 days          | 1 days   | 208,206,209   |                                  |          |            |             |             |             |         |        |
| 1    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days 0 days       | 50 days             | 0%             | Tue 8/9/20           | Tue 27/10/20 | NA            | NA             | Fri 25/9/20  | Fri 13/11/20  | 17 days          | 2 days   | 210           | 1                                |          | $\  \  \ $ |             |             |             |         |        |
| 12   | Prepare AIP (E&M works) and ICE certification (Draft)  | 32 days 0 days       | 32 days             | 0%             | Thu 2/7/20           | Sun 2/8/20   | NA            | NA             | Thu 27/8/20  | Sun 27/9/20   | 56 days          | 2 days   |               | 1                                |          |            |             |             |             |         |        |
| 13   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 62 days 0 days       | 62 days             | 0%             | Mon 3/8/20           | Sat 3/10/20  | NA            | NA             | Mon 28/9/20  | Sat 28/11/20  | 56 days          | 2 days   | 212           |                                  |          |            |             |             |             |         |        |
| 14   | Prepare AIP (E&M works) and ICE certification (Final)  | 32 days 0 days       | 32 days             | 0%             | Sun 4/10/20          | Wed 4/11/20  | NA            | NA             | Sun 29/11/20 | Wed 30/12/20  | 56 days          | 2 days   | 213           | $+\parallel \parallel \parallel$ |          |            |             |             |             |         |        |
| 15   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 62 days 0 days       | 62 days             | 0%             | Thu 5/11/20          | Tue 5/1/21   |               | NA             | Thu 31/12/20 | Tue 2/3/21    | 56 days          |          | 214           | $+\parallel\parallel\parallel$   |          |            |             |             |             |         |        |
| 16   | Prepare DDA (E&M works) and ICE certification (Draft)  | 32 days 0 days       | 32 days             | 0%             | Sat 5/12/20          |              | NA            | NA             | Sat 30/1/21  | Tue 2/3/21    | 56 days          |          | 215FF         | $+\parallel\parallel\parallel$   |          |            |             |             |             |         |        |
|      |  |                      |                     | 0%             |                      |              |               |                |              |               |                  |          |               |                                  |          |            |             |             |             |         |        |
| 17   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 62 days 0 days       | 62 days             |                | Wed 6/1/21           | Mon 8/3/21   |               | NA             | Wed 3/3/21   | Mon 3/5/21    | 56 days          |          | 216           |                                  |          |            |             |             |             |         |        |
| 18   | Prepare DDA (E&M works) and ICE certification (Final)  | 17 days 0 days       | 17 days             | 0%             | Tue 9/3/21           | Thu 25/3/21  |               | NA             | Tue 4/5/21   | Thu 20/5/21   | 56 days          |          | 217           |                                  |          |            |             |             |             |         |        |
| 19   | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 62 days 0 days       | 62 days             | 0%             | Fri 26/3/21          | Wed 26/5/21  | NA            | NA             | Fri 21/5/21  | Wed 21/7/21   | 56 days          | 2 days   | 218           |                                  |          |            |             |             |             |         |        |
| و. Þ | Lev.11 Prog with Progress  | Summary              |                     | Inactive M     | lilestone $\Diamond$ |              | Duration-or   | nly            |              | Start-only    |                  | С        | Ex            | ternal Milestor                  |          |            | Critical Sp | lit         |             |         |        |
|      | 22-May-20  | Project Summary      |                     | Inactive Su    |                      |              |               | mmary Rollup   |              | Finish-only   |                  | 3        |               | adline                           | <u>+</u> |            | Progress    | _           |             |         |        |
|      | Milestone ◆  | Inactive Task        |                     | Manual Ta      | ISK                  |              | Manual Su     | mmary <b>F</b> |              | External Task | S                |          | Cri           | tical                            |          |            | Manual Pro  | ogress      |             |         |        |

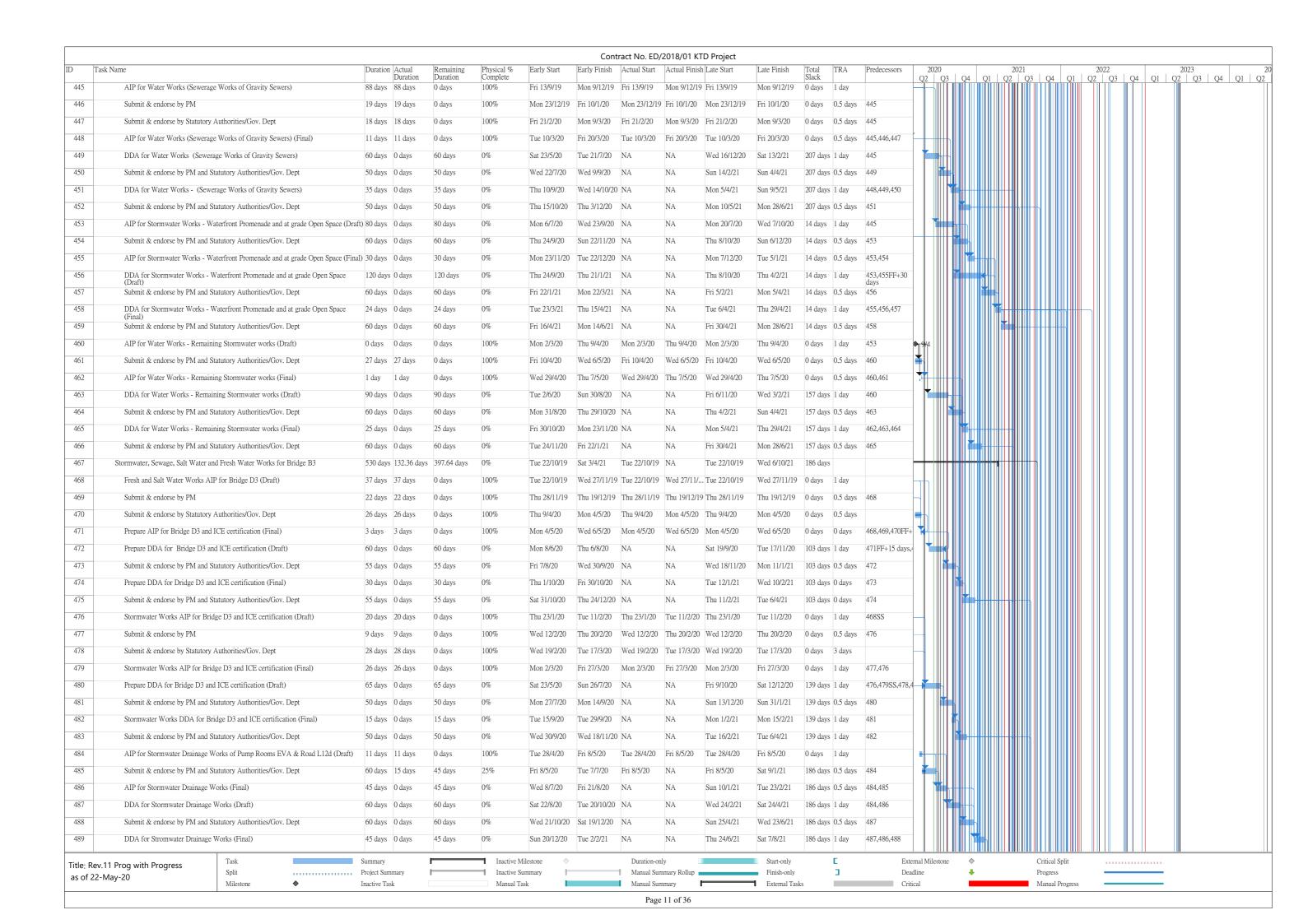
|      |  |                            |                       |                        |              | Con          | tract No. ED,           | /2018/01 KT                  | TD Project   |                        |                |          |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
|------|--|----------------------------|-----------------------|------------------------|--------------|--------------|-------------------------|------------------------------|--------------|------------------------|----------------|----------|---------------|--------------------------------|--------|----------|----------|---|----------------------|---------|--------|-------|-----------------|--------|-----------|
| -    | Task Name  | Duration Actual Duration   | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start            | Actual Finis                 | h Late Start | Late Finish            | Total<br>Slack | TRA      | Predecessors  | 2020<br>Q2                     |        | M 0      | 2        | 021   | 04                   | 21   2  | 2022   | 04 01 | 2023<br>Q2   Q3 | 04     |           |
| 20   | D3 North Approach Ramp (Structure)                                   | 398 days 348.95 days       |                       | 0%                     | Mon 3/6/19   | Sat 4/7/20   | Mon 3/6/19              | NA                           | Mon 3/6/19   | Thu 8/10/20            | 96 days        |          |               | QZ                             | δυ (   | 24   Q!  | Q2       | T Q3  | <u>V</u> 4 (         | Z1   Q. | 2   Q3 | V4 VI | Q2   Q3         | Q4   ( | <u>11</u> |
| 21   | Prepare AIP and ICE certification (Draft))                           | 51 days 51 days            | 0 days                | 100%                   | Mon 3/6/19   | Tue 23/7/19  | Mon 3/6/19              | Tue 23/7/19                  | Mon 3/6/19   | Tue 23/7/19            | 0 days         | 3 days   | 4             |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 22   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 100 days 100 days          | 0 days                | 100%                   | Thu 25/7/19  | Fri 1/11/19  | Thu 25/7/19             | Fri 1/11/19                  | Thu 25/7/19  | Fri 1/11/19            | 0 days         | 1 days   | 221           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 23   | Prepare AIP and ICE certification (Final)                            | 14 days 14 days            | 0 days                | 100%                   | Tue 6/8/19   | Thu 19/12/19 | Tue 6/8/19              | Thu 19/12/19                 | 9 Tue 6/8/19 | Thu 19/12/19           | 0 days         | 0 days   | 221,222       |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 224  | Prepare DDA (Draft) with ICE certification                           | 66 days 66 days            | 0 days                | 100%                   | Fri 19/7/19  | Thu 20/2/20  | Fri 19/7/19             | Thu 20/2/20                  | Fri 19/7/19  | Thu 20/2/20            | 0 days         | 5 days   | 221,223FF     |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 225  | Submit & endorse by PM/Statutory Authorities/Gov. Dept               | 31 days 31 days            | 0 days                | 100%                   | Mon 20/1/20  | Mon 23/3/20  | Mon 20/1/20             | Mon 23/3/20                  | Mon 20/1/20  | Mon 23/3/20            | 0 days         | 3 days   | 224           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 26   | Prepare DDA for and ICE certification (Final)                        | 45 days 45 days            | 0 days                | 100%                   | Wed 1/4/20   | Fri 15/5/20  | Wed 1/4/20              | Fri 15/5/20                  | Wed 1/4/20   | Fri 15/5/20            | 0 days         |          | 225           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 27   | Submit & endorse by PM/Statutory Authorities/Gov. Dept               | 50 days 6 days             | 44 days               | 12%                    | Sat 16/5/20  | Sat 4/7/20   | Sat 16/5/20             | NA                           | Sat 16/5/20  | Thu 8/10/20            | 96 days        | 0.5 days | 226           |                                |        | +        |          |   |                      |         |        |       |                 |        |           |
| 28   | D3 North Approach Ramp (E&M Works)                                   | 329 days 0 days            | 329 days              | 0%                     | Thu 2/7/20   | Wed 26/5/21  | NA                      | NA                           | Fri 27/11/20 | Thu 21/10/21           | 148 days       |          |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 29   | Prepare AIP (E&M works) and ICE certification (Draft)                | 32 days 0 days             | 32 days               | 0%                     | Thu 2/7/20   | Sun 2/8/20   | NA                      | NA                           | Fri 27/11/20 | Mon 28/12/20           | 148 days       | 2 days   |               |                                | h III  |          |          |   |                      |         |        |       |                 |        |           |
| 30   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 62 days 0 days             | 62 days               | 0%                     | Mon 3/8/20   | Sat 3/10/20  | NA                      | NA                           | Tue 29/12/20 | Sun 28/2/21            | 148 days       | 2 days   | 229           | -                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 31   | Prepare AIP (E&M works) and ICE certification (Final)                | 32 days 0 days             | 32 days               | 0%                     | Sun 4/10/20  | Wed 4/11/20  | NA                      | NA                           | Mon 1/3/21   | Thu 1/4/21             | 148 days       | 2 days   | 230           | -                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 32   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 62 days 0 days             | 62 days               | 0%                     | Thu 5/11/20  | Tue 5/1/21   | NA                      | NA                           | Fri 2/4/21   | Wed 2/6/21             | 148 days       | 2 days   | 231           | -                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 33   | Prepare DDA (E&M works) and ICE certification (Draft)                | 32 days 0 days             | 32 days               | 0%                     | Sat 5/12/20  | Tue 5/1/21   | NA                      | NA                           | Sun 2/5/21   | Wed 2/6/21             | 148 days       | 2 days   | 232FF         | -                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 34   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 62 days 0 days             | 62 days               | 0%                     | Wed 6/1/21   | Mon 8/3/21   | NA                      | NA                           | Thu 3/6/21   | Tue 3/8/21             | 148 days       | 2 days   | 233           | -                              |        |          | <b>.</b> |   |                      |         |        |       |                 |        |           |
| 35   | Prepare DDA (E&M works) and ICE certification (Final)                | 17 days 0 days             | 17 days               | 0%                     | Tue 9/3/21   | Thu 25/3/21  |                         | NA                           | Wed 4/8/21   | Fri 20/8/21            | 148 days       |          | 234           | -                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 36   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 62 days 0 days             | 62 days               | 0%                     | Fri 26/3/21  | Wed 26/5/21  |                         | NA                           | Sat 21/8/21  | Thu 21/10/21           | 148 days       |          | 235           | -                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 37   | D3 South Approach Ramp   | 507 days 322.64 days       |                       | 0%                     | Thu 30/5/19  |              | Thu 30/5/19             |                              | Thu 30/5/19  | Tue 16/2/21            | 122 days       | 2 411) 5 |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 38   | Prepare AIP and ICE certification (Draft)                            | 96 days 96 days            | 0 days                | 100%                   | Thu 30/5/19  | Mon 2/9/19   | Thu 30/5/19             |                              |              | Mon 2/9/19             | 0 days         | 3 days   |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 39   |  |                            |                       |                        |              |              |                         |                              |              |                        |                |          | 220           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
|      | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 35 days 35 days            | 0 days                | 100%                   | Wed 25/9/19  |              | Wed 25/9/19             |                              |              | Tue 29/10/19           | 1              | 1 day    | 238           | _                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 10   | Prepare AIP Submission (Final)                                       | 76 days 76 days            | 0 days                | 100%                   | Fri 7/2/20   |              | Fri 7/2/20              | Mon 4/5/20                   |              | Mon 4/5/20             |                | 1 day    | 238,239       |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 41   | Prepare DDA and ICE certification (Draft)                            | 50 days 50 days            | 0 days                | 100%                   | Wed 1/4/20   |              | Wed 1/4/20              | Wed 20/5/20                  |              | Wed 20/5/20            | 0 days         | -        | 240FF+15 days |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 242  | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 60 days 2 days             | 58 days               | 3%                     | Thu 21/5/20  |              | Thu 21/5/20             |                              | Thu 21/5/20  | Wed 18/11/20           | -              |          | 238,241       |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 43   | Prepare DDA for and ICE certification (Final)                        | 30 days 0 days             | 30 days               | 0%                     | Mon 20/7/20  | Tue 18/8/20  |                         | NA                           | Thu 19/11/20 | Fri 18/12/20           | 122 days       |          | 242,240FF+12  | d                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 44   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 60 days 0 days             | 60 days               | 0%                     | Wed 19/8/20  | Sat 17/10/20 |                         | NA                           | Sat 19/12/20 | Tue 16/2/21            | 122 days       | 1 day    | 243           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 45   | D3 South Approach Ramp (E&M Works)                                   | 392 days 0 days            | 392 days              | 0%                     | Sat 23/5/20  |              | NA                      | NA                           | Wed 18/11/20 |                        | 179 days       |          |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 46   | Prepare AIP (E&M works) and ICE certification (Draft)                | 31 days 0 days             | 31 days               | 0%                     | Sat 23/5/20  | Mon 22/6/20  |                         | NA                           | Wed 18/11/20 |                        | 179 days       | -        |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 47   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 76 days 0 days             | 76 days               | 0%                     | Tue 23/6/20  | Sun 6/9/20   |                         | NA                           | Sat 19/12/20 | Thu 4/3/21             | 179 days       |          | 246           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 48   | Prepare AIP (E&M works) and ICE certification (Final)                | 31 days 0 days             | 31 days               | 0%                     | Mon 7/9/20   | Wed 7/10/20  | NA                      | NA                           | Fri 5/3/21   | Sun 4/4/21             | 179 days       |          | 247           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 49   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 76 days 0 days             | 76 days               | 0%                     | Thu 8/10/20  | Tue 22/12/20 | NA                      | NA                           | Mon 5/4/21   | Sat 19/6/21            | 179 days       | 1 day    | 248           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 50   | Prepare DDA (E&M works) and ICE certification (Draft)                | 31 days 0 days             | 31 days               | 0%                     | Sun 22/11/20 | Tue 22/12/20 | NA                      | NA                           | Thu 20/5/21  | Sat 19/6/21            | 179 days       | 1 day    | 249FF         |                                |        | -        |          |   |                      |         |        |       |                 |        |           |
| 51   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 76 days 0 days             | 76 days               | 0%                     | Wed 23/12/20 | Mon 8/3/21   | NA                      | NA                           | Sun 20/6/21  | Fri 3/9/21             | 179 days       | 1 day    | 250           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 52   | Prepare DDA (E&M works) and ICE certification (Final)                | 26 days 0 days             | 26 days               | 0%                     | Tue 9/3/21   | Sat 3/4/21   | NA                      | NA                           | Sat 4/9/21   | Wed 29/9/21            | 179 days       | 1 day    | 251           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 53   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 76 days 0 days             | 76 days               | 0%                     | Sun 4/4/21   | Fri 18/6/21  | NA                      | NA                           | Thu 30/9/21  | Tue 14/12/21           | 179 days       | 1 day    | 252           |                                |        |          |          |   | +                    |         |        |       |                 |        |           |
| 54   | Road D3 Underpass and Depressed Road                                 | 823 days 236.99 days       | 586.01 days           | 0%                     | Thu 30/5/19  | Sun 29/8/21  | Thu 30/5/19             | NA                           | Thu 30/5/19  | Wed 11/1/23            | 500 days       |          |               |                                |        |          |          | <del></del>                                   |                      |         |        |       |                 |        |           |
| 55   | Underpass (Structure)  | 486 days 320.41 days       | 165.59 days           | 0%                     | Thu 30/5/19  | Sat 26/9/20  | Thu 30/5/19             | NA                           | Thu 30/5/19  | Wed 2/12/20            | 67 days        |          |               |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 56   | Prepare AIP and ICE certification (Draft)                            | 96 days 96 days            | 0 days                | 100%                   | Thu 30/5/19  | Mon 2/9/19   | Thu 30/5/19             | Mon 2/9/19                   | Thu 30/5/19  | Mon 2/9/19             | 0 days         | 3 days   | 4             |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 57   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 17 days 17 days            | 0 days                | 100%                   | Tue 3/9/19   | Thu 19/9/19  | Tue 3/9/19              | Thu 19/9/19                  | Tue 3/9/19   | Thu 19/9/19            | 0 days         | 1 days   | 256           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 58   | Prepare AIP and ICE certification (Final)                            | 84 days 84 days            | 0 days                | 100%                   | Tue 14/1/20  | Mon 6/4/20   | Tue 14/1/20             | Mon 6/4/20                   | Tue 14/1/20  | Mon 6/4/20             | 0 days         | 2 days   | 256,257       |                                | $\ \ $ |          |          |   |                      |         |        |       |                 |        |           |
| 59   | Prepare DDA (Draft) Preparation                                      | 156 days 156 days          | 0 days                | 100%                   | Tue 3/9/19   | Wed 5/2/20   | Tue 3/9/19              | Wed 5/2/20                   | Tue 3/9/19   | Wed 5/2/20             | 0 days         | 3 days   | 256           | 1                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 60   | DDA (Draft) Submit & endorse by PM & Statutory Authorities/Gov. Dept | 169 days 34 days           | 135 days              | 20%                    | Thu 6/2/20   | Thu 23/7/20  | Thu 6/2/20              | NA                           | Thu 6/2/20   | Mon 28/9/20            | 67 days        | 0.5 days | 259           |                                |        |          |          |   |                      |         |        |       |                 |        |           |
| 61   | Prepare DDA for and ICE certification (Final)                        | 15 days 0 days             | 15 days               | 0%                     | Fri 24/7/20  | Fri 7/8/20   | NA                      | NA                           | Tue 29/9/20  | Tue 13/10/20           | 67 days        | 1 day    | 260,258FF+21  | d                              |        |          |          |   |                      |         |        |       |                 |        |           |
| 62   | Submit & endorse by PM and Statutory Authorities/Gov. Dept           | 50 days 0 days             | 50 days               | 0%                     | Sat 8/8/20   | Sat 26/9/20  | NA                      | NA                           | Wed 14/10/20 | Wed 2/12/20            | 67 days        | 1 day    | 261           | $+\parallel\parallel\parallel$ |        |          |          |   |                      |         |        |       |                 |        |           |
| 263  | Underpass (E&M Works)  | 392 days 0 days            | 392 days              | 0%                     | Mon 3/8/20   | Sun 29/8/21  | NA                      | NA                           | Tue 10/11/20 | Wed 11/1/23            | 99 days        |          |               | $+\parallel\parallel\parallel$ |        |          |          | <del>    </del>                               |                      |         |        |       |                 |        |           |
| 264  | Prepare AIP (E&M works) and ICE certification (Draft)                | 32 days 0 days             | 32 days               | 0%                     | Mon 5/10/20  | Thu 5/11/20  | NA                      | NA                           | Tue 10/11/20 | Fri 11/12/20           | 36 days        | 2 days   |               | $+\parallel\parallel\parallel$ |        |          |          |   |                      |         |        |       |                 |        |           |
|      |  |                            |                       |                        |              |              |                         |                              |              |                        |                |          |               | 1                              |        |          |          | <u>                                      </u> | <u> </u>             |         |        |       |                 |        | _         |
|      | ev.11 Prog with Progress  2 May 20 Split                             | Summary<br>Project Summary |                       | Inactive M             |              |              | Duration-or  Manual Sur | nly<br>mmary Rollup <b>•</b> |              | Start-only Finish-only |                | ]        |               | emal Milesto<br>adline         | one    | <b>+</b> |          |   | tical Split<br>gress |         |        |       |                 |        |           |
| of 2 | 2-May-20 Milestone   | Inactive Task              |                       | Manual Ta              |              |              | Manual Sur              |                              |              | External Tas           |                |          |               | tical                          |        |          |          |   | nual Prog            |         |        |       |                 |        |           |

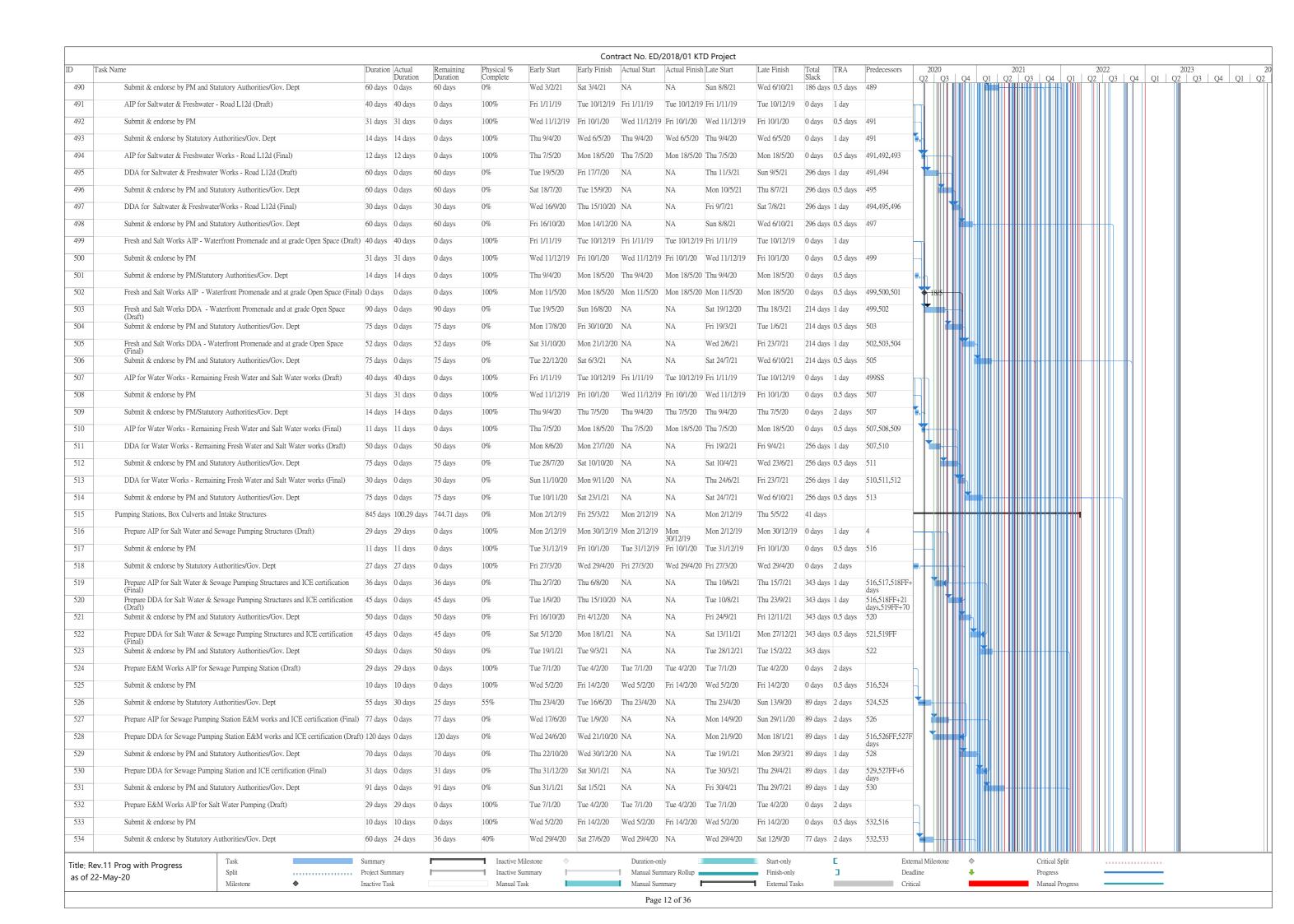
|   |  |  |   |  |   |   |   | TD Project  |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
|---|--|--|---|--|---|---|---|---|--|--|---|--|--|---|--|--|---|---|---------|---|---|---------|
| ask Name  | Duration Actual  | Remaining<br>Duration                                      | Physical %  | Early Start  | Early Finish  | Actual Start  | Actual Finis  | h Late Start  | Late Finish  |  | TRA   | Predecessors   | 2020   | 2   04  | 01   6   | 2021   | 04 03   | 2022  | 02   04 | 20  | )23   | M C     |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 62 days 0 days   | 62 days  | 0%  | Fri 6/11/20  | Wed 6/1/21  | NA  | NA  | Sat 12/12/20  | Thu 11/2/21  |  | 2 days  | 264  | Q2   Q1  | 5 Q4  | Q1   C   | 22   Q3  | Q4  | Q2   C  | 25 Q4   | QI   Q2   | Q3   Q4   | 4   Q   |
| Prepare AIP (E&M works) and ICE certification (Final)   | 32 days 0 days   | 32 days  | 0%  | Thu 7/1/21   | Sun 7/2/21  | NA  | NA  | Fri 12/2/21   | Mon 15/3/21  | 36 days  | 2 days  | 265  |  |   |  |  |   |   |         |   |   |         |
|   |  |  | 0%  |  | Sat 10/4/21   | NA  | NA  | Tue 16/3/21   | Sun 16/5/21  |  |   | 266  |  |   | <b></b>  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
| Prepare DDA (E&M works) and ICE certification (Final)   | 17 days 0 days   | 17 days  | 0%  | Sat 12/6/21  | Mon 28/6/21   | NA  | NA  | Sun 18///21   | Tue 3/8/21   | 36 days  | 2 days  | 269  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 62 days 0 days   | 62 days  | 0%  | Tue 29/6/21  | Sun 29/8/21   | NA  | NA  | Wed 4/8/21  | Mon 4/10/21  | 36 days  | 2 days  | 270  |  |   |  |  |   |   |         |   |   |         |
| Prepare AIP (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) | 31 days 0 days   | 31 days  | 0%  | Mon 3/8/20   | Wed 2/9/20  | NA  | NA  | Thu 31/3/22   | Sat 30/4/22  | 605 days   | 1 day   |  |  | Ь   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 51 days 0 days   | 51 days  | 0%  | Thu 3/9/20   | Fri 23/10/20  | NA  | NA  | Sun 1/5/22  | Mon 20/6/22  | 605 days   | 1 day   | 272  |  |   |  |  |   |   |         |   |   |         |
| Prepare AIP (E&M works ) and Architectural Finishes of of Underpass (Road                                   | 14 days 0 days   | 14 days  | 0%  | Sat 24/10/20   | Fri 6/11/20   | NA  | NA  | Tue 21/6/22   | Mon 4/7/22   | 605 days   | 2 days  | 273  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 74 days 0 days   | 74 days  | 0%  | Sat 7/11/20  | Tue 19/1/21   | NA  | NA  | Tue 5/7/22  | Fri 16/9/22  | 605 days   | 1 day   | 274  |  |   | _  |  |   |   |         |   |   |         |
| Prepare DDA (E&M works) and Architectural Finishes of of Underpass (Road                                    | 31 days 0 days   | 31 days  | 0%  | Sun 20/12/20   | Tue 19/1/21   | NA  | NA  | Wed 17/8/22   | Fri 16/9/22  | 605 days   | 1 day   | 275FF  |  |   |  |  |   |   |         |   |   |         |
| · · · · · · · · · · · · · · · · · · ·   | 51 days 0 days   |  | 0%  | Wed 20/1/21  | Thu 11/3/21   | NA  | NA  | Sat 17/9/22   | Sun 6/11/22  |  |   | 276  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
| L14) and ICE certification (Final)  |  |  |   |  |   |   |   |   |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
| <u> </u>  |  |  |   |  |   |   |   |   |  | -  | -   | 278  |  |   |  |  |   |   |         |   |   |         |
| E&M Work for Pump House of Underpass D3   | 364 days 83.71 days  | 280.29 days  | 0%  | Mon 24/2/20  | Sun 21/2/21   | Mon 24/2/20   | NA  | Mon 24/2/20   | Wed 18/8/21  | 178 days   |   |  |  |   |  |  |   |   |         |   |   |         |
| Prepare AIP (E&M works) Submission (Draft)  | 11 days 11 days  | 0 days   | 0%  | Mon 24/2/20  | Thu 5/3/20  | Mon 24/2/20   | Thu 5/3/20  | Mon 24/2/20   | Thu 5/3/20   | 0 days   | 2 days  |  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 160 days 78 days   | 82 days  | 49%   | Fri 6/3/20   | Wed 12/8/20   | Fri 6/3/20  | NA  | Fri 6/3/20  | Sat 15/8/20  | 3 days   | 2 days  | 281  |  |   |  |  |   |   |         |   |   |         |
| Prepare AIP (E&M works) and ICE certification (Final)   | 21 days 0 days   | 21 days  | 0%  | Thu 13/8/20  | Wed 2/9/20  | NA  | NA  | Sun 16/8/20   | Sat 5/9/20   | 3 days   | 2 days  | 282,44FF+12 da   |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 50 days 0 days   | 50 days  | 0%  | Thu 3/9/20   | Thu 22/10/20  | NA  | NA  | Sun 6/9/20  | Sun 25/10/20   | 3 days   | 2 days  | 283  |  |   |  |  |   |   |         |   |   |         |
| Prepare DDA (E&M works) and ICE certification (Draft)   | 30 days 0 days   | 30 days  | 0%  | Wed 30/9/20  | Thu 29/10/20  | NA  | NA  | Sat 3/10/20   | Sun 1/11/20  | 3 days   | 2 days  | 284FF+7 days   |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 50 days 0 days   | 50 days  | 0%  | Fri 30/10/20   | Fri 18/12/20  | NA  | NA  | Mon 2/11/20   | Mon 21/12/20   | 3 days   | 2 days  | 285  |  |   |  |  |   |   |         |   |   |         |
| Prepare DDA (E&M works) and ICE certification (Final)   | 15 days 0 days   | 15 days  | 0%  | Sat 19/12/20   | Sat 2/1/21  | NA  | NA  | Tue 22/12/20  | Tue 5/1/21   | 3 days   | 2 days  | 286  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 50 days 0 days   | 50 days  | 0%  | Sun 3/1/21   | Sun 21/2/21   | NA  | NA  | Wed 30/6/21   | Wed 18/8/21  | 178 days   | 2 days  | 287  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   | 207  |  |   |  |  |   |   |         |   |   |         |
| <u> </u>  |  |  |   |  |   |   |   |   |  |  |   | 4  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   | 4  |  |   |  |  |   |   |         |   |   |         |
|   | 33 days 33 days  | 0 days   | 100%  |  |   |   |   |   | Wed 4/9/19   | 0 days   | 2 days  | 290  |  |   |  |  |   |   |         |   |   |         |
| Prepare AIP and ICE certification (Final)   | 44 days 44 days  | 0 days   | 100%  | Mon 9/12/19  | Tue 21/1/20   | Mon 9/12/19   | Tue 21/1/20   | Mon 9/12/19   | Tue 21/1/20  | 0 days   | 0 days  | 291  |  |   |  |  |   |   |         |   |   |         |
| Prepare DDA and ICE certification (Draft)   | 57 days 57 days  | 0 days   | 100%  | Tue 24/9/19  | Tue 19/11/19  | Tue 24/9/19   | Tue 19/11/1   | 9 Tue 24/9/19   | Tue 19/11/19   | 0 days   | 5 days  | 290  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM  | 17 days 17 days  | 0 days   | 100%  | Tue 19/11/19   | Thu 5/12/19   | Tue 19/11/19  | Thu 5/12/19   | Tue 19/11/19  | Thu 5/12/19  | 0 days   | 1 day   | 293  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by Statutory Authorities/Gov. Dept   | 20 days 20 days  | 0 days   | 100%  | Wed 19/2/20  | Mon 9/3/20  | Wed 19/2/20   | Mon 9/3/20  | Wed 19/2/20   | Mon 9/3/20   | 0 days   | 1 day   | 293  |  |   |  |  |   |   |         |   |   |         |
| Prepare DDA for and ICE certification (Final)   | 30 days 0 days   | 30 days  | 0%  | Sat 23/5/20  | Sun 21/6/20   | NA  | NA  | Sat 11/2/23   | Sun 12/3/23  | 994 days   | 3 days  | 294,292FF,295  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days 0 days   | 60 days  | 0%  | Mon 22/6/20  | Thu 20/8/20   | NA  | NA  | Mon 13/3/23   | Thu 11/5/23  | 994 days   | 5 days  | 296  |  |   |  |  |   |   |         |   |   |         |
| Depressed Road (North) F&M Works  |  | 322 days   | 0%  | Mon 21/9/20  | Sun 8/8/21  | NA  | NA  | Tue 17/11/20  | Mon 4/10/21  |  |   |  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  | 1 day   |  |  |   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   | 200  |  | Ţ   |  |  |   |   |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   |  |  |   |  |  |   |   |         |   |   |         |
|   |  | 31 days  |   |  |   |   |   |   |  |  |   | 300  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 61 days 0 days   | 61 days  | 0%  | Fri 22/1/21  |   |   | NA  | Sat 20/3/21   | Wed 19/5/21  |  |   | 301  |  |   |  |  |   |   |         |   |   |         |
| Prepare DDA (E&M works) and ICE certification (Draft)   | 31 days 0 days   | 31 days  | 0%  | Sun 21/2/21  | Tue 23/3/21   | NA  | NA  | Mon 19/4/21   | Wed 19/5/21  | 57 days  | 1 day   | 302FF  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 61 days 0 days   | 61 days  | 0%  | Wed 24/3/21  | Sun 23/5/21   | NA  | NA  | Thu 20/5/21   | Mon 19/7/21  | 57 days  | 1 day   | 303  |  |   |  | <u> </u>   |   |   |         |   |   |         |
| Prepare DDA (E&M works) and ICE certification (Final)   | 16 days 0 days   | 16 days  | 0%  | Mon 24/5/21  | Tue 8/6/21  | NA  | NA  | Tue 20/7/21   | Wed 4/8/21   | 57 days  | 1 day   | 304  |  |   |  |  |   |   |         |   |   |         |
| Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 61 days 0 days   | 61 days  | 0%  | Wed 9/6/21   | Sun 8/8/21  | NA  | NA  | Thu 5/8/21  | Mon 4/10/21  | 57 days  | 1 day   | 305  |  |   |  |  |   |   |         |   |   |         |
| Depressed Road (South) and Substructure of Elevated Landscape Deck  | 463 days 333.16 days   | s 129.84 days  | 0%  | Mon 10/6/19  | Mon 14/9/20   | Mon 10/6/19   | NA  | Mon 10/6/19   | Thu 15/10/20   | 31 days  |   |  |  | $\mathbf{H}$  |  |  |   |   |         |   |   |         |
|   |  |  | 100%  |  |   |   |   | Mon 10/6/19   |  |  | 1 days  |  |  |   |  |  |   | <u> </u>  |         |   |   |         |
|   |  |  |   |  |   |   |   |   |  |  |   | 308  |  |   |  |  |   |   |         |   |   |         |
| Saonin & Graoise of Fri and Statutory Authorntes/OUV. Dept  | or unys or unys  | o unys   | 100 /0  | Jan 3/0/17   | 1 uc 22/10/19   | Dat 3/0/17  | 1 uc 22/10/1  | ) Dat 3/0/17  | 1 uc 22/10/19  | o uays   | 2 days  | 500  |  |   |  |  |   |   |         |   |   |         |
| 7.11 Prog with Progress   | -  |  |   |  |   |   |   |   | Start-only   |  | E .   |  |  | e <   | >  |  |   |   |         |   |   |         |
| -May-20 Split   | Project Summary  |  | Inactive Su  Manual Ta  |  |   | Manual Sur  | mmary Rollup  | _   | Finish-only  External Tas  |  | 1   | Dead<br>Criti  | aime   | 4   | •  |  | Progress  | _   |         | _   |   |         |
|   | Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) Submission (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) Submission (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certificatio | Submit & endonce by PM and Statutory Authorities/Gov. Dept | Submit & endorse by PM and Statatory Authorities/Gov. Dept   62 days   0 days   22 days | Submit & enclare by PM and Statutery Authentities/Gov. Dept   62 days   0.days   62 days   0.0 | Seberal R. endome by PM and Settinery Authorities/Rev. Dept | Submit & costone by PM and Summory Authorises/Son, Dept | Selecti & encores by 150 and Statistics Authoritics/Cor. Dept   24 days   26 days   26 days   150 mil 1702   50 | Schemic & makere by PM and Security Authorized Size. Detay   0.5 app.   0.6 app.   0.6 app.   0.6 pp.   0.6 pp. | Second Accesses for Plant and Secondary Assertation (Section 1997)   Colors   Propert APP CASA Missers and Information Section   Colors   Colors   Propert APP CASA Missers and Information Section   Colors   Colors   Colors   Propert CASA CASA Missers and Information Section   Colors   Col | Schemic Andrew by FM and framework (International Conference on Confer | Semina Semina Control   Private   Private   Semina Semina Control   Private   Private   Semina Semina Control   Private   Semina Semina Control   Private   Private   Semina Semina Semina Control   Private   Private   Semina | Second   Company   Compa | Section   Sect | Part   Part | Profess   Profess   Section   Profess   Prof | Column   C | Property   Control of the Control | Property   Property | Part    | Part   Part | Part   Part | Process |

|            |  |             |                      |                       |                        |              | Con          | tract No. ED/ | 2018/01 K    | ID Project    |              |                    |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
|------------|--|-------------|----------------------|-----------------------|------------------------|--------------|--------------|---------------|--------------|---------------|--------------|--------------------|-----------------------------|----------|--|--------|----------|---------------------------------|-------|----------|-----|----|----|----------------|--------|
| Task       | Name   | Duration    | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start  | Actual Finis | h Late Start  | Late Finish  | Total TRA<br>Slack | Predecessors 202            |          | 04 /   | 01   6 | 2021     | 3   04                          | O1    | 1 00     | 022 | 04 | 01 | 2023<br>Q2   Q | )3   0 |
| 10         | Prepare AIP and ICE (certification (Final)   | 270 days    | s 222 days           | 48 days               | 82%                    | Tue 15/10/19 | Fri 10/7/20  | Tue 15/10/19  | NA           | Tue 15/10/19  | Mon 10/8/20  | 31 days 0 days     | 309,44FF+12 da              |          | Q4   C   |        |          |                                 |       |          |     | Q4 | QI |                | 3 Q    |
| 11         | Prepare DDA certification (Draft)  | 27 days     | 27 days              | 0 days                | 100%                   | Mon 10/2/20  | Sat 7/3/20   | Mon 10/2/20   | Sat 7/3/20   | Mon 10/2/20   | Sat 7/3/20   | 0 days 5 days      | 308                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 12         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 75 days     | 24 days              | 51 days               | 32%                    | Wed 29/4/20  | Thu 16/7/20  | Wed 29/4/20   | NA           | Wed 29/4/20   | Sun 16/8/20  | 31 days 1 days     | 311,310FF+6                 | <b>H</b> |  |        |          | <b> </b>                        |       |          |     |    |    |                |        |
| 313        | Prepare DDA for and ICE certification (Final)  | 10 days     | 0 days               | 10 days               | 0%                     | Fri 17/7/20  | Sun 26/7/20  | NA            | NA           | Mon 17/8/20   | Wed 26/8/20  | 31 days 0.5 days   | 312                         |          |  |        |          | <b> </b>                        |       |          |     |    |    |                |        |
| 314        | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 50 days     | 0 days               | 50 days               | 0%                     | Mon 27/7/20  | Mon 14/9/20  | NA            | NA           | Thu 27/8/20   | Thu 15/10/20 | 31 days 0.5 days   | 313                         |          |  |        |          | $\parallel \parallel \parallel$ |       |          |     |    |    |                |        |
| 315        | South Depressed Road (E&M Works)   | 382 days    | s 0 days             | 382 days              | 0%                     | Mon 7/9/20   | Thu 23/9/21  | NA            | NA           | Fri 18/9/20   | Mon 4/10/21  | 11 days            |                             |          |  |        |          | <b>-</b>                        |       |          |     |    |    |                |        |
| 316        | Prepare AIP (E&M works) and ICE certification (Draft)                                  | 31 days     | 0 days               | 31 days               | 0%                     | Mon 7/9/20   | Wed 7/10/20  | NA            | NA           | Fri 18/9/20   | Sun 18/10/20 | 11 days 1 day      |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 317        | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     | 0 days               | 76 days               | 0%                     | Thu 8/10/20  | Tue 22/12/20 | NA            | NA           | Mon 19/10/20  | Sat 2/1/21   | 11 days 1 day      | 316                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 18         | Prepare AIP (E&M works) and ICE certification (Final)                                  | 31 days     | 0 days               | 31 days               | 0%                     | Wed 23/12/20 | Fri 22/1/21  | NA            | NA           | Sun 3/1/21    | Tue 2/2/21   | 11 days 1 day      | 317                         |          | •  |        |          |                                 |       |          |     |    |    |                |        |
| 19         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     |                      | 76 days               | 0%                     | Sat 23/1/21  |              | NA            | NA           | Wed 3/2/21    | Mon 19/4/21  | 11 days 1 day      | 318                         |          |  |        |          | ,                               |       |          |     |    |    |                |        |
| 20         | Prepare DDA (E&M works) and ICE certification (Draft)                                  | 31 days     |                      | 31 days               | 0%                     | Tue 9/3/21   | Thu 8/4/21   | NA            | NA           | Sat 20/3/21   | Mon 19/4/21  | 11 days 1 day      | 319FF                       |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 21         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     |                      | 76 days               | 0%                     | Fri 9/4/21   | Wed 23/6/21  |               | NA           | Tue 20/4/21   | Sun 4/7/21   | 11 days 1 day      | 320                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
|            |  |             | ,                    |                       |                        |              |              |               |              |               |              |                    |                             |          |  |        |          | 1                               |       |          |     |    |    |                |        |
| 22         | Prepare DDA (E&M works) and ICE certification (Final)                                  | 16 days     |                      | 16 days               | 0%                     | Thu 24/6/21  | Fri 9/7/21   | NA            | NA           | Mon 5/7/21    | Tue 20/7/21  | 11 days 1 day      | 321                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 23         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     |                      | 76 days               | 0%                     | Sat 10/7/21  | Thu 23/9/21  |               | NA           | Wed 21/7/21   | Mon 4/10/21  | 11 days 1 day      | 322                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 24         | Road Works (Civil Works)   | -           |                      | 465.99 days           | 0%                     | Tue 13/8/19  | Fri 4/6/21   | Tue 13/8/19   |              | Tue 13/8/19   | Tue 14/12/21 | 193 days           |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 15         | Prepare AIP for At-grade Road D3 and ICE certification (Draft)                         | 57 days     | 57 days              | 0 days                | 100%                   | Tue 13/8/19  | Tue 8/10/19  | Tue 13/8/19   | Tue 8/10/19  | Tue 13/8/19   | Tue 8/10/19  | 0 days 1 day       | 293SS+75 days               |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 16         | Submit & endorse by PM   | 21 days     | 21 days              | 0 days                | 100%                   | Wed 9/10/19  | Tue 29/10/19 | Wed 9/10/19   | Tue 29/10/19 | 9 Wed 9/10/19 | Tue 29/10/19 | 0 days 0.5 days    | 325                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 27         | Submit & endorse by Statutory Authorities/Gov. Dept                                    | 24 days     | 24 days              | 0 days                | 100%                   | Wed 30/10/19 | Fri 22/11/19 | Wed 30/10/19  | Fri 22/11/19 | Wed 30/10/19  | Fri 22/11/19 | 0 days 1 day       | 325                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 28         | Prepare AIP for At-grade Road D3 and ICE certification (Final)                         | 57 days     | 57 days              | 0 days                | 100%                   | Thu 5/3/20   | Mon 4/5/20   | Thu 5/3/20    | Mon 4/5/20   | Thu 5/3/20    | Mon 4/5/20   | 0 days 0 days      | 326FS+12<br>days,327,44FF+1 |          |  |        |          |                                 |       |          |     |    |    |                |        |
| .9         | Prepare DDA for At-grade Road D3 and ICE certification (Draft)                         | 210 days    | s 0 days             | 210 days              | 0%                     | Sat 23/5/20  | Fri 18/12/20 | NA            | NA           | Wed 2/12/20   | Tue 29/6/21  | 193 days 5 days    | 325FS+100                   |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 30         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 75 days     | 0 days               | 75 days               | 0%                     | Sat 19/12/20 | Wed 3/3/21   | NA            | NA           | Wed 30/6/21   | Sun 12/9/21  | 193 days 0.5 days  | days,328FF+6<br>329         |          |  | -      |          |                                 |       |          |     |    |    |                |        |
| 31         | Prepare DDA for At-grade Road D3 and ICE certification (Final)                         | 16 days     | 0 days               | 16 days               | 0%                     | Thu 4/3/21   | Fri 19/3/21  | NA            | NA           | Mon 13/9/21   | Tue 28/9/21  | 193 days 1 day     | 330                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 32         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 77 days     | 0 days               | 77 days               | 0%                     | Sat 20/3/21  | Fri 4/6/21   | NA            | NA           | Wed 29/9/21   | Tue 14/12/21 | 193 days 2 days    | 331                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 33         | Remaining Road Works (E&M Works)   | 382 days    |                      | 382 days              | 0%                     | Mon 5/10/20  | Thu 21/10/21 | NA            | NA           | Sat 13/2/21   | Tue 1/3/22   | 131 days           |                             |          |  |        |          | <b></b>     '                   |       |          |     |    |    |                |        |
| 34         | Prepare AIP (E&M works) and ICE certification (Draft)                                  | 31 days     |                      | 31 days               | 0%                     | Mon 5/10/20  | Wed 4/11/20  |               | NA           | Sat 13/2/21   | Mon 15/3/21  | 131 days 1 day     |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 35         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     |                      | 76 days               | 0%                     | Thu 5/11/20  | Tue 19/1/21  |               | NA           | Tue 16/3/21   | Sun 30/5/21  | 131 days 1 day     | 334                         |          | Į <u>.                                    </u> |        |          |                                 |       |          |     |    |    |                |        |
| 36         | Prepare AIP (E&M works) and ICE certification (Final)                                  | 31 days     | 1                    |                       | 0%                     | Wed 20/1/21  | Fri 19/2/21  |               | NA           | Mon 31/5/21   | Wed 30/6/21  | 131 days 1 day     | 335                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
|            |  |             |                      | 31 days               |                        |              |              |               |              |               |              |                    |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 37         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     |                      | 76 days               | 0%                     | Sat 20/2/21  |              | NA            | NA           | Thu 1/7/21    | Tue 14/9/21  | 131 days 1 day     | 336                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 38         | Prepare DDA (E&M works) and ICE certification (Draft)                                  | 31 days     |                      | 31 days               | 0%                     | Tue 6/4/21   |              | NA            | NA           | Sun 15/8/21   |              | 131 days 1 day     | 337FF                       |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 39         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     | 0 days               | 76 days               | 0%                     | Fri 7/5/21   | Wed 21/7/21  | NA            | NA           | Wed 15/9/21   | Mon 29/11/21 | 131 days 1 day     | 338                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 40         | Prepare DDA (E&M works) and ICE certification (Final)                                  | 16 days     | 0 days               | 16 days               | 0%                     | Thu 22/7/21  | Fri 6/8/21   | NA            | NA           | Tue 30/11/21  | Wed 15/12/21 | 131 days 1 day     | 339                         |          |  |        |          | ,                               |       |          |     |    |    |                |        |
| 41         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 76 days     | 0 days               | 76 days               | 0%                     | Sat 7/8/21   | Thu 21/10/21 | NA            | NA           | Thu 16/12/21  | Tue 1/3/22   | 131 days 1 day     | 340                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 342        | Road L12d Works (Roadworks)  | 791 days    | s 261.27 days        | 529.73 days           | 0%                     | Tue 6/8/19   | Mon 4/10/21  | Tue 6/8/19    | NA           | Tue 6/8/19    | Tue 28/2/23  | 512 days           |                             |          |  |        |          | <b>+</b>                        |       |          |     |    |    |                |        |
| 43         | Prepare AIP for Road L12d Submission (Draft)   | 64 days     | 64 days              | 0 days                | 100%                   | Tue 6/8/19   | Tue 8/10/19  | Tue 6/8/19    | Tue 8/10/19  | Tue 6/8/19    | Tue 8/10/19  | 0 days 1 day       | 325                         |          | +  |        |          |                                 |       |          |     |    |    |                |        |
| 14         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 377 days    | s 227 days           | 150 days              | 60%                    | Wed 9/10/19  | Mon 19/10/20 | 0 Wed 9/10/19 | NA           | Wed 9/10/19   | Tue 15/3/22  | 512 days           |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 45         |  | 120 days    | s 0 days             | 120 days              | 0%                     | Tue 20/10/20 | Tue 16/2/21  | NA            | NA           | Wed 16/3/22   | Wed 13/7/22  | 512 days 0 days    | 343,44FF+12                 |          |  | 4      |          |                                 |       |          |     |    |    |                |        |
| 46         | (Final)  Prepare DDA for Road L12d (Include E&M Provision Works) and ICE certification | 120 days    | s 0 days             | 120 days              | 0%                     | Thu 19/11/20 | Thu 18/3/21  | NA            | NA           | Fri 15/4/22   | Fri 12/8/22  | 512 days 1 day     | days,344<br>343FS+260       |          | <b>T</b>                                       |        |          |                                 |       |          |     |    |    |                |        |
| 47         | (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept                     | 75 days     | 0 days               | 75 days               | 0%                     | Fri 19/3/21  | Tue 1/6/21   | NA            | NA           | Sat 13/8/22   |              | 512 days 0.5 days  | days,345FF+30<br>346        |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 48         | Prepare DDA for Road L12d (Include E&M Provision Works) and ICE certification          |             |                      | 50 days               | 0%                     | Wed 2/6/21   | Wed 21/7/21  |               | NA           | Thu 27/10/22  |              | 512 days 0 days    | 347,345FF                   |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 49         | (Final)  Submit & endorse by PM and Statutory Authorities/Gov. Dept                    |             | 0 days               | 75 days               | 0%                     | Thu 22/7/21  | Mon 4/10/21  |               | NA           | Fri 16/12/22  | Tue 28/2/23  | 512 days 0 days    |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 50         | Road Lighting of Road D3 (E&M)   |             |                      | 339.81 days           | 0%                     | Mon 6/1/20   | Sun 18/4/21  | Mon 6/1/20    |              | Mon 6/1/20    | Sun 1/8/21   | 105 days           | 340                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
|            |  |             |                      |                       |                        |              |              |               |              |               |              |                    |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 51         | Prepare AIP (E&M works) Submission (Draft)   |             | 30 days              | 0 days                | 100%                   | Mon 6/1/20   | Tue 4/2/20   |               | Tue 4/2/20   | Mon 6/1/20    | Tue 4/2/20   | 0 days 2 days      | 251                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 352        | Submit & endorse by Statutory Authorities/Gov. Dept and PM                             |             | s 108 days           | 82 days               | 57%                    | Wed 5/2/20   |              | Wed 5/2/20    |              | Wed 5/2/20    | Wed 25/11/20 |                    | 351                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 353        | Prepare AIP (E&M works) and ICE certification (Final)                                  | 32 days     |                      | 32 days               | 0%                     | Thu 13/8/20  | Sun 13/9/20  |               | NA           | Thu 26/11/20  | Sun 27/12/20 |                    |                             |          |  |        |          |                                 |       |          |     |    |    |                |        |
| 354        | Submit & endorse by PM and Statutory Authorities/Gov. Dept                             | 60 days     | 0 days               | 60 days               | 0%                     | Mon 14/9/20  | Thu 12/11/20 | NA            | NA           | Mon 28/12/20  | Thu 25/2/21  | 105 days 2 days    | 353                         |          |  |        |          |                                 |       |          |     |    |    |                |        |
| tle. Rev 1 | 1 Prog with Progress   | Summary     |                      |                       | Inactive M             | ilestone 🔷   |              | Duration-on   | ly           |               | Start-only   | Е                  | External Mile               | stone    | <b>\$</b>                                      |        | -m 1 III | Critical                        | Split | <u> </u> |     |    |    |                |        |
| ACV. I     | lay-20 Split   | Project Sur | mmary                |                       | Inactive Su            | immary 📗     |              | Manual Sun    | nmary Rollup |               | Finish-only  | 3                  | Deadline                    |          | •  |        |          | Progres                         | śS    |          | _   |    | _  |                |        |

| Task        |   |             |                      |                       |                         |                         |              |              |              | TD Project   |              |                    |                     |                                 |         |        |                 |                | <br>             |         |                 |
|-------------|---|-------------|----------------------|-----------------------|-------------------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------------|---------------------|---------------------------------|---------|--------|-----------------|----------------|------------------|---------|-----------------|
| Task        | Name  | Duration    | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete  | Early Start             | Early Finish | Actual Start | Actual Finis | h Late Start | Late Finish  | Total TRA<br>Slack | Predecessors        | 2020<br>Q2 (                    | )3   Q4 | Q1   Q | 2021<br>02   Q3 | Q4 (           | 0022<br>  Q3   Q | )4 Q1 Q | 2023<br>Q2   Q3 |
| 355         | Prepare DDA (E&M works) and ICE certification (Draft)                           | 32 days     |                      | 32 days               | 0%                      | Mon 12/10/20            | Thu 12/11/20 | NA           | NA           | Mon 25/1/21  | Thu 25/2/21  | 105 days 2 days    | 354FF               |                                 |         |        |                 |                |                  |         |                 |
| 356         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 77 days     | 0 days               | 77 days               | 0%                      | Fri 13/11/20            | Thu 28/1/21  | NA           | NA           | Fri 26/2/21  | Thu 13/5/21  | 105 days 2 days    | 355                 |                                 |         |        |                 |                |                  |         |                 |
| 357         | Prepare DDA (E&M works) and ICE certification (Final)                           | 3 days      | 0 days               | 3 days                | 0%                      | Fri 29/1/21             | Sun 31/1/21  | NA           | NA           | Fri 14/5/21  | Sun 16/5/21  | 105 days 2 days    | 356                 |                                 |         |        |                 |                |                  |         |                 |
| 358         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 77 days     | 0 days               | 77 days               | 0%                      | Mon 1/2/21              | Sun 18/4/21  | NA           | NA           | Mon 17/5/21  | Sun 1/8/21   | 105 days 2 days    | 357                 |                                 |         |        |                 | Ш              |                  |         |                 |
| 359         | Road L12d Works (E&M Works)   | 329 days    | s 0 days             | 329 days              | 0%                      | Mon 5/10/20             | Sun 29/8/21  | NA           | NA           | Mon 1/2/21   | Sun 26/12/21 | 119 days           |                     |                                 |         |        |                 |                |                  |         |                 |
| 360         | Prepare AIP (E&M works) and ICE certification (Draft)                           | 32 days     | 0 days               | 32 days               | 0%                      | Mon 5/10/20             | Thu 5/11/20  | NA           | NA           | Mon 1/2/21   | Thu 4/3/21   | 119 days 2 days    |                     |                                 |         |        |                 |                |                  |         |                 |
| 361         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 62 days     | 0 days               | 62 days               | 0%                      | Fri 6/11/20             | Wed 6/1/21   | NA           | NA           | Fri 5/3/21   | Wed 5/5/21   | 119 days 2 days    | 360                 |                                 |         |        |                 |                |                  |         |                 |
| 362         | Prepare AIP (E&M works) and ICE certification (Final)                           |             | 0 days               | 32 days               | 0%                      | Thu 7/1/21              | Sun 7/2/21   | NA           | NA           | Thu 6/5/21   | Sun 6/6/21   | 119 days 2 days    | 361                 |                                 |         |        |                 |                |                  |         |                 |
| 363         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      |             | 0 days               | 62 days               | 0%                      | Mon 8/2/21              | Sat 10/4/21  |              | NA           | Mon 7/6/21   | Sat 7/8/21   | 119 days 2 days    |                     |                                 |         |        |                 |                |                  |         |                 |
| 364         | Prepare DDA (E&M works) and ICE certification (Draft)                           |             | 0 days               | 32 days               | 0%                      | Wed 10/3/21             |              | NA           | NA           | Wed 7/7/21   | Sat 7/8/21   | 119 days 2 days    | 363FF               |                                 |         |        |                 |                |                  |         |                 |
| 365         |   |             |                      |                       |                         |                         |              |              |              |              |              |                    |                     |                                 |         |        |                 |                |                  |         |                 |
|             | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      |             | 0 days               | 62 days               | 0%                      | Sun 11/4/21             |              | NA           | NA           | Sun 8/8/21   | Fri 8/10/21  | 119 days 2 days    | 364                 |                                 |         |        |                 |                |                  |         |                 |
| 366         | Prepare DDA (E&M works) and ICE certification (Final)                           |             | 0 days               | 17 days               | 0%                      | Sat 12/6/21             | Mon 28/6/21  |              | NA           | Sat 9/10/21  | Mon 25/10/21 |                    | 365                 |                                 |         |        |                 |                |                  |         |                 |
| 367         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 62 days     | 0 days               | 62 days               | 0%                      | Tue 29/6/21             | Sun 29/8/21  | NA           | NA           | Tue 26/10/21 | Sun 26/12/21 | 119 days 2 days    | 366                 |                                 |         |        |                 |                | ╗                |         |                 |
| 368         | Roadworks other than at-grade Road D3 and Road L12d (Civil Works)               | 609 days    | s 238.54 days        | 370.46 days           | 0%                      | Mon 2/9/19              | Sun 2/5/21   | Mon 2/9/19   | NA           | Mon 2/9/19   | Sun 23/5/21  | 21 days            |                     |                                 |         |        |                 |                |                  |         |                 |
| 369         | AIP for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Draft) | 36 days     | 36 days              | 0 days                | 100%                    | Mon 2/9/19              | Mon 7/10/19  | Mon 2/9/19   | Mon 7/10/19  | 9 Mon 2/9/19 | Mon 7/10/19  | 0 days 0.5 days    | S                   |                                 |         |        |                 |                |                  |         |                 |
| 370         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 288 days    | s 228 days           | 60 days               | 79%                     | Tue 8/10/19             | Tue 21/7/20  | Tue 8/10/19  | NA           | Tue 8/10/19  | Tue 11/8/20  | 21 days 0.5 days   | s 369               |                                 |         |        |                 |                |                  |         |                 |
| 371         | AIP for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Final) | 75 days     | 0 days               | 75 days               | 0%                      | Wed 22/7/20             | Sun 4/10/20  | NA           | NA           | Wed 12/8/20  | Sun 25/10/20 | 21 days 0.5 days   | 370,44FF+12<br>days |                                 |         |        |                 |                |                  |         |                 |
| 372         | DDA for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Draft) | 95 days     | 0 days               | 95 days               | 0%                      | Sat 1/8/20              | Tue 3/11/20  | NA           | NA           | Sat 22/8/20  | Tue 24/11/20 | 21 days 1 day      | 371FF+30 day        | s                               |         |        |                 |                |                  |         |                 |
| 373         | (Drait) Submit & endorse by PM and Statutory Authorities/Gov. Dept              | 75 days     | 0 days               | 75 days               | 0%                      | Wed 4/11/20             | Sun 17/1/21  | NA           | NA           | Wed 25/11/20 | Sun 7/2/21   | 21 days 0.5 days   | s 372               | $\parallel \parallel \parallel$ |         |        |                 |                |                  |         |                 |
| 374         | DDA for Roadworks - Roadworks other than at-grade Road D3 and Road L12d         | 30 days     | 0 days               | 30 days               | 0%                      | Mon 18/1/21             | Tue 16/2/21  | NA           | NA           | Mon 8/2/21   | Tue 9/3/21   | 21 days 0.5 days   | s 371,372,373       | $\parallel \parallel \parallel$ |         |        |                 |                |                  |         |                 |
| 375         | (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept              | 75 days     | 0 days               | 75 days               | 0%                      | Wed 17/2/21             | Sun 2/5/21   | NA           | NA           | Wed 10/3/21  | Sun 23/5/21  | 21 days 0.5 days   | s 374               |                                 |         |        |                 |                |                  |         |                 |
| 376         | Roadworks - EVA to Sewerage and Saltwater Pumping Station (Civil Works)         | 413 days    | s 68.26 days         | 344.74 days           | 0%                      | Wed 4/3/20              | Tue 20/4/21  | Wed 4/3/20   | NA           | Wed 4/3/20   | Fri 17/2/23  | 668 days           |                     |                                 |         |        |                 |                |                  |         |                 |
| 377         | AIP for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Draft)       | 46 davs     | 46 days              | 0 days                | 100%                    | Wed 4/3/20              | Sat 18/4/20  | Wed 4/3/20   | Sat 18/4/20  | Wed 4/3/20   | Sat 18/4/20  | 0 days 0.5 days    | S                   |                                 |         |        |                 |                |                  |         |                 |
| 378         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      |             | 33 days              | 49 days               | 40%                     | Sat 18/4/20             |              | Sat 18/4/20  | NA           | Sat 18/4/20  | Mon 23/5/22  | 684 days           | 377                 |                                 |         |        |                 |                |                  |         |                 |
| 379         | AIP for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Final)       | 75 days     |                      | 75 days               | 0%                      | Thu 9/7/20              | Mon 21/9/20  |              | NA           | Tue 24/5/22  | Sat 6/8/22   | 684 days 0.5 days  |                     | 1                               | ШШ      |        |                 |                |                  |         |                 |
|             |   |             |                      |                       |                         |                         |              |              |              |              |              |                    |                     |                                 |         |        |                 |                |                  |         |                 |
| 380         | DDA for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Draft)       |             | 0 days               | 95 days               | 0%                      | Mon 20/7/20             | Thu 22/10/20 |              | NA           | Thu 19/5/22  | Sun 21/8/22  | 668 days 1 day     | 379FF+15 day        | S                               |         |        |                 |                |                  |         |                 |
| 381         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 75 days     |                      | 75 days               | 0%                      | Fri 23/10/20            | Tue 5/1/21   |              | NA           | Mon 22/8/22  | Fri 4/11/22  | 668 days 0.5 days  |                     |                                 |         |        |                 |                |                  |         |                 |
| 382         | DDA for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Final)       | 30 days     |                      | 30 days               | 0%                      | Wed 6/1/21              |              | NA           | NA           | Sat 5/11/22  | Sun 4/12/22  | 668 days 0.5 days  |                     |                                 |         |        |                 |                |                  |         |                 |
| 383         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 75 days     | 0 days               | 75 days               | 0%                      | Fri 5/2/21              | Tue 20/4/21  |              | NA           | Mon 5/12/22  | Fri 17/2/23  | 668 days 0.5 days  | s 382               |                                 |         |        |                 |                |                  |         |                 |
| 384         | Road Lighting of Road other than Road D3 (E&M)                                  | 356 days    | s 0 days             | 356 days              | 0%                      | Fri 29/5/20             | Wed 19/5/21  | NA           | NA           | Tue 2/6/20   | Sun 23/5/21  | 4 days             |                     |                                 |         |        | 1               |                |                  |         |                 |
| 385         | Prepare AIP (E&M works) and ICE certification (Draft)                           | 38 days     | 0 days               | 38 days               | 0%                      | Fri 29/5/20             | Sun 5/7/20   | NA           | NA           | Tue 2/6/20   | Thu 9/7/20   | 4 days 2 days      |                     |                                 |         |        |                 |                |                  |         |                 |
| 386         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 77 days     | 0 days               | 77 days               | 0%                      | Mon 6/7/20              | Sun 20/9/20  | NA           | NA           | Fri 10/7/20  | Thu 24/9/20  | 4 days 2 days      | 385                 | 7                               |         |        |                 |                |                  |         |                 |
| 387         | Prepare AIP (E&M works) and ICE certification (Final)                           | 32 days     | 0 days               | 32 days               | 0%                      | Mon 21/9/20             | Thu 22/10/20 | NA           | NA           | Fri 25/9/20  | Mon 26/10/20 | 4 days 2 days      | 386                 |                                 |         |        |                 |                |                  |         |                 |
| 388         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 62 days     | 0 days               | 62 days               | 0%                      | Fri 23/10/20            | Wed 23/12/20 | 0 NA         | NA           | Tue 27/10/20 | Sun 27/12/20 | 4 days 2 days      | 387                 |                                 |         |        |                 |                |                  |         |                 |
| 389         | Prepare DDA (E&M works) and ICE certification (Draft)                           | 32 days     | 0 days               | 32 days               | 0%                      | Sun 22/11/20            | Wed 23/12/20 | ) NA         | NA           | Thu 26/11/20 | Sun 27/12/20 | 4 days 2 days      | 388FF               | $\parallel \parallel \parallel$ |         |        |                 |                |                  |         |                 |
| 390         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 62 days     | 0 days               | 62 days               | 0%                      | Thu 24/12/20            | Tue 23/2/21  | NA           | NA           | Mon 28/12/20 | Sat 27/2/21  | 4 days 2 days      | 389                 | $\parallel \parallel \parallel$ |         |        |                 |                |                  |         |                 |
| 391         | Prepare DDA (E&M works) and ICE certification (Final)                           | 23 days     | 0 days               | 23 days               | 0%                      | Wed 24/2/21             | Thu 18/3/21  | NA           | NA           | Sun 28/2/21  | Mon 22/3/21  | 4 days 2 days      | 390                 | $\parallel \parallel \parallel$ |         |        |                 |                |                  |         |                 |
| 392         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      |             | 0 days               | 62 days               | 0%                      | Fri 19/3/21             | Wed 19/5/21  | NA           | NA           | Tue 23/3/21  | Sun 23/5/21  | 4 days 2 days      | 391                 | $+\parallel\parallel\parallel$  |         |        |                 |                |                  |         |                 |
| 393         | Roadworks other than at-grade Road D3 and Road L12d (E&M Works)                 | 322 days    |                      | 322 days              | 0%                      | Thu 2/7/20              | Wed 19/5/21  | NA           | NA           | Mon 6/7/20   | Sun 23/5/21  | 4 days             |                     |                                 |         |        | ╣╢╢╢            |                |                  |         |                 |
| 394         | Prepare AIP (E&M works) and ICE certification (Draft)                           | 31 days     |                      | 31 days               | 0%                      | Thu 2/7/20              |              | NA           | NA           | Mon 6/7/20   | Wed 5/8/20   | 4 days 1 day       |                     |                                 |         |        |                 |                |                  |         |                 |
| 395         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 61 days     |                      | 61 days               | 0%                      | Sun 2/8/20              | Thu 1/10/20  |              | NA           | Thu 6/8/20   | Mon 5/10/20  | 4 days 1 day       | 394                 | $\parallel \parallel \parallel$ |         |        |                 |                |                  |         |                 |
| 396         |   |             |                      |                       | 0%                      | Fri 2/10/20             | Sun 1/11/20  |              | NA<br>NA     | Tue 6/10/20  | Thu 5/11/20  |                    |                     | _                               |         |        |                 |                |                  |         |                 |
|             | Prepare AIP (E&M works) and ICE certification (Final)                           |             | 0 days               | 31 days               |                         |                         |              |              |              |              |              | 4 days 1 day       | 395                 |                                 |         |        |                 |                |                  |         |                 |
| 397         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 61 days     |                      | 61 days               | 0%                      | Mon 2/11/20             |              | NA           | NA           | Fri 6/11/20  | Tue 5/1/21   | 4 days 1 day       | 396                 |                                 |         |        |                 |                |                  |         |                 |
| 398         | Prepare DDA (E&M works) and ICE certification (Draft)                           |             | 0 days               | 31 days               | 0%                      | Wed 2/12/20             |              | NA           | NA           | Sun 6/12/20  | Tue 5/1/21   | 4 days 1 day       | 397FF               |                                 |         |        |                 |                |                  |         |                 |
| 399         | Submit & endorse by PM and Statutory Authorities/Gov. Dept                      | 61 days     | 0 days               | 61 days               | 0%                      | Sat 2/1/21              | Wed 3/3/21   | NA           | NA           | Wed 6/1/21   | Sun 7/3/21   | 4 days 1 day       | 398                 |                                 |         |        |                 |                |                  |         |                 |
| itle· Rev 1 | 1 Prog with Progress  | Summary     |                      |                       | Inactive Mi             | ilestone $\diamondsuit$ |              | Duration-o   | nly          |              | Start-only   | С                  | E                   | temal Milesto                   | ne 💠    | 41811  | (               | Critical Split | <br>             |         |                 |
|             | lay-20 Split  | Project Sur | mmary                |                       | Inactive Su  Manual Tas | mmary                   |              | Manual Su    | mmary Rollup |              | Finish-only  | 3                  | D                   | eadline                         | 4       |        | I               | rogress        |                  |         |                 |

|          |  |            |                      |                       |                        |              | Con          | tract No. ED, | /2018/01 K      | ID Project    |              |                    |              |                  |                    |             |                         |        |                 |      |        |      |
|----------|--|------------|----------------------|-----------------------|------------------------|--------------|--------------|---------------|-----------------|---------------|--------------|--------------------|--------------|------------------|--------------------|-------------|-------------------------|--------|-----------------|------|--------|------|
| Task     | Name   | Duration   | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start  | Actual Finis    | h Late Start  | Late Finish  | Total TRA<br>Slack | Predecessors |                  | 03   04            | 01   02     | 021<br>  O3   O4        | 01   ( | 2022<br>Q2   Q3 | 3 04 | Q1   Q | 2023 |
| 00       | Prepare DDA (E&M works) and ICE certification (Final)                                      | 16 days    |                      | 16 days               | 0%                     | Thu 4/3/21   | Fri 19/3/21  | NA            | NA              | Mon 8/3/21    | Tue 23/3/21  | 4 days 1 day       | 399          |                  | 25   Q4            | Q1 Q2       | Q3   Q4                 |        | 22   Q3         | , Q4 | QI     |      |
| 01       | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 61 days    | 0 days               | 61 days               | 0%                     | Sat 20/3/21  | Wed 19/5/21  | NA            | NA              | Wed 24/3/21   | Sun 23/5/21  | 4 days 1 day       | 400          |                  |                    |             |                         |        |                 |      |        |      |
| 12       | DCS Seawater & Intake Box Culverts (approx 88m) (Section 2)                                | 479 days   | s 304.41 days        | 174.59 days           | 0%                     | Tue 13/8/19  | Thu 3/12/20  | Tue 13/8/19   | NA              | Tue 13/8/19   | Tue 3/8/21   | 243 days           |              |                  |                    |             |                         |        |                 |      |        | 1    |
| 3        | Prepare AIP Subm with ICE certification (Draft)  | 165 days   | s 165 days           | 0 days                | 100%                   | Tue 13/8/19  | Fri 24/1/20  | Tue 13/8/19   | Fri 24/1/20     | Tue 13/8/19   | Fri 24/1/20  | 0 days 3 days      |              |                  |                    |             |                         |        |                 |      |        |      |
| 4        | Submit & endorse by PM   |            | 85 days              | 0 days                | 100%                   | Thu 23/1/20  | Thu 16/4/20  | Thu 23/1/20   | Thu 16/4/20     | Thu 23/1/20   | Thu 16/4/20  | 0 days 1 day       | 403          |                  |                    |             |                         |        |                 |      |        |      |
| 5        | Submit & endorse by Statutory Authorities/Gov. Dept  |            | 90 days              | 0 days                | 100%                   | Fri 24/1/20  | Mon 27/4/20  |               |                 | ) Fri 24/1/20 | Mon 27/4/20  | 0 days 1 day       | 403          | []               |                    |             |                         |        |                 |      |        |      |
|          |  |            |                      |                       |                        |              |              |               |                 |               |              |                    |              |                  |                    |             |                         |        |                 |      |        |      |
| 7        | Prepare AIP and ICE certification (Final)  | 0 days     | -                    | 0 days                | 100%                   | Thu 23/4/20  |              | Thu 23/4/20   |                 |               | Mon 27/4/20  | 0 days 1 days      | 403,405,404  | <u>♦ 27/4</u>    |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA and ICE certification  | 80 days    | 0 days               | 80 days               | 0%                     | Sat 23/5/20  | Mon 10/8/20  | NA            | NA              | Thu 21/1/21   | Sat 10/4/21  | 243 days 5 days    |              | 7+1:             |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 50 days    | 0 days               | 50 days               | 0%                     | Tue 11/8/20  | Tue 29/9/20  | NA            | NA              | Sun 11/4/21   | Sun 30/5/21  | 243 days 3 days    | 407          |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA for and ICE certification (Final)  | 15 days    | 0 days               | 15 days               | 0%                     | Wed 30/9/20  | Wed 14/10/20 | ) NA          | NA              | Mon 31/5/21   | Mon 14/6/21  | 243 days 1 day     | 408          |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 50 days    | 0 days               | 50 days               | 0%                     | Thu 15/10/20 | Thu 3/12/20  | NA            | NA              | Tue 15/6/21   | Tue 3/8/21   | 243 days 2 days    | 409          |                  |                    |             | H                       |        |                 |      |        |      |
|          | Seawater & Intake Box Culverts Diversion   | 248 days   | s 49.98 days         | 198.02 days           | 0%                     | Wed 1/4/20   | Fri 4/12/20  | Wed 1/4/20    | NA              | Wed 1/4/20    | Wed 6/10/21  | 306 days           |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare AIP Subm (Draft)   | 32 days    | 32 days              | 0 days                | 100%                   | Wed 1/4/20   | Sat 2/5/20   | Wed 1/4/20    | Sat 2/5/20      | Wed 1/4/20    | Sat 2/5/20   | 0 days 3 days      |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 51 days    | 21 days              | 30 days               | 41%                    | Sat 2/5/20   | Mon 22/6/20  | Sat 2/5/20    | NA              | Sat 2/5/20    | Tue 17/11/20 | 148 days 3 days    | 412          |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare AIP and ICE certification (Final)  | 15 days    |                      | 15 days               | 0%                     | Tue 23/6/20  | Tue 7/7/20   | NA            | NA              | Wed 18/11/20  | Wed 2/12/20  | 148 days 1 days    |              |                  |                    |             |                         |        |                 |      |        |      |
| 5        | Prepare DDA and ICE certification  |            |                      |                       | 0%                     | Tue 23/6/20  | Tue 11/8/20  |               | NA NA           | Sun 25/4/21   | Sun 13/6/21  |                    | 412SS,413F   | 3.5(             |                    |             |                         |        |                 |      |        |      |
|          |  | 50 days    |                      | 50 days               |                        |              |              |               |                 |               |              | 306 days 5 days    |              | TJ               |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 50 days    | 0 days               | 50 days               | 0%                     | Wed 12/8/20  | Wed 30/9/20  |               | NA              | Mon 14/6/21   | Mon 2/8/21   | 306 days 3 days    | 415          |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA for and ICE certification (Final)  | 15 days    | 0 days               | 15 days               | 0%                     | Thu 1/10/20  | Thu 15/10/20 | NA            | NA              | Tue 3/8/21    | Tue 17/8/21  | 306 days 1 day     | 416          |                  |                    |             |                         |        |                 |      |        | 1    |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 50 days    | 0 days               | 50 days               | 0%                     | Fri 16/10/20 | Fri 4/12/20  | NA            | NA              | Wed 18/8/21   | Wed 6/10/21  | 306 days 2 days    | 417          |                  |                    |             |                         |        |                 |      |        | 1    |
|          | Rising Main (Sewerage Works)   | 402 days   | s 134 days           | 268 days              | 0%                     | Thu 2/1/20   | Sat 6/2/21   | Thu 2/1/20    | NA              | Thu 2/1/20    | Sun 7/3/21   | 29 days            |              |                  |                    | <del></del> |                         |        |                 |      |        |      |
|          | Prepare AIP (Draft)  | 35 days    | 35 days              | 0 days                | 100%                   | Thu 2/1/20   | Wed 5/2/20   | Thu 2/1/20    | Wed 5/2/20      | Thu 2/1/20    | Wed 5/2/20   | 0 days 3 days      | 4            |                  |                    |             |                         |        |                 |      |        | 1    |
|          | Submit & endorse by PM   | 19 days    | 19 days              | 0 days                | 100%                   | Thu 6/2/20   | Mon 24/2/20  | Thu 6/2/20    | Mon 24/2/20     | Thu 6/2/20    | Mon 24/2/20  | 0 days 1 day       |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 56 days    | 56 days              | 0 days                | 100%                   | Thu 27/2/20  | Fri 22/5/20  | Thu 27/2/20   | Fri 22/5/20     | Thu 27/2/20   | Fri 22/5/20  | 0 days 2 days      | 420          | <b></b>  -       |                    |             |                         |        |                 |      |        |      |
| _        | Prepare AIP and ICE certification (Final)  | 75 days    | 0 davs               | 75 days               | 0%                     | Thu 2/7/20   | Mon 14/9/20  | NA            | NA              | Fri 31/7/20   | Tue 13/10/20 | 29 days 0 days     | 420,422,421  | _   \            |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA and ICE certification (Draft)  | 30 days    |                      | 30 days               | 0%                     | Tue 15/9/20  | Wed 14/10/20 |               | NA              | Wed 14/10/20  | Thu 12/11/20 |                    | 420SS,423    |                  |                    |             |                         |        |                 |      |        |      |
|          |  |            | -                    |                       |                        |              |              |               |                 |               |              |                    |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 50 days    |                      | 50 days               | 0%                     | Thu 15/10/20 |              |               | NA              | Fri 13/11/20  | Fri 1/1/21   | 29 days 3 days     | 424,420      |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA and ICE certification (Final)  | 15 days    | -                    | 15 days               | 0%                     | Fri 4/12/20  | Fri 18/12/20 | NA            | NA              | Sat 2/1/21    | Sat 16/1/21  | 29 days 0 days     |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 50 days    | 0 days               | 50 days               | 0%                     | Sat 19/12/20 | Sat 6/2/21   | NA            | NA              | Sun 17/1/21   | Sun 7/3/21   | 29 days 3 days     | 426,423      |                  |                    | 7           |                         |        |                 |      |        | 1    |
|          | Stormwater, Sewage, Salt Water and Fresh Water Works for Underpass and Depressed Road      | 641 days   | s 151.9 days         | 489.1 days            | 0%                     | Fri 13/9/19  | Mon 14/6/21  | Fri 13/9/19   | NA              | Fri 13/9/19   | Mon 28/6/21  | 14 days            |              |                  |                    |             |                         |        |                 |      |        | 1    |
|          | Stormwater Drainage AIP for Underpass and Depressed Roads and ICE certification (Draft)    | 72 days    | 72 days              | 0 days                | 100%                   | Mon 2/12/19  | Tue 11/2/20  | Mon 2/12/19   | Tue 11/2/20     | Mon 2/12/19   | Tue 11/2/20  | 0 days 1 day       |              |                  |                    |             |                         |        |                 |      |        | 1    |
|          | Submit & endorse by PM   | 51 days    | 51 days              | 0 days                | 30%                    | Wed 12/2/20  | Thu 2/4/20   | Wed 12/2/20   | Thu 2/4/20      | Wed 12/2/20   | Thu 2/4/20   | 0 days 0.5 day     | s 429        |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by Statutory Authorities/Gov. Dept  | 139 days   | s 64 days            | 75 days               | 46%                    | Fri 20/3/20  | Wed 5/8/20   | Fri 20/3/20   | NA              | Fri 20/3/20   | Fri 30/10/20 | 86 days            | 429          |                  |                    |             |                         |        |                 |      |        | 1    |
| 2        | Prepare AIP and ICE certification (Final)  | 150 days   | s 50 days            | 100 days              | 33%                    | Fri 3/4/20   | Sun 30/8/20  | Fri 3/4/20    | NA              | Fri 3/4/20    | Sat 14/11/20 | 76 days            | 431FF+15 d   | ays              |                    |             |                         |        |                 |      |        | 1    |
| 3        | Prepare DDA and ICE certification (Draft)  | 150 days   |                      | 150 days              | 0%                     | Sat 23/5/20  | Mon 19/10/20 |               | NA              | Sat 18/7/20   |              | 56 days 1 day      | 429,432FF+   |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 90 days    |                      | 90 days               | 0%                     | Tue 20/10/20 | Sun 17/1/21  |               | NA              | Tue 15/12/20  |              | 56 days 0.5 day    |              |                  |                    |             |                         |        |                 |      |        |      |
|          |  |            |                      |                       |                        |              |              |               |                 |               |              |                    |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA and ICE certification (Final)  | 31 days    |                      | 31 days               | 0%                     | Mon 18/1/21  | Wed 17/2/21  |               | NA              | Mon 15/3/21   | Wed 14/4/21  | 56 days 1 day      | 434          |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 75 days    |                      | 75 days               | 0%                     | Thu 18/2/21  | Mon 3/5/21   |               | NA              | Thu 15/4/21   | Mon 28/6/21  |                    | 435          |                  |                    |             |                         |        |                 |      |        |      |
|          | Fresh and Salt Water Works AIP for Underpass, Depressed Road and ICE certification (Draft) | 51 days    | 51 days              | 0 days                | 100%                   | Tue 8/10/19  | Wed 27/11/19 | Tue 8/10/19   | Wed<br>27/11/19 | Tue 8/10/19   | Wed 27/11/19 | 0 days 1 day       |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM   | 26 days    | 26 days              | 0 days                | 100%                   | Thu 28/11/19 | Mon 23/12/19 | Thu 28/11/19  |                 | Thu 28/11/19  | Mon 23/12/19 | 0 days 0.5 day     | s 437        |                  |                    |             |                         |        |                 |      |        |      |
|          | Submit & endorse by Statutory Authorities/Gov. Dept  | 14 days    | 14 days              | 0 days                | 100%                   | Wed 8/4/20   | Fri 24/4/20  | Wed 8/4/20    | Fri 24/4/20     | Wed 8/4/20    | Fri 24/4/20  | 0 days 3 days      | 437          |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare AIP for Underpass, Depressed Road and ICE certification (Final)                    | 22 days    | 22 days              | 0 days                | 100%                   | Sat 25/4/20  | Sat 16/5/20  | Sat 25/4/20   | Sat 16/5/20     | Sat 25/4/20   | Sat 16/5/20  | 0 days 0 days      | 438,439      |                  |                    |             |                         |        |                 |      |        |      |
| -        | Prepare DDA for Underpass, Depressed Road and ICE certification (Draft)                    | 90 days    | 0 days               | 90 days               | 0%                     | Sun 17/5/20  | Fri 14/8/20  | NA            | NA              | Fri 2/10/20   | Wed 30/12/20 | 138 days 1 day     | 440          |                  | h III              |             |                         |        |                 |      |        |      |
|          | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 75 days    |                      | 75 days               | 0%                     | Sat 15/8/20  | Wed 28/10/20 |               | NA              | Thu 31/12/20  | Mon 15/3/21  | 138 days 0.5 day   |              |                  |                    |             |                         |        |                 |      |        |      |
|          | Prepare DDA for Underpass, Depressed Road and ICE certification (Final)                    | 30 days    |                      | 30 days               | 0%                     | Thu 29/10/20 |              |               | NA              | Tue 16/3/21   | Wed 14/4/21  | 138 days 0 days    |              |                  |                    |             |                         |        |                 |      |        |      |
| 13       |  |            |                      |                       |                        |              |              |               |                 |               |              |                    |              |                  |                    |             |                         |        |                 |      |        |      |
| 44       | Submit & endorse by PM and Statutory Authorities/Gov. Dept                                 | 75 days    | U days               | 75 days               | 0%                     | Sat 28/11/20 | Wed 10/2/21  | NA            | NA              | Thu 15/4/21   | Mon 28/6/21  | 138 days 0 days    | 443          |                  |                    |             |                         |        |                 |      |        | Ш    |
| e: Rev.1 | I Prog with Progress   | Summary    |                      |                       | Inactive M             | ilestone 🔷   |              | Duration-or   | -               |               | Start-only   | Е                  |              | External Milesto | one $\diamondsuit$ |             | Critical S <sub>I</sub> | plit   |                 |      |        |      |
| 1        | ay-20 Split  | roject Sur | nmary                |                       | Inactive Su            | ımmary       |              | Manual Su     | mmary Rollup    |               | Finish-only  | 3                  |              | Deadline         | 4                  |             | Progress                |        | _               |      |        |      |

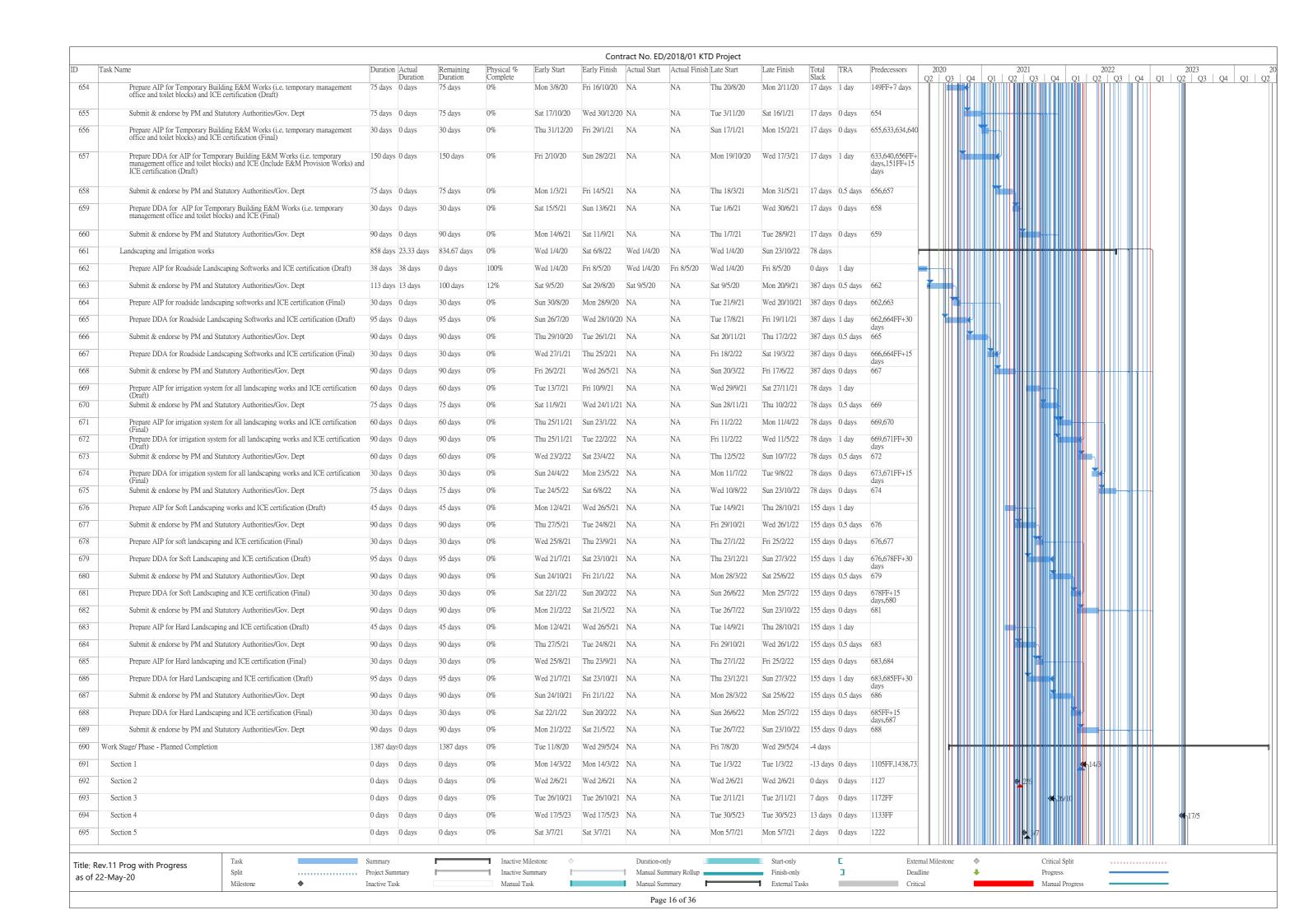




|                       |  |              |                    |                       |                        |                     | Con          | tract No. ED/ | /2018/01 KT   | TD Project   |               |                    |                      |                                  |       |           |                 |                |        |   |             |                |
|-----------------------|--|--------------|--------------------|-----------------------|------------------------|---------------------|--------------|---------------|---------------|--------------|---------------|--------------------|----------------------|----------------------------------|-------|-----------|-----------------|----------------|--------|---|-------------|----------------|
| Task                  | Name   | Duration     | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start         | Early Finish | Actual Start  | Actual Finish | h Late Start | Late Finish   | Total TRA<br>Slack | Predecessors         | 2020                             |       | 01        | 2021<br>O2   O3 | 04 01          | 2022   | 03   04   | 2023        | 03   04        |
| 535                   | Prepare AIP for Salt Water Pumping Station E&M works and ICE certification   | 77 days      |                    | 77 days               | 0%                     | Mon 17/8/20         | Sun 1/11/20  | NA            | NA            | Sun 13/9/20  | Sat 28/11/20  | 27 days 2 days     | 534                  | Q2  <br>                         | ψο Q4 | QI        | Q2   Q3         | Q4   Q1        | 1   Q2 | (2)   (4)   | Q1   Q2   C | <u>23   Q4</u> |
| 36                    | (Final) Prepare DDA for Salt Water Pumping Station E&M works and ICE certification                                   | 120 days     | 0 days             | 120 days              | 0%                     | Tue 4/8/20          | Tue 1/12/20  | NA            | NA            | Mon 31/8/20  | Mon 28/12/20  | 27 days 1 day      | 534FF,535FF          | +3(                              |       |           |                 |                |        |   |             |                |
| 37                    | (Draft) Submit to WSD for Plumbing and Irrigation Works for approval   | 0 days       | 0 days             | 0 days                | 0%                     | Tue 1/12/20         | Tue 1/12/20  | NA            | NA            | Tue 29/12/20 | Tue 29/12/20  | 27 days 1 day      | days,516<br>536      |                                  |       | 1/12      |                 |                |        |   |             |                |
| 38                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 91 days      | 0 days             | 91 days               | 0%                     | Wed 2/12/20         | Tue 2/3/21   | NA            | NA            | Tue 29/12/20 | Mon 29/3/21   | 27 days 1 day      | 536,537              |                                  |       | <b>+</b>  |                 |                |        |   |             |                |
| 39                    | Prepare DDA for Salt Water Pumping Station and ICE certification (Final)   | 31 days      |                    | 31 days               | 0%                     | Wed 3/3/21          | Fri 2/4/21   | NA            | NA            | Tue 30/3/21  | Thu 29/4/21   | 27 days 1 day      | 535FF+6              |                                  |       |           |                 |                |        |   |             |                |
| 40                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 91 days      | -                  | 91 days               | 0%                     | Sat 3/4/21          | Fri 2/7/21   | NA            | NA            | Fri 30/4/21  | Thu 29/7/21   | 27 days 1 day      | days,538<br>539      |                                  |       |           |                 |                |        |   |             |                |
|                       |  |              |                    |                       |                        |                     |              |               |               |              |               |                    | 339                  |                                  |       |           |                 |                |        |   |             |                |
| 541                   | AIP for Remaining Works of Salt Water & Sewerage Pumping and ICE certification (Draft)                               |              |                    | 0 days                | 0%                     | Mon 17/2/20         | Sat 28/3/20  |               |               | Mon 17/2/20  | Sat 28/3/20   | 0 days 1 day       | 4                    |                                  |       |           |                 |                |        |   |             |                |
| 42                    | Submit & endorse by PM   | 18 days      | 18 days            | 0 days                | 100%                   | Mon 30/3/20         | Thu 16/4/20  | Mon 30/3/20   | Thu 16/4/20   | Mon 30/3/20  | Thu 16/4/20   | 0 days             |                      |                                  |       |           |                 |                |        |   |             |                |
| 13                    | Submit & endorse by Statutory Authorities/Gov. Dept  | 90 days      | 0 days             | 90 days               | 0%                     | Mon 3/8/20          | Sat 31/10/20 | NA            | NA            | Sun 14/3/21  | Fri 11/6/21   | 223 days 0.5 day   | s 541,542            |                                  |       |           |                 |                |        |   |             |                |
| 14                    | AIP for Remaining Works of Salt Water Pumping & Sewage and ICE certification (Final)                                 | 90 days      | 0 days             | 90 days               | 0%                     | Sun 1/11/20         | Fri 29/1/21  | NA            | NA            | Sat 12/6/21  | Thu 9/9/21    | 223 days 3 days    | 543                  |                                  |       |           |                 |                |        |   |             |                |
| 45                    | DDA for Remaining Works of Salt Water & Sewage Pumping and ICE certification (Draft)                                 | n 90 days    | 0 days             | 90 days               | 0%                     | Sun 6/12/20         | Fri 5/3/21   | NA            | NA            | Sat 17/7/21  | Thu 14/10/21  | 223 days 1 day     | 541,544FF+35         | 5                                |       |           |                 |                |        |   |             |                |
| 16                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 93 days      | 0 days             | 93 days               | 0%                     | Sat 6/3/21          | Sun 6/6/21   | NA            | NA            | Fri 15/10/21 | Sat 15/1/22   | 223 days 3 days    |                      |                                  |       |           |                 |                |        |   |             |                |
| 17                    | DDA for Remaining Works of Salt Water & Sewage Pumping and ICE certification   | on 35 days   | 0 days             | 35 days               | 0%                     | Mon 7/6/21          | Sun 11/7/21  | NA            | NA            | Sun 16/1/22  | Sat 19/2/22   | 223 days 3 days    | 546,544FF+12         | 2                                |       |           | T <sub>e</sub>  |                |        |   |             |                |
| 48                    | (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 75 days      | 0 days             | 75 days               | 0%                     | Mon 12/7/21         | Fri 24/9/21  | NA            | NA            | Sun 20/2/22  | Thu 5/5/22    | 223 days 2 days    | days<br>547          | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
| 49                    | AIP for Architectural works of Salt Water & Sewage Pumping and ICE certification                                     | on 45 days   | 0 days             | 45 days               | 0%                     | Mon 5/4/21          | Wed 19/5/21  | NA            | NA            | Mon 3/5/21   | Wed 16/6/21   | 28 days 1 day      | 4                    | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
| 50                    | (Draft)  Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days      |                    | 60 days               | 0%                     | Thu 20/5/21         | Sun 18/7/21  |               | NA            | Thu 17/6/21  | Sun 15/8/21   | 28 days 0.5 day    | s 549                | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
| 51                    |  |              |                    |                       | 0%                     | Mon 19/7/21         | Sat 18/9/21  |               | NA            | Mon 16/8/21  |               |                    |                      | $\parallel \parallel \parallel$  |       |           |                 |                |        |   |             |                |
|                       | AIP for Architectural works of Salt Water Pumping & Sewage and ICE certification (Final)                             |              |                    | 62 days               |                        |                     |              |               |               |              | Sat 16/10/21  | 28 days 2 days     |                      |                                  |       |           |                 |                |        |   |             |                |
| 52                    | DDA for Architectural works of Salt Water & Sewage Pumping and ICE certification (Draft)                             | 60 days      |                    | 60 days               | 0%                     | Fri 20/8/21         | Mon 18/10/21 |               | NA            | Fri 17/9/21  |               | 28 days 1 day      | 549,551FF+30<br>days |                                  |       |           |                 |                |        |   |             |                |
| 53                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 60 days      | 0 days             | 60 days               | 0%                     | Tue 19/10/21        | Fri 17/12/21 | NA            | NA            | Tue 16/11/21 | Fri 14/1/22   | 28 days 0.5 day    | s 552                |                                  |       |           |                 |                |        |   |             |                |
| 54                    | DDA for Architectural works of Salt Water & Sewage Pumping and ICE certification (Final)                             | 36 days      | 0 days             | 36 days               | 0%                     | Sat 18/12/21        | Sat 22/1/22  | NA            | NA            | Sat 15/1/22  | Sat 19/2/22   | 28 days 2 days     | 551FF+12<br>days,553 |                                  |       |           |                 |                |        |   |             |                |
| 55                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 62 days      | 0 days             | 62 days               | 0%                     | Sun 23/1/22         | Fri 25/3/22  | NA            | NA            | Sun 20/2/22  | Fri 22/4/22   | 28 days 2 days     | 554                  |                                  |       |           |                 | IIII           |        | $+ \parallel \parallel$ |             |                |
| 56                    | AIP for Landscaping works of Salt Water & Sewage Pumping and ICE certification (Draft)                               | n 45 days    | 0 days             | 45 days               | 0%                     | Mon 5/4/21          | Wed 19/5/21  | NA            | NA            | Sun 2/5/21   | Tue 15/6/21   | 27 days 1 day      | 4                    |                                  |       | 1         |                 |                |        |   |             |                |
| 57                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 61 days      | 0 days             | 61 days               | 0%                     | Thu 20/5/21         | Mon 19/7/21  | NA            | NA            | Wed 16/6/21  | Sun 15/8/21   | 27 days 0.5 day    | s 556                |                                  |       |           |                 |                |        |   |             |                |
| 58                    | AIP for Landscaping works of Salt Water Pumping & Sewage and ICE certification                                       | n 62 days    | 0 days             | 62 days               | 0%                     | Tue 20/7/21         | Sun 19/9/21  | NA            | NA            | Mon 16/8/21  | Sat 16/10/21  | 27 days 2 days     | 556,557              | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
| 59                    | (Final)  DDA for Landscaping works of Salt Water & Sewage Pumping and ICE  | 62 days      |                    | 62 days               | 0%                     | Thu 19/8/21         | Tue 19/10/21 | NA            | NA            | Wed 15/9/21  |               | 27 days 2 days     | 556,558FF+30         |                                  |       |           |                 |                |        |   |             |                |
| 50                    | certification (Draft)  Submit & endorse by PM and Statutory Authorities/Gov. Dept                                    | 61 days      | -                  | 61 days               | 0%                     | Wed 20/10/21        |              |               | NA            | Tue 16/11/21 | Sat 15/1/22   | 27 days 0.5 day    | days                 | $\parallel \parallel \parallel$  |       |           |                 |                |        |   |             |                |
| 61                    | DDA for Landscaping works of Salt Water & Sewage Pumping and ICE   | 35 days      |                    | 35 days               | 0%                     |                     | Sun 23/1/22  |               | NA            | Sun 16/1/22  | Sat 19/2/22   | 27 days 0.5 day    |                      | _                                |       |           |                 |                |        |   |             |                |
|                       | certification (Final)  |              |                    |                       |                        |                     |              |               |               |              |               |                    | days,560             |                                  |       |           |                 |                |        |   |             |                |
| 62                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 61 days      | _                  | 61 days               | 0%                     | Mon 24/1/22         |              |               | NA            | Sun 20/2/22  | Thu 21/4/22   | 27 days 2 days     | 561                  |                                  |       |           |                 |                |        |   |             |                |
| 53                    | AIP for Seawater Intake and Box Culvert Structures for Pumping Station (approx. 160m) (Section 6) Submission (Draft) | 58 days      | 58 days            | 0 days                | 100%                   | Tue 10/12/19        | Wed 5/2/20   | Tue 10/12/19  | Wed 5/2/20    | Tue 10/12/19 | Wed 5/2/20    | 0 days 1 day       |                      |                                  |       |           |                 |                |        |   |             |                |
| 54                    | Submit & endorse by PM   | 25 days      | 25 days            | 0 days                | 33%                    | Wed 5/2/20          | Thu 5/3/20   | Wed 5/2/20    | Thu 5/3/20    | Wed 5/2/20   | Thu 5/3/20    | 0 days 0.5 day     | s 563                |                                  |       |           |                 |                |        |   |             |                |
| 65                    | Submit & endorse by Statutory Authorities/Gov. Dept  | 50 days      | 0 days             | 50 days               | 0%                     | Sat 23/5/20         | Sat 11/7/20  | NA            | NA            | Sun 28/3/21  | Sun 16/5/21   | 309 days 0.5 day   | s 563                |                                  |       |           |                 |                |        |   |             |                |
| 66                    | AIP for Seawater Intake and Box Culvert Structure (Final)  | 21 days      | 0 days             | 21 days               | 0%                     | Sun 12/7/20         | Sat 1/8/20   | NA            | NA            | Mon 17/5/21  | Sun 6/6/21    | 309 days 0.5 day   | s 563,565,564        |                                  |       |           |                 |                |        |   |             |                |
| 67                    | DDA for Seawater Intake and Box Culvert Structure (Draft)  | 15 days      | 0 days             | 15 days               | 0%                     | Sat 25/7/20         | Sat 8/8/20   | NA            | NA            | Sun 30/5/21  | Sun 13/6/21   | 309 days 1 day     | 563,565,564,5        | 566                              |       |           |                 |                |        |   |             |                |
| 68                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days      | 0 days             | 50 days               | 0%                     | Sun 9/8/20          | Sun 27/9/20  | NA            | NA            | Mon 14/6/21  | Mon 2/8/21    | 309 days 0.5 day   | s 567                | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
| 59                    | DDA for Seawater Intake and Box Culvert Structure (Final)  | 15 days      |                    | 15 days               | 0%                     | Mon 28/9/20         | Mon 12/10/20 |               | NA            | Tue 3/8/21   | Tue 17/8/21   | 309 days 1 day     | 567,568,566F         | F+                               |       |           |                 |                |        |   |             |                |
| 70                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   |              |                    | 50 days               | 0%                     | Tue 13/10/20        | Tue 1/12/20  |               | NA            | Wed 18/8/21  | Wed 6/10/21   | 309 days 0.5 day   |                      |                                  |       |           |                 |                |        |   |             |                |
|                       |  | 50 days      |                    |                       |                        |                     |              |               |               |              |               |                    | s JU7                |                                  |       |           |                 |                |        |   |             |                |
| 71                    | Elevated Landscape Deck Staircase & Associated Work  |              |                    | 445.51 days           | 0%                     | Thu 30/5/19         |              | Thu 30/5/19   |               | Thu 30/5/19  | Mon 5/7/21    | 54 days            |                      |                                  |       |           |                 |                |        |   |             |                |
| 72                    | Elevated Landscape Deck Superstructure AIP and ICE certification (Draft)   |              | 96 days            | 0 days                | 100%                   | Thu 30/5/19         |              | Thu 30/5/19   |               |              | Mon 2/9/19    | 0 days 3 days      |                      |                                  |       |           |                 |                |        |   |             |                |
| 73                    | Submit & endorse by PM   | 15 days      | 15 days            | 0 days                | 100%                   | Tue 3/9/19          | Tue 17/9/19  | Tue 3/9/19    | Tue 17/9/19   | Tue 3/9/19   | Tue 17/9/19   | 0 days 1 days      | 572                  |                                  |       |           |                 |                |        |   |             |                |
| 74                    | Submit & endorse by Statutory Authorities/Gov. Dept  | 162 days     | s 162 days         | 0 days                | 0%                     | Tue 24/9/19         | Tue 3/3/20   | Tue 24/9/19   | Tue 3/3/20    | Tue 24/9/19  | Tue 3/3/20    | 0 days 0.5 day     | s 573                |                                  |       |           |                 |                |        |   |             |                |
| 75                    | Prepare AIP and ICE certification (Final)  | 255 days     | s 155 days         | 100 days              | 61%                    | Wed 20/11/19        | Fri 31/7/20  | Wed 20/11/19  | NA            | Wed 20/11/19 | Thu 26/11/20  | 118 days 0.5 day   | s 44FF+12 days       | 8                                | 4-    |           |                 |                |        |   |             |                |
| 76                    | Prepare DDA and ICE certification (Draft)  | 75 days      | 0 days             | 75 days               | 0%                     | Fri 12/6/20         | Sun 30/8/20  | NA            | NA            | Thu 8/10/20  | Sat 26/12/20  | 118 days 1 day     | 574FF+30 day         | ys,                              |       |           |                 |                |        |   |             |                |
| 77                    | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days      | 0 days             | 50 days               | 0%                     | Mon 31/8/20         | Mon 19/10/20 | ) NA          | NA            | Sun 27/12/20 | Sun 14/2/21   | 118 days 0.5 day   | s 576                | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
| 578                   | Prepare DDA for and ICE certification (Final)  | 22 days      | -                  | 22 days               | 0%                     | Tue 20/10/20        |              |               | NA            | Mon 15/2/21  | Mon 8/3/21    | 118 days 1 day     |                      | $-\parallel \parallel \parallel$ |       |           |                 |                |        |   |             |                |
|                       |  |              | - 30,0             |                       |                        | 2.0 20/10/20        | 10/11/20     |               |               |              | 3/3/21        | any o i uny        |                      |                                  |       |           |                 |                |        |   |             |                |
| tlo. D. 41            | Drog with Drogress Task  | Summary      |                    | <u> </u>              | Inactive M             | ilestone $\Diamond$ |              | Duration-or   | ıly           |              | Start-only    | Е                  | E                    | External Milest                  | one   | <b>\$</b> |                 | Critical Split |        |   |             |                |
| le: Rev.1'<br>of 22-M | Prog with Progress   | Project Sun  | nmary              |                       | Inactive Su            |                     |              |               | nmary Rollup  |              | Finish-only   | 3                  |                      | Deadline                         |       | <b>₽</b>  |                 | rogress        | -      |   | _           |                |
| . J. LL 1VI           | Milestone •  | Inactive Tas | sk                 |                       | Manual Ta              | sk                  |              | Manual Sur    | nmarv         |              | External Tasl | cs                 |                      | Critical                         |       |           |                 | Manual Progre  | ess    |   |             |                |

|           |  |             |                    |                       |                        |                    |              |              | /2018/01 KT     |                |              |                    |                |   |            |        |                   |               | <br>         |      |
|-----------|--|-------------|--------------------|-----------------------|------------------------|--------------------|--------------|--------------|-----------------|----------------|--------------|--------------------|----------------|---|------------|--------|-------------------|---------------|--------------|------|
| Task l    | Name   | Duration    | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start        | Early Finish | Actual Start | Actual Finish   | Late Start     | Late Finish  | Total TRA<br>Slack | Predecessors   | 2020<br>Q2                              | Q3   Q4    | Q1   0 | 2021<br>Q2   Q3   | Q4 O1         | 022<br>  Q3  | Q4 ( |
| 9         | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days     | 0 days             | 50 days               | 0%                     | Wed 11/11/20       | Wed 30/12/20 | NA           | NA              | Tue 9/3/21     | Tue 27/4/21  | 118 days 1 day     | 578            |   |            |        |                   |               |              |      |
| )         | Elevated Landscape Deck - Lift (LT1&LT2)& Staircase include E&M Progvision: AIP and ICE Certification (Draft)              | 50 days     | 50 days            | 0 days                | 100%                   | Mon 7/10/19        | Mon 25/11/19 | Mon 7/10/19  | Mon<br>25/11/19 | Mon 7/10/19    | Mon 25/11/19 | 0 days 3 days      | 44FF+12 days   |   |            |        |                   |               |              |      |
| 1         | Submit & endorse by PM   | 21 days     | 21 days            | 0 days                | 100%                   | Tue 26/11/19       | Mon 16/12/19 | Tue 26/11/19 |                 | . Tue 26/11/19 | Mon 16/12/19 | 0 days 1 days      | 580            |   |            |        |                   |               |              |      |
| 2         | Submit & endorse by Statutory Authorities/Gov. Dept  | 120 days    | 85 days            | 35 days               | 71%                    | Fri 28/2/20        | Fri 26/6/20  | Fri 28/2/20  | NA              | Fri 28/2/20    | Thu 13/8/20  | 48 days 1 days     | 580            |   |            |        |                   |               |              | 1    |
| 3         | Prepare AIP and ICE certification (Final)  | 60 days     | 0 days             | 60 days               | 0%                     | Sat 27/6/20        | Tue 25/8/20  | NA           | NA              | Fri 14/8/20    | Mon 12/10/20 | 48 days 0 days     | 580,581,582,44 | .F                                      | 4          |        |                   |               |              | 1    |
| 34        | Prepare DDA and ICE certification (Draft)  | 60 days     | 0 days             | 60 days               | 0%                     | Tue 11/8/20        | Wed 14/10/20 | ) NA         | NA              | Mon 28/9/20    | Tue 1/12/20  | 48 days 1 day      | 580,583FF+50   | d                                       |            |        |                   |               |              | 1    |
| 35        | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 90 days     | 0 days             | 90 days               | 0%                     | Thu 15/10/20       | Tue 12/1/21  | NA           | NA              | Wed 2/12/20    | Mon 1/3/21   | 48 days 0.5 days   | s 584          |   |            |        |                   |               |              | 1    |
| 36        | Prepare DDA for and ICE certification (Final)  | 30 days     | 0 days             | 30 days               | 0%                     | Wed 13/1/21        | Thu 11/2/21  | NA           | NA              | Tue 2/3/21     | Wed 31/3/21  | 48 days 0.5 days   | s 585,583FF+12 | d                                       |            | Me     |                   |               |              | 1    |
| 37        | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 90 days     | 0 days             | 90 days               | 0%                     | Fri 12/2/21        | Wed 12/5/21  | NA           | NA              | Thu 1/4/21     | Tue 29/6/21  | 48 days 2 days     | 586            |   |            |        |                   | _             |              | 1    |
| 38        | Elevated Landscape Deck - Open Space AIP Subm (Draft)  | 50 days     | 50 days            | 0 days                | 100%                   | Mon 10/2/20        | Mon 30/3/20  | Mon 10/2/20  | Mon 30/3/20     | Mon 10/2/20    | Mon 30/3/20  | 0 days 3 days      |                |   | -          |        |                   |               |              | 1    |
| 39        | Submit & endorse by PM   | 21 days     | 21 days            | 0 days                | 100%                   | Mon 30/3/20        | Mon 20/4/20  | Mon 30/3/20  | Mon 20/4/20     | Mon 30/3/20    | Mon 20/4/20  | 0 days 0.5 days    | s 588          |   |            |        |                   |               |              | 1    |
| 00        | Submit & endorse by Statutory Authorities/Gov. Dept  | 50 days     | 0 days             | 50 days               | 0%                     | Mon 6/7/20         | Mon 24/8/20  | NA           | NA              | Mon 28/9/20    | Mon 16/11/20 | 84 days 1 days     | 588            |   |            |        |                   |               |              | 1    |
| 01        | Prepare AIP and ICE certification (Final)  | 30 days     |                    | 30 days               | 0%                     | Tue 25/8/20        | Wed 23/9/20  | NA           | NA              | Tue 17/11/20   |              | 84 days 2 days     | 588,590,44FF+  | 1                                       | <b>T</b> 4 |        |                   |               |              | 1    |
| )2        | Prepare DDA and ICE certification (Draft)  | 75 days     |                    | 75 days               | 0%                     | Thu 24/9/20        | Sat 12/12/20 |              | NA              | Thu 17/12/20   | Sat 6/3/21   | 84 days 1 day      | 590SS,591      | $+\parallel \parallel$                  |            |        |                   |               |              |      |
| 03        | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days     |                    | 50 days               | 0%                     | Sun 13/12/20       | Sun 31/1/21  |              | NA              | Sun 7/3/21     | Sun 25/4/21  | 84 days 0.5 days   |                | $\parallel \parallel \parallel$         |            |        |                   |               |              |      |
| 94        | Prepare DDA for and ICE certification (Final)  | 21 days     |                    | 21 days               | 0%                     | Mon 1/2/21         | Sun 21/2/21  |              | NA              | Mon 26/4/21    | Sun 16/5/21  | 84 days 0.3 days   | 593,591FF+6 d  | a                                       |            |        |                   |               |              |      |
| 05        | Submit & endorse by PM and Statutory Authorities/Gov. Dept   |             |                    | 50 days               | 0%                     | Mon 22/2/21        | Mon 12/4/21  |              | NA              | Mon 17/5/21    | Mon 5/7/21   |                    |                | a,                                      |            |        |                   |               |              | 1    |
|           |  | 50 days     |                    |                       |                        |                    |              |              |                 |                |              | 84 days 0 days     | 394            |   |            |        |                   |               |              | 1    |
| 96        | EVA for Open Space AIP Subm (Draft)  | 71 days     |                    | 0 days                | 100%                   | Mon 10/2/20        |              | Mon 10/2/20  |                 |                | Mon 20/4/20  | 0 days 3 days      | 500            |   |            |        |                   |               |              | 1    |
| 7         | Submit & endorse by PM   |             | 2 days             | 0 days                | 100%                   | Tue 21/4/20        |              | Tue 21/4/20  | Mon 27/4/20     |                | Mon 27/4/20  | 0 days 1 day       | 596            | <b>」'┃ ↓</b> ┃                          |            |        |                   |               |              | 1    |
| 18        | Submit & endorse by Statutory Authorities/Gov. Dept  | 50 days     | -                  | 50 days               | 0%                     | Mon 6/7/20         | Mon 24/8/20  |              | NA              | Sun 4/10/20    |              |                    |                |   |            |        |                   |               |              | 1    |
| )         | Prepare AIP and ICE certification (Final)  | 30 days     |                    | 30 days               | 0%                     | Tue 25/8/20        | Wed 23/9/20  |              | NA              | Mon 23/11/20   | Tue 22/12/20 | 90 days 2 days     | 596,598,44FF+  | 1                                       |            |        |                   |               |              | 1    |
| )         | Prepare DDA and ICE certification (Draft)  | 60 days     | 0 days             | 60 days               | 0%                     | Thu 24/9/20        | Fri 27/11/20 | NA           | NA              | Wed 23/12/20   | Thu 25/2/21  | 90 days 1 day      | 598SS,599      |   |            |        |                   |               |              | 1    |
| l l       | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days     | 0 days             | 50 days               | 0%                     | Sat 28/11/20       | Sat 16/1/21  | NA           | NA              | Fri 26/2/21    | Fri 16/4/21  | 90 days 0.5 days   | s 600          |   |            |        |                   |               |              | 1    |
| 2         | Prepare DDA for and ICE certification (Final)  | 30 days     | 0 days             | 30 days               | 0%                     | Sun 17/1/21        | Mon 15/2/21  | NA           | NA              | Sat 17/4/21    | Sun 16/5/21  | 90 days 0 days     | 599FF+6 days,  | 50                                      |            |        |                   |               |              | 1    |
| 3         | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 50 days     | 0 days             | 50 days               | 0%                     | Tue 16/2/21        | Tue 6/4/21   | NA           | NA              | Mon 17/5/21    | Mon 5/7/21   | 90 days 0 days     | 602            |   |            |        |                   |               |              | 1    |
| 1         | Waterfront Promenade and At-grade Open Space   | 533 days    | 5.98 days          | 527.02 days           | 0%                     | Wed 1/4/20         | Wed 15/9/21  | Wed 1/4/20   | NA              | Wed 1/4/20     | Tue 28/9/21  | 13 days            |                |   |            |        |                   |               |              | 1    |
|           | Prepare AIP for Observation Deck with Lift (LT5) and Staircase and ICE (Include E&M Provision Works) certification (Draft) | 24 days     | 24 days            | 0 days                | 100%                   | Wed 1/4/20         | Fri 24/4/20  | Wed 1/4/20   | Fri 24/4/20     | Wed 1/4/20     | Fri 24/4/20  | 0 days 1 day       |                |   | +          |        |                   |               |              | 1    |
| 6         | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 14 days     | 14 dove            | 0 days                | 0%                     | Fri 24/4/20        | Fri 8/5/20   | Fri 24/4/20  | Fri 8/5/20      | Fri 24/4/20    | Fri 8/5/20   | 0 days 1 day       | 605            | _   🕌                                   |            |        |                   |               |              | 1    |
| 7         | Prepare AIP for Observation Deck with Lift (LT5) and Staircase and ICE (Include  |             |                    |                       | 0%                     | Wed 16/9/20        | Fri 16/10/20 |              | NA              | Thu 22/10/20   | Sat 21/11/20 | 36 days 1 day      | 605,606,647FF  | 6                                       |            |        |                   |               |              | 1    |
| <b>'</b>  | E&M Provision Works) certification (Final)   | 31 days     | 0 days             | 31 days               | 0%                     | wed 10/9/20        | FII 10/10/20 | INA          | NA              | 111u 22/10/20  | Sat 21/11/20 | 30 days 1 day      | 003,000,047FF  | ,0                                      |            |        |                   |               |              | 1    |
| 8         | Prepare DDA for Observation Deck with Lift and Staircase and ICE (Include E&M  | I 100 days  | 0 days             | 100 days              | 0%                     | Sat 17/10/20       | Sun 24/1/21  | NA           | NA              | Sun 22/11/20   | Mon 1/3/21   | 36 days 1 day      | 605,647,654,60 | 7                                       |            | _      |                   |               |              | 1    |
| 9         | Provision Works) certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept                          | 90 days     | 0 days             | 90 days               | 0%                     | Mon 25/1/21        | Sat 24/4/21  | NA           | NA              | Tue 2/3/21     | Sun 30/5/21  | 36 days 0.5 days   | s 608,607      | $\parallel \parallel \parallel$         |            |        |                   |               |              |      |
| )         | Prepare DDA for Observation Deck with Lift and Staircase and ICE (Include E&M  | I 31 days   | 0 days             | 31 days               | 0%                     | Sun 25/4/21        | Tue 25/5/21  | NA           | NA              | Mon 31/5/21    | Wed 30/6/21  | 36 days 1 day      | 609            | $+\parallel\parallel\parallel\parallel$ |            |        | 4                 |               |              |      |
| l         | Provision Works) certification (Final)  Submit & endorse by PM and Statutory Authorities/Gov. Dept                         | 90 days     | 0 days             | 90 days               | 0%                     | Wed 26/5/21        | Mon 23/8/21  | NA           | NA              | Thu 1/7/21     | Tue 28/9/21  | 36 days 2 days     | 610            | $+\parallel\parallel\parallel\parallel$ |            |        |                   |               |              |      |
| 2         |  | 51 days     |                    | 51 days               | 0%                     | Mon 14/9/20        |              |              | NA              | Sun 27/9/20    |              | 13 days 2 days     |                | $\parallel \parallel \parallel$         |            |        |                   |               |              |      |
|           | Prepare AIP for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Draft)        |             | -                  |                       |                        |                    |              |              |                 |                |              |                    |                |   |            |        |                   |               |              |      |
| .3        | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 75 days     | 0 days             | 75 days               | 0%                     | Wed 4/11/20        | Sun 17/1/21  | NA           | NA              | Tue 17/11/20   | Sat 30/1/21  | 13 days 0.5 days   | s 612          |   |            |        |                   |               |              |      |
| .4        | Prepare AIP for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Final)        | 60 days     | 0 days             | 60 days               | 0%                     | Mon 18/1/21        | Thu 18/3/21  | NA           | NA              | Sun 31/1/21    | Wed 31/3/21  | 13 days 2 days     | 612,613        |   |            |        |                   |               |              |      |
| 5         | , , ,  | 75 days     | 0 dave             | 75 days               | 0%                     | Tue 2/2/21         | Sat 17/4/21  | NA           | NA              | Mon 15/2/21    | Fri 30/4/21  | 13 days 1 day      | 612,614FF+30   | $\  \  \ $                              |            |        |                   |               |              |      |
|           | Prepare DDA for Remaining Works at Waterfront Promenade and ICE (Include<br>E&M Provision Works) certification (Draft)     | , J days    | o anys             | 15 days               | 0 70                   | 1 00 212121        | Out 11/4/21  | 1111         | 11/1            | 111011 1314141 | 111 70/7/21  | 15 days 1 day      | days           |   |            |        |                   |               |              |      |
| 5         | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 60 days     | 0 days             | 60 days               | 0%                     | Sun 18/4/21        | Wed 16/6/21  | NA           | NA              | Sat 1/5/21     | Tue 29/6/21  | 13 days 1 day      | 615            | $\parallel \parallel \parallel$         |            |        |                   |               |              |      |
| 7         | Prepare DDA for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Final)        | 31 days     | 0 days             | 31 days               | 0%                     | Thu 17/6/21        | Sat 17/7/21  | NA           | NA              | Wed 30/6/21    | Fri 30/7/21  | 13 days 1 day      | 616,614FF+15   | $\parallel \parallel \parallel$         |            |        | i k               |               |              |      |
|           |  |             |                    |                       |                        |                    |              |              |                 |                |              |                    | days           |   |            |        |                   |               |              |      |
| .8        | Submit & endorse by PM and Statutory Authorities/Gov. Dept   | 60 days     |                    | 60 days               | 0%                     | Sun 18/7/21        | Wed 15/9/21  |              | NA              | Sat 31/7/21    | Tue 28/9/21  | 13 days 1 day      | 617            |   |            |        |                   |               |              |      |
| .9        | AIP for Cladding Design of Landscape Deck, Lifts and associated Works (Draft)  | 31 days     | 0 days             | 31 days               | 0%                     | Mon 20/7/20        | Wed 19/8/20  | NA           | NA              | Fri 21/8/20    | Sun 20/9/20  | 32 days 1 day      |                |   |            |        |                   |               |              |      |
| -         |  |             |                    |                       |                        |                    |              |              |                 |                |              |                    |                |   |            |        | - mai 1: dil 1111 |               | <br>1 11 111 |      |
| e· Rev 11 | Prog with Progress Task  | Summary     |                    |                       | Inactive Mi            | lestone $\Diamond$ |              | Duration-or  | nly             |                | Start-only   | С                  | Ex             | ternal Milesto                          | ne <       | ,      | C                 | ritical Split |              |      |
|           |  | Project Sun | ımary              |                       | Inactive Sur           | mmary              |              | Manual Sur   | nmary Rollup 🛮  |                | Finish-only  | 3                  | De             | adline                                  | 4          |        | Pi                | rogress       |              |      |

|                         |   |             |                      |                       |                        |                          | Con          | liact No. LD, | /2010/01 K   | TD Project    |              |                    |  |  |          |          |            |        |         |    |
|-------------------------|---|-------------|----------------------|-----------------------|------------------------|--------------------------|--------------|---------------|--------------|---------------|--------------|--------------------|--|--|----------|----------|------------|--------|---------|----|
| Task                    | Name  | Duration    | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start              | Early Finish | Actual Start  | Actual Finis | sh Late Start | Late Finish  | Total TRA<br>Slack | Predecessors                           |  | , , , ,  | 202      | 21         | 01   . | 2022    |    |
| 520                     | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 63 days     | 0 days               | 63 days               | 0%                     | Thu 20/8/20              | Wed 21/10/20 | ) NA          | NA           | Mon 21/9/20   | Sun 22/11/20 | 32 days 3 day      | rs 619                                 | Q2   Q3  | 3   Q4   | Q1 Q2    | Q3   Q4    | Q1 C   | 22   Q3 | Q4 |
| 521                     | AIP for Cladding Design of Landscape Deck, Lifts and associated Works (Final)   | 52 days     | 0 days               | 52 days               | 0%                     | Thu 22/10/20             | Sat 12/12/20 | NA            | NA           | Mon 23/11/20  | Wed 13/1/21  | 32 days 2 day      | rs 619,620                             |  |          |          |            |        |         |    |
| 522                     | DDA for Cladding Design of Landscape Deck, Lifts and associated Works (Draft)   | 61 days     | 0 days               | 61 days               | 0%                     | Thu 12/11/20             | Mon 11/1/21  | NA            | NA           | Mon 14/12/20  | Fri 12/2/21  | 32 days 1 day      | 619,621FF+30                           |  |          | 4        |            |        |         |    |
| 23                      | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days     | _                    | 60 days               | 0%                     | Tue 12/1/21              | Fri 12/3/21  |               | NA           | Sat 13/2/21   | Tue 13/4/21  | 32 days 1 day      | days                                   |  |          |          |            |        |         |    |
| 24                      |   |             |                      |                       |                        |                          |              |               |              |               |              |                    |  |  |          |          |            |        |         |    |
|                         | DDA for Cladding Design of Landscape Deck, Lifts and associated Works (Final)   | 21 days     | -                    | 21 days               | 0%                     | Sat 13/3/21              |              | NA            | NA           | Wed 14/4/21   | Tue 4/5/21   | 32 days 1 day      |  | 3  |          |          |            |        |         |    |
| 5                       | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 62 days     | 0 days               | 62 days               | 0%                     | Sat 3/4/21               |              | NA            | NA           | Wed 5/5/21    | Mon 5/7/21   | 32 days 2 day      |  |  |          |          |            |        |         |    |
| 16                      | AIP for Balustrade and Railing of Promenade, Open Space and Assocated Works (Draft)   | 30 days     | 0 days               | 30 days               | 0%                     | Sat 1/8/20               | Sun 30/8/20  | NA            | NA           | Tue 29/9/20   | Wed 28/10/20 | 59 days 1 day      | 7                                      |  |          |          |            |        |         |    |
| 27                      | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days     | 0 days               | 60 days               | 0%                     | Mon 31/8/20              | Thu 29/10/20 | NA            | NA           | Thu 29/10/20  | Sun 27/12/20 | 59 days 1 day      | 626                                    |  |          |          |            |        |         |    |
| 8                       | AIP for Balustrade and Railing of Promenade, Open Space and Assocated Works (Final)   | 25 days     | 0 days               | 25 days               | 0%                     | Fri 30/10/20             | Mon 23/11/20 | ) NA          | NA           | Mon 28/12/20  | Thu 21/1/21  | 59 days 0.5 d      | ays 626,627                            |  | 1        |          |            |        |         |    |
| 9                       | DDA for Balustrade and Railing of Promenade, Open Space and Assocated Works   | 50 days     | 0 days               | 50 days               | 0%                     | Wed 4/11/20              | Wed 23/12/20 | ) NA          | NA           | Sat 2/1/21    | Sat 20/2/21  | 59 days 1 day      | 626,628FF+30                           |  | T T      |          |            |        |         |    |
| 0                       | (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days     | 0 days               | 60 days               | 0%                     | Thu 24/12/20             | Sun 21/2/21  | NA            | NA           | Sun 21/2/21   | Wed 21/4/21  | 59 days 0 day      | rs 629                                 |  |          |          |            | 4      |         |    |
| 1                       | DDA for Balustrade and Railing of Promenade, Open Space and Assocated Works   | 15 days     | 0 days               | 15 days               | 0%                     | Mon 22/2/21              | Mon 8/3/21   | NA            | NA           | Thu 22/4/21   | Thu 6/5/21   | 59 days 1 day      | 628,629,630                            |  |          | <u> </u> |            |        |         |    |
| 2                       | (Final)  Submit & endorse by PM and Statutory Authorities/Gov. Dept   |             | 0 days               | 60 days               | 0%                     | Tue 9/3/21               | Fri 7/5/21   | NA            | NA           | Fri 7/5/21    | Mon 5/7/21   | 59 days 0 day      |  |  |          | <b>-</b> |            |        |         |    |
| 3                       | Prepare AIP for Permanent Building Works (i.e. Ampitheater, Observation Tower,  |             |                      |                       | 0%                     | Wed 29/7/20              | Sat 26/9/20  |               | NA           | Thu 20/8/20   |              |                    |  |  |          |          |            |        |         |    |
|                         | Prepare AIP for Permanent Building Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Draft)                                   | oo days     | o uays               | 60 days               | U 70                   | weu 29/1/20              | Sat 20/9/20  | INA           | INA          | 1110 ZU/8/ZU  | Sun 18/10/20 | 22 days 1 day      | 147FF+/ days                           |  |          |          |            |        |         |    |
| 4                       | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days     | 0 days               | 60 days               | 0%                     | Sun 27/9/20              | Wed 25/11/20 | ) NA          | NA           | Tue 3/11/20   | Fri 1/1/21   | 37 days 0.5 d      | ays 633                                | $-\parallel \parallel \parallel \parallel \parallel$ |          |          |            |        |         |    |
|                         | Prepare AIP for Permanent Building Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House  | 30 days     | 0 days               | 30 days               | 0%                     | Thu 26/11/20             | Fri 25/12/20 | NA            | NA           | Sat 2/1/21    | Sun 31/1/21  | 37 days 0 day      | rs 633,634                             | $-\parallel \parallel \parallel \parallel$           |          |          |            |        |         |    |
|                         | Building Blocks) and ICE certification (Final)  |             |                      |                       |                        |                          |              |               |              |               |              |                    |  |  |          |          |            |        |         |    |
| •                       | Prepare DDA for Permanent Building Works (i.e. Ampitheater, Observation Tower Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Draft)                                    | , 100 day   | s 0 days             | 100 days              | 0%                     | Fri 2/10/20              | Sat 9/1/21   | NA            | NA           | Sun 8/11/20   | Mon 15/2/21  | 37 days 1 day      | 633,635FF+15<br>days,151FF+1:<br>days  |  |          | <b>(</b> |            |        |         |    |
|                         | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 75 days     | 0 days               | 75 days               | 0%                     | Sun 10/1/21              | Thu 25/3/21  | NA            | NA           | Tue 16/2/21   | Sat 1/5/21   | 37 days 0.5 d      | ays 635,636                            | _  |          |          |            |        |         |    |
|                         | Prepare DDA for Permanent Building Works (i.e. Ampitheater, Observation Tower Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) nd ICE certification (Final)                                     |             |                      | 30 days               | 0%                     | Fri 26/3/21              | Sat 24/4/21  |               | NA           | Sun 2/5/21    | Mon 31/5/21  | 37 days 0 day      |  |  |          |          |            |        |         |    |
|                         |   |             |                      |                       |                        |                          |              |               |              |               |              |                    |  |  |          |          |            |        |         |    |
|                         | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 75 days     | 0 days               | 75 days               | 0%                     | Sun 25/4/21              | Thu 8/7/21   | NA            | NA           | Tue 1/6/21    | Sat 14/8/21  | 37 days 0.5 d      | ays 635,636,638                        |  |          |          |            |        |         |    |
|                         | Prepare AIP for Permanent Building E&M Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Draft)                               | 75 days     | 0 days               | 75 days               | 0%                     | Tue 14/7/20              | Sat 26/9/20  | NA            | NA           | Wed 5/8/20    | Sun 18/10/20 | 22 days 1 day      | 149FF+7 days                           |  | <b>4</b> |          |            |        |         |    |
|                         | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days     | 0 days               | 60 days               | 0%                     | Sun 27/9/20              | Wed 25/11/20 | ) NA          | NA           | Mon 19/10/20  | Thu 17/12/20 | 22 days 0.5 d      | ays 640                                |  |          |          |            |        |         |    |
| 2                       | Prepare AIP for Permanent Building E&M Works (i.e. Observation Tower, Toilet  | 30 days     | 0 days               | 30 days               | 0%                     | Thu 26/11/20             | Fri 25/12/20 | NA            | NA           | Fri 18/12/20  | Sat 16/1/21  | 22 days 0 day      | rs 640,641                             |  |          |          |            |        |         |    |
|                         | Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Final)   |             |                      |                       |                        |                          |              |               |              |               |              |                    |  |  |          |          |            |        |         |    |
| 3                       | Prepare DDA for Permanent Building E&M Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE (Include E&M Provision Works) certification (Draft) | 120 day     | s 0 days             | 120 days              | 0%                     | Sun 27/9/20              | Sun 24/1/21  | NA            | NA           | Mon 19/10/20  | Mon 15/2/21  | 22 days 1 day      | 640,642FF+30<br>days,151FF+1:<br>days  |  |          | <b>*</b> |            |        |         |    |
| 14                      | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 60 days     | 0 days               | 60 days               | 0%                     | Mon 25/1/21              | Thu 25/3/21  | NA            | NA           | Tue 16/2/21   | Fri 16/4/21  | 22 days 0.5 d      | ays 642,643                            | $-\parallel \parallel \parallel \parallel \parallel$ |          |          |            |        |         |    |
| 15                      | Prepare DDA for Permanent Building E&M Works (i.e. Ampitheater, Observation   |             |                      | 30 days               | 0%                     | Fri 26/3/21              | Sat 24/4/21  |               | NA           | Sat 17/4/21   | Sun 16/5/21  | 22 days 0 day      |  | $-\parallel \parallel \parallel \parallel \parallel$ |          |          |            |        |         |    |
|                         | Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) nd ICE certification (Final)  | 50 days     | o days               | Jo days               | 0.10                   | 111 20/3/21              | Out 21/1/21  | 141           | 141          | Jul 177 1721  | Suii 10/3/21 | 22 days 0 day      | 5 011                                  |  |          |          |            |        |         |    |
|                         |   | 00.1        | 0.1                  | 00.1                  | 001                    | 0 25/4/21                | E : 02/7/01  | NT A          | NT A         | M 17/5/01     | 0 . 1.4/0/01 | 22.1 0.5.1         | (40.640.645                            |  |          |          |            |        |         |    |
| 5                       | Submit & endorse by PM and Statutory Authorities/Gov. Dept  |             | 0 days               | 90 days               | 0%                     | Sun 25/4/21              | Fri 23/7/21  |               | NA           | Mon 17/5/21   | Sat 14/8/21  |                    | ays 642,643,645                        |  |          |          |            |        |         |    |
|                         | Prepare AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE certification (Draft)   | 75 days     | 0 days               | 75 days               | 0%                     | Mon 3/8/20               | Fri 16/10/20 | NA            | NA           | Thu 20/8/20   | Mon 2/11/20  | 17 days 1 day      | 149FF+7 days                           |  |          |          |            |        |         |    |
| 3                       | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 75 days     | 0 days               | 75 days               | 0%                     | Sat 17/10/20             | Wed 30/12/20 | ) NA          | NA           | Tue 3/11/20   | Sat 16/1/21  | 17 days 0 day      | rs 647                                 |  |          |          |            |        |         |    |
| 9                       | Prepare AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE certification (Final)   | 30 days     | 0 days               | 30 days               | 0%                     | Thu 31/12/20             | Fri 29/1/21  | NA            | NA           | Sun 17/1/21   | Mon 15/2/21  | 17 days 0 day      | rs 633,634,648,6                       | 540  |          | <b>2</b> |            |        |         |    |
| )                       | Prepare DDA for AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE (Include E&M Provision Works) and ICE certification (Draft)   | 150 day     | s 0 days             | 150 days              | 0%                     | Fri 2/10/20              | Sun 28/2/21  | NA            | NA           | Mon 19/10/20  | Wed 17/3/21  | 17 days 1 day      | 633,640,649FF<br>days,151FF+1:<br>days |  |          | -        |            |        |         |    |
|                         | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 75 days     | 0 days               | 75 days               | 0%                     | Mon 1/3/21               | Fri 14/5/21  | NA            | NA           | Thu 18/3/21   | Mon 31/5/21  | 17 days 0.5 d      | ays 649,650                            |  |          |          |            |        |         |    |
| 52                      | Prepare DDA for AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE (Final)   | 30 days     | 0 days               | 30 days               | 0%                     | Sat 15/5/21              | Sun 13/6/21  | NA            | NA           | Tue 1/6/21    | Wed 30/6/21  | 17 days 0 day      | rs 651                                 |  |          | X.       |            |        |         |    |
| 53                      | Submit & endorse by PM and Statutory Authorities/Gov. Dept  | 90 days     | 0 days               | 90 days               | 0%                     | Mon 14/6/21              | Sat 11/9/21  | NA            | NA           | Thu 1/7/21    | Tue 28/9/21  | 17 days 0 day      | rs 652                                 |  |          |          |            |        |         |    |
| lo. Do: 1               | Programith Progress Task  | Summary     |                      |                       | Inactive N             | filestone $\diamondsuit$ |              | Duration-or   | nly          |               | Start-only   | Е                  | Ez                                     | xternal Mileston                                     | e 🔷      |          | Critical S | plit   | 1111    |    |
| ile: Rev.1<br>s of 22-M | Prog with Progress  | Project Sur | nmary                |                       | Inactive S             |                          |              |               | mmary Rollup |               | Finish-only  | 3                  |  | Deadline   | 4        |          | Progress   |        | _       |    |



|          |  |                        |                    |                       |                        |              |              |                         | 2018/01 KT            |              |                        |                |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
|----------|--|------------------------|--------------------|-----------------------|------------------------|--------------|--------------|-------------------------|-----------------------|--------------|------------------------|----------------|----------|--------------------|-------------------|---------------|----|------------|-------------------|-------------------|------|-----------|----|--------------|------|----------|
| Та       | sk Name  | Duration               | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start            | Actual Finish         | Late Start   | Late Finish            | Total<br>Slack | TRA      | Predecessors       | 2020<br>O2   O    | 3   Q4        | 01 | 2021<br>Q2 |                   | 04 0              | 1 Q2 | 2022      | 04 | 01   0       | 2023 | Q4 Q1    |
| 96       | Section 6  | 0 days                 | 0 days             | 0 days                | 0%                     | Thu 18/5/23  | Thu 18/5/23  | NA                      | NA                    | Tue 30/5/23  | Tue 30/5/23            | 12 days        | 0 days   | 1357FF,1546FF,     |                   |               |    |            |                   |                   |      |           |    | 4            | 18/5 | <u> </u> |
| 597      | Section 7  | 0 days                 | 0 days             | 0 days                | 0%                     | Wed 29/5/24  | Wed 29/5/24  | NA                      | NA                    | Wed 29/5/24  | Wed 29/5/24            | 0 days         | 0 days   | 1549FF             |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 98       | Section 8  | 0 days                 | 0 days             | 0 days                | 0%                     | Wed 24/11/21 | Wed 24/11/21 | NA                      | NA                    | Thu 2/12/21  | Thu 2/12/21            | 8 days         | 0 days   | 1144FF             |                   |               |    |            |                   | <b>≪</b> -24/1 I  |      |           |    |              |      |          |
| 599      | Section 9  | 0 days                 | 0 days             | 0 days                | 0%                     | Sat 3/7/21   | Sat 3/7/21   | NA                      | NA                    | Mon 5/7/21   | Mon 5/7/21             | 2 days         | 0 days   | 1222               |                   |               |    | e l        | 3/7               |                   |      |           |    |              |      |          |
| 700      | Section 10   | 0 days                 | 0 days             | 0 days                | 0%                     | Thu 11/5/23  | Thu 11/5/23  | NA                      | NA                    | Tue 30/5/23  | Tue 30/5/23            | 19 days        | 0 days   | 1559FF             |                   |               |    |            |                   |                   |      |           |    |              | 11/5 |          |
| 701      | KD1  | 0 days                 | 0 days             | 0 days                | 0%                     | Tue 11/8/20  | Tue 11/8/20  | NA                      | NA                    | Fri 7/8/20   | Fri 7/8/20             | -4 days        | 0 days   | 758                |                   | 11/8          |    |            |                   |                   |      |           |    |              |      |          |
| 702      | KD2  | 0 days                 | 0 days             | 0 days                | 0%                     | Sat 17/4/21  | Sat 17/4/21  | NA                      | NA                    | Sun 18/4/21  | Sun 18/4/21            | 1 day          | 0 days   | 791,821,771,774    |                   | <b>†     </b> |    | ↑ 77/4     |                   |                   |      |           |    |              |      |          |
| 703      | KD3  | 0 days                 | 0 days             | 0 days                | 0%                     | Mon 26/4/21  | Mon 26/4/21  |                         | NA                    | Tue 1/6/21   | Tue 1/6/21             | 36 days        | -        | 822,821            |                   |               | 4  | 70.614     |                   |                   |      |           |    |              |      |          |
| 704      | KD4  |                        | 0 days             | 0 days                | 0%                     | Fri 28/1/22  | Fri 28/1/22  |                         | NA                    | Mon 31/1/22  | Mon 31/1/22            | 3 days         |          | 1255FF             |                   |               |    |            |                   |                   | 08/1 |           |    |              |      |          |
| 705      | KD5  |                        | 0 days             | 0 days                | 0%                     | Fri 25/6/21  |              | NA                      | NA                    | Fri 17/9/21  | Fri 17/9/21            | 84 days        |          | 1252FF             |                   |               |    |            | 516               |                   | 10/1 |           |    |              |      |          |
|          |  |                        |                    |                       |                        |              |              |                         |                       |              |                        |                |          |                    |                   |               |    | 1          | : <del>)/</del> C |                   |      |           |    |              |      |          |
| 706      | KD6  | 0 days                 | 0 days             | 0 days                | 0%                     | Tue 21/12/21 | Tue 21/12/21 |                         | NA                    | Wed 29/12/21 | Wed 29/12/21           | -              |          | 883                |                   |               |    |            |                   | 2.1               | 12   |           |    |              |      |          |
| 707      | KD7  | 0 days                 | 0 days             | 0 days                | 0%                     | Thu 19/8/21  | Thu 19/8/21  |                         | NA                    | Fri 3/6/22   | Fri 3/6/22             | 288 days       | 0 days   | 1254FF             |                   |               |    |            | <del>(19/8</del>  |                   |      |           |    |              |      |          |
| 08 C     | onstruction Works  | 1499 day               | /s 75.67 days      | 1423.33 days?         | 0%                     | Thu 16/5/19  | Wed 29/5/24  | Thu 16/5/19             | NA                    | Thu 16/5/19  | Wed 29/5/24            | 0 days?        |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 709      | Procurement of Materials and Equipments  | 615 days               | 12.7 days          | 602.3 days            | 0%                     | Thu 8/8/19   | Wed 1/9/21   | Thu 8/8/19              | NA                    | Thu 8/8/19   | Tue 22/2/22            | 140 days       |          |                    |                   |               |    |            | 7                 |                   |      |           |    |              |      |          |
| 10       | Office Accommodation   | 21 days                | 21 days            | 0 days                | 100%                   | Thu 8/8/19   | Fri 20/12/19 | Thu 8/8/19              | Fri 20/12/19          | Thu 8/8/19   | Fri 20/12/19           | 0 days         | 1 day    |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 711      | Lift Submission Preparation  | 15 days                | 0 days             | 15 days               | 0%                     | Sat 12/9/20  | Sat 26/9/20  | NA                      | NA                    | Wed 23/9/20  | Wed 7/10/20            | 11 days        | 0.5 days | 173                |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 712      | Lift Comment & Approval  | 21 days                | 0 days             | 21 days               | 0%                     | Sun 27/9/20  | Sat 17/10/20 | NA                      | NA                    | Thu 8/10/20  | Wed 28/10/20           | 11 days        | 0.5 days | 711                |                   | K             |    |            |                   |                   |      |           |    |              |      |          |
| 13       | Lifts ((5 nos)   | 180 days               | 0 days             | 180 days              | 0%                     | Sun 18/10/20 | Thu 15/4/21  | NA                      | NA                    | Thu 29/10/20 | Mon 26/4/21            | 11 days        | 30 days  | 712                |                   |               |    |            |                   |                   |      | $\coprod$ | +  | $\vdash$ $ $ |      |          |
| 714      | Pumps for Pump Room next to Underpass  | 150 days               | 0 days             | 150 days              | 0%                     | Sat 23/5/20  | Thu 19/11/20 | NA                      | NA                    | Wed 8/7/20   | Tue 5/1/21             | 37 days        | 30 days  |                    |                   |               |    |            |                   |                   |      | Щ         |    |              |      |          |
| 15       | Elevated landscape deck soffit panels  | 120 days               | 0 days             | 120 days              | 0%                     | Mon 14/9/20  | Sat 6/2/21   | NA                      | NA                    | Thu 4/2/21   | Mon 5/7/21             | 117 days       | 30 days  |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 16       | Underpass & Depressed Rd - facades   | 120 days               |                    | 120 days              | 0%                     | Tue 1/12/20  | Thu 29/4/21  | NA                      | NA                    | Wed 12/5/21  | Mon 4/10/21            | 129 days       |          |                    |                   |               |    |            | Щ                 |                   |      |           |    |              |      |          |
| 17       | E & M equipment & fittings (for Open space & Promenade)  | 120 days               |                    | 120 days              | 0%                     | Tue 6/4/21   | Fri 27/8/21  |                         | NA                    | Mon 27/9/21  | Tue 22/2/22            | 144 days       |          |                    |                   |               |    |            |                   |                   |      | Ш         |    |              |      |          |
| 18       | Bridge Parapet Fabrication   | 120 days               |                    | 120 days              | 0%                     | Mon 16/11/20 |              |                         | NA                    | Wed 26/5/21  | Wed 22/9/21            | 191 days       |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 719      | Pumps for Salt and Sewage Pumping Stations   |                        |                    |                       |                        | Mon 5/4/21   | Wed 1/9/21   |                         |                       | Sun 19/9/21  | Tue 15/2/22            |                |          |                    |                   |               |    |            | Ш                 |                   |      |           |    |              |      |          |
|          |  | 150 days               |                    | 150 days              | 0%                     |              |              |                         | NA                    |              |                        | 167 days       | 30 days  |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 20       | Excavation Permit  | 300 days               |                    | 300 days              | 0%                     | Mon 31/8/20  |              | NA                      | NA                    | Mon 23/11/20 | Tue 1/3/22             | 69 days        |          |                    |                   |               |    |            | 71                |                   |      |           |    |              |      |          |
| 721      | TTA Application for Junction Modification Rd L6 & D2   | 182 days               |                    | 182 days              | 0%                     | Tue 1/9/20   | Mon 1/3/21   |                         | NA                    | Mon 23/11/20 |                        | 83 days        |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 22       | Interfaced DCS 3 x DN150mm chilled water pipes under contract no. 2852EM17A and 4 nos. of signaling cable along North Approach Ramp and Gate 3B (Agreed) | 1 368 days             | 0 days             | 368 days              | 0%                     | Mon 31/8/20  | Thu 2/9/21   | NA                      | NA                    | Sat 27/2/21  | Tue 1/3/22             | 180 days       | 3 day    |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 23       | Section 1  | 842 days               | 107.17 days        | 734.83 days           | 0%                     | Thu 16/5/19  | Mon 14/3/22  | Thu 16/5/19             | NA                    | Thu 16/5/19  | Wed 29/5/24            | 657 days       |          | -                  |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 24       | Agree Interface Coordination Plan with CKR & KTSP  | 14 days                | 14 days            | 0 days                | 100%                   | Tue 27/8/19  | Wed 11/9/19  | Tue 27/8/19             | Wed 11/9/19           | Tue 27/8/19  | Wed 11/9/19            | 0 days         | 0 days   | 1225,1226          |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 25       | Ground Investigation   | 341 days               | 193.02 days        | 147.98 days           | 0%                     | Thu 12/9/19  | Thu 5/11/20  | Thu 12/9/19             | NA                    | Thu 12/9/19  | Sat 13/8/22            | 526 days       |          | _                  |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 26       | GI Work  | 318 days               | 180 days           | 138 days              | 57%                    | Thu 12/9/19  | Thu 5/11/20  | Thu 12/9/19             | NA                    | Thu 12/9/19  | Sat 13/8/22            | 526 days       | 0.5 days | 724                |                   |               |    |            |                   |                   |      | Щ         |    |              |      |          |
| 27       | Part 1 - Junction Modification Rd L6 & D2  | 414 days               | 0 days             | 414 days              | 0%                     | Mon 5/10/20  | Fri 25/2/22  | NA                      | NA                    | Mon 23/11/20 | Tue 1/3/22             | 3 days         |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 28       | XP Application for Junction Modification Rd L6 & D2  | 182 days               |                    | 182 days              | 0%                     | Mon 5/10/20  |              | NA                      | NA                    | Mon 23/11/20 |                        | 49 days        | 1 day    |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 29       | Stage 1: Trial Pit to locate the existing underground cables and utilities   |                        |                    |                       | 0%                     |              |              | NA                      | NA                    | Mon 24/5/21  |                        |                |          | 141,375,721,728    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
|          |  | 14 days                |                    | 14 days               |                        | Thu 20/5/21  |              |                         |                       |              | Tue 8/6/21             | -              | 1 day    |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 30       | Stage 2: Trial Pit to locate the existing underground cables and utilities   | 14 days                |                    | 14 days               | 0%                     | Sat 5/6/21   | Tue 22/6/21  |                         | NA                    | Wed 9/6/21   | Fri 25/6/21            |                |          | 729                |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 31       | Stage 3: East Bound + Drop Kerb Modification + Road Marking  | 76 days                |                    | 76 days               | 0%                     | Wed 23/6/21  | Mon 20/9/21  |                         | NA                    | Sat 26/6/21  | Fri 24/9/21            | -              |          | 730                |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 32       | Stage 4: TTA for Central Divider   | 76 days                | 0 days             | 76 days               | 0%                     | Tue 21/9/21  | Tue 21/12/21 |                         | NA                    | Sat 25/9/21  | Fri 24/12/21           | 3 days         | 1        | 731,113            |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 33       | Stage 5: Construct 2 Dividers  | 51 days                | 0 days             | 51 days               | 0%                     | Wed 22/12/21 | Fri 25/2/22  | NA                      | NA                    | Tue 28/12/21 | Tue 1/3/22             | 3 days         | 1 day    | 732                |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 34       | Bridge D3 (Approach Ramp and Bridge) CH1087-1444.7   | 812 days               | 91.74 days         | 720.26 days           | 0%                     | Thu 16/5/19  | Mon 7/2/22   | Thu 16/5/19             | NA                    | Mon 11/11/19 | Wed 29/5/24            | 687 days       |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 35       | North Approach Ramp  | 636 days               | 66.85 days         | 569.15 days           | 0%                     | Wed 25/12/19 | Fri 18/2/22  | Wed 25/12/19            | NA                    | Wed 25/12/19 | Tue 1/3/22             | 9 days         |          | -                  |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 36       | Procurement of Movement Joints for Bridge Works  | 180 days               | 0 days             | 180 days              | 0%                     | Tue 11/8/20  | Sat 6/2/21   | NA                      | NA                    | Fri 9/10/20  | Tue 6/4/21             | 59 days        | 30 days  | 194,220            |                   | •             |    |            |                   |                   |      |           |    |              |      |          |
| 737      | Sheetpile Driven along North, Sourth & East Side ELS Cofferdam (assume 169 long)   | 4 days                 | 4 days             | 0 days                | 100%                   | Tue 14/1/20  | Fri 17/1/20  | Tue 14/1/20             | Fri 17/1/20           | Tue 14/1/20  | Fri 17/1/20            | 0 days         | 0.5 day  |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 738      | KTSP Completed Driven H-pile Installation  | 41 days                | 41 days            | 0 days                | 100%                   | Wed 25/12/19 | Mon 3/2/20   | Wed 25/12/19            | Mon 3/2/20            | Wed 25/12/19 | Mon 3/2/20             | 0 days         |          |                    |                   |               |    |            |                   |                   |      |           |    |              |      |          |
| 739      | Hoarding Removal along KTSP Site   | 5 days                 | 5 days             | 0 days                | 100%                   | Tue 4/2/20   | Sat 8/2/20   | Tue 4/2/20              | Sat 8/2/20            | Tue 4/2/20   | Sat 8/2/20             | 0 days         | 0.5 day  | 738                |                   |               |    |            |                   |                   |      |           |    |              |      |          |
|          | Τ _  |                        | 1                  |                       |                        |              |              |                         |                       |              |                        |                |          |                    | 11                | 1 11 11 11 11 |    |            |                   |                   |      |           |    |              |      |          |
|          | 11 Prog with Progress  | Summary<br>Project Sun | nmarv              |                       | Inactive M Inactive Su |              |              | Duration-on  Manual Sun | ly   <br>nmary Rollup |              | Start-only Finish-only |                | [<br>]   | Externa<br>Deadlin | ıl Milestor<br>ne | ne 🔷          |    |            |                   | cal Split<br>ress |      |           |    |              |      |          |
| s of 22- | May-20   | Inactive Ta            |                    | -                     | Manual Ta              |              |              | Manual Sun              |                       |              | External Tas           | ,              | _        | Critical           |                   | _             |    |            |                   | ual Progre        |      |           |    |              |      |          |

|                  |  |             |                      |                       |                        |                     | Con          | tract No. ED,         | /2018/01 KT    | D Project    |              |                |          |                     |   |          |                          |          |                 |    |         |     |
|------------------|--|-------------|----------------------|-----------------------|------------------------|---------------------|--------------|-----------------------|----------------|--------------|--------------|----------------|----------|---------------------|---|----------|--------------------------|----------|-----------------|----|---------|-----|
| Task Nam         | 2  | Duration    | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start         | Early Finish | Actual Start          | Actual Finish  | Late Start   | Late Finish  | Total<br>Slack | TRA      | Predecessors        | 2020  | Q3   Q4  | 2021<br>O1   O2   O3   C | 4 01 (   | 2022<br>Q2   Q3 | 04 | Q1   Q2 | 023 |
| 740              | Sheetpile Driven along Western ELS Cofferdam (assume 105m long)  | 8 days      | 8 days               | 0 days                | 100%                   | Tue 11/2/20         | Wed 19/2/20  | Tue 11/2/20           | Wed 19/2/20    | Tue 11/2/20  | Wed 19/2/20  | 0 days         | 0.5 day  | 737,739             |   | 2        |                          |          | ¥2 V3           |    | ×1   V2 |     |
| 741              | Excavattion with Shoring and Waling Installation with Rock Fill Replacement include Sand Raplacemnet Test with PWRL for KD1  | 44 days     | 44 days              | 0 days                | 100%                   | Thu 20/2/20         | Wed 15/4/20  | Thu 20/2/20           | Wed 15/4/20    | Thu 20/2/20  | Wed 15/4/20  | 0 days         | 1 day    |                     |   |          |                          |          |                 |    |         |     |
| 742              | Remaining Excavation with Shoring and Waling Installation with Rock Fill Replacement include Sand Raplacement Test with PWRL | 37 days     | 0 days               | 37 days               | 0%                     | Tue 6/10/20         | Wed 18/11/20 | ) NA                  | NA             | Tue 13/10/20 | Wed 25/11/20 | 6 days         | 2 days   | 741,761             |   |          |                          |          |                 |    |         |     |
| 743              | North Approach Ramp (Bays No.2,3,4&5) (Next to BEM) (KD1)  | 106 day     | s 34.01 days         | 71.99 days            | 0%                     | Wed 1/4/20          | Tue 11/8/20  | Wed 1/4/20            | NA             | Wed 1/4/20   | Fri 7/8/20   | -3 days        |          |                     | <del>-  -  -  -  -  -  -  -  -  -  -  -  -  -</del> | 1        |                          |          |                 |    |         |     |
| 744              | Bay No.3 Base Slab with Blinding (1)+(2)   | 15 days     | 15 days              | 0 days                | 100%                   | Wed 1/4/20          | Wed 22/4/20  | Wed 1/4/20            | Wed 22/4/20    | Wed 1/4/20   | Wed 22/4/20  | 0 days         | 0.5 days | 741SS+35 day        | /S  |          |                          |          |                 |    |         |     |
| 745              | Bay No.3: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former  | er) 42 days | 22 days              | 20 days               | 45%                    | Wed 22/4/20         | Thu 11/6/20  | Wed 22/4/20           | NA             | Wed 22/4/20  | Thu 11/6/20  | -3 days        |          | 744                 |   |          |                          |          |                 |    |         |     |
| 746              | May 2020 Inclement Weather   | 3 days      | 0 days               | 3 days                | 0%                     | Fri 12/6/20         | Mon 15/6/20  | NA                    | NA             | Tue 9/6/20   | Thu 11/6/20  | -3 days        |          | 745,74SS            |   |          |                          |          |                 |    |         |     |
| 47               | Bay No. 3: Wall & Column Casted and Formwork & Falsework upto Soffit of  | of 15 days  | 0 days               | 15 days               | 0%                     | Tue 16/6/20         | Sat 4/7/20   | NA                    | NA             | Fri 12/6/20  | Tue 30/6/20  | -3 days        | 1 day    | 745,746             |   |          |                          |          |                 |    |         |     |
| 748              | Top Slab(6)+(7)  Bay No. 3: Top Slab Construction with Formwork & Falsework Erection(8)                                      | 12 days     | 0 days               | 12 days               | 0%                     | Mon 6/7/20          | Sat 18/7/20  | NA                    | NA             | Thu 2/7/20   | Wed 15/7/20  | -3 days        | 1 day    | 747                 |   |          |                          |          |                 |    |         |     |
| 749              | Bay No.2 Base Slab with Blinding (1)+(2)   | 11 days     | 11 days              | 0 days                | 100%                   | Tue 28/4/20         | Tue 12/5/20  | Tue 28/4/20           | Tue 12/5/20    | Tue 28/4/20  | Tue 12/5/20  | 0 days         | 1 day    | 741FS+2 days        |   |          |                          |          |                 |    |         |     |
| 750              | Bay No.2: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme   |             |                      | 17 days               | 25%                    | Sat 16/5/20         |              |                       | NA             | Sat 16/5/20  | Thu 11/6/20  | -1 day         | 1 day    | 749                 |   |          |                          |          |                 |    |         |     |
| 751              | (3)+(4)+(5)  Bay No. 2: Wall & Column Casted and Formwork & Falsework upto Soffit of   | ,           |                      | 18 days               | 0%                     | Fri 12/6/20         | Sat 4/7/20   | NA                    | NA             | Thu 11/6/20  | Fri 3/7/20   | -1 day         |          | 750                 | <b></b> ││ <b>│</b>                                 |          |                          |          |                 |    |         |     |
| 752              | Top Slab (6)+(7)  Bay No. 2: Top Slab Construction with Formwork & Falsework Erection(8)                                     |             |                      |                       | 0%                     | Wed 8/7/20          | Tue 21/7/20  |                       | NA<br>NA       | Sat 4/7/20   | Fri 17/7/20  |                | 1 day    | 751,748FF+2         |   |          |                          |          |                 |    |         |     |
|                  | , , , , , , , , , , , , , , , , , , ,  |             |                      | 12 days               |                        |                     |              |                       |                |              |              | -3 days        |          | days                |   |          |                          |          |                 |    |         |     |
| 753              | Bay No.4 Base Slab with Blinding (1)+(2)   |             | 15 days              | 0 days                | 100%                   | Wed 1/4/20          | Wed 13/5/20  |                       | Wed 13/5/20    |              | Wed 13/5/20  | 0 days         | 1 day    | 741SS+35 day        |   |          |                          |          |                 |    |         |     |
| 754              | Bay No.4: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme (3)+(4)+(5)   |             |                      | 14 days               | 36%                    | Thu 14/5/20         | Tue 9/6/20   | Thu 14/5/20           |                | Thu 14/5/20  | Tue 9/6/20   | -3 days        | 1 day    | 753,750SS+7<br>days |   |          |                          |          |                 |    |         |     |
| 755              | Bay No. 4: Wall & Column Casted and Formwork & Falsework upto Soffit of Top Slab (6)+(7)                                     | of 20 days  | 0 days               | 20 days               | 0%                     | Wed 10/6/20         | Sat 4/7/20   | NA                    | NA             | Sat 6/6/20   | Tue 30/6/20  | -3 days        | 1 day    | 754                 |   |          |                          |          |                 |    |         |     |
| 756              | Bay No. 4: Top Slab Construction with Formwork & Falsework Erection (8)  | 14 days     | 0 days               | 14 days               | 0%                     | Mon 6/7/20          | Tue 21/7/20  | NA                    | NA             | Thu 2/7/20   | Fri 17/7/20  | -3 days        | 1 day    | 755,751SS+4<br>days |   |          |                          |          |                 |    |         |     |
| 757              | Backfill (9)   | 12 days     | 0 days               | 12 days               | 0%                     | Wed 22/7/20         | Tue 4/8/20   | NA                    | NA             | Sat 18/7/20  | Fri 31/7/20  | -3 days        | 0.5 days | 756,752,748         |   |          |                          |          |                 |    |         |     |
| 758              | Sheetpile Extraction and Road Reinstatement (10) (KD1)   | 6 days      | 0 days               | 6 days                | 0%                     | Wed 5/8/20          | Tue 11/8/20  | NA                    | NA             | Sat 1/8/20   | Fri 7/8/20   | -3 days        | 0.5 days | 757                 | i   | *        |                          |          |                 |    |         |     |
| 759              | North Approach Ramp (Bays No.5 & 6) (Next to BEM)  | 92 days     | 0 days               | 92 days               | 0%                     | Mon 24/8/20         | Mon 23/11/20 | ) NA                  | NA             | Thu 27/8/20  | Thu 17/12/20 | 3 days         |          |                     |   |          |                          |          |                 |    |         |     |
| 760              | Bay No.5 Base Slab with Blinding (1+2)   | 8 days      | 0 days               | 8 days                | 0%                     | Thu 10/9/20         | Fri 18/9/20  | NA                    | NA             | Mon 14/9/20  | Tue 22/9/20  | 3 days         | 1 day    | 749,753SS+4         | da  | <b>-</b> |                          |          |                 |    |         |     |
| 761              | Bay No.5: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former  | er) 12 days | 0 days               | 12 days               | 0%                     | Sat 19/9/20         | Mon 5/10/20  | NA                    | NA             | Wed 23/9/20  | Thu 8/10/20  | 3 days         | 1 day    | 760                 |   | K        |                          |          |                 |    |         |     |
| 762              | (3+4+5)  Bay No. 5: Wall & Column Casted and Formwork & Falsework upto Soffit of   | of 20 days  | 0 days               | 20 days               | 0%                     | Tue 6/10/20         | Thu 29/10/20 | NA                    | NA             | Fri 9/10/20  | Mon 2/11/20  | 3 days         | 1 day    | 761,755SS+4         | -   | <b>-</b> |                          |          |                 |    |         |     |
| 763              | Top Slab (6)+(7)  Bay No. 5: Top Slab Construction with Formwork & Falsework Erection &                                      | 12 days     | 0 days               | 12 days               | 0%                     | Fri 30/10/20        | Thu 12/11/20 | NA                    | NA             | Tue 3/11/20  | Mon 16/11/20 | 3 days         | 1 day    | days<br>762,227FF   | -   |          |                          |          |                 |    |         |     |
| 764              | Removal (8)  Bay No.6 Base Slab with Blinding (1)+(2)  | 15 days     | 0 days               | 15 days               | 0%                     | Mon 24/8/20         | Wed 9/9/20   | NA                    | NA             | Thu 27/8/20  | Sat 12/9/20  | 3 days         | 1 day    | 741SS+35 day        | /S  |          |                          |          |                 |    |         |     |
| 765              | Bay No.6: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme   |             |                      | 17 days               | 0%                     | Thu 10/9/20         | Tue 29/9/20  |                       | NA             | Wed 7/10/20  | Tue 27/10/20 |                |          | 764                 |   |          |                          |          |                 |    |         |     |
| 766              | (3)+(4)+(5)  Bay No. 6: Wall & Column Casted and Formwork & Falsework upto Soffit of   |             |                      | 27 days               | 0%                     | Wed 30/9/20         | Tue 3/11/20  |                       | NA             | Wed 28/10/20 | Fri 27/11/20 | 21 days        |          | 765                 |   |          |                          |          |                 |    |         |     |
| 767              | Top Slab(6)+(7)  |             |                      |                       |                        |                     |              |                       |                |              |              |                | 1        |                     |   |          |                          |          |                 |    |         |     |
|                  | Bay No. 6: Top Slab Construction with Formwork & Falsework Erection & Removal (8)  |             |                      | 17 days               | 0%                     | Wed 4/11/20         |              |                       | NA             | Sat 28/11/20 | Thu 17/12/20 |                | 1 day    | 765,766             |   |          |                          |          |                 |    |         |     |
| 768              | North Approach Ramp (Bays 7&8) (Next to BEM)   |             | 0 days               | 56 days               | 0%                     | Tue 26/1/21         | Wed 7/4/21   |                       | NA             | Tue 26/1/21  | Sat 17/4/21  | 0 days         |          |                     |   |          |                          |          |                 |    |         |     |
| 769              | Bay 7: Blinding  | 1 day       | 0 days               | 1 day                 | 0%                     | Tue 26/1/21         | Tue 26/1/21  | NA                    | NA             | Tue 26/1/21  | Tue 26/1/21  | 0 days         | 0.5 days | 816,767             |   |          | <u> </u>                 |          |                 |    |         |     |
| 770              | Bay 7: Base slab   | 9 days      | 0 days               | 9 days                | 0%                     | Wed 27/1/21         |              | NA                    | NA             | Wed 27/1/21  | Fri 5/2/21   | 0 days         | 1 day    | 816,769             |   |          |                          |          |                 |    |         |     |
| 771              | Bay 7: Wall  | 13 days     | 0 days               | 13 days               | 0%                     | Sat 6/2/21          | Wed 24/2/21  | NA                    | NA             | Wed 31/3/21  | Sat 17/4/21  | 42 days        | 1 day    | 819,770             |   |          |                          |          |                 |    |         |     |
| 772              | Bay 8: Blinding  | 1 day       | 0 days               | 1 day                 | 0%                     | Wed 27/1/21         | Wed 27/1/21  | NA                    | NA             | Fri 5/2/21   | Fri 5/2/21   | 8 days         | 0.5 days | 769                 | 7   |          |                          |          |                 |    |         |     |
| 773              | Bay 8: Base slab   | 9 days      | 0 days               | 9 days                | 0%                     | Sat 6/2/21          | Fri 19/2/21  | NA                    | NA             | Sat 6/2/21   | Fri 19/2/21  | 0 days         | 1 day    | 816,770,772         |   |          | <b>K</b>                 |          |                 |    |         |     |
| 774              | Bay 8: Wall  | 13 days     | 0 days               | 13 days               | 0%                     | Sat 20/2/21         | Sat 6/3/21   | NA                    | NA             | Sat 20/2/21  | Sat 6/3/21   | 0 days         | 1 day    | 773,819             |   |          |                          |          |                 |    |         |     |
| 775              | Bays No.7&8: Backfilling   | 15 days     | 0 days               | 15 days               | 0%                     | Mon 8/3/21          | Wed 24/3/21  | NA                    | NA             | Thu 18/3/21  | Wed 7/4/21   | 9 days         | 1 day    | 774,767             | $\parallel \parallel \parallel$                     |          |                          |          |                 |    |         |     |
| 776              | Bays No.7&8: Extract Sheetpile   | 9 days      | 0 days               | 9 days                | 0%                     | Thu 25/3/21         | Wed 7/4/21   | NA                    | NA             | Thu 8/4/21   | Sat 17/4/21  | 9 days         | 0.5 days | 775                 | $\parallel \parallel \parallel$                     |          |                          |          |                 |    |         |     |
| 777              | North Approach Ramp (Bays No.2,3,4) (Next to KTSP)   | 149 day     | s 0 days             | 149 days              | 0%                     | Mon 17/8/20         | Tue 12/1/21  | NA                    | NA             | Tue 25/8/20  | Fri 5/2/21   | 8 days         |          |                     | $\parallel \parallel \parallel$                     |          | <del>-</del>             |          |                 |    |         |     |
| 778              | Bay No.3 Base Slab with Blinding (1)+(2)   |             | 0 days               | 15 days               | 0%                     | Mon 24/8/20         |              |                       | NA             | Tue 1/9/20   | Thu 17/9/20  | 7 days         | 1 day    |                     | $\parallel \parallel \parallel$                     |          |                          |          |                 |    |         |     |
| 779              | Bay No.3: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme   |             |                      | 17 days               | 0%                     | Thu 10/9/20         | Tue 29/9/20  |                       | NA             | Wed 7/10/20  | Tue 27/10/20 |                |          | 778                 | $\parallel \parallel \parallel$                     |          |                          |          |                 |    |         |     |
| 780              | (3)+(4)+(5)  Bay No. 3: Wall & Column Casted and Formwork & Falsework upto Soffit of   |             |                      | 27 days               | 0%                     | Wed 30/9/20         |              |                       | NA             | Wed 7/10/20  |              | 21 days        |          | 779                 |   |          |                          |          |                 |    |         |     |
|                  | Top Slab(6)+(7)  |             |                      |                       |                        |                     |              |                       |                |              |              |                |          |                     | _   |          |                          |          |                 |    |         |     |
| 781              | Bay No. 3: Top Slab Construction with Formwork & Falsework Erection & Removal (8)  |             |                      | 17 days               | 0%                     | Wed 4/11/20         | Mon 23/11/20 |                       | NA             | Sat 28/11/20 | Thu 17/12/20 |                | 1        | 779,780             |   |          |                          |          |                 |    |         |     |
| 782              | Bay No.2 Base Slab with Blinding (1)+(2)   |             | 0 days               | 15 days               | 0%                     | Mon 17/8/20         | Wed 2/9/20   |                       | NA             | Tue 25/8/20  |              | 7 days         |          | 778FS-21 day        | S   |          |                          |          |                 |    |         |     |
| 783              | Bay No.2: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme (3)+(4)+(5)   | er) 17 days | 0 days               | 17 days               | 0%                     | Thu 3/9/20          | Tue 22/9/20  | NA                    | NA             | Wed 7/10/20  | Tue 27/10/20 | 27 days        | 1 day    | 782                 |   |          |                          |          |                 |    |         |     |
| itle: Rev.11 Pro | og with Progress   | Summary     |                      |                       | Inactive M             | ilestone $\Diamond$ |              | Duration-or           |                |              | Start-only   |                | С        |                     | xternal Milesto                                     |          |                          | al Split |                 |    |         |     |
| s of 22-May-2    | Split  | Project Sur | mmary                |                       | Inactive Su  Manual Ta |                     |              | Manual Sur Manual Sur | mmary Rollup 🕳 |              | Finish-only  |                | 3        | D                   | eadline   | 1        | Progr                    | èss      |                 |    |         |     |

|                |   |                        |                    |                       |                        |              |              | ract No. ED/            |                |              |                        |                |          |                  |                     |                     |  |                            |                     |         |
|----------------|---|------------------------|--------------------|-----------------------|------------------------|--------------|--------------|-------------------------|----------------|--------------|------------------------|----------------|----------|------------------|---------------------|---------------------|--|----------------------------|---------------------|---------|
| Task Name      |   | Duration               | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start            | Actual Finish  | Late Start   | Late Finish            | Total<br>Slack | TRA      | Predecessors     | 2020<br>Q2   Q3     | 04 01               | 2021   | 3   Q4   Q1                | 2022<br>1   Q2   Q3 | Q4 Q1   |
| 34             | Bay No. 2: Wall & Column Casted and Formwork & Falsework upto Soffit of Top Slab(6)+(7) | 27 days                |                    | 27 days               | 0%                     | Wed 23/9/20  | Tue 27/10/20 | NA                      | NA             | Wed 28/10/20 | Fri 27/11/20           | 27 days        | 1 day    | 783              | X2 X3               | χ-                  |  |                            | 42   43             | 77 - 21 |
| 35             | Bay No. 2: Top Slab Construction with Formwork & Falsework Erection & Removal (8)       | 17 days                | 0 days             | 17 days               | 0%                     | Wed 28/10/20 | Mon 16/11/20 | NA                      | NA             | Sat 28/11/20 | Thu 17/12/20           | 27 days        | 1 day    | 783,784          |                     |                     |  |                            |                     |         |
| 36             | Bay No.4 Base Slab with Blinding (1)+(2)  | 15 days                | 0 days             | 15 days               | 0%                     | Tue 18/8/20  | Thu 3/9/20   | NA                      | NA             | Wed 26/8/20  | Fri 11/9/20            | 7 days         | 1 day    | 782SS+1 day      | <b>*</b>            |                     |  |                            |                     |         |
| 37             | Bay No.4: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former                 | ) 17 days              | 0 days             | 17 days               | 0%                     | Fri 4/9/20   | Wed 23/9/20  | NA                      | NA             | Sat 12/9/20  | Sat 3/10/20            | 7 days         | 1 day    | 786              |                     | ,                   |  |                            |                     |         |
| 38             | (3)+(4)+(5)  Bay No. 4: Wall & Column Casted and Formwork & Falsework upto Soffit of    | 27 days                | 0 days             | 27 days               | 0%                     | Thu 24/9/20  | Wed 28/10/20 | NA                      | NA             | Mon 5/10/20  | Thu 5/11/20            | 7 days         | 1 day    | 787              |                     |                     |  |                            |                     |         |
| 39             | Top Slab(6)+(7) Bay No. 4: Top Slab Construction with Formwork & Falsework Erection &   |                        |                    | 17 days               | 0%                     | Thu 29/10/20 |              |                         | NA             | Fri 6/11/20  | Wed 25/11/20           |                | 1 day    | 787,788          |                     |                     |  |                            |                     |         |
| 00             | Removal (8)  Bay No.2,3&4: Backfilling upto +3.0mPD                                     | 28 days                |                    | 28 days               | 0%                     | Tue 24/11/20 | Mon 28/12/20 |                         | NA             | Fri 18/12/20 | Fri 22/1/21            |                |          | 789,785,781,767  |                     |                     |  |                            |                     |         |
|                |   |                        |                    |                       |                        |              |              |                         |                |              |                        | 21 days        |          |                  |                     |                     |  |                            |                     |         |
| 91             | Bay No.4: Sheetpile Extraction (KD2)  | 12 days                |                    | 12 days               | 0%                     | Tue 29/12/20 |              |                         | NA             | Sat 23/1/21  | Fri 5/2/21             |                | 0.5 days | 790              |                     |                     |  |                            |                     |         |
|                | North Approach Ramp (Bays No.5,6) (Next to KTSP)  | 141 days               |                    | 141 days              | 0%                     |              | Wed 7/4/21   |                         | NA             | Thu 26/11/20 | Sat 10/4/21            | 3 days         |          |                  |                     | 1                   | T'   |                            |                     |         |
| 13             | Bay No.5 Base Slab with Blinding (1)+(2)  | 15 days                | 0 days             | 15 days               | 0%                     | Mon 23/11/20 | Wed 9/12/20  | NA                      | NA             | Thu 26/11/20 | Sat 12/12/20           | 3 days         | 1 day    | 741SS+35 days,   |                     | <b>1</b>            |  |                            |                     |         |
| )4             | Bay No.5: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former)                | 17 days                | 0 days             | 17 days               | 0%                     | Thu 10/12/20 | Thu 31/12/20 | NA                      | NA             | Mon 14/12/20 | Tue 5/1/21             | 3 days         | 1 day    | 793              |                     |                     |  |                            |                     |         |
| 05             | Bay No. 5: Wall & Column Casted and Formwork & Falsework upto Soffit of Top Slab(6)+(7) | 27 days                | 0 days             | 27 days               | 0%                     | Sat 2/1/21   | Tue 2/2/21   | NA                      | NA             | Wed 6/1/21   | Fri 5/2/21             | 3 days         | 1 day    | 794              |                     |                     |  |                            |                     |         |
| 96             | Bay No. 5: Top Slab Construction with Formwork & Falsework Erection &                   | 17 days                | 0 days             | 17 days               | 0%                     | Wed 3/2/21   | Thu 25/2/21  | NA                      | NA             | Sat 6/2/21   | Mon 1/3/21             | 3 days         | 1 day    | 794,795,791      |                     | 1                   |  |                            |                     |         |
| 07             | Removal (8) Bay No.6 Base Slab with Blinding (1)+(2)                                    | 15 days                | 0 days             | 15 days               | 0%                     | Wed 18/11/20 | Fri 4/12/20  | NA                      | NA             | Thu 26/11/20 | Sat 12/12/20           | 7 days         | 1 day    | 789              |                     |                     |  |                            |                     |         |
| 08             | Bay No.6: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former                 | ) 17 days              | 0 days             | 17 days               | 0%                     | Sat 5/12/20  | Thu 24/12/20 | NA                      | NA             | Mon 14/12/20 | Tue 5/1/21             | 7 days         | 1 day    | 797              |                     |                     |  |                            |                     |         |
| 9              | (3)+(4)+(5)  Bay No. 6: Wall & Column Casted and Formwork & Falsework upto Soffit of    |                        | 1                  | 27 days               | 0%                     | Mon 28/12/20 |              |                         | NA             | Wed 6/1/21   | Fri 5/2/21             |                |          | 798              |                     |                     |  |                            |                     |         |
| 00             | Top Slab (6)+(7)  Bay No. 6: Top Slab Construction with Formwork & Falsework Erection & |                        |                    | 17 days               | 0%                     | Fri 29/1/21  | Sat 20/2/21  |                         | NA             | Sat 6/2/21   | Mon 1/3/21             |                |          | 798,799          |                     |                     |  |                            |                     |         |
|                | Removal (8)   |                        |                    |                       |                        |              |              |                         |                |              |                        |                |          |                  |                     |                     |  |                            |                     |         |
| 01             | Bay No.5&6: Backfilling upto +3.0mPD  | 26 days                |                    | 26 days               | 0%                     | Fri 26/2/21  |              | NA                      | NA             | Tue 2/3/21   | Wed 31/3/21            |                | 1 day    | 790,800,796      |                     |                     |  |                            |                     |         |
| )2             | Bay No.5&6: Sheetpile Extraction (KD2)  | 6 days                 |                    | 6 days                | 0%                     | Mon 29/3/21  | Wed 7/4/21   |                         | NA             | Thu 1/4/21   | Sat 10/4/21            |                | 0.5 days | 801,791          |                     |                     |  |                            |                     |         |
| 13             | North Approach Ramp (Bays 7&8) (Next to KTSP)   | 79 days                | 0 days             | 79 days               | 0%                     | Fri 29/1/21  | Sat 17/4/21  | NA                      | NA             | Thu 11/2/21  | Sat 17/4/21            | 0 days         |          |                  |                     | 1                   | <del> </del>                                 |                            |                     |         |
| )4             | Bay 7: Base slab  | 9 days                 | 0 days             | 9 days                | 0%                     | Fri 29/1/21  | Mon 8/2/21   | NA                      | NA             | Thu 11/2/21  | Wed 24/2/21            | 11 days        | 0.5 days | 816,799          |                     |                     |  |                            |                     |         |
| )5             | Bay 7: Wall   | 12 days                | 0 days             | 12 days               | 0%                     | Mon 8/3/21   | Sat 20/3/21  | NA                      | NA             | Mon 8/3/21   | Sat 20/3/21            | 0 days         | 1 day    | 804,819,774      |                     |                     |  |                            |                     |         |
| 6              | Bay 8: Base slab  | 9 days                 | 0 days             | 9 days                | 0%                     | Tue 9/2/21   | Mon 22/2/21  | NA                      | NA             | Thu 25/2/21  | Sat 6/3/21             | 11 days        | 0.5 days | 804,816          |                     |                     |  |                            |                     |         |
| 7              | Bay 8: Wall   | 12 days                | 0 days             | 12 days               | 0%                     | Tue 23/2/21  | Mon 8/3/21   | NA                      | NA             | Mon 8/3/21   | Sat 20/3/21            | 11 days        | 1 day    | 806,819          |                     |                     |  |                            |                     |         |
| 3              | Bays No.7&8: Backfilling  | 15 days                | 0 days             | 15 days               | 0%                     | Mon 22/3/21  | Sat 10/4/21  | NA                      | NA             | Mon 22/3/21  | Sat 10/4/21            | 0 days         | 1 day    | 807,805          |                     |                     |  |                            |                     |         |
| 9              | Bays No.7&8: Extract Sheetpile  | 6 days                 | 0 days             | 6 days                | 0%                     | Mon 12/4/21  | Sat 17/4/21  | NA                      | NA             | Mon 12/4/21  | Sat 17/4/21            | 0 days         | 1 day    | 808,801,802      |                     |                     |  |                            |                     |         |
| 0              | CH1087-1189 (100m): North Approach Ramp: Parapet, Central Median &                      | 77 days                |                    | 77 days               | 0%                     | Mon 19/4/21  | Wed 21/7/21  | NA                      | NA             | Thu 23/9/21  | Tue 14/12/21           |                | -        | 718              |                     |                     | 4  |                            |                     |         |
|                | Furniture CH1087-1189: Parapet (28m per day per team) x 1 team + 6 day concreting       |                        |                    | 23 days               | 0%                     | Mon 19/4/21  | Sat 15/5/21  |                         | NA             | Thu 23/9/21  | Thu 21/10/21           | 130 days       | 2 day    | 809,776,821      |                     |                     | <b>                                     </b> |                            |                     |         |
|                |   |                        |                    |                       |                        |              |              |                         |                |              |                        |                | -        |                  |                     |                     | 1  |                            |                     |         |
| 2              | CH1087-1189: Central Median and Utilties Trough (6m per day per team) x 1 team          |                        |                    | 25 days               | 0%                     | Thu 27/5/21  | Fri 25/6/21  |                         | NA             | Fri 22/10/21 | Fri 19/11/21           | 122 days       |          | 811,236          |                     |                     |  |                            |                     |         |
| 3              | CH1087-1189: Road Furniture   | 21 days                |                    | 21 days               | 0%                     | Sat 26/6/21  | Wed 21/7/21  | NA                      | NA             | Sat 20/11/21 | Tue 14/12/21           | 122 days       | 3 days   | 812,358          |                     |                     |  |                            |                     |         |
| .4             | North Approach Ramp: Bay No. 1  | 135 days               | 0 days             | 135 days              | 0%                     | Fri 14/8/20  | Mon 25/1/21  | NA                      | NA             | Fri 14/8/20  | Mon 25/1/21            | 0 days         |          |                  |                     | 1                   |  |                            |                     |         |
| .5             | Bay 1: Base slab  | 27 days                | 0 days             | 27 days               | 0%                     | Fri 14/8/20  | Mon 14/9/20  | NA                      | NA             | Fri 14/8/20  | Mon 14/9/20            | 0 days         | 0.5 days | 834              |                     |                     |  |                            |                     |         |
| .6             | Bay 1: Wall   | 83 days                | 0 days             | 83 days               | 0%                     | Fri 16/10/20 | Mon 25/1/21  | NA                      | NA             | Fri 16/10/20 | Mon 25/1/21            | 0 days         | 3 days   | 819              |                     |                     |  |                            |                     |         |
| .7             | Part 3G - CH1189.4 to CH1229 North Abutment   | 180 days               | 0 days             | 180 days              | 0%                     | Tue 15/9/20  | Mon 26/4/21  | NA                      | NA             | Tue 15/9/20  | Mon 26/4/21            | 0 days         |          |                  |                     |                     |  |                            |                     |         |
| .8             | North Abutment  | 180 days               | 0 days             | 180 days              | 0%                     | Tue 15/9/20  | Mon 26/4/21  | NA                      | NA             | Tue 15/9/20  | Mon 26/4/21            | 0 days         |          |                  |                     |                     |  |                            |                     |         |
| 9              | North Abutment - Base Slab  | 25 days                | 0 days             | 25 days               | 0%                     | Tue 15/9/20  | Thu 15/10/20 | NA                      | NA             | Tue 15/9/20  | Thu 15/10/20           | 0 days         | 1 day    | 815              |                     | للللل               |  |                            |                     |         |
| 20             | North Abutment Wall (3.85m thk)   | 37 days                |                    | 37 days               | 0%                     | Tue 26/1/21  | Fri 12/3/21  | NA                      | NA             | Tue 26/1/21  | Fri 12/3/21            | 0 days         | 1 day    | 816              |                     | ¥.                  |  |                            |                     |         |
| 21             | North Abutment Wall (0.5m thk) (KD2) (KD3)  | 28 days                |                    | 28 days               | 0%                     | Sat 13/3/21  | Sat 17/4/21  |                         | NA             | Sat 13/3/21  | Sat 17/4/21            |                | -        | 820              |                     |                     | <u>_</u>                                     |                            |                     |         |
|                |   |                        |                    |                       |                        |              |              |                         |                |              |                        |                |          |                  |                     |                     |  |                            |                     |         |
| 22             | Install bridge bearing  | 7 days                 |                    | 7 days                | 0%                     | Mon 19/4/21  | Mon 26/4/21  |                         | NA             | Mon 19/4/21  | Mon 26/4/21            | 0 days         | U.J GAÝS | 021,730          |                     |                     |  |                            |                     |         |
|                | At Grade Road Works CH1000-2124   | 157 days               |                    | 157 days              | 0%                     | Tue 10/8/21  | Fri 18/2/22  |                         | NA             | Thu 4/11/21  | Tue 1/3/22             | 9 days         |          |                  |                     |                     |  |                            |                     |         |
| 1              | CH1000-1087 At grade road works   | 60 days                |                    | 60 days               | 0%                     | Tue 10/8/21  | Thu 21/10/21 |                         | NA             | Wed 15/12/21 | Tue 1/3/22             | 106 days       | -        | 776,809,332,341  |                     |                     |  |                            |                     |         |
| 25             | CH1444.7-1560 At grade road works   | 45 days                | 0 days             | 45 days               | 0%                     | Wed 22/12/21 | Fri 18/2/22  | NA                      | NA             | Wed 5/1/22   | Tue 1/3/22             | 9 days         | 1 day    | 1293,826,219     |                     |                     |  |                            |                     |         |
| 26             | Ch2050 to 2124: At grade road works   | 50 days                | 0 days             | 50 days               | 0%                     | Mon 25/10/21 | Tue 21/12/21 | NA                      | NA             | Thu 4/11/21  | Tue 4/1/22             | 9 days         | 1 day    | 1438,219         |                     |                     |  |                            |                     |         |
| 27 Brid        | lge D3 Bored Pile   | 17 days                | 17 days            | 0 days                | 0%                     | Tue 19/11/19 | Thu 5/12/19  | Tue 19/11/19            | Thu 5/12/19    | Tue 19/11/19 | Thu 5/12/19            | 0 days         |          |                  |                     |                     |  |                            |                     |         |
| 28             | Pre-drilling Works  | 15 days                | 15 days            | 0 days                | 100%                   | Tue 19/11/19 | Thu 5/12/19  | Tue 19/11/19            | Thu 5/12/19    | Tue 19/11/19 | Thu 5/12/19            | 0 days         | 0.5 day  |                  |                     |                     |  |                            |                     |         |
|                | Tool  | Cumm                   |                    |                       |                        | ilectors     |              | Dt                      | alv.           |              | Ctn-4 1                |                | г        | P.               | in I Milanter       |                     |  | Critical S. 1's            | <u> </u>            |         |
| e: Rev.11 Prog | with Progress   | Summary<br>Project Sun | nmary              |                       | Inactive M Inactive Su | _            |              | Duration-on  Manual Sun | nmary Rollup 🔳 |              | Start-only Finish-only |                | ]        | Extern<br>Deadli | al Milestone<br>ine | <ul><li>*</li></ul> |  | Critical Split<br>Progress |                     |         |
| of 22-May-20   |   | Inactive Ta            |                    |                       | Manual Ta              |              |              | Manual Sun              |                |              | External Tasl          |                |          | Critica          |                     |                     |  | Manual Progre              | 229                 |         |

|             |   |                        |                      |                       |                        |              |              | tract No. ED,           |                        |                |                        |                |          |                 |   |              |                 |                     |             |      |                 |     |
|-------------|---|------------------------|----------------------|-----------------------|------------------------|--------------|--------------|-------------------------|------------------------|----------------|------------------------|----------------|----------|-----------------|---|--------------|-----------------|---------------------|-------------|------|-----------------|-----|
| Task Na     | ame   | Duration               | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start            | Actual Finish          | Late Start     | Late Finish            | Total<br>Slack | TRA      | Predecessors    | 2020<br>Q2 Q2   | 3   04       | 021<br>  Q3   Q | 04 01               | 202<br>  Q2 | 4 01 | 2023<br>Q2   Q3 | 04  |
| 29          | Part 3C - CH1229 to CH1279  | 823 day                | s? 137.51 days       | 685.49 days?          | 0%                     | Thu 16/5/19  | Sat 19/2/22  | Thu 16/5/19             | NA                     | Mon 11/11/19   | Wed 29/5/24            | 676 da         |          |                 |   |              |                 |                     |             |      |                 | _ < |
| 30          | Abutment A01 Piling   | 0 days                 | 0 days               | 0 days                | 0%                     | Thu 16/5/19  | Thu 16/5/19  | NA                      | NA                     | Wed 29/5/24    | Wed 29/5/24            | 1841 d         |          |                 |   |              |                 |                     |             |      |                 |     |
| 331         | CH1189: Bored Pile (A01-BP1) by Rig 1(Contractor Bear DDA Approval Risk)          | 61 days                | 40 days              | 21 days               | 66%                    | Tue 31/3/20  | Tue 16/6/20  | Tue 31/3/20             | NA                     | Tue 31/3/20    | Tue 16/6/20            | 0 days         | 1 day    | 839             |   |              |                 |                     |             |      |                 |     |
| 832         | CH1189: Bored Pile (A01-BP2) by Rig 1 (Contractor Bear DDA Approval Risk          | 29 days                | 29 days              | 0 days                | 100%                   | Mon 13/4/20  | Tue 19/5/20  | Mon 13/4/20             | Tue 19/5/20            | Mon 13/4/20    | Tue 19/5/20            | 0 days         | 1 day    |                 |   |              |                 |                     |             |      |                 |     |
| 833         | Abutment A01: Pile Testing (28d curing & 14 test) - 1 full-core to be carried out | t 37 days              | 0 days               | 37 days               | 0%                     | Wed 17/6/20  | Fri 31/7/20  | NA                      | NA                     | Wed 17/6/20    | Fri 31/7/20            | 0 days         | 5 days   | 831,832         |   |              |                 |                     |             |      |                 |     |
| 834         | Abutment A01: Proof-drilling Works  | 11 days                | 0 days               | 11 days               | 0%                     | Sat 1/8/20   | Thu 13/8/20  | NA                      | NA                     | Sat 1/8/20     | Thu 13/8/20            | 0 days         | 2 day    | 833             |   | <del>,</del> |                 |                     |             |      |                 |     |
| 835         | Mobilization of plant and material  | 6 days                 | 6 days               | 0 days                | 100%                   | Mon 11/11/19 | Sat 16/11/19 | Mon 11/11/19            | Sat 16/11/19           | Mon 11/11/19   | Sat 16/11/19           | 0 days         | 1 days   | 14,194,193      |   |              |                 |                     |             |      |                 |     |
| 336         | CH1229: Pre-drilling Works  | 21 days                | 21 days              | 0 days                | 100%                   | Tue 19/11/19 | Thu 12/12/19 | Tue 19/11/19            | Thu 12/12/19           | Tue 19/11/19   | Thu 12/12/19           | 0 days         | 0.5 days |                 |   |              |                 |                     |             |      |                 |     |
| 337         | Pier P01 Piling, Pilecap & Pier   | 0 days                 | 0 days               | 0 days                | 0%                     | Thu 16/5/19  | Thu 16/5/19  | NA                      | NA                     | Wed 29/5/24    | Wed 29/5/24            | 1841 d         |          |                 |   |              |                 |                     |             |      |                 |     |
| 338         | Bored pile (P01-BP2) @ CH1229 by Rig 1 (Contractor Bear DDA Approval              | 44 days                | 44 days              | 0 days                | 100%                   | Fri 17/1/20  | Wed 11/3/20  | Fri 17/1/20             | Wed 11/3/20            | Fri 17/1/20    | Wed 11/3/20            | 0 days         | 0.5 days |                 |   |              |                 |                     |             |      |                 |     |
| 339         | Risk) Bored pile (P01-BP1) @ CH1229 by Rig 1 (Contractor Bear DDA Approval        | 38 days                | 38 days              | 0 days                | 100%                   | Mon 24/2/20  | Wed 8/4/20   | Mon 24/2/20             | Wed 8/4/20             | Mon 24/2/20    | Wed 8/4/20             | 0 days         | 0.5 days | 838SS+30 days   |   | _            |                 |                     |             |      |                 |     |
| 40          | Risk) Pier P01: Pile Testing (18d curing & 14 test)                               | 45 days                | 0 days               | 45 days               | 0%                     | Sat 23/5/20  | Thu 16/7/20  | NA                      | NA                     | Mon 6/7/20     | Wed 26/8/20            | 35 days        | 3 days   | 839             |   | _,           |                 |                     |             |      |                 |     |
| 341         | Pier P01: Proof-drilling Works  | 10 days                | 0 days               | 10 days               | 0%                     | Fri 17/7/20  | Tue 28/7/20  | NA                      | NA                     | Thu 27/8/20    | Mon 7/9/20             | 35 days        | 1 day    | 839,840         |   |              |                 |                     |             |      |                 |     |
| 342         | Pile Cap P01 @ CH1229   | 98 days                | 0 days               | 98 days               | 0%                     | Mon 15/6/20  | Sun 11/10/20 | NA                      | NA                     | Sat 29/8/20    | Fri 13/11/20           | 28 days        |          |                 |   |              |                 |                     |             |      |                 |     |
| 843         | Excavation with Shoring Installation ~2600m3 Prod. Rate: 160m3/day/team           | 17 days                | 0 days               | 17 days               | 0%                     | Wed 29/7/20  | Mon 17/8/20  | NA                      | NA                     | Tue 8/9/20     | Sat 26/9/20            | 35 days        | 1 day    | 841             |   |              |                 |                     |             |      |                 |     |
| 844         | Pilecap - Formwork Design and Method Statement Submission                         |                        | 0 days               | 0 days                | 0%                     | Mon 15/6/20  | Mon 15/6/20  |                         | NA                     | Sat 29/8/20    | Sat 29/8/20            | 75 days        |          |                 | <b>♦</b> 15/0   | 5            |                 |                     |             |      |                 |     |
| 345         | Pilecap - Formwork Design and Method Statement Comment & Appraoval                |                        | 0 days               | 30 days               | 0%                     | Mon 15/6/20  | Tue 14/7/20  | NA                      | NA                     | Sat 29/8/20    | Sun 27/9/20            | 75 days        |          | 844             |   |              |                 |                     |             |      |                 |     |
| 846         | Pilecap structure   |                        | 0 days               | 24 days               | 0%                     | Tue 18/8/20  | Mon 14/9/20  |                         | NA                     | Mon 28/9/20    | Wed 28/10/20           |                |          | 845,843         |   |              |                 |                     |             |      |                 |     |
| 347         | Backfill  |                        | 0 days               | 14 days               | 0%                     | Tue 15/9/20  | Wed 30/9/20  |                         | NA                     | Thu 29/10/20   | Fri 13/11/20           | 35 days        | -        | 846             | $\ \cdot\ $   |              |                 |                     |             |      |                 |     |
| 348         | Pier - Formwork Design and Method Statement Submission                            |                        | 0 days               | 0 days                | 0%                     | Mon 7/9/20   | Mon 7/9/20   |                         | NA                     | Sat 10/10/20   | Sat 10/10/20           | 33 days        |          |                 |   | 7/0          |                 |                     |             |      |                 |     |
| 349         | Pier - Formwork Design and Method Statement Comment & Appraoval                   | 35 days                |                      | 35 days               | 0%                     | Mon 7/9/20   | Sun 11/10/20 |                         | NA                     | Sat 10/10/20   | Fri 13/11/20           | 33 days        | -        | 848             |   | ]            |                 |                     |             |      |                 |     |
| 50          | Pier P01 @ CH1229   |                        |                      | 49 days               | 0%                     | Wed 28/10/20 |              |                         | NA                     | Sat 14/11/20   | Wed 13/1/21            | 15 days        |          | 847,211,849     |   |              |                 |                     |             |      |                 |     |
| 351         | CH1269: Pre-drilling Works  |                        | 0 days               |                       | 0%                     | Wed 20/11/19 |              |                         |                        | 9 Wed 20/11/19 | Thu 19/12/19           |                | ·        | 835,836         |   |              |                 |                     |             |      |                 |     |
| 352         |   |                        | 30 days              | 0 days                |                        |              |              |                         |                        |                |                        |                |          | ·               |   |              |                 |                     |             |      |                 |     |
|             | Abandon the Installed defected Bored pile (P02-BP2) @ CH1269                      |                        | 35 days              | 0 days                | 100%                   | Tue 11/2/20  |              | Tue 11/2/20             |                        |                | Sun 22/3/20            |                | 0.5 days | 851             |   |              |                 |                     |             |      |                 |     |
| 53          | Pier P02 Piling, Pilecap & Pier   |                        |                      | 1 day?                | 0%                     | Thu 16/5/19  | Thu 16/5/19  |                         | NA                     | Wed 29/5/24    | Wed 29/5/24            | 1840 d         |          |                 |   |              |                 |                     |             |      |                 |     |
| 54          | Predrilling works for Bored pile (P02-BP2)(Abandoned) @ CH1269                    |                        | 0 days               | 11 days               | 0%                     | Wed 3/6/20   | Mon 15/6/20  |                         | NA                     | Tue 9/6/20     | Sat 20/6/20            |                | 0.5 days |                 |   |              |                 |                     |             |      |                 |     |
| 355         | Casing Extraction for Abandoned P02-BP2 Bored Pile                                |                        | 0 days               | 20 days               | 0%                     | Sat 20/6/20  | Wed 15/7/20  |                         | NA                     | Mon 22/6/20    | Thu 16/7/20            |                |          | 854             |   |              |                 |                     |             |      |                 |     |
| 356         | Bored pile (P02-BP2)(Remedial) @ CH1269   |                        | 0 days               | 30 days               | 0%                     | Thu 16/7/20  | Wed 19/8/20  |                         | NA                     | Fri 17/7/20    | Thu 20/8/20            | -              |          | 855,854         |   |              |                 |                     |             |      |                 |     |
| 357         | Bored pile (P02-BP1) @ CH1269 (Contractor Bear DDA Approval Risk) (Rig 2          | 2) 26 days             | 26 days              | 0 days                | 100%                   | Fri 21/2/20  | Sat 18/4/20  |                         |                        | Fri 21/2/20    | Sat 18/4/20            |                | 0.5 days |                 |   |              |                 |                     |             |      |                 |     |
| 358         | Pile Testing (18d curing & 14 test)   | 32 days                | 0 days               | 32 days               | 0%                     | Thu 20/8/20  | Fri 25/9/20  | NA                      | NA                     | Wed 2/9/20     | Sat 10/10/20           | 11 days        | 0.5 days | 852,857,856     |   |              |                 |                     |             |      |                 |     |
| 359         | Proof-drilling Works  | 9 days                 | 0 days               | 9 days                | 0%                     | Sat 26/9/20  | Thu 8/10/20  | NA                      | NA                     | Mon 12/10/20   | Wed 21/10/20           |                | ·        | 839,840,858     |   |              |                 |                     |             |      |                 |     |
| 860         | Pile Cap ELS - Temp. Works Design and Method Statement Submission                 | 0 days                 | 0 days               | 0 days                | 0%                     | Mon 29/6/20  | Mon 29/6/20  | NA                      | NA                     | Tue 22/9/20    | Tue 22/9/20            | 85 days        | 1 day    |                 | <b>4</b> 29   | /6           |                 |                     |             |      |                 |     |
| 861         | Pile Cap ELS - Temp. Works Design and Method Statement Comment & Appraoval        | 30 days                | 0 days               | 30 days               | 0%                     | Mon 29/6/20  | Tue 28/7/20  | NA                      | NA                     | Tue 22/9/20    | Wed 21/10/20           | 85 days        | 1 day    | 860             |   | +            |                 |                     |             |      |                 |     |
| 362         | Pile Cap P02 @ CH1270   | 120 day                | s 0 days             | 120 days              | 0%                     | Mon 24/8/20  | Sat 16/1/21  | NA                      | NA                     | Thu 22/10/20   | Fri 29/1/21            | 11 days        |          |                 |   |              |                 |                     |             |      |                 |     |
| 863         | Drive sheetpile (~75m). Prod. Rate: 5m/day/side/team                              | 17 days                | 0 days               | 17 days               | 0%                     | Fri 9/10/20  | Thu 29/10/20 | NA                      | NA                     | Thu 22/10/20   | Wed 11/11/20           | 11 days        | 2 days   | 861,858,140,859 |   | <b>M</b>     |                 |                     |             |      |                 |     |
| 64          | Excavation ~1677m3 & lateral support. Prod. Rate: 100m3/day/team                  | 18 days                | 0 days               | 18 days               | 0%                     | Fri 30/10/20 | Thu 19/11/20 | NA                      | NA                     | Thu 12/11/20   | Wed 2/12/20            | 11 days        | 1 days   | 863             |   |              |                 |                     |             |      |                 |     |
| 365         | Pilecap Formwork Design and Method Statement Submission                           | 0 days                 | 0 days               | 0 days                | 0%                     | Mon 24/8/20  | Mon 24/8/20  | NA                      | NA                     | Thu 12/11/20   | Thu 12/11/20           | 80 days        | 1 day    |                 |   | 24/8         |                 |                     |             |      |                 |     |
| 366         | Pilecap Formwork - Design and Method Statement Comment & Appraoval                | 21 days                | 0 days               | 21 days               | 0%                     | Mon 24/8/20  | Sun 13/9/20  | NA                      | NA                     | Thu 12/11/20   | Wed 2/12/20            | 80 days        | 1 day    | 865             |   |              |                 |                     |             |      |                 |     |
| 367         | Pilecap structure   | 36 days                | 0 days               | 36 days               | 0%                     | Fri 20/11/20 | Mon 4/1/21   | NA                      | NA                     | Thu 3/12/20    | Sat 16/1/21            | 11 days        | 1 day    | 866,864,863     |   |              |                 |                     |             |      |                 |     |
| 68          | Backfill and extract sheet pile   | 11 days                | 0 days               | 11 days               | 0%                     | Tue 5/1/21   | Sat 16/1/21  | NA                      | NA                     | Mon 18/1/21    | Fri 29/1/21            | 11 days        | 2 day    | 867             |   |              |                 |                     |             |      |                 |     |
| 369         | Pier - Temp. Works Design and Method Statement Submission                         | 0 days                 | 0 days               | 0 days                | 0%                     | Mon 7/9/20   | Mon 7/9/20   | NA                      | NA                     | Thu 31/12/20   | Thu 31/12/20           | 115 days       | 1 day    |                 |   | <b>♦</b> 7/9 |                 |                     |             |      |                 |     |
| 370         | Pier - Temp. Works Design and Method Statement Comment & Appraoval                | 30 days                | 0 days               | 30 days               | 0%                     | Mon 7/9/20   | Tue 6/10/20  | NA                      | NA                     | Thu 31/12/20   | Fri 29/1/21            | 115 days       | 1 day    | 869             | $\left\{ \left[ $ | <b>*</b>     |                 |                     |             |      |                 |     |
| 371         | Pier P02 @ CH1270   | 49 days                | 0 days               | 49 days               | 0%                     | Mon 18/1/21  | Thu 18/3/21  | NA                      | NA                     | Sat 30/1/21    | Wed 31/3/21            | 11 days        | 1 day    | 868,211,870     |   |              |                 |                     |             |      |                 |     |
| 872         | Stage 1: Bridge deck between CH1229-1311  |                        | s 0 days             | 340 days              | 0%                     | Mon 2/11/20  |              |                         | NA                     | Tue 19/1/21    | Wed 29/12/21           |                |          |                 | $\left\{ \left[ $ |              |                 |                     |             |      |                 |     |
| 873         | Bridge Deck - Temp. Works Design and Method Statement Submission                  |                        | 0 days               | 0 days                | 0%                     | Mon 2/11/20  | Mon 2/11/20  |                         | NA                     | Tue 19/1/21    | Tue 19/1/21            | 78 days        | 1 day    |                 | $\left\{ \left\  \cdot \right\  \right\  \right\}$  | <b>♣</b> ⊅/1 |                 |                     |             |      |                 |     |
|             |   |                        |                      |                       |                        |              | 2.11,20      |                         |                        |                |                        |                |          |                 |   | V 2/11       |                 |                     |             |      |                 |     |
|             | Prog with Progress Task Split   | Summary<br>Project Sur | mmarv                |                       | Inactive Mi            | _            |              | Duration-or  Manual Sur | nly   <br>mmary Rollup |                | Start-only Finish-only |                | [<br>]   |                 | emal Mileston<br>dline  | e ♦<br>•     | Critic<br>Progr | ical Split<br>rress |             | <br> |                 |     |
| s of 22-May | y-20 Milestone  | Inactive Ta            |                      | -                     | Manual Tas             |              |              | Manual Sui              |                        |                | External Tas           |                | _        | Crit            |   | *            |                 | ual Progress        | s           |      |                 |     |

| Task Name        |   |             |                    |                       |                        |              |              |              | _            |                |              |                    |                                       |                 |          |                    |   |               |                  |       |     |                  |
|------------------|---|-------------|--------------------|-----------------------|------------------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------------|---------------------------------------|-----------------|----------|--------------------|---|---------------|------------------|-------|-----|------------------|
| Task Nam         |   | Duration    | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start | Actual Finis | sh Late Start  | Late Finish  | Total TR<br>Slack  | A Predecessors                        | 2020<br>Q2   Q3 | 04 01    | 2021<br>1   O2   O | 3   Q4   (                              |               | 2022<br>  Q3   ( | 04 0  | 202 | )23<br>  Q3   Q4 |
| 874              | Bridge Deck - Temp. Works Design and Method Statement Comment &           | 35 days     |                    | 35 days               | 0%                     | Mon 2/11/20  | Sun 6/12/20  | NA           | NA           | Tue 19/1/21    | Mon 22/2/21  | 78 days 1 d        | ay 873                                | Q2 Q3           | 4 (      |                    |   | 21   Q2       |                  | V4 V1 |     | <u>Q</u> 3   Q   |
| 875              | Appraoval CH1229-1311: Deck Falsework erection Part 1                     | 32 days     | 0 days             | 32 days               | 0%                     | Tue 23/2/21  | Wed 31/3/21  | NA           | NA           | Tue 23/2/21    | Wed 31/3/21  | 0 days 1 d         | ay 874,922                            |                 |          |                    |   |               |                  |       |     |                  |
| 876              | CH1229-1311: Deck Falsework erection Part 2                               | 28 days     | 0 days             | 28 days               | 0%                     | Thu 1/4/21   | Fri 7/5/21   | NA           | NA           | Thu 1/4/21     | Fri 7/5/21   | 0 days 3 d         | ays 875,871                           |                 |          |                    |   |               |                  | ,     |     |                  |
| 877              | CH1229-1311: Structure deck   | 50 days     | 0 days             | 50 days               | 0%                     | Wed 7/4/21   | Sat 5/6/21   | NA           | NA           | Wed 7/4/21     | Sat 5/6/21   | 0 days 2 d         | ay 475,483,736,875                    |                 |          |                    |   |               |                  | ,     |     |                  |
| 878              | CH1229-1311: Prestressing   | 18 days     |                    | 18 days               | 0%                     | Thu 24/6/21  | Thu 15/7/21  | NA           | NA           | Thu 24/6/21    | Thu 15/7/21  | 0 days 0.5         | day 877FS+14 days                     |                 |          |                    |   |               |                  | ,     |     |                  |
| 879              | CH1229-1311: Falsework Under Main Deck Removal                            | 12 days     |                    | 12 days               | 0%                     | Fri 16/7/21  | Thu 29/7/21  |              | NA           | Fri 16/7/21    | Thu 29/7/21  |                    | day 878                               |                 |          |                    |   |               |                  | ,     |     |                  |
| 880              | CH1229-1311: Utility Trough (0.67m per day per team) x 4 team             |             |                    |                       | 0%                     | Fri 16/7/21  | Thu 7/10/21  |              | NA           | Thu 22/7/21    | Wed 13/10/21 |                    |                                       |                 |          |                    |   |               |                  |       |     |                  |
|                  |   | 70 days     |                    | 70 days               |                        |              |              |              |              |                |              |                    | , , , , , , , , , , , , , , , , , , , |                 |          |                    |   |               |                  | ,     |     |                  |
| 881              | CH1229-1311: Central Median (6m per day per team) x 2 team                | 31 days     |                    | 31 days               | 0%                     | Fri 16/7/21  | Fri 20/8/21  |              | NA           | Sat 2/10/21    | Mon 8/11/21  | 65 days 3 d        |                                       |                 |          |                    |   |               |                  |       |     |                  |
| 382              | CH1229-1311: Parapet (28m per day per team) x 2 team + 6x2 day concreting |             |                    | 21 days               | 0%                     | Fri 8/10/21  | Tue 2/11/21  |              | NA           | Fri 15/10/21   | Mon 8/11/21  | 5 days 3 d         |                                       |                 |          |                    |   |               |                  |       |     |                  |
| 883              | CH1229-1311: Removal of Falsework (KD6)                                   | 42 days     | 0 days             | 42 days               | 0%                     | Wed 3/11/21  | Tue 21/12/21 | NA           | NA           | Tue 9/11/21    | Wed 29/12/21 | 5 days 6 d         | ays 880,882,881                       |                 |          |                    |   |               |                  | ,     |     |                  |
| 884              | CH1229-1311: Road Furniture   | 15 days     | 0 days             | 15 days               | 0%                     | Sat 21/8/21  | Tue 7/9/21   | NA           | NA           | Sat 27/11/21   | Tue 14/12/21 | 81 days 1 d        | ay 881,358                            |                 |          |                    | 11                                      | ,+,           |                  |       |     |                  |
| 885              | Part 3D - CH1279 to CH1311  | 196 days    | s 0 days           | 196 days              | 0%                     | Mon 7/6/21   | Sat 29/1/22  | NA           | NA           | Wed 16/6/21    | Fri 11/2/22  | 7 days             |                                       |                 |          |                    |   |               |                  | ,     |     |                  |
| 886              | Stage 1: Bridge deck between CH1269-1311                                  | 196 days    | s 0 days           | 196 days              | 0%                     | Mon 7/6/21   | Sat 29/1/22  | NA           | NA           | Wed 16/6/21    | Fri 11/2/22  | 7 days             |                                       |                 |          |                    |   |               |                  | ,     |     |                  |
| 887              | CH1269-1311: Structure deck   | 50 days     | 0 days             | 50 days               | 0%                     | Mon 7/6/21   | Thu 5/8/21   | NA           | NA           | Wed 16/6/21    | Fri 13/8/21  | 7 days 2 d         | ay 475,483,736,877                    |                 |          |                    |   |               |                  |       |     |                  |
| 888              | Prestressing CH1269 - 1311 Bridge Spans                                   | 21 days     | 0 days             | 21 days               | 0%                     | Mon 23/8/21  | Wed 15/9/21  | NA           | NA           | Tue 31/8/21    | Fri 24/9/21  | 7 days 3 d         | ay 887FS+14 days                      |                 |          |                    |   |               |                  |       |     |                  |
| 889              | CH1269-1311: Utility Trough (0.67m per day per team) x 2 team             | 64 days     | 0 days             | 64 days               | 0%                     | Thu 16/9/21  | Thu 2/12/21  | NA           | NA           | Sat 25/9/21    | Fri 10/12/21 | 7 days 0.5         | day 888,219                           |                 |          |                    |   |               |                  |       |     |                  |
| 390              | CH1269-1311: Parapet (28m per day per team) x 1 team + 6 day              | 17 days     | 0 days             | 17 days               | 0%                     | Fri 3/12/21  | Wed 22/12/2  | 1 NA         | NA           | Sat 11/12/21   | Mon 3/1/22   | 7 days 3 d         | ays 889                               |                 |          |                    | <b>*</b>                                |               |                  | ,     |     |                  |
| 891              | concreting CH1269-1311: Central Median (6m per day per team) x 1 team     | 15 days     |                    | 15 days               | 0%                     | Thu 23/12/21 | Wed 12/1/22  | NΑ           | NA           | Wed 5/1/22     | Fri 21/1/22  | 8 days 1 d         | ay 889,890                            |                 |          |                    | <u> </u>                                |               |                  | ,     |     |                  |
| 892              | CH1269-1311: Road Furniture   | 15 days     |                    | 15 days               | 0%                     | Thu 13/1/22  | Sat 29/1/22  |              | NA           | Sat 22/1/22    | Fri 11/2/22  | 8 days 1 d         |                                       |                 |          |                    |   |               |                  | ,     |     |                  |
|                  |   |             | -                  |                       |                        |              |              |              |              |                |              |                    | ay 691,336                            |                 |          |                    |   |               |                  |       |     |                  |
| 393              | Stage2: Bridge deck between CH1189-1229                                   | 823 days    |                    | 823 days?             | 0%                     | Thu 16/5/19  | Sat 19/2/22  |              | NA           | Tue 27/4/21    | Wed 29/5/24  | 579 da             |                                       |                 |          |                    |   | (Telephone)   |                  |       |     |                  |
| 894              | CH1189-1229: Deck Falsework erection                                      | 1 day?      |                    | 1 day?                | 0%                     | Thu 16/5/19  | Thu 16/5/19  | NA           | NA           | Wed 29/5/24    | Wed 29/5/24  | 1840 d             |                                       |                 |          |                    |   |               |                  |       |     |                  |
| 895              | CH1189-1229: Deck Falsework erection                                      | 22 days     | 0 days             | 22 days               | 0%                     | Tue 27/4/21  | Mon 24/5/21  | NA           | NA           | Tue 27/4/21    | Mon 24/5/21  | 0 days 1 d         | ay 850,822                            |                 |          |                    |   |               |                  | ,     |     |                  |
| 396              | CH1189-1229: Structure deck   | 27 days     | 0 days             | 27 days               | 0%                     | Tue 25/5/21  | Fri 25/6/21  | NA           | NA           | Tue 25/5/21    | Fri 25/6/21  | 0 days 2 d         | 895,475,483                           |                 |          | <b> </b>           |   |               |                  | ,     |     |                  |
| 897              | CH1189-1229: Prestressing   | 18 days     | 0 days             | 18 days               | 0%                     | Wed 14/7/21  | Tue 3/8/21   | NA           | NA           | Wed 14/7/21    | Tue 3/8/21   | 0 days 1 d         | ay 896FS+14 days                      |                 |          | 1                  | ì                                       |               |                  | ,     |     |                  |
| 898              | CH1189-1229: Falsework Under Main Deck Removal                            | 15 days     | 0 days             | 15 days               | 0%                     | Wed 4/8/21   | Fri 20/8/21  | NA           | NA           | Wed 4/8/21     | Fri 20/8/21  | 0 days 3 d         | ays 878,897                           |                 |          |                    | <b>,</b>                                |               |                  |       |     |                  |
| 899              | CH1189-1229: Utility Trough (0.67m per day per team) x 2 team             | 63 days     | 0 days             | 63 days               | 0%                     | Wed 4/8/21   | Tue 19/10/21 | NA           | NA           | Wed 13/10/21   | Tue 28/12/21 | 58 days 3 d        | ays 219,897                           |                 |          |                    |   |               |                  | ,     |     |                  |
| 900              | CH1189-1229 : Central Median (6m per day per team) x 1 team               | 16 days     | 0 days             | 16 days               | 0%                     | Sat 21/8/21  | Wed 8/9/21   | NA           | NA           | Fri 21/1/22    | Fri 11/2/22  | 125 days 3 d       | ay 897,881                            |                 |          |                    | 1                                       |               |                  | ,     |     |                  |
| 901              | CH1189-1229: Parapet (28m per day per team) x 1 team + 6 day concreting   | 20 days     | 0 days             | 20 days               | 0%                     | Wed 3/11/21  | Thu 25/11/21 | NA           | NA           | Mon 17/1/22    | Fri 11/2/22  | 61 days 5 d        | ay 899,882                            |                 |          |                    | <b>***</b>                              |               |                  |       |     |                  |
| 902              | CH1189-1229: Road Furniture   | 15 days     | 0 davs             | 15 days               | 0%                     | Mon 31/1/22  | Sat 19/2/22  | NA           | NA           | Sat 12/2/22    | Tue 1/3/22   | 8 days 1 d         | ay 900,892,358,901                    |                 |          |                    | 111111111111111111111111111111111111111 |               |                  | ,     |     |                  |
|                  | Part 3E - CH1311 to CH1372  |             | s 94.1 days        | 557.9 days            | 0%                     | Tue 12/11/19 | Fri 21/1/22  | Tue 12/11/19 | NA           | Tue 12/11/19   | Wed 29/5/24  | 698 days           |                                       |                 |          |                    |   |               |                  | ,     |     |                  |
| 904              | Pre-drilling Works  |             | 31 days            | 0 days                | 0%                     |              |              |              |              | 9 Tue 12/11/19 | Tue 17/12/19 |                    | dorr                                  |                 |          |                    | 1                                       |               |                  | ,     |     |                  |
|                  |   |             |                    |                       |                        |              |              |              |              |                |              |                    | -                                     |                 |          |                    |   |               |                  | ,     |     |                  |
| 905              | Bored pile (P03-BP1) @ CH1311 (Rig 2) (Contractor Bear DDA Design Risk)   |             | -                  | 0 days                | 100%                   | Tue 17/3/20  | Fri 8/5/20   | Tue 17/3/20  |              | Tue 17/3/20    | Fri 8/5/20   | 0 days 0.5         | -                                     |                 |          |                    |   |               |                  | ,     |     |                  |
| 906              | Bored pile (P03-BP2) @ CH1311 (Contractor Bear DDA Design Risk) (Rig 2)   | 36 days     | 25 days            | 11 days               | 69%                    | Wed 22/4/20  | Thu 4/6/20   | Wed 22/4/20  |              | Wed 22/4/20    | Thu 4/6/20   | 0 days 3 d         |                                       |                 |          |                    |   |               |                  | ,     |     |                  |
| 907              | Pile Testing (18 curing & 14 test)  | 35 days     | 0 days             | 35 days               | 0%                     | Sat 6/6/20   | Sat 18/7/20  | NA           | NA           | Sat 6/6/20     | Sat 18/7/20  | 0 days 3 d         | 906FS+1 day,90                        |                 |          |                    |   |               |                  | ,     |     |                  |
| 908              | Proof-drilling Works  | 11 days     | 0 days             | 11 days               | 0%                     | Mon 20/7/20  | Fri 31/7/20  | NA           | NA           | Mon 20/7/20    | Fri 31/7/20  | 0 days 2 d         | ays 907                               |                 |          |                    |   |               |                  |       |     |                  |
| 909              | Pile Cap P03 @ CH1311   | 76 days     | 0 days             | 76 days               | 0%                     | Tue 7/7/20   | Mon 5/10/20  | NA           | NA           | Fri 31/7/20    | Wed 29/5/24  | 21 days            |                                       |                 |          |                    |   |               |                  | ,     |     |                  |
| 910              | Pile Cap @ CH1311 by Open Cut   | 46 days     | 0 days             | 46 days               | 0%                     | Sat 1/8/20   | Wed 23/9/20  | NA           | NA           | Wed 28/10/20   | Sat 19/12/20 | 72 days            | 908                                   |                 |          |                    |   |               |                  |       |     |                  |
| 911              | Pilecap Formwork Design and Method Statement Submission                   | 0 days      | 0 days             | 0 days                | 0%                     | Tue 7/7/20   | Tue 7/7/20   | NA           | NA           | Tue 30/4/24    | Tue 30/4/24  | 1393 1 d           | ay                                    | 7,7             |          |                    |   |               |                  |       |     |                  |
| 912              | Pilecap Formwork Design and Method Statement Comment & Appraoval          | 30 days     | 0 days             | 30 days               | 0%                     | Tue 7/7/20   | Wed 5/8/20   | NA           | NA           | Tue 30/4/24    | Wed 29/5/24  | 1393 1 d           | ay 911                                |                 |          |                    |   |               |                  |       |     |                  |
| 913              | Excavation with Shoring Installation ~2600m3 Prod. Rate: 160m3/day/team   | 17 days     | 0 days             | 17 days               | 0%                     | Sat 1/8/20   | Thu 20/8/20  | NA           | NA           | Sat 1/8/20     | Thu 20/8/20  | days<br>0 days 1 d | ay 908                                |                 |          |                    |   |               |                  |       |     |                  |
| 914              | Pilecap Formwork - design and Method Statement Submission                 | 0 days      |                    | 0 days                | 0%                     | Mon 20/7/20  | Mon 20/7/20  |              | NA           | Fri 31/7/20    | Fri 31/7/20  | 11 days 1 d        |                                       | 1017            |          |                    |   |               |                  |       |     |                  |
| 915              | Pilecap Formwork - Design and Method Statement Comment & Appraoval        | 21 days     |                    | 21 days               | 0%                     | Mon 20/7/20  | Sun 9/8/20   |              | NA           | Fri 31/7/20    | Thu 20/8/20  | 11 days 1 d        |                                       |                 |          |                    |   |               |                  |       |     |                  |
|                  |   |             |                    |                       |                        |              |              |              |              |                |              |                    |                                       |                 |          |                    |   |               |                  |       |     |                  |
| 916              | Pilecap structure   | 24 days     |                    | 24 days               | 0%                     | Fri 21/8/20  | Thu 17/9/20  |              | NA           | Fri 21/8/20    | Thu 17/9/20  | 0 days 1 d         |                                       |                 |          |                    |   |               |                  |       |     |                  |
| 917              | Backfill  | 13 days     |                    | 13 days               | 0%                     | Fri 18/9/20  | Mon 5/10/20  |              | NA           | Fri 18/9/20    | Mon 5/10/20  | 0 days 1 d         |                                       |                 |          |                    |   |               |                  |       |     |                  |
| 918              | Agree Interface Coordination Plan with CKP-KTW (HY/2014/07)               | 14 days     | 0 days             | 14 days               | 0%                     | Tue 6/10/20  | Wed 21/10/2  | 0 NA         | NA           | Tue 6/10/20    | Wed 21/10/20 | 0 days 0 d         | ays 917                               |                 | 21/10    |                    |   |               |                  |       |     |                  |
| itle: Rev 11 Pro | og with Progress  | Summary     |                    |                       | Inactive N             | filestone    |              | Duration-on  | ıly          |                | Start-only   | Е                  | Exte                                  | mal Milestone   | <b>♦</b> |                    | Critical Split                          | _ <del></del> |                  |       |     |                  |
| ns of 22-May-2   | Colit   | Project Sun | nmary              |                       | Inactive S             | ummary       |              | Manual Sur   | nmary Rollup |                | Finish-only  | 3                  | Dead                                  | lline           | •        |                    | Progress                                |               |                  |       | -   |                  |

|             |   |                        |                      |                       |                        |              |              |                         | /2018/01 KT             |               |                        |                |          |                 |                      |                |              |                                       |                      |   |
|-------------|---|------------------------|----------------------|-----------------------|------------------------|--------------|--------------|-------------------------|-------------------------|---------------|------------------------|----------------|----------|-----------------|----------------------|----------------|--------------|---------------------------------------|----------------------|---|
| Task Nam    | е   | Duration               | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start            | Actual Finish           | Late Start    | Late Finish            | Total<br>Slack | TRA      | Predecessors    | 2020<br>Q2   Q       | 3   04   01    | 2021<br>Q2 0 |                                       | 2022<br>Q1   Q2   Q3 | Q4 Q1   |
| 9           | Allow access to CKR-KTW contractor for sheet pile wall installation. PS<br>App.1.18 2.7(A)(c) | 60 days                |                      | 60 days               | 0%                     | Thu 22/10/20 | Sun 20/12/20 | NA                      | NA                      | Thu 22/10/20  | Sun 20/12/20           |                | 0 days   | 917,918         |                      |                |              |                                       |                      |   |
| 20          | Pier - Temp. Works Design and Method Statement Submission                                     | 0 days                 | 0 days               | 0 days                | 0%                     | Mon 12/10/20 | Mon 12/10/20 | NA                      | NA                      | Mon 16/11/20  | Mon 16/11/20           | 35 days        | 1 day    |                 |                      | <b>♦ 12/16</b> |              |                                       |                      |   |
| 1           | Pier - Temp. Works Design and Method Statement Comment & Approval                             | 35 days                | 0 days               | 35 days               | 0%                     | Mon 12/10/20 | Sun 15/11/20 | NA                      | NA                      | Mon 16/11/20  | Sun 20/12/20           | 35 days        | 1 day    | 920             |                      |                |              |                                       |                      |   |
| 2           | Pier P03 @ CH1311   | 49 days                | 0 days               | 49 days               | 0%                     | Mon 21/12/20 | Mon 22/2/21  | NA                      | NA                      | Mon 21/12/20  | Mon 22/2/21            | 0 days         | 1 day    | 916,919,850SS+  |                      |                |              |                                       |                      |   |
| 13          | Pre-drilling Works  | 15 days                | 15 days              | 0 days                | 100%                   | Wed 4/12/19  | Wed 18/12/19 | Wed 4/12/19             | Wed 18/12/              | . Wed 4/12/19 | Wed 18/12/19           | 0 days         | 0.5 days |                 | $\coprod$            |                |              |                                       |                      |   |
| 4           | Diversion of existing 150mm dia. Watermain (agreed)   | 54 days                | 42 days              | 12 days               | 78%                    | Sat 28/3/20  | Fri 5/6/20   | Sat 28/3/20             | NA                      | Sat 28/3/20   | Sat 14/11/20           | 134 days       | 2 days   |                 |                      |                |              |                                       |                      |   |
| 15          | Bored pile (P04-BP2) @ CH1351 (Rig 2)   | 52 days                |                      | 51 days               | 0%                     | Fri 22/5/20  | Wed 21/10/20 | Fri 22/5/20             | NA                      | Fri 22/5/20   | Tue 19/1/21            | 73 days        |          | 923,856         |                      |                |              |                                       |                      |   |
| 16          | Bored pile (P04-BP1) @ CH1351 (Rig 2)   |                        | 0 days               | 53 days               | 0%                     | Tue 11/8/20  | Tue 13/10/20 |                         | NA                      | Mon 16/11/20  | Tue 19/1/21            | 80 days        |          | 202,924,923,925 |                      |                |              |                                       |                      |   |
| 7           |   |                        |                      |                       |                        |              |              |                         |                         |               | Thu 4/3/21             |                |          | 926,925         |                      |                |              |                                       |                      |   |
| 18          | Pile Testing (14d curing & 14 test)   |                        | 0 days               | 35 days               | 0%                     | Thu 22/10/20 |              |                         | NA                      | Wed 20/1/21   |                        | 73 days        |          | <u> </u>        |                      |                |              |                                       |                      |   |
|             | Proof-drilling Works  | 11 days                |                      | 11 days               | 0%                     | Thu 3/12/20  | Tue 15/12/20 |                         | NA                      | Fri 5/3/21    | Wed 17/3/21            | 73 days        | 2 days   | 927             |                      |                |              |                                       |                      |   |
| .9          | Pile Cap P04 @ CH1351 with ELS  | 47 days                | 0 days               | 47 days               | 0%                     | Wed 16/12/20 | Thu 11/2/21  | NA                      | NA                      | Thu 1/4/21    | Mon 31/5/21            | 85 days        |          | 933SS,928       |                      |                |              |                                       |                      |   |
| 0           | Pile Cap @ CH1351   | 97 days                | 0 days               | 97 days               | 0%                     | Mon 2/11/20  | Mon 1/3/21   | NA                      | NA                      | Tue 16/2/21   | Mon 31/5/21            | 73 days        |          |                 |                      |                |              |                                       |                      |   |
| 1           | Pilecap ELS- Design and Method Statement Submission   | 0 days                 | 0 days               | 0 days                | 0%                     | Mon 2/11/20  | Mon 2/11/20  | NA                      | NA                      | Tue 16/2/21   | Tue 16/2/21            | 106 days       | 1 day    |                 |                      | <b>4</b> 2/11  |              |                                       |                      |   |
| 2           | Pilecap ELS - Design and Method Statement Comment & Appraoval                                 | 30 days                | 0 days               | 30 days               | 0%                     | Mon 2/11/20  | Tue 1/12/20  | NA                      | NA                      | Tue 16/2/21   | Wed 17/3/21            | 106 days       | 1 day    | 931             |                      |                |              |                                       |                      |   |
| 13          | Drive sheetpile (~75m). Prod. Rate: 10m/day/side/team   | 10 days                | 0 days               | 10 days               | 0%                     | Wed 16/12/20 | Tue 29/12/20 | NA                      | NA                      | Thu 18/3/21   | Mon 29/3/21            | 73 days        | 2 days   | 932,928         |                      |                |              |                                       |                      |   |
| 4           | Excavation with Shoring Installation ~2600m3 Prod. Rate: 160m3/day/team                       | 19 days                | 0 days               | 19 days               | 0%                     | Wed 30/12/20 | Thu 21/1/21  | NA                      | NA                      | Tue 30/3/21   | Fri 23/4/21            | 73 days        | 2 day    | 933             |                      |                |              |                                       |                      |   |
| 15          | Pilecap Formwork- Design and Method Statement Submission                                      | 0 days                 | 0 days               | 0 days                | 0%                     | Tue 1/12/20  | Tue 1/12/20  | NA                      | NA                      | Thu 25/3/21   | Thu 25/3/21            | 114 days       | 1 day    |                 |                      | ♠ 1/12         |              |                                       |                      |   |
| 6           | Pilecap Formworks - Design and Method Statement Comment & Appraoval                           | 30 days                | 0 days               | 30 days               | 0%                     | Tue 1/12/20  | Wed 30/12/20 | NA                      | NA                      | Thu 25/3/21   | Fri 23/4/21            | 114 days       | 1 day    | 935             |                      |                |              |                                       |                      |   |
| 7           | Pile Cap structure  | 19 days                | 0 days               | 19 days               | 0%                     | Fri 22/1/21  | Tue 16/2/21  | NA                      | NA                      | Sat 24/4/21   | Mon 17/5/21            | 73 days        | 1 day    | 846,936,934     |                      |                |              |                                       |                      |   |
| 8           | Backfill and extract sheet pile   | 11 days                |                      | 11 days               | 0%                     | Wed 17/2/21  | Mon 1/3/21   | NA                      | NA                      | Tue 18/5/21   | Mon 31/5/21            | 73 days        | 2 days   | 937             |                      |                |              |                                       |                      |   |
| 9           | Pier - Temporary Design and Method Statement Submission                                       |                        | 0 days               | 0 days                | 0%                     | Mon 4/1/21   | Mon 4/1/21   |                         | NA                      | Sun 2/5/21    | Sun 2/5/21             | 118 days       |          | , , ,           |                      |                |              |                                       |                      |   |
| )           |   |                        |                      |                       | 0%                     | Mon 4/1/21   |              | NA                      | NA                      | Sun 2/5/21    |                        |                |          | 939             |                      |                |              |                                       |                      |   |
| l l         | Pier - Temporary Design and Method Statement Comment & Appraoval                              | 30 days                |                      | 30 days               |                        |              |              |                         |                         |               | Mon 31/5/21            | 118 days       |          |                 |                      |                |              |                                       |                      |   |
|             | Pier P04 @ CH1351   |                        | 0 days               | 49 days               | 0%                     | Tue 2/3/21   |              | NA                      | NA                      | Tue 1/6/21    | Thu 29/7/21            | 73 days        |          | 938,922,211,940 |                      |                |              |                                       |                      |   |
|             | Stage 3: Bridge deck between CH1311-1351  | 145 days               | s 0 days             | 145 days              | 0%                     | Fri 30/7/21  | Fri 21/1/22  | NA                      | NA                      | Fri 30/7/21   | Sat 29/1/22            | 0 days         | 1 day    |                 |                      |                |              |                                       | 1                    |   |
|             | CH1311-1351: Deck Falsework erection  | 21 days                | 0 days               | 21 days               | 0%                     | Fri 30/7/21  | Mon 23/8/21  | NA                      | NA                      | Fri 30/7/21   | Mon 23/8/21            | 0 days         | 3 days   | 941,922,879     |                      |                |              |                                       |                      |   |
| 1           | CH1311-1351: Structure deck   | 30 days                | 0 days               | 30 days               | 0%                     | Tue 24/8/21  | Tue 28/9/21  | NA                      | NA                      | Tue 24/8/21   | Tue 28/9/21            | 0 days         | 5 days   | 475,483,736,896 |                      |                |              |                                       |                      |   |
| 5           | CH1311-1351: Prestressing   | 21 days                | 0 days               | 21 days               | 0%                     | Mon 18/10/21 | Wed 10/11/21 | NA                      | NA                      | Mon 18/10/21  | Wed 10/11/21           | 0 days         | 3 days   | 944FS+14 days,8 |                      |                |              | The second                            |                      |   |
| .6          | CH1311-1351: Utility Trough (0.67m per day per team) x 4 team                                 | 30 days                | 0 days               | 30 days               | 0%                     | Thu 11/11/21 | Wed 15/12/21 | NA                      | NA                      | Fri 26/11/21  | Mon 3/1/22             | 13 days        | 0.5 day  | 219,880,945     |                      |                |              | <b>1</b>                              |                      |   |
| 7           | CH1311-1351: Central Median (6m per day per team) x 2 team                                    | 15 days                | 0 days               | 15 days               | 0%                     | Thu 11/11/21 | Sat 27/11/21 | NA                      | NA                      | Wed 5/1/22    | Fri 21/1/22            | 44 days        | 3 days   | 945             |                      |                |              | <u>                              </u> |                      |   |
| -8          | CH1311-1351: Parapet (28m per day per team) x 2 team + 6 day concreting                       | 16 days                | 0 days               | 16 days               | 0%                     | Thu 23/12/21 | Thu 13/1/22  | NA                      | NA                      | Tue 4/1/22    | Fri 21/1/22            | 7 days         | 1 day    | 945,888,890,946 |                      |                |              |                                       |                      |   |
| .9          | CH1311-1351: Road Furniture   | 7 days                 | 0 days               | 7 days                | 0%                     | Fri 14/1/22  | Fri 21/1/22  | NA                      | NA                      | Sat 22/1/22   | Sat 29/1/22            | 7 days         | 1 day    | 947,358,948     |                      |                |              | 1                                     |                      |   |
| 0           | Part 1 - CH1372 to CH1386   | 149 days               | s 0 days             | 149 days              | 0%                     | Mon 23/8/21  | Tue 22/2/22  | NA                      | NA                      | Mon 23/8/21   | Tue 1/3/22             | 0 days         |          |                 |                      |                |              | <b>0</b>                              | <b></b>              |   |
| 1           | Bridge deck between CH1351-1386   | 149 days               | s 0 days             | 149 days              | 0%                     | Mon 23/8/21  | Tue 22/2/22  | NA                      | NA                      | Mon 23/8/21   | Tue 1/3/22             | 0 days         |          |                 |                      |                |              |                                       | <b></b>              |   |
| 2           | CH1351-1386: Deck Falsework erection  | 22 days                |                      | 22 days               | 0%                     | Mon 23/8/21  | Thu 16/9/21  |                         | NA                      | Mon 23/8/21   | Thu 16/9/21            | 0 days         | 4 days   | 941,922,898FS+  |                      |                |              | <u>.</u>                              |                      |   |
| 3           | CH1351-1386: Structure deck   | 30 days                |                      | 30 days               | 0%                     | Fri 17/9/21  | Mon 25/10/21 |                         | NA                      | Fri 17/9/21   | Mon 25/10/21           |                | 1        | 952,736,976     |                      |                |              |                                       |                      |   |
| 4           | CH1351-1366: Brustine deck  | 14 days                |                      |                       | 0%                     |              | Fri 26/11/21 |                         | NA                      | Thu 11/11/21  | Fri 26/11/21           | 0 days         |          | 953FS+14 days,9 |                      |                |              |                                       |                      |   |
|             |   |                        |                      | 14 days               |                        |              |              |                         |                         |               |                        |                |          |                 |                      |                |              |                                       |                      |   |
| 5           | CH1351 - CH1386: Utility Trough (0.67m per day per team) x 4 team                             |                        | 0 days               | 30 days               | 0%                     | Sat 27/11/21 | Tue 4/1/22   |                         | NA                      | Sat 27/11/21  | Tue 4/1/22             | 1              |          | 219,954         |                      |                |              |                                       |                      |   |
| 6           | CH1351 - CH1386: Central Median (6m per day per team) x 1 team                                |                        | 0 days               | 15 days               | 0%                     | Sat 27/11/21 | Tue 14/12/21 |                         | NA                      | Sat 27/11/21  | Tue 14/12/21           |                |          | 954             |                      |                |              |                                       |                      |   |
| 7           | CH1351 - CH1386: Parapet (28m per day per team) x 1 team + 6 day concreting                   | 20 days                | 0 days               | 20 days               | 0%                     | Wed 5/1/22   | Thu 27/1/22  |                         | NA                      | Wed 12/1/22   | Mon 7/2/22             | 6 days         | 4 days   | 955             |                      |                |              |                                       |                      |   |
| 8           | CH1351-1386 Falsework removal   | 19 days                | 0 days               | 19 days               | 0%                     | Fri 28/1/22  | Tue 22/2/22  | NA                      | NA                      | Tue 8/2/22    | Tue 1/3/22             | 6 days         | 1 day    | 955,957         |                      |                |              |                                       |                      |   |
| 9           | CH1351 - CH1386: Road Furniture (Section 1)   | 8 days                 | 0 days               | 8 days                | 0%                     | Fri 28/1/22  | Wed 9/2/22   | NA                      | NA                      | Mon 14/2/22   | Tue 22/2/22            | 11 days        | 2 day    | 956,358,957     |                      |                |              |                                       |                      |   |
| 0           | Part 1 - CH1386 to CH1394 South Abutment  | 352 days               | s 0 days             | 352 days              | 0%                     | Fri 3/7/20   | Sat 4/9/21   | NA                      | NA                      | Sat 25/7/20   | Thu 16/9/21            | 10 days        |          |                 |                      |                |              | <b>-</b>                              |                      |   |
| 51          | Bored Pile (A02-BP2) @ CH1386 by Rig 1  | 42 days                | 0 days               | 42 days               | 0%                     | Fri 3/7/20   | Thu 20/8/20  | NA                      | NA                      | Sat 25/7/20   | Fri 11/9/20            | 19 days        | 3 days   | 831FS+12 days   |                      | ┝╂╫╢╎╟║        |              |                                       |                      |   |
| 52          | Bored Pile (A02-BP1) @ CH1386 by Rig 1  | 63 days                | 0 days               | 63 days               | 0%                     | Tue 28/7/20  | Sat 10/10/20 | NA                      | NA                      | Wed 19/8/20   | Tue 3/11/20            | 19 days        | 3 days   | 202FF,961FF+42  |                      |                |              |                                       |                      |   |
| i3          | Pile Testing  | 35 days                | 0 days               | 35 days               | 0%                     | Mon 12/10/20 | Sat 21/11/20 | NA                      | NA                      | Wed 4/11/20   | Mon 14/12/20           | 19 days        | 4 days   | 962             |                      |                |              |                                       |                      |   |
|             | T. 1  | S                      |                      |                       | <u> </u>               | 1-4          |              | ъ .:                    | -1                      |               |                        |                | Г        |                 | 1347                 |                |              | 0                                     | lia                  | <u>                                      </u> |
|             | og with Progress Split  | Summary<br>Project Sur | mmary                |                       | Inactive M Inactive St | _            |              | Duration-or  Manual Sur | nly 📗<br>mmary Rollup 🕳 |               | Start-only Finish-only |                | ]        | Exter<br>Dead   | nal Milestor<br>line | ne ♦<br>♣      |              | Critical Sp<br>Progress               | ını                  |   |
| of 22-May-2 | Milestone •   | Inactive Ta            |                      |                       | Manual Ta              |              |              | Manual Sur              | mmary I                 |               | External Tasl          | ks             |          | Critic          |                      |                |              | Manual Pr                             | ogress               |   |

|              |   |             |                      |                       |                        |              |              | tract No. ED |                |              |              |                |        |                 |              |               |                  |                |               |                   |                       |
|--------------|---|-------------|----------------------|-----------------------|------------------------|--------------|--------------|--------------|----------------|--------------|--------------|----------------|--------|-----------------|--------------|---------------|------------------|----------------|---------------|-------------------|-----------------------|
| Task l       | Name  | Duration    | n Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start | Actual Finish  | Late Start   | Late Finish  | Total<br>Slack | TRA    |                 | 2020<br>  Q3 | 04 01         | 2021<br>  Q2   Q | )3   O4        |               | 2022<br>  Q3   Q4 | 2023<br>Q1   Q2       |
| 964          | Proof-drilling Works  | 11 days     | 0 days               | 11 days               | 0%                     | Mon 23/11/20 | Fri 4/12/20  | NA           | NA             | Tue 2/2/21   | Wed 17/2/21  | 58 days        | 2 days | 963             | 103          | V+ VI         |                  | 44 رد <u>ج</u> | Q1   Q2       | Q3   Q4           | <u>V1</u>   <u>Q2</u> |
| 965          | South Abutment  | 166 day     | s 0 days             | 166 days              | 0%                     | Wed 3/2/21   | Thu 26/8/21  | NA           | NA             | Thu 18/2/21  | Tue 7/9/21   | 10 days        |        | 968SS,964       |              | <b>3</b>      |                  |                |               |                   |                       |
| 966          | South Abutment ELS- Design and Method Statement Submission  | 0 days      | 0 days               | 0 days                | 0%                     | Mon 4/1/21   | Mon 4/1/21   | NA           | NA             | Tue 19/1/21  | Tue 19/1/21  | 15 days        | 1 day  |                 |              | 4/1           |                  |                |               |                   |                       |
| 967          | South Abutment ELS - Design and Method Statement Comment & Appraoval  | 30 davs     | 0 days               | 30 days               | 0%                     | Mon 4/1/21   | Tue 2/2/21   | NA           | NA             | Tue 19/1/21  | Wed 17/2/21  | 15 days        | 1 day  | 966             |              |               |                  |                |               |                   |                       |
| 968          | Drive sheetpile (~900m) Prod. Rate: 10m/d/team  |             | 0 days               | 11 days               | 0%                     | Wed 3/2/21   | Thu 18/2/21  |              | NA             | Thu 18/2/21  | Tue 2/3/21   | 10 days        |        | 964,967,980     |              |               |                  |                |               |                   |                       |
|              |   |             |                      |                       |                        |              |              |              |                |              |              |                |        |                 |              |               |                  |                |               |                   |                       |
| 969          | Excavation ~1,344m3 & lateral support. Prod. Rate: 160m3/day/team   |             | 0 days               | 11 days               | 0%                     | Fri 19/2/21  | Wed 3/3/21   |              | NA             | Mon 22/3/21  | Tue 6/4/21   | 26 days        |        | 968             |              |               | 1                |                |               |                   |                       |
| 970          | Blinding layer  | 1 day       | 0 days               | 1 day                 | 0%                     | Thu 4/3/21   | Thu 4/3/21   |              | NA             | Wed 7/4/21   | Wed 7/4/21   | 26 days        | 0 days | 969             |              |               |                  |                |               |                   |                       |
| 971          | South Abutment Formwork- Design and Method Statement Submission   | 0 days      | 0 days               | 0 days                | 0%                     | Mon 21/12/20 | Mon 21/12/2  | 0 NA         | NA             | Tue 9/3/21   | Tue 9/3/21   | 78 days        | 1 day  |                 |              | <b>◆</b> 21/1 | .2               |                |               |                   |                       |
| 972          | South Abutment Formwork - Design and Method Statement Comment &<br>Appraoval  | 30 days     | 0 days               | 30 days               | 0%                     | Mon 21/12/20 | Tue 19/1/21  | NA           | NA             | Tue 9/3/21   | Wed 7/4/21   | 78 days        | 1 day  | 971             |              |               |                  |                |               |                   |                       |
| 973          | Base Slab   | 36 days     | 0 days               | 36 days               | 0%                     | Wed 17/3/21  | Fri 30/4/21  | NA           | NA             | Thu 8/4/21   | Fri 21/5/21  | 16 days        | 2 days | 970,972,986     |              |               |                  |                |               |                   |                       |
| 974          | Wall (3.85m thk). Prod. Rate: 18d/bay/team  | 39 days     | 0 days               | 39 days               | 0%                     | Mon 3/5/21   | Fri 18/6/21  | NA           | NA             | Sat 22/5/21  | Thu 8/7/21   | 16 days        | 3 days | 973             |              |               |                  |                |               |                   |                       |
| 975          | Wall (0.5m thk)   | 52 days     | 0 days               | 52 days               | 0%                     | Sat 19/6/21  | Thu 19/8/21  | NA           | NA             | Fri 9/7/21   | Tue 7/9/21   | 16 days        | 2 days | 974             |              |               |                  | h              |               |                   |                       |
| 976          | Install bridge bearing  | 8 days      | 0 days               | 8 days                | 0%                     | Fri 27/8/21  | Sat 4/9/21   | NA           | NA             | Wed 8/9/21   | Thu 16/9/21  | 10 days        | 1 day  | 975,736,822,965 |              |               |                  | <b>4</b>       |               |                   |                       |
| 977          | South Approach Ramp - CH1394-1444.7 - Total 8 bays (4 bay/side)   |             | s 0 days             | 259 days              | 0%                     | Mon 21/9/20  | Fri 6/8/21   | NA           | NA             | Sun 15/11/20 | Sat 4/12/21  | 45 days        | _      |                 |              |               |                  |                |               |                   |                       |
| 978          | South Approach Ramp ELS - Temp. Works Design and Method Statement   |             |                      |                       | 0%                     | Mon 21/9/20  | Mon 21/9/20  |              | NA             | Sun 15/11/20 |              |                | 1 dov  |                 |              | 21.60         |                  |                |               |                   |                       |
|              | Submission  |             | 0 days               | 0 days                |                        |              |              |              |                |              | Sun 15/11/20 |                |        | 070             |              | 711/3         |                  |                |               |                   |                       |
| 979          | South Approach Ramp ELS - Temp. Works Design and Method Statement Comment & Approval  |             | 0 days               | 30 days               | 0%                     | Mon 21/9/20  | Tue 20/10/20 |              | NA             | Sun 15/11/20 | Mon 14/12/20 |                |        | 978             |              |               |                  |                |               |                   |                       |
| 980          | Drive sheetpile (~240m) Prod. Rate: 10m/d/team  | 26 days     | 0 days               | 26 days               | 0%                     | Mon 23/11/20 | Tue 22/12/20 | ) NA         | NA             | Tue 15/12/20 | Sat 16/1/21  | 19 days        | 2 days | 979,962,963     |              |               |                  |                |               |                   |                       |
| 981          | Excavation ~2,688m3 & lateral support. Prod. Rate: 160m3/day/team   | 19 days     | 0 days               | 19 days               | 0%                     | Wed 23/12/20 | Sat 16/1/21  | NA           | NA             | Mon 18/1/21  | Mon 8/2/21   | 19 days        | 2 days | 980             |              |               |                  |                |               |                   |                       |
| 982          | Rock Replacement  | 7 days      | 0 days               | 7 days                | 0%                     | Sun 17/1/21  | Sat 23/1/21  | NA           | NA             | Tue 9/2/21   | Mon 15/2/21  | 23 days        | 1 day  | 981             |              |               |                  |                |               |                   |                       |
| 983          | Blinding layer. Prod. Rate: 2bays/day   | 1 day       | 0 days               | 1 day                 | 0%                     | Mon 25/1/21  | Mon 25/1/21  | NA           | NA             | Tue 16/2/21  | Tue 16/2/21  | 16 days        | 1 day  | 981,982         |              |               |                  |                |               |                   |                       |
| 984          | Sourth Approach - Formworks Design and Method Statement Submission  | 0 days      | 0 days               | 0 days                | 0%                     | Tue 1/12/20  | Tue 1/12/20  | NA           | NA             | Mon 18/1/21  | Mon 18/1/21  | 48 days        | 1 day  |                 |              | <b>♦</b> 1/12 |                  |                |               |                   |                       |
| 185          | South Approach Ramp Formworks Design and Method Statement Comment &   | 30 days     | 0 days               | 30 days               | 0%                     | Tue 1/12/20  | Wed 30/12/2  | 0 NA         | NA             | Mon 18/1/21  | Tue 16/2/21  | 48 days        | 1 day  | 984             |              |               |                  |                |               |                   |                       |
| 986          | Appraoval 6 x Base Slab Prod. Rate: 12d/bay/team x 2 teams  | 40 days     | 0 days               | 40 days               | 0%                     | Tue 26/1/21  | Tue 16/3/21  | NA           | NA             | Wed 17/2/21  | Wed 7/4/21   | 16 days        |        | 983,985,244     |              |               |                  |                |               |                   |                       |
| 87           | 6 x Wall. Prod. Rate: 12d/bay/team x 3 level x 2 teams  |             | 0 days               | 78 days               | 0%                     | Wed 17/3/21  | Tue 22/6/21  |              | NA             | Mon 28/6/21  | Tue 28/9/21  | 82 days        |        | 986             |              |               |                  |                |               |                   |                       |
|              | ·   |             |                      |                       |                        |              |              |              |                |              |              |                |        |                 |              |               |                  |                |               |                   |                       |
| 38           | Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day)<br>+12d shoring removal x 2 (considered time for SRT) | 38 days     | 0 days               | 38 days               | 0%                     | Wed 23/6/21  | Fri 6/8/21   | NA           | NA             | Fri 22/10/21 | Sat 4/12/21  | 100 days       | 2 days | 987             |              |               |                  |                |               |                   |                       |
| 189          | CH1386-1444: South Approach Ramp (50m): Parapet, Central Median & Furnitur  | e 43 days   | 0 days               | 43 days               | 0%                     | Wed 15/12/21 | Wed 9/2/22   | NA           | NA             | Wed 15/12/21 | Wed 9/2/22   | 0 days         |        | 988             |              |               |                  |                | [ <del></del> |                   |                       |
| 90           | CH1386-1444: Central Median and Utilities Trough (5m per day per team) x 1  |             |                      | 23 days               | 0%                     | Wed 15/12/21 | Thu 13/1/22  | NA           | NA             | Wed 15/12/21 | Thu 13/1/22  | 0 days         | 2 days | 253,956         |              |               |                  |                |               |                   |                       |
| 991          | team CH1386-1444: Parapet (10m per day per team) x 2 team + 2 team x 6 day  |             | 0 days               | 13 days               | 0%                     | Fri 14/1/22  | Fri 28/1/22  |              | NA             | Fri 14/1/22  | Fri 28/1/22  |                | 2 days | 988,253,990     |              |               |                  |                |               |                   |                       |
| 992          | concreting  |             |                      |                       | 0%                     |              | Wed 9/2/22   |              |                |              |              |                |        | 990,358,991     |              |               |                  |                |               |                   |                       |
|              | CH1386-1444: Road Furniture   | 7 days      |                      | 7 days                |                        | Sat 29/1/22  |              |              | NA             | Sat 29/1/22  | Wed 9/2/22   |                | 1 day  |                 |              |               |                  |                |               |                   |                       |
| 993          | CH1087 - 1444: Bitumen Paving and Lighting  |             | 0 days               | 60 days               | 0%                     | Thu 30/12/21 |              |              | NA             | Wed 15/12/21 | Tue 1/3/22   | -11 days       | 1 day  | 813,884,892FF,9 |              |               |                  |                |               |                   |                       |
| 994          | 2.6 Utility Laying  | 1 day?      | 0 days               | 1 day?                | 0%                     | Thu 16/5/19  | Thu 16/5/19  | NA           | NA             | Wed 29/5/24  | Wed 29/5/24  | 1840 d         |        |                 |              |               |                  |                |               |                   |                       |
| 995          | CH1087-1311 (224m): Utility Laying (by Others) (Agreed)   | 63 days     | 0 days               | 63 days               | 0%                     | Wed 29/12/21 | Tue 1/3/22   | NA           | NA             | Wed 29/12/21 | Tue 1/3/22   | 0 days         |        |                 |              |               |                  |                |               |                   |                       |
| 996          | CLP (132kV)   | 63 days     | 0 days               | 63 days               | 0%                     | Wed 29/12/21 | Tue 1/3/22   | NA           | NA             | Wed 29/12/21 | Tue 1/3/22   | 0 days         | 1 day  | 899,955SS+32 d  |              |               |                  |                | Þinnu -       |                   |                       |
| 997          | CLP (11kV)  | 63 days     | 0 days               | 63 days               | 0%                     | Wed 29/12/21 | Tue 1/3/22   | NA           | NA             | Wed 29/12/21 | Tue 1/3/22   | 0 days         | 1 day  | 996SS           |              |               |                  |                | <b></b>       |                   |                       |
| 998          | HKCG  | 53 days     | 0 days               | 53 days               | 0%                     | Wed 29/12/21 | Sat 19/2/22  | NA           | NA             | Sat 8/1/22   | Tue 1/3/22   | 10 days        | 1 day  | 997SS           |              |               |                  |                | <b>&gt;</b>   |                   |                       |
| 999          | CATV  | 23 days     | 0 days               | 23 days               | 0%                     | Wed 29/12/21 | Thu 20/1/22  | NA           | NA             | Thu 3/2/22   | Fri 25/2/22  | 36 days        | 1 day  | 998SS           |              |               |                  |                |               |                   |                       |
| 1000         | Towngas telecom   |             | 0 days               | 27 days               | 0%                     | Wed 29/12/21 |              |              | NA             | Thu 3/2/22   | Tue 1/3/22   | 36 days        |        | 999SS           |              |               |                  |                |               |                   |                       |
| 1001         | PCCW-HKT  |             | 0 days               | 23 days               | 0%                     | Wed 29/12/21 |              |              | NA             | Sun 6/2/22   | Mon 28/2/22  | 39 days        |        | 1000SS          |              |               |                  |                |               |                   |                       |
|              |   |             |                      |                       |                        |              |              |              |                |              |              |                | 1      |                 |              |               |                  |                |               |                   |                       |
| 1002         | Fresh and Salt Watermains (by POC)  |             | 0 days               | 24 days               | 0%                     | Wed 29/12/21 |              |              | NA             | Sun 6/2/22   | Tue 1/3/22   | 39 days        | 1 day  | 1001SS          |              |               |                  |                |               |                   |                       |
| 1003         | CH1311-1396 (85m): Utility Laying (by Others) (Agreed)  |             | 0 days               | 84 days               | 0%                     | Thu 7/10/21  | Wed 29/12/2  | 1 NA         | NA             | Fri 4/2/22   | Tue 1/3/22   | 62 days        |        |                 |              |               |                  |                |               |                   |                       |
| 1004         | CLP (11kV)  | 26 days     | 0 days               | 26 days               | 0%                     | Wed 5/1/22   | Sun 30/1/22  | NA           | NA             | Fri 4/2/22   | Tue 1/3/22   | 30 days        | 1 day  | 899,955         |              |               |                  |                |               |                   |                       |
| 1005         | PCCW-HKT  | 18 days     | 0 days               | 18 days               | 0%                     | Wed 5/1/22   | Sat 22/1/22  | NA           | NA             | Sat 12/2/22  | Tue 1/3/22   | 38 days        | 1 day  | 1004SS          |              |               |                  |                |               |                   |                       |
| 1006         | Sat and Fresh Watermain (by POC)  | 18 days     | 0 days               | 18 days               | 0%                     | Wed 5/1/22   | Sat 22/1/22  | NA           | NA             | Sat 12/2/22  | Tue 1/3/22   | 38 days        | 1 day  | 1005SS          |              |               |                  |                | <b>!!</b> !!  |                   |                       |
| 1007         | Underpass and Depressed Road  | 619 day     | s 142.15 days        | 476.85 days           | 0%                     | Tue 3/9/19   | Mon 4/10/21  | Tue 3/9/19   | NA             | Tue 3/9/19   | Tue 1/3/22   | 120 days       |        |                 |              |               |                  |                |               |                   |                       |
|              |   |             |                      | 1                     |                        |              |              |              |                |              |              |                |        |                 |              |               |                  |                |               | <u></u>           |                       |
| itle: Rev.11 | Prog with Progress Task   | Summary     |                      |                       | Inactive N             |              |              | Duration-o   |                |              | Start-only   | <u></u>        | E      | External M      | ilestone     | <b>\$</b>     | <u></u>          | Critical       |               |                   |                       |
|              | ay-20 Split   | Project Sur | mmary                |                       | Inactive S             | ummary       |              | ─ Manual Su  | mmary Rollup 🍙 |              | Finish-only  |                | 3      | Deadline        |              | 4             |                  | Progres        | SS            |                   | _                     |

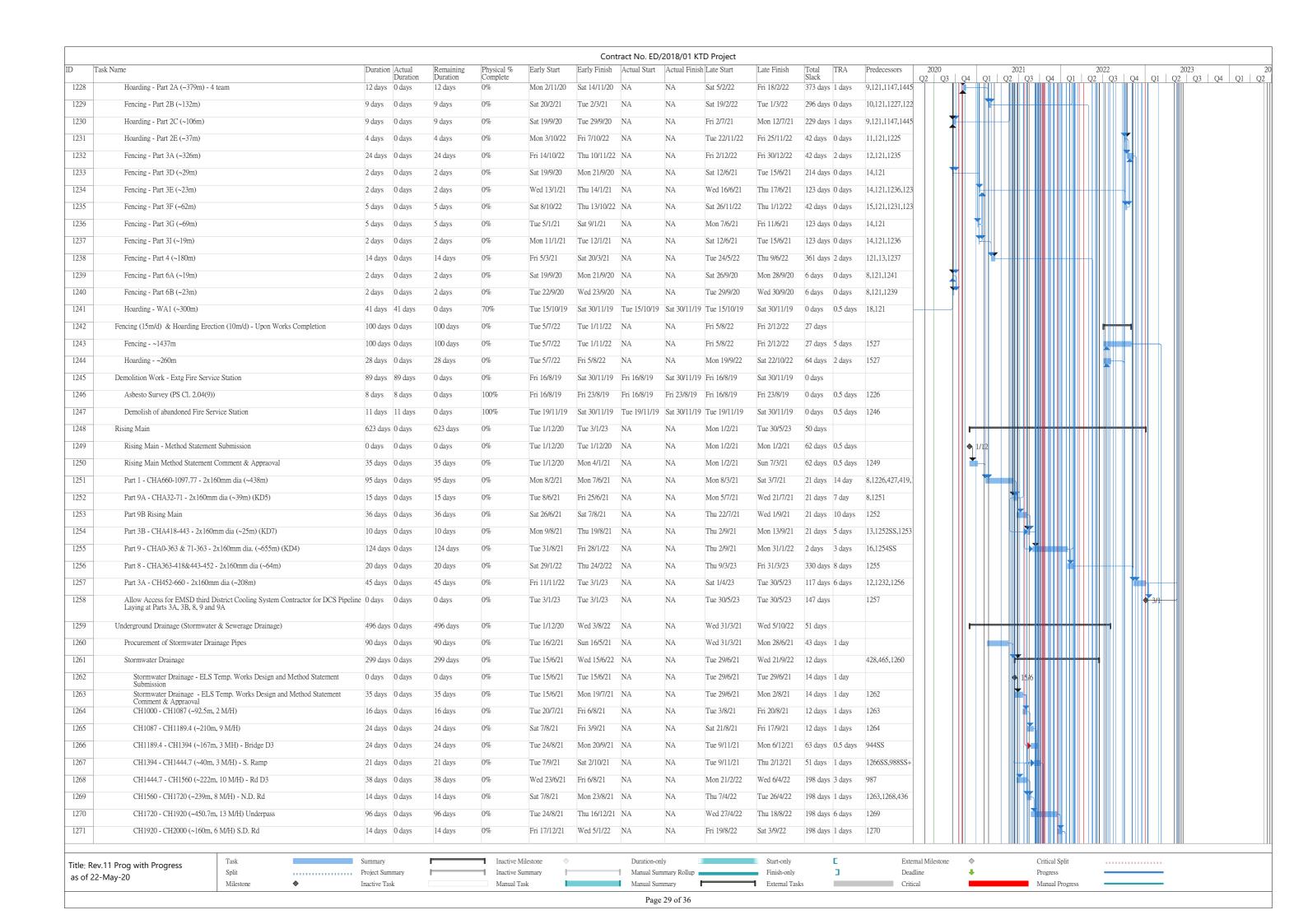
|                      |  | _           | 1                  |                       |                        |                     |               | tract No. ED/ |                       |               |  |                |          |                   |                  |                          |     |                 |          |          |                |   |      |
|----------------------|--|-------------|--------------------|-----------------------|------------------------|---------------------|---------------|---------------|-----------------------|---------------|--|----------------|----------|-------------------|------------------|--------------------------|-----|-----------------|----------|----------|----------------|---|------|
| Task l               | Name   | Duration    | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start         | Early Finish  | Actual Start  | Actual Finish         | Late Start    | Late Finish                            | Total<br>Slack |          | Predecessors      | 2020<br>Q2   Q3  | Q4                       | Q1  | 2021<br>Q2   Q3 | 3   Q4   | Q1       | 2022<br>Q2   Q |   | )4 Q |
| 08                   | North Depressed Rd (CH1560-1720)   | 562 days    | 211.42 days        | 350.58 days           | 0%                     | Tue 3/9/19          | Tue 27/7/21   | Tue 3/9/19    | NA                    | Tue 3/9/19    | Tue 1/3/22                             | 177 days       | S        |                   |                  |                          |     |                 |          |          |                |   |      |
| 09                   | Ground Monitoring Works  | 17 days     | 17 days            | 0 days                | 100%                   | Tue 3/9/19          | Thu 19/9/19   | Tue 3/9/19    | Thu 19/9/19           | Tue 3/9/19    | Thu 19/9/19                            | 0 days         | 2 days   |                   | 1                |                          |     |                 |          |          |                |   |      |
| 10                   | Mobilization   | 7 days      | 7 days             | 0 days                | 100%                   | Fri 1/11/19         | Fri 8/11/19   | Fri 1/11/19   | Fri 8/11/19           | Fri 1/11/19   | Fri 8/11/19                            | 0 days         | 0 days   |                   |                  |                          |     |                 |          |          |                |   |      |
| 11                   | Complete the Diveration of Existing Overhang Cable along the North Depressed   | 1 day       | 1 day              | 0 days                | 100%                   | Sat 26/10/19        | Sat 26/10/19  | Sat 26/10/19  | Sat 26/10/19          | Sat 26/10/19  | Sat 26/10/19                           | 0 days         | 0.5 days |                   |                  |                          |     |                 |          |          |                |   |      |
| 2                    | Drive Sheet Pile (380m, 15,000m penetration depth) Prod. Rate by 2 teams   | 39 days     | 39 days            | 0 days                | 100%                   | Fri 22/11/19        | Thu 9/1/20    | Fri 22/11/19  | Thu 9/1/20            | Fri 22/11/19  | Thu 9/1/20                             | 0 days         | 0.5 days | 1009,1010,1011    |                  |                          |     |                 |          |          |                |   |      |
|                      | (around 125m penetration depth per day per team)   |             |                    |                       |                        |                     |               |               |                       |               |  |                |          |                   |                  |                          |     |                 |          |          |                |   |      |
| 3                    | Pumping Test   | 120 days    | 75 days            | 45 days               | 0%                     | Thu 20/2/20         | Fri 17/7/20   | Thu 20/2/20   | NA                    | Thu 20/2/20   | Sat 18/7/20                            | 1 day          | 0.5 days | 1012              |                  |                          |     |                 |          |          |                |   |      |
| .4                   | CH1560 - CH1720 North Depress Road   | 449 days    | 98.66 days         | 350.34 days           | 0%                     | Mon 20/1/20         | Tue 27/7/21   | Mon 20/1/20   | NA                    | Mon 20/1/20   | Tue 1/3/22                             | 177 days       | S        |                   |                  |                          | *** |                 |          |          |                |   |      |
| 15                   | Excavation with Shoring Installation - Prod Rate: 270m3/d/team. (~36,611m3). 1 team  | 145 days    | 98 days            | 47 days               | 0%                     | Mon 20/1/20         | Sat 18/7/20   | Mon 20/1/20   | NA                    | Mon 20/1/20   | Sat 18/7/20                            | -11 days       | 1 day    | 1012              |                  |                          |     |                 |          |          |                |   |      |
| 16                   | CNCE No. 73 - April 2020 Inclement Weather   | 8 days      | 0 days             | 8 days                | 0%                     | Mon 20/7/20         | Tue 28/7/20   | NA            | NA                    | Tue 7/7/20    | Wed 15/7/20                            | -11 days       | ;        | 1015,73           |                  |                          |     |                 |          |          |                |   |      |
| 17                   | May 2020 - Inclement Weather   | 3 days      | 0 days             | 3 days                | 0%                     | Wed 29/7/20         | Fri 31/7/20   | NA            | NA                    | Thu 16/7/20   | Sat 18/7/20                            | -11 days       | ;        | 1016,74           |                  |                          |     |                 |          |          |                | , |      |
| 18                   | Rock Fill Replacement (Final Level)  | 6 days      | 0 days             | 6 days                | 0%                     | Sat 1/8/20          | Fri 7/8/20    | NA            | NA                    | Mon 20/7/20   | Sat 25/7/20                            | -11 days       | 3        | 1013,1015,1017    | #                |                          |     |                 |          |          |                |   |      |
| 19                   | 6 Bay Base Slabs + 3 Levels Wall Both Sides  | 55 days     | 0 days             | 55 days               | 0%                     | Wed 3/6/20          | Fri 7/8/20    | NA            | NA                    | Thu 21/5/20   | Sat 25/7/20                            | -11 days       | 3        | 1015SS+107 day    | y                |                          |     |                 |          |          |                |   |      |
| 20                   | Base Slab and Wall Below 4th Level Shoring   | 25 days     | 0 days             | 25 days               | 0%                     | Sat 8/8/20          | Sat 5/9/20    | NA            | NA                    | Mon 27/7/20   | Mon 24/8/20                            | -11 days       | 0.5 days | 1019,1015,1018    | 🛓                |                          |     |                 |          |          |                |   |      |
| 21                   | Backfilling and 4th Level Shoring Removal  | 18 days     |                    | 18 days               | 0%                     | Mon 7/9/20          | Sat 26/9/20   | NA            | NA                    | Tue 25/8/20   | Mon 14/9/20                            | -11 days       |          | 1020              |                  |                          |     |                 |          |          |                |   |      |
| 22                   | Wall Construction (between 3rd and 4th levels shoring) and Remaining Base  |             |                    | 24 days               | 0%                     | Mon 28/9/20         | Wed 28/10/20  |               | NA                    | Tue 15/9/20   | Wed 14/10/20                           |                |          | 1021              | '                |                          |     |                 |          |          |                |   |      |
| 23                   | Slab  Backfilling and 3rd Level Shoring Removal  | 18 days     |                    | 18 days               | 0%                     | Thu 29/10/20        |               |               | NA                    | Thu 15/10/20  | Thu 5/11/20                            | -11 days       |          | 1022              |                  |                          |     |                 |          |          |                |   |      |
|                      |  |             |                    |                       |                        |                     |               |               |                       |               |  |                |          |                   |                  |                          |     |                 |          |          |                |   |      |
| 24                   | Structure Works Below 2nd & 3rd Levels Shoring   | 23 days     |                    | 23 days               | 0%                     |                     | Tue 15/12/20  |               | NA                    | Fri 6/11/20   | Wed 2/12/20                            | -11 days       |          | 1023              |                  |                          |     |                 |          |          |                |   |      |
| 25                   | Backfilling and 2nd Level Shoring Removal  | 18 days     |                    | 18 days               | 0%                     | Wed 16/12/20        |               | NA            | NA                    | Thu 3/12/20   | Wed 23/12/20                           |                |          | 1024              |                  |                          |     |                 |          |          |                |   |      |
| 26                   | Remaining Wall Construction  | 30 days     | 0 days             | 30 days               | 0%                     | Sat 9/1/21          | Tue 16/2/21   | NA            | NA                    | Thu 24/12/20  | Sat 30/1/21                            | -11 days       | ;        | 1025              |                  |                          |     |                 |          |          |                |   |      |
| 27                   | Backfill & extract sheet pile (CH1560 to CH1720)   | 26 days     | 0 days             | 26 days               | 0%                     | Wed 17/2/21         | Thu 18/3/21   | NA            | NA                    | Mon 1/2/21    | Fri 5/3/21                             | -11 days       | 1 day    | 1026              |                  |                          |     |                 |          |          |                |   |      |
| 28                   | Emergency walkway & median barrier installation  | 20 days     | 0 days             | 20 days               | 0%                     | Tue 1/6/21          | Thu 24/6/21   | NA            | NA                    | Mon 3/1/22    | Tue 25/1/22                            | 177 days       | s 2 days | 1027              |                  |                          |     |                 |          |          |                |   |      |
| 29                   | Parapet installation   | 27 days     | 0 days             | 27 days               | 0%                     | Fri 25/6/21         | Tue 27/7/21   | NA            | NA                    | Wed 26/1/22   | Tue 1/3/22                             | 177 days       | s 3 days | 1028              |                  |                          |     |                 |          |          |                |   |      |
| 0                    | CH1720 - CH1850 (130m long) (2 x teams)  | 477 days    | 0 days             | 477 days              | 0%                     | Mon 15/6/20         | Mon 4/10/21   | NA            | NA                    | Mon 15/6/20   | Mon 4/10/21                            | 0 days         |          |                   | I                |                          |     |                 |          |          |                |   |      |
| 31                   | Drive sheet pile (approx. 17000m penetration depth, 380m/day)  | 46 days     | 0 days             | 46 days               | 0%                     | Mon 15/6/20         | Sat 8/8/20    | NA            | NA                    | Mon 15/6/20   | Sat 8/8/20                             | 0 days         | 2 day    |                   |                  |                          |     |                 |          |          |                |   |      |
| 2                    | Pumping Test   | 22 days     | 0 days             | 22 days               | 0%                     | Mon 10/8/20         | Thu 3/9/20    | NA            | NA                    | Mon 10/8/20   | Thu 3/9/20                             | 0 days         | 1 days   | 1031,1045         | 🛓                |                          |     |                 |          |          |                |   |      |
| 3                    | CH1720 - CH1850 (130m long) (2 x teams) Top Portion: Excavation with   | 42 days     | 0 days             | 42 days               | 0%                     | Fri 4/9/20          | Sat 24/10/20  | NA            | NA                    | Fri 4/9/20    | Sat 24/10/20                           | 0 days         | 2 day    | 1032              | $+ + + \top_{i}$ |                          |     |                 |          |          |                |   |      |
|                      | Shoring Installation = 23,000 cu.m. (320m3/d/team x 2)   |             |                    |                       |                        |                     |               |               |                       |               |  |                |          |                   |                  |                          |     |                 |          |          |                |   |      |
| 34                   | CH1720 - CH1850 (130m long) (2 x teams) Bottom Portion: Excavation with Shoring Installation = 23,876 cu.m. (250m3/d/team x 2) | 52 days     | 0 days             | 52 days               | 0%                     | Tue 27/10/20        | Mon 28/12/20  | NA NA         | NA                    | Tue 27/10/20  | Mon 28/12/20                           | 0 days         | 1 day    | 1033              |                  |                          |     |                 |          |          |                |   |      |
| 15                   | Rock fill - Prod. Rate: (3,469m3) (160m3/d/team. 2 team)   | 6 days      | 0 days             | 6 days                | 0%                     | Tue 29/12/20        | Tue 5/1/21    | NA            | NA                    | Tue 29/12/20  | Tue 5/1/21                             | 0 days         | 1 day    | 1033,1034         | _                | $\  \  \ _{\frac{1}{2}}$ |     |                 |          |          |                |   |      |
| 36                   | Base Slab - 8 bays, Prod. Rate: 12d/team/bay include pipe laying, 4 teams  | 26 days     |                    | 26 days               | 0%                     | Wed 3/3/21          | Thu 1/4/21    |               | NA                    | Wed 3/3/21    | Thu 1/4/21                             | 0 days         |          | 1035,1042,262     |                  |                          |     |                 |          |          |                |   |      |
| 37                   | Wall - 8 bays. Prod. Rate: 3 level of shoring 12d/bay/level/team. 4 teams  |             |                    |                       | 0%                     |                     | Tue 6/7/21    |               |                       |               |  |                |          |                   |                  |                          |     |                 |          |          |                |   |      |
|                      |  | 75 days     |                    | 75 days               |                        | Tue 6/4/21          |               |               | NA                    | Tue 6/4/21    | Tue 6/7/21                             | 1              |          | 1036              |                  |                          |     |                 |          |          |                |   |      |
| 38                   | Top Slab - 8 bays. Prod. Rate: 18d/team/bay, 4 teams   | 38 days     |                    | 38 days               | 0%                     | Wed 7/7/21          | Thu 19/8/21   |               | NA                    | Wed 7/7/21    | Thu 19/8/21                            |                |          | 1037              |                  |                          |     |                 | ]]]]]    |          |                |   |      |
| 39                   | Falsework Removal  | 37 days     |                    | 37 days               | 0%                     | Fri 20/8/21         | Mon 4/10/21   |               | NA                    | Fri 20/8/21   | Mon 4/10/21                            |                | 2 day    | 1038              |                  |                          |     |                 |          |          |                |   |      |
| 40                   | Sheetpile Extraction and Backfill  | 13 days     | 0 days             | 13 days               | 0%                     | Fri 20/8/21         |               | NA            | NA                    | Fri 17/9/21   | Mon 4/10/21                            | 24 days        | 1 day    | 1038              |                  |                          |     |                 | i+       |          |                |   |      |
| 1                    | Underground Plant Room next to Underpass   | 45 days     | 0 days             | 45 days               | 0%                     | Wed 6/1/21          | Tue 2/3/21    | NA            | NA                    | Wed 6/1/21    | Tue 2/3/21                             | 0 days         |          |                   |                  |                          |     |                 |          |          |                |   |      |
| 42                   | Underground pump house structure   | 45 days     | 0 days             | 45 days               | 0%                     | Wed 6/1/21          | Tue 2/3/21    | NA            | NA                    | Wed 6/1/21    | Tue 2/3/21                             | 0 days         | 3 day    | 714,1035,262,28   | 3                |                          |     |                 |          |          |                |   |      |
| 43                   | Underpass & South Depressed Road CH1850-1950 - (100m long) 8 bays x 13.5m long   | 120 days    | 65.36 days         | 54.64 days            | 0%                     | Wed 26/2/20         | Thu 23/7/20   | Wed 26/2/20   | NA                    | Wed 26/2/20   | Sat 8/8/20                             | 14 days        |          |                   |                  |                          |     |                 |          |          |                |   |      |
| 14                   | Drive sheet pile (12,530m embedded length sheetpile) Prod. Rate 380m/team/day  | 32 days     | 32 days            | 0 days                | 100%                   | Wed 26/2/20         | Mon 6/4/20    | Wed 26/2/20   | Mon 6/4/20            | Wed 26/2/20   | Mon 6/4/20                             | 0 days         | 5 days   |                   | h                |                          |     |                 |          |          |                |   |      |
| 45                   | Pumping Test   | 80 days     | 29 days            | 51 days               | 36%                    | Fri 17/4/20         | Thu 23/7/20   | Fri 17/4/20   | NA                    | Fri 17/4/20   | Sat 8/8/20                             | 14 days        | 2 days   | 1044              |                  |                          |     |                 |          |          |                | . |      |
| 5                    | Underpass & South Depress Road (CH1850 to CH1950)  | 539 days    | 27.64 days         | 511.36 days           | 0%                     | Thu 23/4/20         | Wed 13/10/21  | Thu 23/4/20   | NA                    | Thu 23/4/20   | Tue 1/3/22                             | 139 days       | S        |                   |                  |                          |     |                 |          |          |                |   |      |
| 7                    | Excavation with Shoring Installation (Upper Portion) - Prod. Rate: 270m3/d/team. 1   | 80 days     | 24 days            | 56 days               | 23%                    | Thu 23/4/20         | Thu 30/7/20   | Thu 23/4/20   | NA                    | Thu 23/4/20   | Fri 4/9/20                             | 31 days        | 5 days   | 1045SS+6 days     | <b>—</b>         | $\  \  \ $               |     |                 |          |          |                |   |      |
| 48                   | team 16,000m3)  Excavation with Shoring Installation (Lower Portion) - Prod. Rate: 270m3/d/team. 1                             |             |                    | 65 days               | 0%                     | Fri 31/7/20         | Fri 16/10/20  |               | NA                    | Sat 5/9/20    | Mon 23/11/20                           |                |          | 1047,1045FF+1     |                  |                          |     |                 |          |          |                |   |      |
| 49                   | team 16,000m3)  Rock fill - Prod. Rate: 160m3/d/team (1,745m3)   |             | 0 days             | 7 days                | 0%                     | Sat 17/10/20        | Sat 24/10/20  |               | NA                    | Tue 24/11/20  | Tue 1/12/20                            | 31 days        |          | days<br>1047,1048 | -                |                          |     |                 |          |          |                |   |      |
| 50                   | Blinding   |             | 0 days             | 1 day                 | 0%                     |                     | Tue 27/10/20  |               | NA                    | Wed 2/12/20   | Wed 2/12/20                            |                | 0.5 days |                   |                  |                          |     |                 |          |          |                |   |      |
|                      | Dimuit   | ı day       | oudys              | 1 uny                 | 0 70                   | 1 uc 2//10/20       | 1 uc 27/10/20 | 1411          | 17/1                  | 11 Cu 2/12/20 | ************************************** | J1 uays        | o.J uays | 1017              |                  |                          |     |                 |          |          |                |   | Ш    |
| o. Dec. 11           | 1 Progravith Progress  | Summary     |                    |                       | Inactive M             | ilestone $\Diamond$ |               | Duration-on   | ıly                   |               | Start-only                             |                | Е        | Exte              | emal Milestone   | <b>♦</b>                 |     |                 | Critical | Split    |                |   |      |
| e: Rev.11<br>of 22-M | av-20 Split  | Project Sun |                    |                       | Inactive Su            | ımmary 📗            |               | Manual Sur    | mmary Rollup <b>•</b> |               | Finish-only                            |                | 3        | Dea               | dline            | •                        |     |                 | Progress | 3        | _              |   |      |
| -                    | Milestone •  | Inactive Ta | sk                 |                       | Manual Ta              | sk                  |               | Manual Sur    | nmary                 |               | External Tas                           | ks             |          | Crit              | ical             |                          |     |                 | Manual   | Progress | _              |   | _    |

| Tasl                      | LAT  | F :         |                    | D                     | D1                     | E 1 0        |              |              |              | KTD Project    | T . TO       | m . 1 :            | D 1               | 220                    |                                   | \1              |                          |         | 2022         |
|---------------------------|--|-------------|--------------------|-----------------------|------------------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------------|-------------------|------------------------|-----------------------------------|-----------------|--------------------------|---------|--------------|
| Tasl                      | k Name   | Duration    | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start | Actual Fin   | ish Late Start | Late Finish  | Total TRA<br>Slack |                   | 020<br>  Q3   Q4       | Q1   Q2                           |                 | 2022<br>1   Q2   Q3   Q4 | 4 Q1 Q2 | 2023<br>2 Q3 |
| 051                       | Underpass Formworks Design and Method Statement Submission                               | 0 days      | 0 days             | 0 days                | 0%                     | Mon 14/9/20  | Mon 14/9/20  | NA           | NA           | Tue 3/11/20    | Tue 3/11/20  | 50 days 1 day      |                   | <b>◆</b> 14/9          |                                   |                 |                          |         |              |
| 052                       | Underpass Formworks Design and Method Statement Comment & Appraoval                      | 30 days     | 0 days             | 30 days               | 0%                     | Mon 14/9/20  | Tue 13/10/20 | NA           | NA           | Tue 3/11/20    | Wed 2/12/20  | 50 days 1 day      | 1051              |                        |                                   |                 |                          |         | 1            |
| .053                      | Casting base slab (12d/bay/team x 3) (6 bays)  | 26 days     | 0 days             | 26 days               | 0%                     | Wed 28/10/20 | Thu 26/11/20 | NA           | NA           | Thu 3/12/20    | Tue 5/1/21   | 31 days 2 day      | 1050,1052,262     |                        |                                   |                 |                          |         |              |
| 1054                      | Waterproofing & Bacfilling before S3 Shoring Removal                                     | 12 days     | 0 days             | 12 days               | 0%                     | Fri 27/11/20 | Thu 10/12/20 | NA           | NA           | Wed 6/1/21     | Tue 19/1/21  | 31 days 1 day      | 1053              |                        |                                   |                 |                          |         |              |
| 1055                      | S3 Shoring ELS Removal + North/South End Re-propping                                     | 7 days      | 0 days             | 7 days                | 0%                     | Fri 11/12/20 | Fri 18/12/20 | NA           | NA           | Wed 20/1/21    | Wed 27/1/21  | 31 days 1 day      | 1054              |                        |                                   |                 |                          |         |              |
| 1056                      | Wall Construction up to soffit of S2 Shoring (12d/bay/team x 3) (6 bays)                 | 24 days     | 0 days             | 24 days               | 0%                     | Sat 19/12/20 | Tue 19/1/21  | NA           | NA           | Thu 28/1/21    | Sat 27/2/21  | 31 days 2 day      | 1055              |                        | h                                 |                 |                          |         |              |
| 1057                      | Waterproofing & Bacfilling before S2 Shoring Removal                                     | 12 days     | 0 days             | 12 days               | 0%                     | Wed 20/1/21  | Tue 2/2/21   | NA           | NA           | Mon 1/3/21     | Sat 13/3/21  | 31 days 1 day      | 1056              |                        |                                   |                 |                          |         |              |
| 058                       | S2 Shoring ELS Removal + North/South End Re-propping                                     | 7 days      | 0 days             | 7 days                | 0%                     | Wed 3/2/21   | Wed 10/2/21  | NA           | NA           | Mon 15/3/21    | Mon 22/3/21  | 31 days 1 day      | 1057              |                        | Ř                                 |                 |                          |         |              |
| 059                       | Wall Construction up to soffit of S1 Shoring (12d/bay/team x 3) (6 bays)                 | 24 days     | 0 days             | 24 days               | 0%                     | Thu 11/2/21  | Sat 13/3/21  | NA           | NA           | Tue 23/3/21    | Thu 22/4/21  | 31 days 2 day      | 1058              |                        |                                   |                 |                          |         |              |
| 060                       | Waterproofing & Bacfilling before S1 Shoring Removal                                     | 12 days     | 0 days             | 12 days               | 0%                     | Mon 15/3/21  | Sat 27/3/21  | NA           | NA           | Fri 23/4/21    | Fri 7/5/21   | 31 days 1 day      | 1059              |                        |                                   |                 |                          |         |              |
| 061                       | S1 Shoring ELS Removal + North/South End Re-propping                                     | 7 days      |                    | 7 days                | 0%                     | Mon 29/3/21  | Thu 8/4/21   | NA           | NA           | Sat 8/5/21     | Sat 15/5/21  | 31 days 1 day      | 1060              |                        |                                   |                 |                          |         |              |
| .062                      | Scaffold erection for roof slab  | 24 days     |                    | 24 days               | 0%                     | Fri 9/4/21   | Fri 7/5/21   | NA           | NA           | Mon 17/5/21    | Tue 15/6/21  | 31 days 2 day      | 1061              |                        |                                   |                 |                          |         |              |
| 063                       | Roof slab construction (18d/bay/team x 3) (6 bays)                                       | 42 days     |                    | 42 days               | 0%                     | Sat 8/5/21   | Mon 28/6/21  |              | NA           | Wed 16/6/21    | Wed 4/8/21   | 31 days 4 days     | 1062              |                        |                                   |                 |                          |         |              |
| .064                      | Waterproofing & Backfilling upto tunnel top  | 42 days     |                    | 28 days               | 0%                     | Tue 29/6/21  | Sat 31/7/21  |              | NA           | Thu 5/8/21     | Mon 6/9/21   | 31 days 4 days     | 1063              |                        |                                   |                 |                          |         |              |
| .065                      |  |             |                    |                       |                        |              |              |              |              |                |              |                    |                   |                        |                                   |                 |                          |         |              |
|                           | Scaffold removal after 28 days from casting  | 22 days     |                    | 22 days               | 0%                     | Mon 26/7/21  | Thu 19/8/21  |              | NA           | Thu 13/1/22    | Thu 10/2/22  | 141 days 1 day     | 1063FS+22 days    |                        |                                   |                 |                          |         |              |
| 1066                      | Sheetpile extraction (Ch1851-CH1950)   | 22 days     |                    | 22 days               | 0%                     | Mon 2/8/21   | Thu 26/8/21  |              | NA           | Tue 7/9/21     | Mon 4/10/21  | 31 days 1 day      | 1064              |                        |                                   |                 |                          |         |              |
| 067                       | Emergency walkway & median barrier installation  |             | 0 days             | 9 days                | 0%                     | Fri 24/9/21  | Tue 5/10/21  |              | NA           | Fri 11/2/22    | Mon 21/2/22  | 112 days 1 day     | 323,1066,1040,1   |                        |                                   |                 |                          |         |              |
| 068                       | Parapet installation   | 7 days      | 0 days             | 7 days                | 0%                     | Wed 6/10/21  | Wed 13/10/21 | NA           | NA           | Tue 22/2/22    | Tue 1/3/22   | 112 days 1 day     | 1067              |                        |                                   | 1 1 1 1 1 1 1 1 |                          |         |              |
| 069                       | CH1950 - CH2020 (70m long) (2 x teams) 4 bays x 17.5m long - Average 3 layers of shoring | f 209 days  | s 0 days           | 209 days              | 0%                     | Fri 19/3/21  | Mon 29/11/21 | NA           | NA           | Sat 6/3/21     | Tue 1/3/22   | -11 days           |                   |                        |                                   |                 |                          |         |              |
| 1070                      | Drive sheet pile (approx. 8,800m embedded length sheetpile), 380m/team/day               | 24 days     | 0 days             | 24 days               | 0%                     | Fri 19/3/21  | Mon 19/4/21  | NA           | NA           | Sat 6/3/21     | Tue 6/4/21   | -11 days 1 day     | 1027              |                        |                                   |                 |                          |         |              |
| 1071                      | Excavation with Shoring Installation - Prod. Rate: 2 teams x 250m3/d/team. (14.500m3)    | 30 days     | 0 days             | 30 days               | 0%                     | Tue 20/4/21  | Wed 26/5/21  | NA           | NA           | Wed 7/4/21     | Wed 12/5/21  | -11 days 1 day     | 1049,1070         |                        |                                   |                 |                          |         |              |
| .072                      | Rock Fill Replacement  | 6 days      | 0 days             | 6 days                | 0%                     | Thu 27/5/21  | Wed 2/6/21   | NA           | NA           | Thu 13/5/21    | Thu 20/5/21  | -11 days 0.5 days  | s 1071            |                        | IIII K                            |                 |                          |         |              |
| 1073                      | Blinding   | 1 day       | 0 days             | 1 day                 | 0%                     | Thu 3/6/21   | Thu 3/6/21   | NA           | NA           | Fri 21/5/21    | Fri 21/5/21  | -11 days 0.5 days  | s 1071,1072       |                        |                                   |                 |                          |         |              |
| 074                       | Base Slab - 4 bays. Prod. Rate: 12d/team/bay include pipe laying. 2 team                 | 26 days     | 0 days             | 26 days               | 0%                     | Fri 4/6/21   | Tue 6/7/21   | NA           | NA           | Sat 22/5/21    | Tue 22/6/21  | -11 days 2 days    | 1073              |                        |                                   |                 |                          |         |              |
| 075                       | Wall - 4 bays. Prod. Rate: 3 level of shoring 12d/bay/level/team. 2 teams                | 67 days     | 0 days             | 67 days               | 0%                     | Wed 16/6/21  | Thu 2/9/21   | NA           | NA           | Wed 2/6/21     | Fri 20/8/21  | -11 days 6 days    | 1074SS+9 days     |                        |                                   | •               |                          |         |              |
| 076                       | Backfill & extract sheet pile (CH1950 to CH2020)   | 25 days     | 0 days             | 25 days               | 0%                     | Fri 3/9/21   | Mon 4/10/21  | NA           | NA           | Sat 21/8/21    | Sat 18/9/21  | -11 days 2 days    | 1075              |                        |                                   | <b>T</b>        |                          |         |              |
| 077                       | CH1950 to CH2020: Emergency walkway & median barrier installation                        | 20 days     | 0 days             | 20 days               | 0%                     | Tue 5/10/21  | Thu 28/10/21 | NA           | NA           | Mon 3/1/22     | Tue 25/1/22  | 73 days 2 days     | 1075,1076         |                        |                                   | 11-             |                          |         |              |
| 078                       | CH1950 to CH2020: Pavement work  | 7 days      | 0 days             | 7 days                | 0%                     | Fri 29/10/21 | Fri 5/11/21  | NA           | NA           | Wed 26/1/22    | Sat 5/2/22   | 73 days 1 day      | 1077              |                        |                                   | T               |                          |         |              |
| 1079                      | CH1950 to CH2020: Parapet installation   | 20 days     | 0 days             | 20 days               | 0%                     | Sat 6/11/21  | Mon 29/11/21 | NA           | NA           | Mon 7/2/22     | Tue 1/3/22   | 73 days 2 day      | 1076,1077,1078    |                        |                                   | N#              |                          |         |              |
| 1080                      | South Depressed Road CH2020-2050 (40m long) (2 x teams) 5 bays x 13.5m long -            | 134 days    | s 0 days           | 134 days              | 0%                     | Mon 2/8/21   | Tue 11/1/22  | NA           | NA           | Sun 5/9/21     | Tue 1/3/22   | 30 days            |                   |                        |                                   |                 |                          |         |              |
| 1081                      | Average 2 layers of shoring Open Excavation  | 17 days     |                    | 17 days               | 0%                     | Tue 5/10/21  | Mon 25/10/21 | NA           | NA           | Mon 20/9/21    | Mon 11/10/21 | -11 days 3 days    | 1076              |                        |                                   |                 |                          |         |              |
| 1082                      | Blinding   | 2 days      |                    | 2 days                | 0%                     | Tue 26/10/21 |              |              | NA           | Tue 12/10/21   |              | -11 days 0 days    |                   |                        |                                   | <b>.</b>        |                          |         |              |
| 1083                      | South Depress Road - Formworks Design and Method Statement Submission                    | 0 days      |                    | 0 days                | 0%                     | Mon 2/8/21   | Mon 2/8/21   |              | NA           | Sun 5/9/21     | Sun 5/9/21   | 34 days 1 day      |                   |                        |                                   | <b>△</b> 2/8    |                          |         |              |
| 1084                      | South Depress Road - Formworks Design and Method Statement Comment &                     | 40 days     |                    | 40 days               | 0%                     | Mon 2/8/21   | Fri 10/9/21  |              | NA           | Sun 5/9/21     | Thu 14/10/21 |                    | 1083              |                        |                                   |                 |                          |         |              |
|                           | Appraoval  |             |                    |                       |                        |              |              |              |              |                |              |                    | 1083              |                        |                                   |                 |                          |         |              |
| 085                       | Base Slab - 3 bays. Prod. Rate: 12d/team/bay include pipe laying. 2 teams                | 12 days     |                    | 12 days               | 0%                     | Thu 28/10/21 |              |              | NA           | Fri 15/10/21   | Thu 28/10/21 |                    |                   |                        |                                   |                 |                          |         |              |
| 1086                      | Wall - 3 bays. Prod. Rate: 2 level of shoring 12d/bay/level/team. 2 teams                | 12 days     |                    | 12 days               | 0%                     | Fri 12/11/21 | Thu 25/11/21 |              | NA           | Sat 30/10/21   | Fri 12/11/21 | -11 days 0.5day    | 1085SS+13<br>days |                        |                                   |                 |                          |         |              |
| 1087                      | Wall - 3 bays. Prod. Rate: 2 level of shoring 12d/bay/level/team. 2 teams                | 12 days     |                    | 12 days               | 0%                     | Sat 20/11/21 | Fri 3/12/21  |              | NA           | Mon 8/11/21    | Sat 20/11/21 | -11 days 0.5day    | 1086SS+7 days     |                        |                                   |                 |                          |         |              |
| 1088                      | Backfill & extract sheet pile  | 19 days     |                    | 19 days               | 0%                     | Fri 26/11/21 | Fri 17/12/21 |              | NA           | Fri 14/1/22    | Tue 8/2/22   | 39 days 1 day      | 1086              |                        |                                   |                 |                          |         |              |
| 1089                      | Curing and Formwork Ramoval  | 19 days     |                    | 19 days               | 0%                     | Fri 26/11/21 | Fri 17/12/21 |              | NA           | Thu 30/12/21   | Fri 21/1/22  | 27 days 1 day      | 1086              |                        |                                   |                 |                          |         |              |
| 1090                      | Emergency walkway & median barrier installation  | 6 days      | 0 days             | 6 days                | 0%                     | Sat 18/12/21 | Fri 24/12/21 | NA           | NA           | Wed 9/2/22     | Tue 15/2/22  | 39 days 2 days     | 1086,1088,323     |                        |                                   | 14              |                          |         |              |
| 1091                      | Pavement work  | 6 days      | 0 days             | 6 days                | 0%                     | Tue 28/12/21 | Tue 4/1/22   | NA           | NA           | Wed 16/2/22    | Tue 22/2/22  | 39 days 1 day      | 1090              |                        |                                   |                 |                          |         |              |
| 1092                      | Parapet installation   | 6 days      | 0 days             | 6 days                | 0%                     | Wed 5/1/22   | Tue 11/1/22  | NA           | NA           | Wed 23/2/22    | Tue 1/3/22   | 39 days 1 day      | 1090,1088,1091    |                        |                                   |                 |                          |         |              |
| 1093                      | 5.0 CH1386-1950 (564m): Utlity Laying Team 2 (by Others)                                 | 332 days    | s 0 days           | 332 days              | 0%                     | Sat 17/4/21  | Mon 14/3/22  | NA           | NA           | Thu 19/8/21    | Tue 1/3/22   | -13 days           |                   |                        | │║┃│ <del></del> ┢ <del>┤╢╢</del> |                 |                          |         |              |
| 1094                      | CLP (132kV)  | 30 days     | 0 days             | 30 days               | 0%                     | Fri 14/1/22  | Sat 12/2/22  | NA           | NA           | Mon 31/1/22    | Tue 1/3/22   | 17 days 1 day      | 946,990,1027      |                        |                                   |                 | <u> </u>                 |         |              |
| 1095                      | HKCG   | 18 days     | 0 days             | 18 days               | 0%                     | Fri 14/1/22  | Mon 31/1/22  | NA           | NA           | Tue 25/1/22    | Fri 11/2/22  | 11 days 1 day      | 946,990,1027      |                        |                                   |                 |                          |         |              |
|                           | 11 Drog with Drogress Task   | Summary     |                    |                       | Inactive N             | filestone 🔷  |              | Duration-or  | ılv          |                | Start-only   | Е                  | External M        | lestone $\diamondsuit$ |                                   | Critical Split  |                          |         | <u>   </u>   |
| itle: Rev.1<br>as of 22-N | 11 Prog with Progress  |             | nmary              |                       | Inactive S             |              |              |              | mmary Rollup |                | Finish-only  | 3                  | Deadline          |                        |                                   | Progress        |                          |         |              |
|                           | Milestone •  | Inactive Ta | ısk                |                       | Manual Ta              | ask          |              | Manual Sur   | nmary        |                | External Tas | ks                 | Critical          |                        |                                   | Manual Progre   | èss                      |         |              |

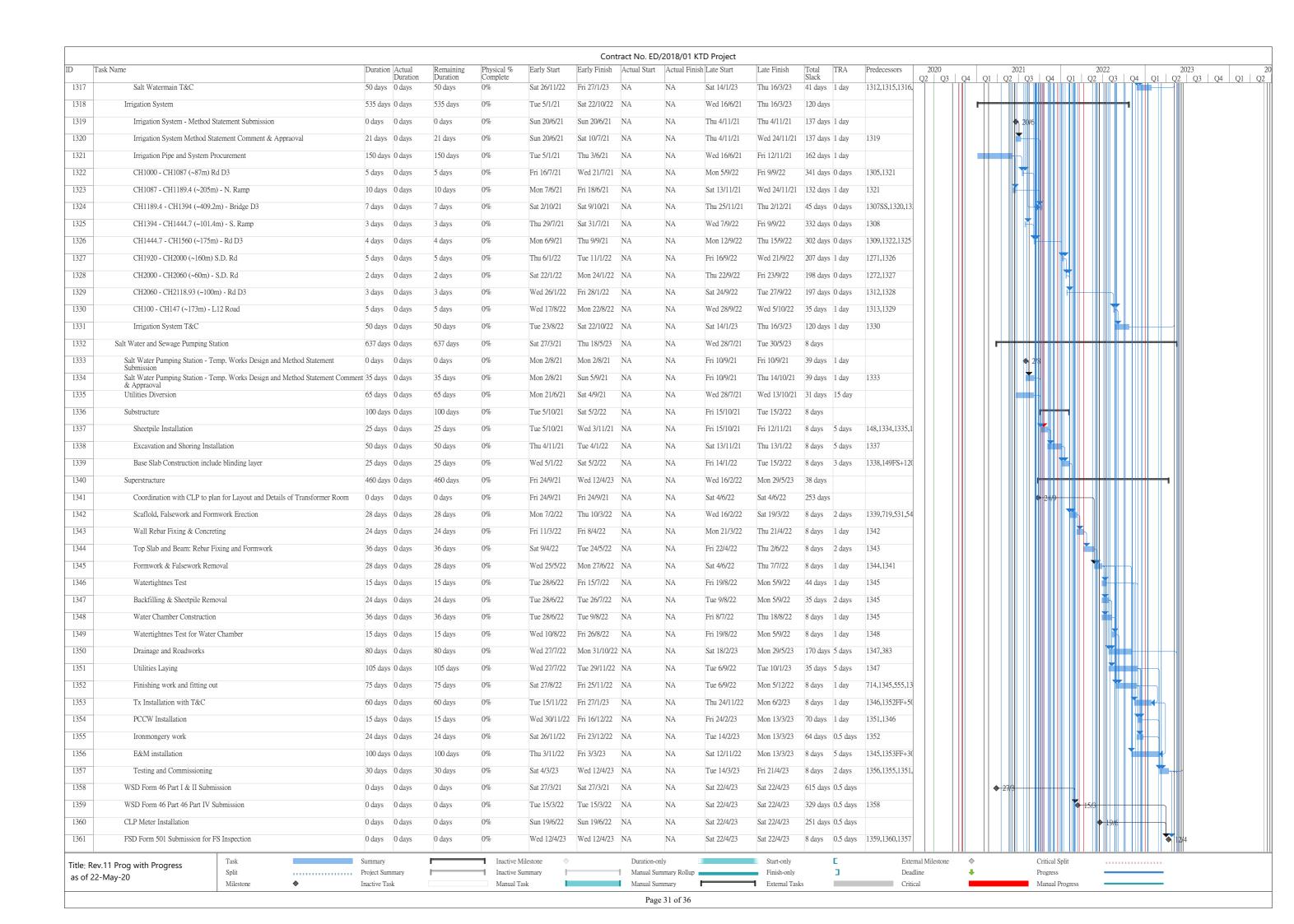
| 1097   | Note No. 1 Across 1 A |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
|--|--|--|--|--|----------------------------------|--|---|----------------|----------------|------------------------|--------------|--------------------------------|---------------------------------|---------|----------|----|--------------|---|-----------------------|-----------|--------------|----------------|----------------|
| 1097   | Towngas telecom  North & South Depress Raod and Underpass: Finishing and E&M Works  Finishing & Fitting Out Work, and E&M Works Installation  Pump Room Next to Underpass: Finishing and E&M Works  Finishing Works and E&M installation  Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  If site 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall   | 13 days<br>15 days<br>120 days<br>120 days<br>158 days<br>60 days<br>25 days<br>0 days<br>824 days | 0 days 0 days 0 days 0 days s 0 days s 0 days        | 15 days 13 days 15 days 120 days 120 days 158 days 73 days 60 days 25 days | 0%<br>0%<br>0%<br>0%<br>0%<br>0% | Fri 28/1/22 Fri 4/2/22 Tue 5/10/21 Tue 5/10/21 Sat 17/4/21 Sat 17/4/21 | Wed 9/2/22 Fri 18/2/22 Tue 1/3/22 Tue 1/3/22 Tue 26/10/21 | NA<br>NA<br>NA | NA<br>NA<br>NA | Tue 8/2/22 Tue 15/2/22 | Sun 20/2/22  | 11 days 1 day<br>11 days 1 day | 1095SS+7 days,<br>1096SS+7 days | \Q      | r+   QI  | Q2 | ψ3 <u></u>   | Q1                                      | <u>Q</u> 2   <u>Q</u> | 23   Q4   | + QI         | <u>  Q2   </u> | <u>√</u> 2   ( |
| 1098   | Towngas telecom  North & South Depress Raod and Underpass: Finishing and E&M Works  Finishing & Fitting Out Work, and E&M Works Installation  Pump Room Next to Underpass: Finishing and E&M Works  Finishing Works and E&M installation  Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 15 days<br>120 days<br>120 days<br>158 days<br>73 days<br>60 days<br>25 days<br>0 days<br>824 days | O days  O days | 15 days 120 days 120 days 158 days 73 days 60 days                         | 0%<br>0%<br>0%<br>0%<br>0%       | Fri 4/2/22 Tue 5/10/21 Tue 5/10/21 Tue 5/10/21 Sat 17/4/21 Sat 17/4/21 | Fri 18/2/22 Tue 1/3/22 Tue 1/3/22 Tue 26/10/21            | NA<br>NA<br>NA | NA<br>NA       | Tue 15/2/22            |              |                                |                                 |         |          |    |              | <b>*</b>                                |                       |           |              |                |                |
| 1099   | North & South Depress Raod and Underpass: Finishing and E&M Works  Finishing & Fitting Out Work, and E&M Works Installation  Pump Room Next to Underpass: Finishing and E&M Works  Finishing Works and E&M installation  Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall   | 120 days<br>120 days<br>158 days<br>73 days<br>60 days<br>25 days<br>0 days<br>824 days            | s 0 days s 0 days s 0 days                           | 120 days<br>120 days<br>158 days<br>73 days<br>60 days<br>25 days          | 0%<br>0%<br>0%<br>0%             | Tue 5/10/21 Tue 5/10/21 Sat 17/4/21 Sat 17/4/21                        | Tue 1/3/22  Tue 1/3/22  Tue 26/10/21                      | NA<br>NA       | NA             |                        | Tue 1/3/22   | 11 days 1 day                  | 1097SS+7 days                   |         |          | 1  | 41 IIIII III | 414                                     |                       |           |              |                |                |
| 1100   F   1110   F    | Finishing & Fitting Out Work, and E&M Works Installation  Pump Room Next to Underpass: Finishing and E&M Works  Finishing Works and E&M installation  Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 120 days<br>158 days<br>73 days<br>60 days<br>25 days<br>0 days<br>824 days                        | s 0 days s 0 days                                    | 120 days<br>158 days<br>73 days<br>60 days<br>25 days                      | 0%<br>0%<br>0%<br>0%             | Tue 5/10/21<br>Sat 17/4/21<br>Sat 17/4/21                              | Tue 1/3/22 Tue 26/10/21                                   | NA             |                | Tue 5/10/21            |              |                                | -07,0017 44.50                  |         |          |    | /II IIII III |   |                       | y III III | '            |                |                |
| 1101   | Pump Room Next to Underpass: Finishing and E&M Works  Finishing Works and E&M installation  Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  ffsite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 158 days<br>73 days<br>60 days<br>25 days<br>0 days<br>824 days<br>100 days                        | o days  | 158 days<br>73 days<br>60 days<br>25 days                                  | 0%<br>0%                         | Sat 17/4/21<br>Sat 17/4/21   | Tue 26/10/21  |                | NA             |                        | Tue 1/3/22   | 0 days                         |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1102 1103 1104 1105 F 1106 Section 1107 Offs 1108 MD 1109 Den 1110 I 1111 I 1111 CH8 11114 T 11115 C 11116 S 11117 F 11118 F 11119 CH7   | Finishing Works and E&M installation  Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 73 days<br>60 days<br>25 days<br>0 days<br>824 days  | 0 days 0 days 0 days 0 days 0 days 0 days  | 73 days<br>60 days<br>25 days  | 0%                               | Sat 17/4/21  |   | NA             |                | Tue 5/10/21            | Tue 1/3/22   | 0 days 8 days                  | 306,271,323,108                 |         |          |    | <b>T</b>     |   |                       |           |              |                |                |
| 1103 1104 1105 F 1106 Section 1107 Offs 1108 MD 1109 Den 1110 I 1111 I 1111 C 1111 C 1111 S 1 | Pump Installation  Testing and Commissioning  Planned Completion for Section 1  ons 2,4 and 8  ifsite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 60 days<br>25 days<br>0 days<br>824 days   | 0 days 0 days 0 days 0 days  | 60 days<br>25 days   | 0%                               |  | Thu 15/7/21   |                | NA             | Thu 19/8/21            | Tue 1/3/22   | 102 days                       |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1104  1105 F 1106 Section  1107 Offs  1108 MD  1109 Den  1110 I  1111 I  1111 CH8  1112 CH8  111 | Testing and Commissioning  Planned Completion for Section 1 ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 25 days<br>0 days<br>824 days<br>100 days  | 0 days<br>0 days<br>s 0 days   | 25 days  |                                  | Fri 16/7/21  |   | NA             | NA             | Thu 19/8/21            | Mon 15/11/21 | 102 days 3 days                | 1042FS+36 days                  |         |          | +  |              |   |                       |           |              |                |                |
| 1105 F 1106 Section 1107 Offs 1108 MD 1109 Den 1110 I 1111 I 1111 C 1111 C 1111 S 111 S 1111  | Planned Completion for Section 1 ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall   | 0 days<br>824 days<br>100 days   | 0 days   |  | 0%                               |  | Fri 24/9/21   | NA             | NA             | Tue 16/11/21           | Thu 27/1/22  | 102 days 2 days                | 1102                            |         |          |    |              |   |                       |           |              |                |                |
| 1106 Section 1107 Offs 1108 MD 1109 Den 1110 I 1111 I 11112 C 11113 CH8 1114 T 1115 C 1116 S 1117 E 1118 F 1119 CH7  | ons 2,4 and 8  Fisite 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 824 days   | o days   | 0 days   |                                  | Sat 25/9/21  | Tue 26/10/21  | NA             | NA             | Fri 28/1/22            | Tue 1/3/22   | 102 days 1 days                | 1102,1103                       |         |          |    |              |   |                       |           |              |                |                |
| 1107 Offs 1108 MD 1109 Den 1110 I 1111 I 1111 CH8 11115 CS 11116 SS 11117 E 11118 F 11119 CH7  | Tristie 14 units of precast box culvert with outfall fabrication  DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 100 days   |  |  | 0%                               | Mon 14/3/22  | Mon 14/3/22   | NA             | NA             | Tue 1/3/22             | Tue 1/3/22   | -13 days                       | 1408,1414,1068,                 |         |          |    |              | 1                                       | 14/3                  |           |              |                |                |
| 1108 MD 1109 Den 1110 I 1111 I 11112 C 11113 CH8 11114 T 11115 C 11116 S 11117 E 11118 F 11119 CH7   | DN application  emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  |  | 0.1  | 824 days   | 0%                               | Mon 10/8/20  | Wed 17/5/23   | NA             | NA             | Mon 17/8/20            | Wed 29/5/24  | 6 days                         |                                 | <b></b> |          |    |              |   |                       |           | #            |                |                |
| Den    | emolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)  Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall  | 45 days  | 0 days   | 100 days   | 0%                               | Mon 19/10/20   | Fri 19/2/21   | NA             | NA             | Thu 3/12/20            | Thu 8/4/21   | 38 days 30 days                | 406,414                         |         |          |    |              |   |                       |           |              |                |                |
| 1110 I 1111 I 11112 C 11113 CH8 11114 I 1115 C 11116 S 11117 E 11118 F 11119 CH7   | Installation of Silt Curtain with Concrete Sinkers  Demolition of Existing Seawall   |  | 0 days   | 45 days  | 0%                               | Mon 26/10/20   | Wed 9/12/20   | NA             | NA             | Sun 21/1/24            | Tue 5/3/24   | 1182 d 1 days                  |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1111   | Demolition of Existing Seawall   | 67 days  | 0 days   | 67 days  | 0%                               | Thu 10/12/20   | Thu 4/3/21  | NA             | NA             | Wed 6/3/24             | Wed 29/5/24  | 962 days                       |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1111   | Demolition of Existing Seawall   |  |  |  | 0%                               | Thu 10/12/20   | Wed 16/12/2   | 0 NA           | NA             | Thu 23/5/24            | Wed 29/5/24  | 1023 d 1 day                   | 1108                            |         |          |    |              |   |                       |           |              |                |                |
| 1112 CH8 1113 CH8 1114 T 1115 C 1116 S 1117 E 1118 F 1119 CH7  |  |  |  | 37 days  | 0%                               | Thu 10/12/20   | Mon 25/1/21   | NA             | NA             | Wed 6/3/24             | Mon 22/4/24  | 962 days 1 day                 | 1108                            |         |          |    |              |   |                       |           |              |                |                |
| CH8 1113 CH8 1114 T 1115 C 1116 S 1117 E 1118 F 1119 CH7   |  |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1114 T<br>1115 C<br>1116 S<br>1117 E<br>1118 F<br>1119 CH7   | H86 to CH70 ELS Works  |  |  |  | 0%                               | Mon 10/8/20  | Thu 21/1/21   | NA             | NA             | Mon 17/8/20            |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1115 C<br>1116 S<br>1117 E<br>1118 F<br>1119 CH7   |  |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1116 S<br>1117 F<br>1118 F<br>1119 CH7   |  |  |  |  |                                  |  |   |                |                |                        |              |                                | 1114                            |         |          |    |              |   |                       |           |              |                |                |
| 1117 E<br>1118 F<br>1119 CH7   |  |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1118 F<br>1119 CH7<br>1120 S   |  |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1119 CH7   |  |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1120 S   |  |  |  |  |                                  |  |   |                |                |                        |              |                                | 1117                            |         |          |    |              |   |                       |           |              |                |                |
|  |  |  |  |  |                                  |  |   |                |                |                        |              |                                | 111699   25 dove                |         |          |    |              |   |                       |           |              |                |                |
| 1121 T   |  |  |  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              |   |                       |           |              |                |                |
| 1121 F   | Preparation of Formation and Laying of Blinding Layer  | 29 uays  | 0 days   | 29 days  | 070                              | W Ed 2/12/20   | 111u //1/21   | INA            | IVA            | W Cu 2/12/20           | 111u //1/21  | 0 days 1 day                   | 1120                            |         |          |    |              |   |                       |           |              |                |                |
| 1122 DCS   | CS Seawater Intake (Insitu Section Bay 15)   | 41 days  | 0 days   | 41 days  | 0%                               | Fri 8/1/21   | Sat 27/2/21   | NA             | NA             | Fri 8/1/21             | Sat 27/2/21  | 0 days 1 days                  |                                 |         | 11       |    |              |   |                       |           |              |                |                |
| 1123   | Construction of Cast in-situ Box Culvert with feeder pipe installation with  | 41 days  | 0 days   | 41 days  | 0%                               | Fri 8/1/21   | Sat 27/2/21   | NA             | NA             | Fri 8/1/21             | Sat 27/2/21  | 0 days 1 day                   | 1117,1121                       |         |          |    |              |   |                       |           |              |                |                |
|  |  | 151 1  | 0.1  | 151.1  | n.er                             | 1 1 10 10 1  | T 21/0/21   | N. 1           | N. 1           | 3.5 1/0/01             | TD 20/5/22   | 0.1                            |                                 |         |          |    |              |   |                       |           |              |                |                |
|  |  |  |  |  |                                  |  |   |                |                |                        |              |                                | 1100 1110                       |         |          |    | ГШ           |   |                       |           |              |                |                |
|  | Preparation for Connecting Precast Units and Cast In-situ Bay 15   | 6 days   |  | 6 days   | 0%                               | Mon 1/3/21   | Sat 6/3/21  | NA             | NA             | Mon 1/3/21             | Sat 6/3/21   | 0 days 1 days                  | 1123,1118                       |         |          |    |              |   |                       |           |              |                |                |
|  |  | 37 days  |  | 37 days  | 0%                               | Mon 8/3/21   | Thu 22/4/21   |                | NA             | Mon 8/3/21             | Thu 22/4/21  | 0 days 2 days                  | 1125,1107SS+75<br>days          |         |          |    |              |   |                       |           |              |                |                |
| I127 I   | Inspection Shaft Construction and Backfilling Upto +2.0mPD + Feeder Pipe Laying + Backfilling upto Final Formation Level   | 33 days  | 0 days   | 33 days  | 0%                               | Fri 23/4/21  | Wed 2/6/21  | NA             | NA             | Fri 23/4/21            | Wed 2/6/21   | 0 days 0.5 day                 | 1126                            |         |          |    |              |   |                       |           |              |                |                |
| 1128 S   | Seawall Reinstatement  | 75 days  | 0 days   | 75 days  | 0%                               | Thu 3/6/21   | Tue 31/8/21   | NA             | NA             | Sat 25/2/23            | Tue 30/5/23  | 518 days 2 days                | 1127                            |         |          |    | <b></b>      |   |                       |           | $\mathbb{H}$ |                |                |
| 1129 Sect  | ction 4: Part 2E   | 225 days   | 0 days   | 225 days   | 0%                               | Mon 15/8/22  | Wed 17/5/23   | NA             | NA             | Sat 10/9/22            | Tue 30/5/23  | 10 days                        |                                 |         |          |    |              |   |                       |           | +            |                |                |
| 1130 A   | Abandon Existing DCS - Temp. Works Design and Method Statement Submission  | 0 days   | 0 days   | 0 days   | 0%                               | Mon 15/8/22  | Mon 15/8/22   | NA             | NA             | Sat 10/9/22            | Sat 10/9/22  | 26 days 1 day                  |                                 |         |          |    |              |   |                       | 11/8      |              |                |                |
|  | Abandon Existing DCS - Temp. Works Design and Method Statement Comment &   | 35 days  | 0 days   | 35 days  | 0%                               | Mon 15/8/22  | Sun 18/9/22   | NA             | NA             | Sat 10/9/22            | Fri 14/10/22 | 26 days 1 day                  | 1130                            |         |          |    |              |   |                       |           |              |                |                |
|  | Appraoval Part 2E - Abandon of existing DCS  | 185 days   | -  | 185 days   | 0%                               | Mon 3/10/22  |   |                | NA             | Sat 15/10/22           | Tue 30/5/23  | 10 days 9 days                 | 20,1131                         |         |          |    |              |   |                       |           |              |                |                |
|  | Planned Completion for Section 4   | 0 days   |  | 0 days   | 0%                               | Wed 17/5/23  |   |                | NA             | Tue 30/5/23            | Tue 30/5/23  | 10 days                        | 1132                            |         |          |    |              |   |                       |           |              | 17/5           | į              |
|  | ction 8: Part 2A - Diversion & abandon of extg DCS box culvert   | 194 days   |  | 194 days   | 0%                               | Thu 1/4/21   | Wed 24/11/2   |                | NA             | Fri 9/4/21             | Thu 2/12/21  | 4 days                         |                                 |         |          |    |              |   |                       |           |              |                |                |
|  |  | 0 days   |  | 0 days   | 0%                               | Thu 1/4/21   | Thu 1/4/21  | NA NA          | NA             | Fri 9/4/21             | Fri 9/4/21   | 8 days 1 day                   |                                 |         |          |    |              |   |                       |           |              |                |                |
| N  | Method Statement Submission  Diversion & Abandon of Existing DCS Box Box Culvert - Temp. Works Design and  |  |  | 21 days  | 0%                               | Thu 1/4/21   | Wed 21/4/21   |                | NA             | Fri 9/4/21             | Thu 29/4/21  | 8 days 1 day                   | 1135                            |         |          |    |              |   |                       |           |              |                |                |
| N  | Method Statement Comment & Appraoval   | . Li days  | Ganys  | 21 days  | 070                              | 1.1u 1/4/21  | 04 21/4/21  | 11/1           | 11/1           | 111 /17121             | 1110 2717121 | J duy 1 day                    | 1155                            |         |          |    |              |   |                       |           |              |                |                |
| 1137   | TTA Implementation   | 1 day  | 0 days   | 1 day  | 0%                               | Thu 22/4/21  | Thu 22/4/21   | NA             | NA             | Fri 30/4/21            | Fri 30/4/21  | 7 days 0.5 day                 | 1136                            |         |          |    |              |   |                       |           |              |                |                |
|  |  |  | 1  |  |                                  |  |   |                |                |                        |              |                                |                                 |         |          |    |              | (11111111111111111111111111111111111111 |                       |           | Ш            |                |                |
| tle. Pov 11 D=-  |  | Summary  |  |  | Inactive                         | Milestone 🔷  | ,   | Duration-      | -only          |                        | Start-only   | Е                              | External Mi                     | lestone | <b>♦</b> |    | Critical     | l Split                                 |                       |           |              |                |                |
| itle: Rev.11 Pro<br>is of 22-May-20  | og with Progress   | Project Sum  | nmary<br>sk  |  |                                  | Summary I  |   |                | Summary Rollup |                        | Finish-only  | 3                              |                                 |         |          |    | Progress     |   |                       |           |              |                |                |

|         |  |                        |                    |                       |                        |              |              |                         | /2018/01 KT       |              |                        |                |         |                 |                      |            |              |              |      |  |              |      |    |     |
|---------|--|------------------------|--------------------|-----------------------|------------------------|--------------|--------------|-------------------------|-------------------|--------------|------------------------|----------------|---------|-----------------|----------------------|------------|--------------|--------------|------|--|--------------|------|----|-----|
| Task    | Name   | Duration               | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start            | Actual Finish     | Late Start   | Late Finish            | Total<br>Slack | TRA     | Predecessors    | 2020<br>Q2   Q3      | 04         | 01           | 2021<br>O2 C | )3   | 04 01  | 2<br>21   Q2 | 2022 | 04 | 4 Q |
| 38      | Sheetpile Installation   | 25 days                |                    | 25 days               | 0%                     | Fri 23/4/21  | Mon 24/5/21  | NA                      | NA                | Mon 3/5/21   | Tue 1/6/21             |                | 1 day   | 1137            | Q2 Q3                |            | Q1           |              |      |  |              |      |    |     |
| 39      | Excavation with Shoring  | 52 days                | 0 days             | 52 days               | 0%                     | Tue 25/5/21  | Mon 26/7/21  | NA                      | NA                | Wed 2/6/21   | Tue 3/8/21             | 7 days         | 1 day   | 1138            |                      |            |              |              |      |  |              |      |    | Ш   |
| 10      | Diversion of existing DCS box culvert  | 26 days                | 0 days             | 26 days               | 0%                     | Tue 27/7/21  | Wed 25/8/21  | NA                      | NA                | Wed 4/8/21   | Thu 2/9/21             | 7 days         | 2 days  | 1137,410,1139   |                      |            |              |              | in l |  |              |      |    | Ш   |
| 1       | Break up existing box culvert (4 walls) + top slab   | 35 days                | 0 days             | 35 days               | 0%                     | Thu 26/8/21  | Thu 7/10/21  | NA                      | NA                | Fri 3/9/21   | Sat 16/10/21           | 7 days         | 2 days  | 1140            |                      |            |              |              |      |  |              |      |    | Ш   |
| 12      | Construct new walls at existing box culvert  | 20 days                | 0 days             | 20 days               | 0%                     | Fri 8/10/21  | Mon 1/11/21  | NA                      | NA                | Mon 18/10/21 | Tue 9/11/21            | 7 days         | 1 days  | 1141            |                      |            |              |              |      |  |              |      |    | Ш   |
| 13      | Abandon existing DCS box culvert   | 20 days                | 0 days             | 20 days               | 0%                     | Tue 2/11/21  | Wed 24/11/21 | NA                      | NA                | Wed 10/11/21 | Thu 2/12/21            | 7 days         | 1 days  | 1142            |                      |            |              |              |      |  |              |      |    | Ш   |
| 14      | Planned Completion for Section 8   | 0 days                 |                    | 0 days                | 0%                     | Wed 24/11/21 | Wed 24/11/21 | NA                      | NA                | Thu 2/12/21  | Thu 2/12/21            | 7 days         | 0 days  | 1143            |                      |            |              |              |      | 2274/11                                      |              |      |    | Ш   |
|         | Section 3  | 729 days               |                    | 729 days              | 0%                     | Thu 16/5/19  | Tue 26/10/21 |                         | NA                | Tue 2/6/20   | Tue 2/11/21            | 6 days         | o day o |                 |                      |            |              |              |      | 1 2 2 1 1                                    |              |      |    | Ш   |
| 16      | Part 2C - Lift LT3 & LT4   | 729 days               |                    | 729 days              | 0%                     | Thu 16/5/19  | Tue 26/10/21 |                         | NA                | Tue 2/6/20   | Tue 2/11/21            | 6 days         |         |                 |                      |            |              |              |      |  |              |      |    | Ш   |
| 17      |  |                        |                    |                       |                        |              |              |                         |                   |              |                        | -              | 0 3     | 4EC : 260 J     | 1 2/6                |            |              |              |      |  |              |      |    | Ш   |
|         | Access Date - Part 2A,2C   | 0 days                 |                    | 0 days                | 0%                     | Tue 2/6/20   |              | NA                      | NA                | Tue 2/6/20   | Tue 2/6/20             | 0 days         |         | 4FS+369 days    | 2/6                  |            |              |              |      |  |              |      |    | Ш   |
| 18      | Mobilization of plant and materials  | 15 days                | 0 days             | 15 days               | 0%                     | Thu 16/5/19  |              | NA                      | NA                | Sat 4/7/20   | Tue 21/7/20            | 337 days       | -       |                 |                      |            |              |              |      |  |              |      |    | Ш   |
| 19      | TTA implementation   | 4 days                 | 0 days             | 4 days                | 0%                     | Tue 2/6/20   | Fri 5/6/20   | NA                      | NA                | Fri 17/7/20  | Tue 21/7/20            | 37 days        | 1 day   | 1147            | Ť                    |            |              |              |      |  |              |      |    | Ш   |
| 50      | Carry out Titpit and Identify Underground Utilities location   | 12 days                | 0 days             | 12 days               | 0%                     | Mon 15/6/20  | Fri 26/6/20  | NA                      | NA                | Mon 22/6/20  | Fri 3/7/20             | 7 days         |         |                 |                      |            |              |              |      |  |              |      |    |     |
| 51      | Discuss with Relevant Utilities Undertakers  | 18 days                | 0 days             | 18 days               | 0%                     | Sat 27/6/20  | Tue 14/7/20  | NA                      | NA                | Sat 4/7/20   | Tue 21/7/20            | 7 days         |         | 1150            |                      |            |              |              |      |  |              |      |    | Ш   |
| 52      | Slew CLP Cable and Abandon Telecom Cable (tentative)   | 75 days                | 0 days             | 75 days               | 0%                     | Wed 15/7/20  | Mon 12/10/20 | ) NA                    | NA                | Wed 22/7/20  | Mon 19/10/20           | 6 days         | 4 days  | 1148,1149,1151  |                      |            |              |              |      |  |              |      |    |     |
| 53      | Lift Tower Foundation - Temp. Works Design and Method Statement Submission                           | 0 days                 | 0 days             | 0 days                | 0%                     | Tue 4/8/20   | Tue 4/8/20   | NA                      | NA                | Tue 15/9/20  | Tue 15/9/20            | 42 days        | 1 day   |                 | • 4                  | .8         |              |              |      |  |              |      |    |     |
| 54      | Lift Tower Foundation - Temp. Works Design and Method Statement Comment &                            | 35 days                | 0 days             | 35 days               | 0%                     | Tue 4/8/20   | Mon 7/9/20   | NA                      | NA                | Tue 15/9/20  | Mon 19/10/20           | 42 days        | 1 day   | 1153            |                      |            |              |              |      |  |              |      |    | Ш   |
| 55      | Appraoval Intall Sheetpile, ELS, Excavation and Temp. Works Installation (Shoring, Drainage          | 38 days                | 0 days             | 38 days               | 0%                     | Tue 13/10/20 | Thu 26/11/20 | NA                      | NA                | Tue 20/10/20 | Thu 3/12/20            | 6 days         | 2 days  | 1154,1152       |                      |            |              |              |      |  |              | #    |    | Ш   |
| 6       | & Slope Protection)  Foundation Construction (Pad Footing include blinding layer, formwork erection, | 38 days                | 0 days             | 38 days               | 0%                     | Fri 27/11/20 | Wed 13/1/21  | NA                      | NA                | Fri 4/12/20  | Wed 20/1/21            | 6 days         | 2 days  | 1148,1152,175,1 |                      |            | ЫШ           |              |      |  |              |      |    | Ш   |
| 57      | rebar fixing & concreting)  Sheepile Extraction & Backilling   | 13 days                | 0 days             | 13 days               | 0%                     | Thu 14/1/21  | Thu 28/1/21  | NA                      | NA                | Thu 21/1/21  | Thu 4/2/21             | 6 days         | 1 day   | 1156            |                      |            |              |              |      |  |              |      |    | Ш   |
| 58      | Lift Tower - Temp. Works Design and Method Statement Submission                                      | 0 days                 | -                  | 0 days                | 0%                     | Mon 2/11/20  | Mon 2/11/20  |                         | NA                | Fri 1/1/21   | Fri 1/1/21             | 60 days        | _       |                 |                      | 2/1        |              |              |      |  |              |      |    | Ш   |
| 9       |  |                        |                    | -                     | 0%                     |              | Sun 6/12/20  |                         | NA                | Fri 1/1/21   | Thu 4/2/21             |                |         | 1158            |                      |            | •            |              |      |  |              |      |    | Ш   |
|         | Lift Tower - Temp. Works Design and Method Statement Comment & Appraoval                             | 35 days                | -                  | 35 days               |                        | Mon 2/11/20  |              |                         |                   |              |                        |                | -       |                 |                      |            |              |              |      |  |              |      |    | Ш   |
| 0       | Lift Shaft Tower: 3 Lifts x 20 day/Lift, Falsework & Formwork Erection, Rebar Fixing & Concreting    | 63 days                |                    | 63 days               | 0%                     | Fri 29/1/21  | Mon 19/4/21  |                         | NA                | Fri 5/2/21   | Mon 26/4/21            |                |         | 1156,1159,1157  |                      |            |              |              |      |  |              |      |    | Ш   |
| Į.      | Lift installation (LT3 & LT4)  | 90 days                | 0 days             | 90 days               | 0%                     | Tue 20/4/21  | Fri 6/8/21   | NA                      | NA                | Tue 27/4/21  | Fri 13/8/21            | 6 days         | 5 days  | 1160,713        |                      |            |              |              |      |  |              |      |    | Ш   |
| 2       | E & M installation   | 30 days                | 0 days             | 30 days               | 0%                     | Sat 7/8/21   | Fri 10/9/21  | NA                      | NA                | Sat 14/8/21  | Fri 17/9/21            | 6 days         | 3 days  | 1161            |                      |            |              |              |      |  |              |      |    | Ш   |
| 53      | Louvers and Glazing Installation   | 26 days                | 0 days             | 26 days               | 0%                     | Fri 21/5/21  | Mon 21/6/21  | NA                      | NA                | Sat 14/8/21  | Mon 13/9/21            | 71 days        | 2 days  | 1160FS+25 days  |                      |            |              |              |      |  |              |      |    | Ш   |
| 4       | Parapet Installation and Finishing Works   | 40 days                | 0 days             | 40 days               | 0%                     | Tue 22/6/21  | Sat 7/8/21   | NA                      | NA                | Tue 14/9/21  | Tue 2/11/21            | 71 days        | 4 days  | 1163            |                      |            |              |              |      |  |              |      |    | Ш   |
| 55      | CLP Meter Installation   | 0 days                 | 0 days             | 0 days                | 0%                     | Mon 1/2/21   | Mon 1/2/21   | NA                      | NA                | Fri 20/8/21  | Fri 20/8/21            | 200 days       | 0.5 day |                 |                      |            | <b>4</b> 1/2 |              |      |  |              |      |    | Ш   |
| 66      | EMSD Submission Form 5 for Lift Inspection   | 0 days                 | 0 days             | 0 days                | 0%                     | Mon 1/3/21   | Mon 1/3/21   | NA                      | NA                | Fri 20/8/21  | Fri 20/8/21            | 172 days       | 0.5 day | 1165            |                      |            | 1/           | 3            |      |  |              |      |    | Ш   |
| 57      | EMSD Lift Inspection   | 0 days                 | 0 days             | 0 days                | 0%                     | Sun 14/3/21  | Sun 14/3/21  | NA                      | NA                | Fri 3/9/21   | Fri 3/9/21             | 172 days       | 0.5 day | 1166FS+14 days  |                      |            | <b>4</b> 1   | 4/3          |      |  |              |      |    | Ш   |
| 58      | Issuance of Lift Use Permit  | 0 days                 | 0 days             | 0 days                | 0%                     | Mon 29/3/21  | Mon 29/3/21  | NA                      | NA                | Sat 18/9/21  | Sat 18/9/21            | 172 days       | 0.5 day | 1167FS+15 days  |                      |            | \$           | 29/1         |      |  |              |      |    | Ш   |
| 59      | Testing & commissioning with Statutory Inspection  | 36 days                | 0 days             | 36 days               | 0%                     | Sat 11/9/21  | Tue 26/10/21 | NA                      | NA                | Sat 18/9/21  | Tue 2/11/21            | 6 days         | 1 days  | 1162,1168       |                      |            |              |              | 4    |  |              |      |    | Ш   |
| 70      | Footpath   | 28 days                | 0 days             | 28 days               | 0%                     | Tue 20/4/21  | Mon 24/5/21  | NA                      | NA                | Tue 8/6/21   | Mon 12/7/21            | 40 days        | 1 days  | 1160            |                      |            |              | 4.]          |      |  |              |      |    | Ш   |
| 71      | Open Space within Part 2C  | 94 days                | -                  | 94 days               | 0%                     | Tue 25/5/21  | Mon 13/9/21  |                         | NA                | Tue 13/7/21  | Tue 2/11/21            | 40 days        | -       | 1170,1230       |                      |            |              | 411          |      |  |              |      |    | Ш   |
| 72      | Planned Completion for Section 3   | 0 days                 |                    | 0 days                | 0%                     | Tue 26/10/21 | Tue 26/10/21 |                         | NA                | Tue 2/11/21  | Tue 2/11/21            |                |         | 1171,1168,1169, |                      |            |              |              |      | 30400  |              |      |    | Ш   |
|         | Sections 5 and 9: Noise Barrier Installation   |                        |                    |                       | 0%                     |              |              | Fri 20/3/20             |                   | Fri 20/3/20  | Mon 5/7/21             |                | -       | 1171,1100,1109, |                      |            |              |              |      | 7.20/10                                      |              |      |    | Ш   |
|         |  |                        | 6.83 days          | -                     |                        | Fri 20/3/20  |              |                         |                   |              |                        | 1 day          | 1 uay   |                 |                      |            |              |              |      |  |              |      |    | Ш   |
| 74      | 1.0 Noise Barrier Shop Drawing Preparation, Offsite Fabrication                                      |                        | s 20.86 days       |                       | 0%                     | Mon 6/4/20   |              | Mon 6/4/20              |                   | Mon 6/4/20   | Mon 7/12/20            | 60 days        |         |                 |                      |            |              |              |      |  |              |      |    | Ш   |
| 75      | CNP and TTA available  | 0 days                 |                    | 0 days                | 0%                     | Wed 24/6/20  | Wed 24/6/20  |                         | NA                | Thu 20/8/20  | Thu 20/8/20            | 47 days        |         |                 | 4 24/6               |            |              |              |      |  |              |      |    |     |
| 76      | Expose the Extisting Noise Barrier Foundation  |                        | 25 days            | 45 days               | 36%                    | Mon 6/4/20   | Fri 3/7/20   | Mon 6/4/20              | NA                | Mon 6/4/20   | Tue 7/7/20             | 3 days         | 1 day   |                 |                      | $\  \  \ $ |              |              |      |  |              |      |    |     |
| 17      | Implement TTA  | 2 days                 | 0 days             | 2 days                | 0%                     | Mon 13/7/20  | Tue 14/7/20  | NA                      | NA                | Wed 18/11/20 | Thu 19/11/20           | 107 days       | 0.5 day |                 |                      |            |              |              |      |  |              |      |    |     |
| 78      | Expose the Extisting Noise Barrier Foundation under Existing Footpath                                | 15 days                | 0 days             | 15 days               | 0%                     | Wed 15/7/20  | Fri 31/7/20  | NA                      | NA                | Fri 20/11/20 | Mon 7/12/20            | 107 days       | 1 day   | 1177            |                      |            |              |              |      |  |              |      |    |     |
| 79      | Carry out the Site Survey for Existing Holding Down Bolt at Existing Landscaped                      | 6 days                 | 0 days             | 6 days                | 0%                     | Wed 24/6/20  | Thu 2/7/20   | NA                      | NA                | Thu 20/8/20  | Wed 26/8/20            | 47 days        | 1 day   | 1175            | -                    | $\ \ \ $   |              |              |      |  |              |      |    |     |
| 80      | Noise Barrier Shop Drawings Preparation  | 30 days                | 0 days             | 30 days               | 0%                     | Fri 31/7/20  | Thu 3/9/20   | NA                      | NA                | Fri 21/8/20  | Thu 24/9/20            | 18 days        | 0.5 day | 1176FF+18 days  |                      |            |              |              |      |  |              |      |    |     |
| 31      | Noise Barrier Shop Drawings Comment by PM  | 18 days                | 0 days             | 18 days               | 0%                     | Fri 4/9/20   | Thu 24/9/20  | NA                      | NA                | Fri 25/9/20  | Sat 17/10/20           | 18 days        | 0.5 day | 1180            |                      |            |              |              |      |  |              |      |    |     |
| 32      | PMAA Panel Material Sample Submission  | 0 days                 |                    | 0 days                | 0%                     | Sat 2/5/20   | Sat 2/5/20   | NA                      | NA                | Sat 6/6/20   | Sat 6/6/20             | 30 days        | 1 days  |                 | <b>♦</b> 2/5         |            |              |              |      |  |              |      |    | Ш   |
|         |  |                        |                    | <u></u>               |                        |              |              |                         |                   |              |                        |                |         |                 |                      |            |              |              |      | <u>                                     </u> |              |      |    | Щ   |
|         | i Prog with Progress   | Summary<br>Project Sun | nmary              |                       | Inactive Mi            |              |              | Duration-on  Manual Sur | nly Unmary Rollup |              | Start-only Finish-only |                | [<br>]  | Exter<br>Dead   | nal Milestone<br>ine | •          |              |              |      | ical Split<br>gress                          |              |      |    |     |
| of 22-M | lay-20 Milestone   | Inactive Ta            |                    | -                     | Manual Ta              |              |              | Manual Sur              |                   |              | External Tas           | 1.             | _       | Critic          |                      | _          |              |              |      | nual Progre                                  |              |      |    |     |

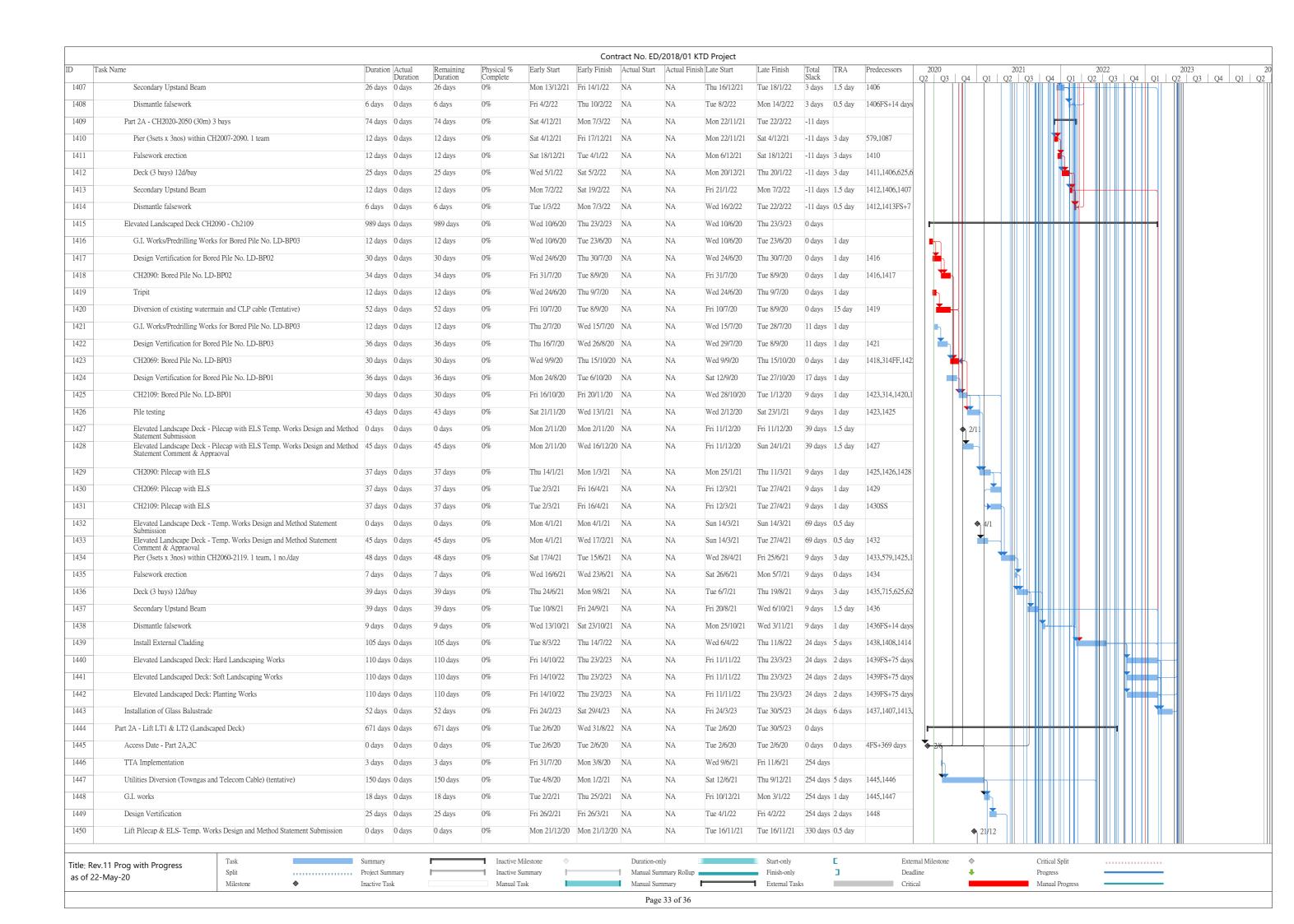
|           |  |                        |                    |                       |                            |              |              | tract No. ED, | /2010/01 KI       | Project      |                        |                |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
|-----------|--|------------------------|--------------------|-----------------------|----------------------------|--------------|--------------|---------------|-------------------|--------------|------------------------|----------------|---------|--------------------|------------------|---------------------------------|-----|-----------------|-------------------|------|--------------|------|--------------|------------|
| Tas       | k Name   | Duration               | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete     | Early Start  | Early Finish | Actual Start  | Actual Finisl     | Late Start   | Late Finish            | Total<br>Slack | TRA     | Predecessors       | 2020<br>Q2   Q3  | 04                              | 202 | Q3   C          | )4 ()1            | 2022 | 2<br>Q3   Q4 | 4 01 | 2023<br>  Q2 |            |
| 183       | PMAA Panel Material Comment and Approval by PM   | 18 days                |                    | 18 days               | 0%                         | Sat 2/5/20   | Fri 22/5/20  | NA            | NA                | Sat 6/6/20   | Sat 27/6/20            | 30 days        | 1 days  | 1182               |                  | 7                               |     | \(\frac{1}{2}\) |                   | 1 22 | 25   Q4      |      | 1 72         | <u>V</u> . |
| 184       | PMAA Panel Material Coloring Sample Submission   | 0 days                 | 0 days             | 0 days                | 0%                         | Thu 4/6/20   | Thu 4/6/20   | NA            | NA                | Mon 29/6/20  | Mon 29/6/20            | 20 days        | 1 days  | 1183               | 4/6              |                                 |     |                 |                   |      |              |      |              |            |
| 185       | PMAA Panel Material Coloring Sample Comment and Approval by PM                               | 10 days                | 0 days             | 10 days               | 0%                         | Thu 4/6/20   | Mon 15/6/20  | NA            | NA                | Mon 29/6/20  | Fri 10/7/20            | 20 days        | 1 days  | 1184               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 186       | Material Testing and Offsite Fabrication   | 247 days               | 0 days             | 247 days              | 0%                         | Mon 1/6/20   | Tue 2/2/21   | NA            | NA                | Wed 10/6/20  | Wed 17/2/21            | 9 days         |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 187       | Holding Down Bolt Procurement  | 61 days                | 0 days             | 61 days               | 0%                         | Fri 5/6/20   | Tue 4/8/20   | NA            | NA                | Wed 10/6/20  | Sun 9/8/20             | 5 days         | 1 days  |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 188       | Holding Down Bolt Testing  | 45 days                | 0 days             | 45 days               | 0%                         | Wed 5/8/20   | Fri 18/9/20  | NA            | NA                | Mon 10/8/20  | Wed 23/9/20            | 5 days         | 1 day   | 1187               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 189       | Structural Steelwork Procurement   | 81 days                |                    | 81 days               | 0%                         | Mon 1/6/20   | Thu 20/8/20  | NA            | NA                | Sat 13/6/20  | Tue 1/9/20             | 12 days        | 1 day   |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 190       | Structural Steel Frame Material Testing  | 46 days                | _                  | 46 days               | 0%                         | Fri 21/8/20  | Mon 5/10/20  |               | NA                | Wed 2/9/20   | Sat 17/10/20           | 12 days        |         | 1189               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 191       | Structural Steel Frame Fabrication and Delivery  | 120 days               |                    | 120 days              | 0%                         | Tue 6/10/20  | Tue 2/2/21   |               | NA                | Sun 18/10/20 | Sun 14/2/21            | 12 days        |         | 1181,1190          |                  |                                 |     |                 |                   |      |              |      |              |            |
| 192       | Structural Steel Frame Start Delivery to Stie  | 0 days                 |                    | 0 days                | 0%                         | Wed 25/11/20 |              |               | NA                | Tue 8/12/20  | Tue 8/12/20            | 12 days        |         | 1191SS+51 days     |                  | 25/1                            |     |                 |                   |      |              |      |              |            |
| 193       | Polymethyl Metharylate (PMMA) and Associated Aluminium Sub-frame                             | 121 days               |                    |                       | 0%                         | Tue 16/6/20  | Wed 14/10/2  |               | NA                | Sat 11/7/20  | Sun 8/11/20            | 25 days        |         | 1185               | <b>1</b>         | 40/                             | †   |                 |                   |      |              |      |              |            |
|           | Procurement  |                        |                    |                       |                            |              |              |               |                   |              |                        |                |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 194       | Polymethyl Metharylate (PMMA) panel fabrication and delivery                                 | 101 days               |                    | 101 days              | 0%                         | Thu 15/10/20 |              |               | NA                | Mon 9/11/20  | Wed 17/2/21            | 25 days        | 30 days | 1193,1181          |                  |                                 |     |                 |                   |      |              |      |              |            |
| 195       | Temp Works Design for Noise Barrier  | 106 days               | _                  |                       | 0%                         | Sat 13/6/20  | Mon 19/10/2  |               | NA                | Fri 19/6/20  | Sat 24/10/20           | 5 days         |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 196       | ELS Design Preparation for Noise Barrier with ICE  | 18 days                |                    | 18 days               | 0%                         | Wed 17/6/20  | Thu 9/7/20   |               | NA                | Tue 23/6/20  | Wed 15/7/20            | 5 days         |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 197       | ELS Design for Noise Barrier Comment by AECOM  | 21 days                | 0 days             | 21 days               | 0%                         | Fri 10/7/20  | Thu 30/7/20  |               | NA                | Thu 16/7/20  | Wed 5/8/20             | 6 days         | 1 day   | 1196               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 198       | Temporary Works Platform Design Preparation  | 36 days                | 0 days             | 36 days               | 0%                         | Sat 13/6/20  | Mon 27/7/20  | NA            | NA                | Fri 19/6/20  | Sat 1/8/20             | 5 days         | 1 day   |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 199       | Temporary Working Platform Design Submit for AECOM Comment                                   | 19 days                | 0 days             | 19 days               | 0%                         | Tue 28/7/20  | Tue 18/8/20  | NA            | NA                | Mon 3/8/20   | Mon 24/8/20            | 5 days         | 1 day   | 1198               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 200       | Temporary Working Platform Fabrication   | 51 days                | 0 days             | 51 days               | 0%                         | Wed 19/8/20  | Mon 19/10/2  | 0 NA          | NA                | Tue 25/8/20  | Sat 24/10/20           | 5 days         | 1 day   | 1199               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 201       | 2.0 Noise Barrier Footing and Modification Existing Column Stud                              | 184 days               | 2.71 days          | 181.29 days           | 0%                         | Fri 20/3/20  | Sat 19/9/20  | Fri 20/3/20   | NA                | Fri 20/3/20  | Wed 23/9/20            | 4 days         |         | _                  |                  | 1                               |     |                 |                   |      |              |      |              |            |
| 202       | Take up the Works Area   | 1 day                  | 1 day              | 0 days                | 0%                         | Fri 20/3/20  | Fri 20/3/20  | Fri 20/3/20   | Fri 20/3/20       | Fri 20/3/20  | Fri 20/3/20            | 0 days         |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 203       | Ground Investigation Works   | 25 days                | 0 days             | 25 days               | 0%                         | Sat 4/7/20   | Sat 1/8/20   | NA            | NA                | Wed 8/7/20   | Wed 5/8/20             | 3 days         | 1 day   | 1176               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 204       | Diversion of Existing Utilities and ELS Construction   | 42 days                | 0 days             | 42 days               | 0%                         | Mon 3/8/20   | Sat 19/9/20  | NA            | NA                | Thu 6/8/20   | Wed 23/9/20            | 3 days         | 1 day   | 1197,1203          |                  |                                 |     |                 |                   |      |              |      |              |            |
| 205       | Fooing with Column Stud Construction   | 61 days                | 0 days             | 61 days               | 0%                         | Wed 23/9/20  | Sat 5/12/20  | NA            | NA                | Thu 24/9/20  | Mon 7/12/20            | 1 day          |         |                    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 206       | Bay 1 & 3 Fooing with Column Stud and Modification of Existing Column Stud                   | 10 days                | 0 days             | 10 days               | 0%                         | Wed 23/9/20  | Tue 6/10/20  | NA            | NA                | Thu 24/9/20  | Wed 7/10/20            | 1 day          | 1 day   | 1188,1204,184FI    |                  |                                 |     |                 |                   |      |              |      |              |            |
| 207       | along Bay 1 & 3  Bay 2 & 4 Fooing with Column Stud and Modification of Existing Column along | 10 days                | 0 days             | 10 days               | 0%                         | Wed 7/10/20  | Sat 17/10/20 | NA            | NA                | Thu 8/10/20  | Mon 19/10/20           | 1 day          | 1 day   | 1206               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 208       | Bay 2&4  Bay 5 & 7 Fooing with Column Stud, Modification of Existing Stud along Bay 5&7      |                        |                    | 10 days               | 0%                         |              | Fri 30/10/20 |               | NA                | Tue 20/10/20 | Sat 31/10/20           |                | 1 day   | 1207               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 209       | Bay 6 Fooing with Column Stud, Modification of Existing Stud along Bay 6                     | 10 days                |                    |                       | 0%                         | Sat 31/10/20 | Wed 11/11/2  |               | NA                | Mon 2/11/20  | Thu 12/11/20           |                | 1 day   | 1208               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 210       | Backfill and extract sheet pile  | 21 days                |                    |                       | 0%                         | Thu 12/11/20 |              |               | NA                | Fri 13/11/20 | Mon 7/12/20            |                | 1 day   | 1209               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 211       | Modification of Remaining Colum Stud   | 50 days                |                    | 50 days               |                            | Mon 7/12/20  |              | NA            | NA                | Tue 8/12/20  | Sat 6/2/21             | 1 day          | 1       | .207               |                  |                                 |     |                 |                   |      |              |      |              |            |
| 212       | Modification of Remaining Column Stud  | 50 days                |                    | 50 days               | 0%                         | Mon 7/12/20  |              | NA<br>NA      | NA<br>NA          | Tue 8/12/20  | Sat 6/2/21             |                | 1 day   | 1210,1178          |                  |                                 |     |                 |                   |      |              |      |              |            |
|           |  |                        |                    |                       |                            | Wed 19/8/20  |              |               |                   |              |                        |                |         | 1210,1170          |                  |                                 |     |                 |                   |      |              |      |              |            |
| 213       | Noise Barrier Installation   | 258 days               |                    |                       | 0%                         |              |              | NA            | NA                | Sat 26/9/20  | Mon 5/7/21             | 1              | 1 day   | 1100               | ]                |                                 |     |                 |                   |      |              |      |              |            |
| 214       | CNP Application  | 31 days                |                    | 31 days               | 0%                         | Wed 19/8/20  |              |               | NA                | Sat 26/9/20  | Mon 26/10/20           |                |         | 1199               |                  | <b>1</b>                        |     |                 |                   |      |              |      |              |            |
| 215       | Temporary Platform Delivery to Site  | 0 days                 |                    | ,                     | 0%                         |              | Mon 19/10/2  |               | NA                | Tue 27/10/20 | Tue 27/10/20           |                | 0.5 day |                    |                  | 19/10                           |     |                 |                   |      |              |      |              |            |
| 216       | Temporary Platform On-site Assembly (Night Time)   | 36 days                |                    |                       | 0%                         |              | Tue 1/12/20  |               | NA                | Tue 27/10/20 | Mon 7/12/20            | 5 days         |         | 1214,1215          |                  |                                 |     |                 |                   |      |              |      |              |            |
| 217       | Structural Steel Frame Installation  | 119 days               |                    | 119 days              |                            | Mon 7/12/20  | Wed 5/5/21   |               | NA                | Tue 8/12/20  | Thu 6/5/21             |                | 1 day   | 1192,1212SS,12     |                  |                                 |     |                 |                   |      |              |      |              |            |
| 218       | PMMA and Associated Aluminum Sub-frame Installation  | 117 days               | 0 days             | 117 days              |                            | Fri 8/1/21   | Wed 2/6/21   | NA            | NA                | Sat 9/1/21   | Thu 3/6/21             | 1 day          | 1 day   | 1194SS+50 days     |                  |                                 |     |                 |                   |      |              |      |              |            |
| 219       | Lighting Installation  | 25 days                | 0 days             | 25 days               | 0%                         | Thu 3/6/21   | Sat 3/7/21   | NA            | NA                | Fri 4/6/21   | Mon 5/7/21             | 1 day          | 1 day   | 1218FF+25 days     |                  |                                 |     |                 |                   |      |              |      |              |            |
| 220       | Rainwater downpipe   | 25 days                | 0 days             | 25 days               | 0%                         | Thu 3/6/21   | Sat 3/7/21   | NA            | NA                | Fri 4/6/21   | Mon 5/7/21             | 1 day          | 1 day   | 1218FF+25 days     |                  |                                 |     | 4               |                   |      |              |      |              |            |
| 221       | Bus Lay-by   | 25 days                | 0 days             | 25 days               | 0%                         | Thu 3/6/21   | Sat 3/7/21   | NA            | NA                | Fri 4/6/21   | Mon 5/7/21             | 1 day          |         | 1218FF+25 days     |                  |                                 |     | 4               |                   |      |              |      |              |            |
| 222       | Planned Completion for Section 5 & Section 9   | 0 days                 | 0 days             | 0 days                | 0%                         | Sat 3/7/21   | Sat 3/7/21   | NA            | NA                | Mon 5/7/21   | Mon 5/7/21             | 1 day          | 0 days  | 1218,1219,1220,    |                  |                                 |     | 3/7             |                   |      |              |      |              |            |
| 223       | Section 6  | 1201 day               | 8.73 days          | 1192.27 days?         | 0%                         | Thu 16/5/19  | Tue 30/5/23  | Thu 16/5/19   | NA                | Thu 16/5/19  | Wed 29/5/24            | 298 da         |         | _                  |                  |                                 |     |                 |                   |      |              | +++  |              |            |
| 224       | Fencing (15m/d) & Hoarding Erection (10m/d)  | 915 days               | 185.72 days        | 729.28 days           | 0%                         | Tue 15/10/19 | Thu 10/11/22 | Tue 15/10/19  | NA                | Tue 15/10/19 | Fri 30/12/22           | 42 days        |         | _                  | +                |                                 |     |                 |                   |      |              |      |              |            |
| 225       | Hoarding - Part 1 (~57m)   | 51 days                | 0 days             | 51 days               | 0%                         | Tue 1/12/20  | Mon 1/2/21   | NA            | NA                | Wed 21/9/22  | Mon 21/11/22           | 536 days       | 1 day   | 121,8              |                  | ╢╅                              |     |                 |                   |      |              |      |              |            |
| 226       | Fencing - Part 1 (758m)  | 6 days                 | 0 days             | 6 days                | 0%                         | Sat 19/9/20  | Fri 25/9/20  | NA            | NA                | Mon 1/3/21   | Sat 6/3/21             | 130 days       | 0 days  | 121,8              | -                | $\parallel \parallel \parallel$ |     |                 |                   |      |              |      |              |            |
| 227       | Fencing - Part 2A (~458m) - 4 team   | 12 days                |                    |                       | 0%                         | Wed 3/2/21   | Fri 19/2/21  |               | NA                | Sat 5/2/22   | Fri 18/2/22            | 296 days       | 1       | 9,121,1147,1445    |                  | $\ \cdot\ $                     |     |                 |                   |      |              |      |              |            |
|           |  |                        |                    |                       |                            |              |              |               |                   |              |                        |                |         |                    |                  |                                 | 1   |                 |                   |      | <u> </u>     | Щ    |              | _          |
|           | 11 Prog with Progress  | Summary<br>Project Sun | ımarv              |                       | Inactive Mile Inactive Sun |              |              | Duration-or   | nly Ummary Rollup |              | Start-only Finish-only |                | [<br>]  | Externa<br>Deadlin | l Milestone<br>e | •                               |     | Critic<br>Prog  | cal Split<br>ress |      |              |      |              |            |
| s of 22-1 | May-20 Milestone ◆   | Inactive Ta            |                    | -                     | Manual Task                |              |              | Manual Su     |                   |              | External Tas           | 1.             | _       | Critical           |                  | _                               |     |                 | al Progress       |      |              |      |              |            |



|            |   |             |                    |                       |                        |                            | Con          | tract No. ED | /2018/01 K   | TD Project                 |              |                    |                 |           |          |              |        |           |        |                   |    |               |
|------------|---|-------------|--------------------|-----------------------|------------------------|----------------------------|--------------|--------------|--------------|----------------------------|--------------|--------------------|-----------------|-----------|----------|--------------|--------|-----------|--------|-------------------|----|---------------|
| Task N     | Name  | Duration    | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start                | Early Finish | Actual Start | Actual Finis | h Late Start               | Late Finish  | Total TRA<br>Slack |                 | 2020      | Q4 Q1    | 2021         | 03   0 | 04 01     |        | 2022<br>  Q3      | 04 | O1            |
| 72         | CH2000 - CH2060 (~84m, 2 M/H) - S.D. Rd   | 14 days     |                    | 14 days               | 0%                     | Thu 6/1/22                 | Fri 21/1/22  | NA           | NA           | Mon 5/9/22                 | Wed 21/9/22  | 198 days 1 days    | 1085SS+12 days  | 2 23      | V+ VI    | 1 22         |        |           | . 1 22 |                   | Ť  | QI I          |
| 73         | CH2060 - CH2118.93 (~50.7m, 2 M/H) - Rd D3  | 14 days     | 0 days             | 14 days               | 0%                     | Mon 4/10/21                | Wed 20/10/21 | 1 NA         | NA           | Fri 3/12/21                | Sat 18/12/21 | 51 days 1 days     | 1267            |           |          |              |        |           |        |                   |    |               |
| 74         | CH100 - CH147 (~169m, 5 M/H) - L12 Road   | 38 days     | 0 days             | 38 days               | 0%                     | Mon 2/5/22                 | Wed 15/6/22  | NA           | NA           | Sat 2/7/22                 | Mon 15/8/22  | 51 days 3 days     | 1275,1229       |           |          |              |        |           | ∥¥     |                   |    |               |
| 75         | Open Space & Promenade (~457m, 11 M/H)  | 76 days     | 0 days             | 76 days               | 0%                     | Tue 25/1/22                | Sat 30/4/22  | NA           | NA           | Tue 29/3/22                | Thu 30/6/22  | 51 days 6 days     | 1504,458,459,12 |           |          |              |        |           | ###    | <u> </u>          |    |               |
| 76         | L12d Stormwater   | 50 days     | 0 days             | 50 days               | 0%                     | Thu 21/10/21               | Fri 17/12/21 | NA           | NA           | Wed 26/1/22                | Mon 28/3/22  | 80 days            | 1273,490        |           |          |              |        |           |        | <u> </u>          |    |               |
| 77         | Sewerage Drainage   | 496 days    | 0 days             | 496 days              | 0%                     | Tue 1/12/20                | Wed 3/8/22   | NA           | NA           | Sat 29/5/21                | Wed 5/10/22  | 51 days            |                 |           |          |              |        |           | ₩₩     | <del>,</del>      |    |               |
| 78         | Procurement of Sewerage Pipes   | 90 days     | 0 days             | 90 days               | 0%                     | Tue 1/12/20                | Sun 28/2/21  | NA           | NA           | Sat 29/5/21                | Thu 26/8/21  | 179 days 0.5 days  |                 |           |          |              |        |           |        |                   |    |               |
| 79         | Sewerage Drainage - Temp. Works Design and Method Statement Submission                                | 0 days      | 0 days             | 0 days                | 0%                     | Wed 2/6/21                 | Wed 2/6/21   | NA           | NA           | Sat 28/8/21                | Sat 28/8/21  | 87 days 0.5 days   |                 |           |          | <b>4</b> 2/  | 5      |           |        |                   |    |               |
| 80         | Sewerage Drainage - Temp. Works Design and Method Statement Comment &                                 | 21 days     | 0 days             | 21 days               | 0%                     | Wed 2/6/21                 | Tue 22/6/21  | NA           | NA           | Sat 28/8/21                | Fri 17/9/21  | 87 days 0.5 days   | 1279            |           |          |              |        |           |        |                   |    |               |
| 1          | Appraoval<br>CH1000 - CH1087 (~68m, 3 M/H)  | 19 days     | 0 days             | 19 days               | 0%                     | Tue 15/6/21                | Wed 7/7/21   | NA           | NA           | Fri 27/8/21                | Fri 17/9/21  | 62 days 1 days     | 428,451,465,466 |           |          |              |        |           |        |                   |    |               |
| 2          | CH1087 - CH1189.4 (~47m, 1 no M/H)  | 14 days     | 0 days             | 14 days               | 0%                     | Sat 4/9/21                 | Mon 20/9/21  | NA           | NA           | Sat 18/9/21                | Wed 6/10/21  | 12 days 1 days     | 1265,1278,1280, |           |          |              | 4      |           |        |                   |    |               |
| 83         | CH100 - CH147 (~156m, 6 M/H) - L12 Road   | 41 days     |                    | 41 days               | 0%                     | Thu 16/6/22                | Wed 3/8/22   | NA           | NA           | Tue 16/8/22                | Wed 5/10/22  | 51 days 3 days     | 1274,1280,1275, |           |          |              |        |           |        |                   |    |               |
|            | Underground Watermain   | 629 days    |                    | 629 days              | 0%                     | Tue 15/12/20               | Fri 27/1/23  |              | NA           | Fri 14/5/21                | Thu 16/3/23  | 41 days            |                 |           |          |              |        |           | Щ      |                   |    |               |
| 285        | Fresh Watermain   | 519 days    |                    | 519 days              | 0%                     | Tue 15/12/20               | Wed 14/9/22  |              | NA           | Fri 14/5/21                | Thu 16/3/23  | 119 days           |                 |           |          |              |        |           |        | الللل             | ,  | .             |
| 286        | Fresh Watermain - Method Statement Submission   | 0 days      |                    | 0 days                | 0%                     | Tue 1/6/21                 | Tue 1/6/21   |              | NA           | Sat 7/8/21                 | Sat 7/8/21   | 67 days 1 days     |                 |           |          | 1/           | 5      |           |        | /        <b> </b> |    | $\  \cdot \ $ |
| 287        | Fresh Watermain - Ivietnou Statement Submission  Fresh Watermain Method Statement Comment & Appraoval |             |                    |                       | 0%                     | Tue 1/6/21                 | Mon 5/7/21   |              |              | Sat 7/8/21                 | Fri 10/9/21  |                    | 1286            |           |          |              |        |           |        |                   |    |               |
| 87         | **  | 35 days     |                    | 35 days               |                        |                            |              |              | NA           |                            |              | 67 days 1 days     | 1286            |           |          |              |        |           |        |                   |    | $\  \cdot \ $ |
|            | Fresh Watermain Procurement   | 120 days    |                    | 120 days              | 0%                     | Mon 11/1/21                | Mon 10/5/21  |              | NA           | Fri 14/5/21                | Fri 10/9/21  | 123 days 1 days    | 1200 1207       |           |          |              |        |           |        |                   |    | $\  \cdot \ $ |
| 39         | CH1000 - CH1087 (~191m) Rd D3   | 20 days     |                    | 20 days               | 0%                     | Tue 6/7/21                 | Wed 28/7/21  |              | NA           | Sat 11/9/21                | Wed 6/10/21  | 58 days 1 days     | 1288,1287       |           |          |              |        |           |        |                   |    |               |
| 90         | CH1087 - CH1189.4 (~212m) - N. Ramp   | 4 days      |                    | 4 days                | 0%                     | Tue 21/9/21                | Sat 25/9/21  |              | NA           | Thu 7/10/21                | Mon 11/10/21 |                    | 1282,467,1289   |           |          |              |        |           |        |                   |    |               |
| 1          | CH1189.4 - CH1394 (~409.2m) - Bridge D3   | 42 days     | 0 days             | 42 days               | 0%                     | Tue 10/8/21                | Tue 28/9/21  |              | NA           | Fri 15/10/21               | Thu 2/12/21  | 54 days 2 days     | 1288,944FF      |           |          |              |        |           |        |                   |    |               |
| 2          | CH1394 - CH1444.7 (~101.4m) - S. Ramp   | 10 days     | 0 days             | 10 days               | 0%                     | Tue 6/7/21                 | Fri 16/7/21  | NA           | NA           | Mon 15/8/22                | Thu 25/8/22  | 332 days 0 days    | 988SS+10 days,  |           |          |              |        |           |        |                   |    |               |
| 93         | CH1444.7 - CH1560 (~165m) - Rd D3   | 30 days     | 0 days             | 30 days               | 0%                     | Mon 12/7/21                | Sat 14/8/21  | NA           | NA           | Sat 27/11/21               | Tue 4/1/22   | 116 days 0 days    | 988SS+15 days   |           |          |              |        |           |        |                   |    |               |
| 1          | CH1720 - CH1920 (~25m) - Underpass  | 2 days      | 0 days             | 2 days                | 0%                     | Fri 17/12/21               | Sat 18/12/21 | NA           | NA           | Fri 16/9/22                | Sat 17/9/22  | 221 days 0 days    | 1270,444        |           |          |              |        |           |        |                   |    |               |
| 5          | CH2060 - CH2118.93 (~47m) - Rd D3   | 2 days      | 0 days             | 2 days                | 0%                     | Sat 16/10/21               | Mon 18/10/21 | 1 NA         | NA           | Wed 15/12/21               | Thu 16/12/21 | 51 days 0 days     | 1273SS+10 days  |           |          |              |        |           |        |                   |    |               |
| ,          | CH100 - CH147 (~280m) - L12 Road  | 30 days     | 0 days             | 30 days               | 0%                     | Tue 17/5/22                | Tue 21/6/22  | NA           | NA           | Tue 28/6/22                | Tue 2/8/22   | 35 days 2 days     | 1297            |           |          |              |        |           |        |                   |    |               |
| 7          | Open Space & Promenade (~1,093m)  | 110 days    | 0 days             | 110 days              | 0%                     | Thu 30/12/21               | Mon 16/5/22  | NA           | NA           | Wed 12/1/22                | Fri 27/5/22  | 10 days 1 day      | 1497,458,111    |           |          |              |        |           |        |                   |    |               |
|            | Freshwater main across Kai Tak River  | 50 days     | 0 days             | 50 days               | 0%                     | Tue 17/5/22                | Fri 15/7/22  | NA           | NA           | Tue 15/11/22               | Thu 12/1/23  | 151 days 1 day     | 1297,514        |           |          |              |        |           | 111 1  |                   |    |               |
| )          | L12d Freshwater   | 50 days     | 0 days             | 50 days               | 0%                     | Tue 15/12/20               | Wed 17/2/21  | NA           | NA           | Tue 15/11/22               | Thu 12/1/23  | 569 days           | 498             |           |          |              |        |           |        | $+ \  \ $         |    |               |
| 0          | Fresh Watermain T&C   | 51 days     | 0 days             | 51 days               | 0%                     | Sat 16/7/22                | Wed 14/9/22  | NA           | NA           | Fri 13/1/23                | Thu 16/3/23  | 151 days 1 day     | 1297,1296,1298, |           |          |              |        |           |        |                   |    | +             |
| 1          | Salt Watermain  | 591 days    | 0 days             | 591 days              | 0%                     | Mon 1/2/21                 | Fri 27/1/23  | NA           | NA           | Sun 20/6/21                | Thu 16/3/23  | 41 days            |                 |           | +        |              |        |           | HH     |                   |    | 1             |
| )2         | Salt Watermain - Method Statement Submission  | 0 days      | 0 days             | 0 days                | 0%                     | Mon 24/5/21                | Mon 24/5/21  | NA           | NA           | Mon 13/9/21                | Mon 13/9/21  | 112 days 1 day     |                 |           |          | <b>4</b> 24, | '5     |           |        |                   |    |               |
| )3         | Salt Watermain Method Statement Comment & Appraoval   | 35 days     | 0 days             | 35 days               | 0%                     | Mon 24/5/21                | Sun 27/6/21  | NA           | NA           | Mon 13/9/21                | Sun 17/10/21 | 112 days 1 day     | 1302            |           |          |              |        |           |        |                   |    |               |
| 04         | Salt Watermain Procurement  | 120 days    | 0 days             | 120 days              | 0%                     | Mon 1/2/21                 | Mon 31/5/21  | NA           | NA           | Sun 20/6/21                | Sun 17/10/21 | 139 days 1 day     |                 |           |          |              |        |           |        |                   |    |               |
| )5         | CH1000 - CH1087 (~157m) Rd D3   | 15 days     | 0 days             | 15 days               | 0%                     | Mon 28/6/21                | Thu 15/7/21  | NA           | NA           | Thu 18/8/22                | Sat 3/9/22   | 341 days 1 days    | 1304,1303       |           |          |              |        |           |        |                   |    |               |
| 06         | CH1087 - CH1189.4 (~218m) - N. Ramp   | 4 days      | 0 days             | 4 days                | 0%                     | Mon 27/9/21                | Thu 30/9/21  | NA           | NA           | Tue 12/10/21               | Sat 16/10/21 | 12 days 1 day      | 1290            |           |          |              |        |           |        |                   |    |               |
| 07         | CH1189.4 - CH1394 (~409.2m) - Bridge D3   | 40 days     | 0 days             | 40 days               | 0%                     | Sat 2/10/21                | Thu 18/11/21 | NA           | NA           | Mon 18/10/21               | Thu 2/12/21  | 12 days 0.5 days   | 1291SS,1303,45  |           |          |              |        |           |        |                   |    |               |
| 08         | CH1394 - CH1444.7 (~101.4m) - S. Ramp   | 10 days     | 0 days             | 10 days               | 0%                     | Sat 17/7/21                | Wed 28/7/21  | NA           | NA           | Fri 26/8/22                | Tue 6/9/22   | 332 days 1 day     | 1292            |           |          |              |        |           |        |                   |    |               |
| 809        | CH1444.7 - CH1560 (~165m) - Rd D3   | 18 days     |                    | 18 days               | 0%                     | Mon 16/8/21                | Sat 4/9/21   |              | NA           | Wed 29/6/22                | Wed 20/7/22  | 258 days 1 day     | 1293            |           |          |              |        |           |        |                   |    | $\  \cdot \ $ |
| 10         | CH1560 - CH1720 (~160m) - NDR   | 50 days     |                    | 50 days               | 0%                     | Fri 19/11/21               | Wed 19/1/22  |              | NA           | Thu 21/7/22                | Sat 17/9/22  | 197 days           | 1307,1309,444   |           |          |              |        |           |        |                   |    |               |
| 1          | CH1720 - CH1920 (~25m) - Underpass  | 3 days      |                    | 3 days                | 0%                     | Thu 20/1/22                | Sat 22/1/22  |              | NA           | Mon 19/9/22                | Wed 21/9/22  | 197 days 1 day     | 1294,1310       |           |          |              |        |           |        |                   |    |               |
| 2          | CH2060 - CH2118.93 (~47m) - Rd D3   | 2 days      |                    | 2 days                | 0%                     | Mon 24/1/22                |              |              | NA NA        | Thu 22/9/22                | Fri 23/9/22  | 197 days 0 days    | 1294,1310       |           |          |              |        |           |        |                   |    |               |
| .3         | CH100 - CH147 (~455m) - L12 Road  | 47 days     |                    | 47 days               | 0%                     |                            | Tue 16/8/22  |              | NA           | Wed 3/8/22                 | Tue 27/9/22  | 35 days 2 days     | 1295,1311       |           |          |              |        |           |        |                   |    |               |
| 14         | L12d Salt Watermain   | 50 days     |                    | 50 days               | 0%                     | Wed 22/0/22<br>Wed 17/8/22 | Mon 17/10/22 |              | NA           | Wed 3/6/22<br>Wed 16/11/22 | Fri 13/1/23  | 75 days 1 day      | 1313,498        |           |          |              |        |           |        |                   |    |               |
|            |   |             |                    | 1                     |                        |                            |              |              |              |                            |              |                    | ,               |           |          |              |        |           |        |                   |    |               |
| 315        | Open Space & Promenade (~1,093m)  | 110 days    |                    | 110 days              | 0%                     | Tue 17/5/22                | Sat 24/9/22  |              | NA           | Sat 28/5/22                | Sat 8/10/22  | 10 days 1 day      | 1297,458        |           |          |              |        |           |        |                   |    | $\  \cdot \ $ |
| 316        | Saltwater main across Kai Tak River   | 51 days     | o days             | 51 days               | 0%                     | Ivion 26/9/22              | Fri 25/11/22 | NA           | NA           | Tue 15/11/22               | Fri 13/1/23  | 41 days 1 day      | 1315,514        |           |          |              |        |           |        |                   |    |               |
| le: Rev.11 | Prog with Progress  | Summary     |                    |                       | Inactive N             |                            |              | Duration-o   | -            |                            | Start-only   | <u> </u>           | External        | Milestone | <b>♦</b> |              |        | cal Split |        |                   |    |               |
|            | sy-20 Split   | Project Sun | nmary              |                       | Inactive S             | ummary                     |              | Manual Su    | mmary Rollup |                            | Finish-only  | 3                  | Deadline        |           | 4        |              | Prog   | ress      |        |                   |    |               |



| Sec                    | FSD Inspection  Issuance of FS Certificate  Salt Water and Sewage Pumping Station: Landscaping hardworks and softworks  Salt Water and Sewage Pumping Station: Planting Works  ection 6 Completion  eawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  Reinstate seawall | 0 days 110 days 110 days 110 days 0 days 647 days 290 days 24 days 10 days 256 days 44 days 44 days                                 | Duration 0 days | Duration 0 days 0 days 110 days 110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days | Physical % Complete 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% |   | Sat 29/4/23 Thu 18/5/23 Sat 15/4/23 Sat 15/4/23 Tue 30/5/23 Mon 8/5/23              | NA<br>NA<br>NA<br>NA    | NA NA NA NA NA NA NA NA NA | Late Start  Thu 11/5/23  Tue 30/5/23  Wed 11/1/23  Wed 11/1/23  Tue 30/5/23  Fri 5/3/21  Fri 5/3/21 | Tue 30/5/23 Tue 30/5/23                                     | Total Slack 8 days 0.5 da 8 days 0.5 da 35 days 2 day 35 days 2 day 0 days 0 days | ys 1362FS+15 days 562,1351,548                    | 2020<br>Q2   Q3   Q | 04 Q1   1        | 2021<br>Q2   Q3 | Q4           | Q1            | 2022<br>Q2 Q | Q3 Q4       | Q1        |
|------------------------|---|---|---|--|--|---|---|-------------------------|----------------------------|---|---|---|---|---------------------|------------------|-----------------|--------------|---------------|--------------|-------------|-----------|
| Se                     | Issuance of FS Certificate  Salt Water and Sewage Pumping Station: Landscaping hardworks and softworks  Salt Water and Sewage Pumping Station: Planting Works  ection 6 Completion  leawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling                                   | 0 days 110 days 110 days 110 days 0 days 647 days 290 days 24 days 10 days 256 days 44 days 44 days                                 | 0 days                 | 0 days 110 days 110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days                 | 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%                              | Thu 18/5/23 Wed 30/11/22 Wed 30/11/22 Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22 | Thu 18/5/23 Sat 15/4/23 Sat 15/4/23 Tue 30/5/23 Mon 8/5/23 Fri 5/3/21 Mon 8/5/23    | NA NA NA NA NA NA NA NA | NA NA NA NA NA NA NA NA    | Tue 30/5/23<br>Wed 11/1/23<br>Wed 11/1/23<br>Tue 30/5/23<br>Fri 5/3/21                              | Tue 30/5/23 Mon 29/5/23 Mon 29/5/23 Tue 30/5/23 Tue 30/5/23 | 8 days 0.5 da<br>35 days 2 day<br>35 days 2 day<br>0 days                         | ys 1362FS+15 days<br>562,1351,548<br>562,1351,548 |                     |                  |                 |              |               |              | 1           |           |
| Se Se                  | Salt Water and Sewage Pumping Station: Landscaping hardworks and softworks  Salt Water and Sewage Pumping Station: Planting Works  ection 6 Completion  eawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 110 days<br>110 days<br>0 days<br>647 days<br>0 days<br>290 days<br>34 days<br>10 days<br>256 days<br>44 days<br>44 days<br>44 days | 0 days                        | 110 days 110 days 0 days 647 days 0 days 290 days 24 days 10 days                                | 0%<br>0%<br>0%<br>0%<br>0%<br>0%<br>0%                     | Wed 30/11/22 Wed 30/11/22 Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22             | Sat 15/4/23<br>Sat 15/4/23<br>Tue 30/5/23<br>Mon 8/5/23<br>Fri 5/3/21<br>Mon 8/5/23 | NA<br>NA<br>NA<br>NA    | NA<br>NA<br>NA<br>NA       | Wed 11/1/23 Wed 11/1/23 Tue 30/5/23 Fri 5/3/21  | Mon 29/5/23<br>Mon 29/5/23<br>Tue 30/5/23                   | 35 days 2 day<br>35 days 2 day<br>0 days  | 562,1351,548<br>562,1351,548                      |                     |                  |                 |              |               |              |             |           |
| Se                     | Salt Water and Sewage Pumping Station: Planting Works section 6 Completion seawater Intake Box Culvert (~169m) Access Date - Part 4 Part 4 - CHA.0-79 (79m) CHA 0-24 Precast Section Temporary ELS & Excavation and Shoring Installation Install 3 nos. 8 m long precast units (2.5 days per unit) CHA 24-79 (75m) (5 units) Temporary ELS & Excavation Unit 1 & 3 (41 days per unit) Unit 2 & 4 (41 days per unit) Unit 5 & 6 (41 days per unit) Remove struts and backfilling   | 110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days 256 days 44 days 44 days   | 0 days                               | 110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days                                 | 0%<br>0%<br>0%<br>0%<br>0%<br>0%                           | Wed 30/11/22 Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22                          | Sat 15/4/23 Tue 30/5/23 Mon 8/5/23 Fri 5/3/21 Mon 8/5/23                            | NA<br>NA<br>NA          | NA<br>NA<br>NA             | Wed 11/1/23 Tue 30/5/23 Fri 5/3/21  | Mon 29/5/23  Tue 30/5/23  Tue 30/5/23                       | 35 days 2 day<br>0 days   | 562,1351,548                                      |                     |                  |                 |              |               |              |             |           |
| See See                | eawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 0 days 647 days 0 days 290 days 34 days 24 days 10 days 256 days 44 days 44 days  | 0 days   | 0 days 647 days 0 days 290 days 34 days 24 days 10 days  | 0%<br>0%<br>0%<br>0%<br>0%                                 | Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22                                       | Tue 30/5/23<br>Mon 8/5/23<br>Fri 5/3/21<br>Mon 8/5/23                               | NA<br>NA<br>NA          | NA<br>NA<br>NA             | Tue 30/5/23<br>Fri 5/3/21   | Tue 30/5/23 Tue 30/5/23                                     | 0 days  |   |                     |                  |                 |              |               |              |             |           |
| Sec                    | Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 647 days 0 days 290 days 34 days 24 days 10 days 50 days 44 days 44 days  | 0 days   | 647 days 0 days 290 days 34 days 24 days 10 days   | 0%<br>0%<br>0%<br>0%                                       | Fri 5/3/21<br>Fri 5/3/21<br>Thu 19/5/22<br>Thu 19/5/22  | Mon 8/5/23<br>Fri 5/3/21<br>Mon 8/5/23  | NA<br>NA                | NA<br>NA                   | Fri 5/3/21  | Tue 30/5/23   |   | 1350,1363,1364,                                   |                     |                  |                 |              |               |              |             | !         |
|                        | Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 0 days<br>290 days<br>34 days<br>24 days<br>10 days<br>256 days<br>50 days<br>44 days<br>44 days                                    | 0 days   | 0 days<br>290 days<br>34 days<br>24 days<br>10 days  | 0%<br>0%<br>0%   | Fri 5/3/21<br>Thu 19/5/22<br>Thu 19/5/22  | Fri 5/3/21<br>Mon 8/5/23  | NA                      | NA                         |   |   | 0 days  |   |                     |                  |                 |              |               |              | 111 11 11 1 | at III    |
|                        | Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 290 days<br>34 days<br>24 days<br>10 days<br>256 days<br>50 days<br>44 days<br>44 days  | 0 days  | 290 days<br>34 days<br>24 days<br>10 days<br>256 days  | 0%<br>0%   | Thu 19/5/22<br>Thu 19/5/22  | Mon 8/5/23  |                         |                            | Fri 5/3/21  | n   |   |   |                     |                  |                 | .mm 10 11 12 | .11           |              |             | ++        |
|                        | CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling   | 34 days<br>24 days<br>10 days<br>256 days<br>50 days<br>44 days<br>44 days  | 0 days 0 days 0 days 0 days 0 days  | 34 days<br>24 days<br>10 days<br>256 days  | 0%   | Thu 19/5/22   |   | NA                      |                            |   | Fri 5/3/21  | 0 days 0 day  | 4FS+645 days                                      |                     | <del>♦ 5/.</del> | 3               |              |               | $\neg \  \ $ |             |           |
|                        | Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling   | 24 days<br>10 days<br>256 days<br>50 days<br>44 days<br>44 days   | 0 days 0 days 0 days 0 days 0 days  | 24 days<br>10 days<br>256 days   | 0%   |   | Tue 28/6/22   |                         | NA                         | Fri 10/6/22   | Tue 30/5/23   | 18 days   |   |                     |                  |                 |              |               | -            |             | +-        |
|                        | Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 10 days<br>256 days<br>50 days<br>44 days<br>44 days  | 0 days<br>0 days<br>0 days  | 10 days<br>256 days  |  | Thu 19/5/22   |   | NA                      | NA                         | Fri 10/6/22   | Wed 20/7/22   | 18 days   |   |                     |                  |                 |              |               | -            |             |           |
|                        | CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling   | 256 days<br>50 days<br>44 days<br>44 days<br>44 days  | 0 days  | 256 days   | 0%   |   | Thu 16/6/22   | NA                      | NA                         | Fri 10/6/22   | Fri 8/7/22  | 18 days 1 day   | 1384,1386,1238,                                   |                     |                  |                 |              |               |              |             |           |
|                        | Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 50 days<br>44 days<br>44 days<br>44 days  | 0 days  |  |  | Fri 17/6/22   | Tue 28/6/22   | NA                      | NA                         | Sat 9/7/22  | Wed 20/7/22   | 18 days 2.5 da  | ys 1371   |                     |                  |                 |              |               |              |             |           |
|                        | Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 50 days<br>44 days<br>44 days<br>44 days  | 0 days  |  | 0%   | Wed 29/6/22   | Mon 8/5/23  | NA                      | NA                         | Thu 21/7/22   | Tue 30/5/23   | 18 days   |   |                     |                  |                 |              |               |              |             | +         |
|                        | Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 44 days<br>44 days<br>44 days   |   | unjo   | 0%   | Wed 29/6/22   | Fri 26/8/22   |                         | NA                         | Thu 21/7/22   | Sat 17/9/22   | 18 days 1 day   | 1372  |                     |                  |                 |              |               |              |             |           |
|                        | Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling   | 44 days<br>44 days  | ,   |  | 0%   | Sat 27/8/22   | Thu 20/10/22  |                         | NA                         | Mon 19/9/22   |   | 18 days 3 day   |   |                     |                  |                 |              |               |              |             |           |
|                        | Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  | 44 days   | 0 days  |  | 0%   | Fri 21/10/22  | Sat 10/12/22  |                         | NA                         | Fri 11/11/22  | Mon 2/1/23  | 18 days 3 day   |   |                     |                  |                 |              |               |              |             | Щ         |
|                        | Remove struts and backfilling   |   |   |  | 0%   | Mon 12/12/22  |   | NA                      | NA                         | Tue 3/1/23  | Sat 25/2/23   |   |   |                     |                  |                 |              |               |              |             |           |
|                        |   |   |   |  |  |   |   |                         |                            |   |   | 18 days 3 day   |   |                     |                  |                 |              |               |              |             |           |
|                        | Reinstate seawall   | 24 days   |   |  | 0%   | Mon 6/2/23  |   | NA                      | NA                         | Mon 27/2/23   | Sat 25/3/23   | 18 days 1 day   |   |                     |                  |                 |              |               |              |             |           |
|                        |   | 50 days   |   |  | 0%   | Mon 6/3/23  | Mon 8/5/23  |                         | NA                         | Mon 27/3/23   | Tue 30/5/23   | 18 days 1 day   | 1378  |                     |                  |                 |              |               |              |             |           |
|                        | Part 10 - CHA79-89 (10m)  | 286 days  |   |  | 0%   | Wed 2/6/21  | Wed 18/5/22   |                         | NA                         | Wed 2/6/21  | Thu 9/6/22  | 0 days  |   |                     |                  |                 |              |               | 7            |             |           |
|                        | Access Date - Part 10   | 0 days  | 0 days  | 0 days   | 0%   | Wed 2/6/21  | Wed 2/6/21  | NA                      | NA                         | Wed 2/6/21  | Wed 2/6/21  | 0 days 0 day  | 4FS+734 days,1'                                   |                     |                  | 2/6             |              |               |              |             |           |
|                        | Tempoary Works Design and Method Statement Submission   | 0 days  | 0 days  | 0 days   | 0%   | Sun 2/1/22  | Sun 2/1/22  | NA                      | NA                         | Tue 22/2/22   | Tue 22/2/22   | 40 days   |   |                     |                  |                 | 1            | <b>♦</b> 2/1. |              |             |           |
|                        | Tempoary Works Design and Method Statement Comment by PM  | 21 days   | 0 days  | 21 days  | 0%   | Mon 3/1/22  | Wed 26/1/22   | NA                      | NA                         | Tue 22/2/22   | Thu 17/3/22   | 40 days   | 1382  |                     |                  |                 |              |               |              |             |           |
|                        | Temporary ELS & Excavation  | 14 days   | 0 days  | 14 days  | 0%   | Fri 25/2/22   | Sat 12/3/22   | NA                      | NA                         | Fri 18/3/22   | Sat 2/4/22  | 18 days 0 day   | 1388,1381,1391,                                   |                     |                  |                 |              |               | $-\ \ \ $    |             |           |
|                        | Box Culvert with Feeder Installation  | 47 days   | 0 days  | 47 days  | 0%   | Mon 14/3/22   | Wed 11/5/22   | NA                      | NA                         | Mon 4/4/22  | Wed 1/6/22  | 18 days 6 day   | 1384,1381,1391                                    |                     |                  |                 |              |               | 4            |             |           |
|                        | Remove struts and backfilling   | 6 days  | 0 days  | 6 days   | 0%   | Thu 12/5/22   | Wed 18/5/22   | NA                      | NA                         | Thu 2/6/22  | Thu 9/6/22  | 18 days 1 day   | 1392,1385   |                     |                  |                 |              |               |              |             |           |
|                        | Part 1 - CH89-165 (76m) 6 Units   | 193 days  | 0 days  | 193 days   | 0%   | Mon 16/8/21   | Fri 8/4/22  | NA                      | NA                         | Mon 6/9/21  | Wed 1/6/22  | 18 days   |   |                     |                  |                 |              |               |              |             |           |
|                        | Temporary ELS & Excavation  | 25 days   | 0 days  | 25 days  | 0%   | Mon 16/8/21   | Mon 13/9/21   | NA                      | NA                         | Mon 6/9/21  | Wed 6/10/21   | 18 days 0.5 da  | ys 9,1147,1445                                    |                     |                  |                 |              |               |              |             |           |
|                        | Unit 1 & 3 (41 days per unit)   | 44 days   | 0 days  | 44 days  | 0%   | Tue 14/9/21   | Sat 6/11/21   | NA                      | NA                         | Thu 7/10/21   | Sat 27/11/21  | 18 days 4 day   | 1388,418,570                                      |                     |                  |                 |              |               |              |             |           |
|                        | Unit 2 & 4 (41 days per unit)   | 44 days   | 0 days  | 44 days  | 0%   | Mon 8/11/21   | Thu 30/12/21  | NA                      | NA                         | Mon 29/11/21  | Fri 21/1/22   | 18 days 4 day   | 1389  |                     |                  |                 |              |               |              |             |           |
|                        | Unit 5 & 6 (41 days per unit)   | 44 days   | 0 days  | 44 days  | 0%   | Fri 31/12/21  | Thu 24/2/22   | NA                      | NA                         | Sat 22/1/22   | Thu 17/3/22   | 18 days 4 day   | 1390  |                     |                  |                 |              |               |              |             |           |
|                        | Remove struts and backfilling   | 36 days   | 0 days  |  | 0%   | Fri 25/2/22   | Fri 8/4/22  | NA                      | NA                         | Thu 21/4/22   | Wed 1/6/22  | 43 days 1 day   | 1390,1391   |                     |                  |                 |              |               |              |             |           |
| El                     | Elevated Landscape Deck CH1920 - 2090   | 1178 day  | s 11.27 days  | 1166.74 days?  | 0%   | Thu 16/5/19   | Sat 29/4/23   | Thu 16/5/19             | NA                         | Thu 16/5/19   | Wed 29/5/24   | 321 da  |   |                     |                  |                 |              |               | _##          |             | $\coprod$ |
|                        | Agree Interface Coordination Plan with KL/2014/01 Contractor  |   | 14 days   |  | 100%   | Thu 16/5/19   | Fri 31/5/19   | Thu 16/5/19             |                            | Thu 16/5/19   | Fri 31/5/19   | 0 days 0 day  |   |                     |                  |                 |              |               |              |             |           |
|                        | Ch1920-CH2060   | 1 day?  |   | -  | 0%   | Sat 23/5/20   | Sat 23/5/20   |                         | NA                         | Wed 29/5/24   |   | 1467 d  |   |                     |                  |                 |              |               |              |             |           |
|                        | Part 1 - CH1919-2020 (70m) 4 bays   | 181 days  |   | -  | 0%   | Mon 5/7/21  | Thu 10/2/22   |                         | NA                         | Wed 8/9/21  |   | 3 days  |   |                     |                  |                 |              |               |              |             |           |
|                        | Pier Temporary Works Design and Method Statement Submission   | 0 days  |   |  | 0%   | Mon 5/7/21  | Mon 5/7/21  |                         | NA                         | Wed 8/9/21  |   | 65 days 1 day   |   |                     |                  | <b>♦</b> 5/7    |              |               |              |             |           |
|                        | Pier Temporary Works Design and Method Statement Comment & Approval   |   |   |  | 0%   | Mon 5/7/21  | Wed 18/8/21   |                         | NA                         | Wed 8/9/21  |   |   |   |                     |                  |                 |              |               |              |             |           |
|                        |   | 45 days   |   | 1  |  |   |   |                         |                            |   |   | 65 days 1 day   |   |                     |                  |                 |              |               |              |             |           |
|                        | CH1930 Pier (1set x 3nos.):   | 12 days   |   |  | 0%   | Tue 5/10/21   | Tue 19/10/21  |                         | NA                         | Fri 8/10/21   |   | 3 days  | 1075,1076,1066                                    |                     |                  |                 |              |               |              |             |           |
|                        | CH1950-CH2020: Pier (3sets x 3nos) - 1 day/no 1 team  | 11 days   |   |  | 0%   |   | Mon 1/11/21   |                         | NA                         | Sat 23/10/21  | Thu 4/11/21   | 3 days 2 day  | 579,1398,1399                                     |                     |                  |                 |              |               |              |             |           |
|                        | Falsework Temporary Works Design and Method Statement Submission  | 0 days  |   | -  | 0%   | Wed 1/9/21  | Wed 1/9/21  |                         | NA                         | Tue 21/9/21   |   | 20 days 1 day   |   |                     |                  |                 | 1/9          |               |              |             |           |
|                        | Falsework Temporary Works Design and Method Statement Comment & Approval  | 45 days   | 0 days  | -  | 0%   | Wed 1/9/21  | Fri 15/10/21  |                         | NA                         | Tue 21/9/21   | Thu 4/11/21   | 20 days 1 day   |   |                     |                  |                 |              |               |              |             |           |
|                        | Falsework erection  | 10 days   | 0 days  | 10 days  | 0%   | Tue 2/11/21   | Fri 12/11/21  | NA                      | NA                         | Fri 5/11/21   | Tue 16/11/21  | 3 days 1 day  | 1400,1402   |                     |                  |                 |              |               |              |             |           |
|                        | Deck & Secondary Upstand Beam Temporary Works Design and Method Statement Submission  | 0 days  | 0 days  | 0 days   | 0%   | Wed 1/9/21  | Wed 1/9/21  | NA                      | NA                         | Sun 3/10/21   | Sun 3/10/21   | 32 days 1 day   |   |                     |                  |                 | 1/9          |               |              |             |           |
|                        | Deck & Secondary Upstand Beam Temporary Works Design and Method<br>Statement Comment & Approval   | 45 days   | 0 days  | 45 days  | 0%   | Wed 1/9/21  | Fri 15/10/21  | NA                      | NA                         | Sun 3/10/21   | Tue 16/11/21  | 32 days 1 day   | 1404  |                     |                  |                 |              |               |              |             |           |
|                        | Deck (4 bays) 12d/bay & link bridge (12d/bay)   | 25 days   | 0 days  | 25 days  | 0%   | Sat 13/11/21  | Sat 11/12/21  | NA                      | NA                         | Wed 17/11/21  | Wed 15/12/21  | 3 days 1 day  | 1403,625,623FS                                    |                     |                  |                 |              |               |              |             |           |
| D. 415                 | Task  | Summary   |   |  | Inactive Mi  | ilestone $\Diamond$   |   | Duration-on             | ıly                        |   | Start-only  | Е   | Exter   | nal Milestone       | <b>♦</b>         |                 | Critical S   | Split         |              |             | <u> </u>  |
| Rev.11 Pr<br>f 22-May- | rog with Progress   | Project Sun   | nmary   |  | Inactive Su  |   |   | Manual Sun              |                            |   | Finish-only   | _   | 23,101  |                     |                  |                 |              | _             |              |             |           |



|          |   |                            |                       |                        |              | Con          | tract No. ED | )/2018/01 F           | CTD Project  |                        |                |          |                               |             |          |               |                        |               |   |         |      |     |
|----------|---|----------------------------|-----------------------|------------------------|--------------|--------------|--------------|-----------------------|--------------|------------------------|----------------|----------|-------------------------------|-------------|----------|---------------|------------------------|---------------|---|---------|------|-----|
| Та       | ask Name  | Duration Actual Duration   | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish |              |                       |              | Late Finish            | Total<br>Slack | TRA      | Predecessors 2020             | 2   04   6: | 2021     |               | 04                     | 2022          |   |         | 2023 |     |
| 1451     | Lift Pilecap and ELS - Temp. Works Foundation Design and Method Statement   | 30 days 0 days             | 30 days               | 0%                     | Mon 21/12/20 | Tue 19/1/21  | NA           | NA                    | Tue 16/11/21 | Wed 15/12/21           |                | 0.5 day  | 1450 Q2 Q                     | 3 Q4 Q1     | Q2  <br> | Q3            | Q4 (                   | 21   Q2       | Q3   Q4   | Q1   Q2 | Q3   | _Q4 |
| 1452     | Comment & Appraoval Intall Sheetpile, ELS, Excavation and Temp. Works Installation (Shoring, Drainage                           | 38 days 0 days             | 38 days               | 0%                     | Tue 2/2/21   | Sat 20/3/21  | NA           | NA                    | Thu 16/12/21 | Fri 4/2/22             | 259 days       | 2 days   | 1447,1451                     | #           |          |               |                        |               |   |         |      |     |
| 1453     | & Slope Protection) Footing Construction  | 75 days 0 days             | 75 days               | 0%                     | Thu 13/5/21  | Wed 11/8/21  |              | NA                    | Sat 5/2/22   | Sat 7/5/22             | 218 days       |          | 1452,1449,587                 |             | #        |               |                        |               |   |         |      |     |
| 1454     | Sheepile Extraction & Backilling  | 25 days 0 days             | 25 days               | 0%                     | Thu 12/8/21  | Thu 9/9/21   |              | NA                    | Mon 9/5/22   | Tue 7/6/22             | 218 days       |          | 1453                          |             |          |               |                        |               |   |         |      |     |
|          |   |                            |                       |                        |              |              |              |                       |              |                        |                |          | 1433                          |             |          |               |                        |               |   |         |      |     |
| 1455     | Lift Structure - Temp. Works Design and Method Statement Submission   | 0 days 0 days              | 0 days                | 0%                     | Tue 1/6/21   | Tue 1/6/21   | NA           | NA                    | Tue 3/5/22   | Tue 3/5/22             | 336 days       |          |                               |             | 1/       | 6             |                        |               |   |         |      |     |
| 1456     | Lift Structure - Temp. Works Design and Method Statement Comment & Appraova   | l 36 days 0 days           | 36 days               | 0%                     | Tue 1/6/21   | Tue 6/7/21   | NA           | NA                    | Tue 3/5/22   | Tue 7/6/22             | 336 days       | 0.5 day  | 1455                          |             |          |               |                        |               |   |         |      |     |
| 1457     | Lift Tower: Falsework & Formwork Erection, Rebar Fixing & Concreting  | 63 days 0 days             | 63 days               | 0%                     | Fri 10/9/21  | Thu 11/11/21 | NA           | NA                    | Wed 8/6/22   | Tue 9/8/22             | 271 days       | 3 days   | 1454,1157,1456                |             |          |               |                        |               |   |         |      |     |
| 1458     | Lift installation (LT1 & LT2)   | 90 days 0 days             | 90 days               | 0%                     | Fri 24/12/21 | Tue 19/4/22  | NA           | NA                    | Fri 11/11/22 | Tue 28/2/23            | 261 days       | 1 day    | 1457FS+36 days                |             |          |               |                        |               |   |         |      |     |
| 1459     | E & M installation  | 33 days 0 days             | 33 days               | 0%                     | Wed 20/4/22  | Fri 27/5/22  | NA           | NA                    | Wed 1/3/23   | Wed 12/4/23            | 261 days       | 3 days   | 1458                          |             |          |               |                        |               |   |         |      |     |
| 1460     | Louvers and Glazing Installation  | 27 days 0 days             | 27 days               | 0%                     | Sat 11/12/21 | Fri 14/1/22  | NA           | NA                    | Thu 8/9/22   | Wed 12/10/22           | 220 days       | 3 days   | 1457FS+25 days                |             |          |               |                        | $\mathbb{H}$  |   |         |      |     |
| 1461     | Parapet Installation and Finishing Works  | 40 days 0 days             | 40 days               | 0%                     | Sat 15/1/22  | Sat 5/3/22   | NA           | NA                    | Thu 13/10/22 | Mon 28/11/22           | 220 days       | 3 days   | 1460                          |             |          |               |                        |               |   |         |      |     |
| 1462     | Testing & commissioning   | 15 days 0 days             | 15 days               | 0%                     | Sat 28/5/22  | Wed 15/6/22  | NA           | NA                    | Thu 13/4/23  | Sat 29/4/23            | 261 days       | 0.5 days | 1459                          |             |          |               |                        |               |   |         |      |     |
| 1463     | CLP Meter Installation  | 0 days 0 days              | 0 days                | 0%                     | Mon 18/4/22  | Mon 18/4/22  | NA           | NA                    | Mon 18/4/22  | Mon 18/4/22            | 0 days         | 0.5 day  |                               |             |          |               |                        | <b>♦</b> 18/4 |   |         |      |     |
| 1464     | EMSD Submission Form 5 for Lift Inspection  | 0 days 0 days              | 0 days                | 0%                     | Wed 15/6/22  | Wed 15/6/22  |              | NA                    | Tue 2/5/23   | Tue 2/5/23             |                | 0.5 day  | 1458,1462                     |             |          |               |                        |               | 5/6   |         |      |     |
| 1465     | EMSD Lift Inspection  | 0 days 0 days              | 0 days                | 0%                     | Wed 29/6/22  | Wed 29/6/22  |              | NA                    | Tue 16/5/23  | Tue 16/5/23            | 320 days       |          | 1464FS+14 days                |             |          |               |                        |               | 20/6  |         |      |     |
|          |   |                            |                       |                        |              |              |              |                       |              |                        |                |          |                               |             |          |               |                        |               | , UK7   |         |      |     |
| 1466     | Issuance of Lift Use Permit   | 0 days 0 days              | 0 days                | 0%                     | Thu 14/7/22  | Thu 14/7/22  |              | NA                    | Tue 30/5/23  | Tue 30/5/23            |                | 0.5 day  | 1465FS+15 days                |             |          |               |                        |               | 14//  |         |      |     |
| 1467     | Staircase ST1   | 100 days 0 days            | 100 days              | 0%                     | Fri 12/11/21 | Tue 15/3/22  |              | NA                    | Fri 25/11/22 | Sat 25/3/23            | 309 days       |          | 587,367,1457                  |             |          |               |                        |               |   |         |      |     |
| 1468     | Finishing and E&M Works   | 50 days 0 days             | 50 days               | 0%                     | Wed 16/3/22  | Tue 17/5/22  | NA           | NA                    | Mon 27/3/23  | Tue 30/5/23            | 309 days       | 0.5 day  | 1467,367                      |             |          |               |                        |               |   |         |      |     |
| 1469     | L12d Underground Drainage and Utilities Laying  | 75 days 0 days             | 75 days               | 0%                     | Mon 7/3/22   | Tue 7/6/22   | NA           | NA                    | Tue 29/11/22 | Tue 28/2/23            | 220 days       | 1 day    | 1457,1460,1461                |             |          |               |                        |               |   |         |      |     |
| 1470     | L12d Roadworks and Pedestrian, with Light Pole  | 36 days 0 days             | 36 days               | 0%                     | Wed 8/6/22   | Wed 20/7/22  | NA           | NA                    | Wed 1/3/23   | Sat 15/4/23            | 220 days       | 1 day    | 1469,349                      |             |          |               |                        |               | $\left\{ \left\  \cdot \right\  \right\  \left\  \cdot \right\  \right\ $ |         |      |     |
| 1471     | L12d Roadworks and Pedestrian   | 36 days 0 days             | 36 days               | 0%                     | Thu 21/7/22  | Wed 31/8/22  | NA           | NA                    | Mon 17/4/23  | Tue 30/5/23            | 220 days       | 1 day    | 1470                          |             |          |               |                        |               |   |         |      |     |
| 1472     | Open Space & Promenade  | 564 days 0 days            | 564 days              | 0%                     | Mon 28/6/21  | Thu 18/5/23  | NA           | NA                    | Sun 1/8/21   | Tue 30/5/23            | 9 days         |          |                               |             | -        |               |                        |               |   |         |      |     |
| 1473     | Open Space & Promenade (From Northern End - CH1720)   | 564 days 0 days            | 564 days              | 0%                     | Mon 28/6/21  | Thu 18/5/23  | NA           | NA                    | Sun 15/8/21  | Tue 30/5/23            | 9 days         |          |                               |             | -        |               |                        |               |   |         |      |     |
| 1474     | Observation Deck  | 358 days 0 days            | 358 days              | 0%                     | Tue 1/3/22   | Fri 12/5/23  | NA           | NA                    | Fri 6/5/22   | Tue 30/5/23            | 14 days        |          |                               |             |          |               |                        |               |   |         |      |     |
| 1475     | Foundation - Temp. Works Design and Method Statement Submission   | 0 days 0 days              | 0 days                | 0%                     | Tue 1/3/22   |              | NA           | NA                    | Fri 6/5/22   | Fri 6/5/22             | 66 days        | 0.5 day  |                               |             |          |               |                        | 1/3           |   |         |      |     |
| 1475     | Foundation - Temp. Works Design and Method Statement Submission  Foundation - Temp. Works Design and Method Statement Comment & |                            | 45 days               | 0%                     | Tue 1/3/22   | Thu 14/4/22  |              | NA                    | Fri 6/5/22   | Sun 19/6/22            | 66 days        |          | 1475,639,646                  |             |          |               |                        | 11.3          |   |         |      |     |
|          | Appraoval   | 45 days 0 days             |                       |                        |              |              |              |                       |              |                        | 1              |          |                               |             |          |               |                        |               |   |         |      |     |
| 1477     | G.I. works for LT5  | 12 days 0 days             | 12 days               | 0%                     | Sat 4/6/22   | Fri 17/6/22  |              | NA                    | Mon 20/6/22  | Mon 4/7/22             | 13 days        |          | 1447,611,604,15               |             |          |               |                        |               |   |         |      |     |
| 1478     | Design Vertification  | 25 days 0 days             | 25 days               | 0%                     | Sat 18/6/22  | Mon 18/7/22  |              | NA                    | Tue 5/7/22   | Tue 2/8/22             | 13 days        | 1 day    | 1477                          |             |          |               |                        |               | 1   |         |      |     |
| 1479     | Predrilling works for Socket H- pile  | 12 days 0 days             | 12 days               | 0%                     | Tue 19/7/22  | Sat 30/7/22  | NA           | NA                    | Wed 3/8/22   | Sun 14/8/22            | 15 days        |          | 1478                          |             |          |               |                        |               |   |         |      |     |
| 1480     | Socket H-pile Installation  | 37 days 0 days             | 37 days               | 0%                     | Mon 1/8/22   | Tue 13/9/22  | NA           | NA                    | Mon 15/8/22  | Tue 27/9/22            | 12 days        | 2 days   | 367,1155,726,14               |             |          |               |                        |               |   |         |      |     |
| 1481     | Pile Testing  | 43 days 0 days             | 43 days               | 0%                     | Wed 14/9/22  | Fri 4/11/22  | NA           | NA                    | Wed 28/9/22  | Fri 18/11/22           | 12 days        | 1 day    | 1480                          |             |          |               |                        |               |   |         |      |     |
| 1482     | Structure & Lift Core - Temp. Works Design and Method Statement<br>Submission   | 0 days 0 days              | 0 days                | 0%                     | Mon 20/6/22  | Mon 20/6/22  | NA           | NA                    | Wed 5/10/22  | Wed 5/10/22            | 107 days       | 0.5 day  |                               |             |          |               |                        | <b>♠</b> 2    | 20/6  |         |      |     |
| 1483     | Structure & Lift Core - Temp. Works Design and Method Statement   | 45 days 0 days             | 45 days               | 0%                     | Mon 20/6/22  | Wed 3/8/22   | NA           | NA                    | Wed 5/10/22  | Fri 18/11/22           | 107 days       | 0.5 day  | 1482                          |             |          |               |                        |               |   |         |      |     |
| 1484     | Comment & Appraoval Trech Excavation for Pipe Laying Works  | 30 days 0 days             | 30 days               | 0%                     | Sat 4/6/22   | Sat 9/7/22   | NA           | NA                    | Wed 15/6/22  | Wed 20/7/22            | 9 days         | 2 days   | 15                            |             |          |               |                        |               |   |         |      |     |
| 1485     | Pipe laying works, Cable Laying and Drawpits  | 36 days 0 days             | 36 days               | 0%                     | Mon 11/7/22  | Sat 20/8/22  | NA           | NA                    | Thu 21/7/22  | Wed 31/8/22            | 9 days         | 5 days   | 15,1484                       |             |          |               |                        |               |   |         |      |     |
| 1486     | Observation Deck: Substructure with Excavation/ELS works  | 36 days 0 days             | 36 days               | 0%                     | Sat 5/11/22  | Fri 16/12/22 |              | NA                    | Sat 19/11/22 | Sat 31/12/22           | 12 days        | _        | 163,506,1483,14               |             |          |               |                        |               |   |         |      |     |
| 1487     | Observation Deck: Superstructure with Lift Core and Staircase work  | 72 days 0 days             | 72 days               | 0%                     | Sat 17/12/22 | Sun 26/2/23  |              | NA                    | Mon 2/1/23   | Tue 14/3/23            | 16 days        |          | 1486                          |             |          |               |                        |               |   |         |      |     |
|          |   |                            |                       |                        |              |              |              |                       |              |                        |                |          |                               |             |          |               |                        |               |   |         |      |     |
| 1488     | LT5: Lift installation with T&C and Statutory Inspection  | 60 days 0 days             | 60 days               | 0%                     | Mon 27/2/23  | Fri 12/5/23  |              | NA                    | Wed 15/3/23  | Tue 30/5/23            | 14 days        |          | 713,1487                      |             |          |               |                        |               |   |         |      |     |
| 1489     | E&M and ABWF works, Landscaping and paving works  | 110 days 0 days            | 110 days              | 0%                     | Sat 17/12/22 | Thu 4/5/23   |              | NA                    | Thu 12/1/23  | Tue 30/5/23            | 21 days        | 3 days   | 1528,717,1486                 |             |          |               |                        |               |   |         |      |     |
| 1490     | Toilet  | 416 days 0 days            | 416 days              | 0%                     | Mon 28/6/21  | Wed 16/11/22 | 2 NA         | NA                    | Sun 15/8/21  | Fri 24/2/23            | 41 days        |          |                               |             |          |               | $\square$              |               |   |         |      |     |
| 1491     | Foundation - Temp. Works Design and Method Statement Submission   | 0 days 0 days              | 0 days                | 0%                     | Mon 28/6/21  | Mon 28/6/21  | NA           | NA                    | Sun 15/8/21  | Sun 15/8/21            | 48 days        | 0.5 days |                               |             |          | 28/6          |                        |               |   |         |      |     |
| 1492     | Foundation - Temp. Works Design and Method Statement Comment & Appraoval  | 45 days 0 days             | 45 days               | 0%                     | Sat 24/7/21  | Mon 6/9/21   | NA           | NA                    | Sun 15/8/21  | Tue 28/9/21            | 22 days        | 0.5 days | 1491,639,646                  |             | 1        |               |                        |               |   |         |      |     |
| 1493     | Footing   | 16 days 0 days             | 16 days               | 0%                     | Thu 16/9/21  | Wed 6/10/21  | NA           | NA                    | Wed 29/9/21  | Tue 19/10/21           | 10 days        | 0.5 days | 987,611,604,618               |             |          |               |                        |               |   |         |      |     |
| 1494     | Structure - Temp. Works Design and Method Statement Submission  | 0 days 0 days              | 0 days                | 0%                     | Mon 26/7/21  | Mon 26/7/21  | NA           | NA                    | Fri 3/9/21   | Fri 3/9/21             | 39 days        | 0.5 days |                               |             |          | <b>♠</b> 26/7 |                        |               |   |         |      |     |
| 1495     | Structure - Temp. Works Design and Method Statement Comment &   | 47 days 0 days             | 47 days               | 0%                     | Mon 26/7/21  | Fri 10/9/21  | NA           | NA                    | Fri 3/9/21   | Tue 19/10/21           | 39 days        | 2 days   | 1494                          |             |          |               |                        |               |   |         |      |     |
|          | Appraoval   |                            |                       |                        |              |              |              |                       |              |                        |                |          |                               |             |          | 111           |                        |               |   |         |      |     |
|          | 7.11 Prog with Progress   | Summary<br>Project Summary |                       | Inactive M Inactive Su |              |              | Duration-c   | only<br>ımmary Rollup |              | Start-only Finish-only |                | C 3      | External Milestor<br>Deadline | ie ♦<br>♣   |          |               | itical Split<br>ogress | -             |   |         |      |     |
| as of 22 | -May-20   | Inactive Task              | -                     | Manual Ta              |              |              | Manual Su    |                       |              | External Tas           | 1.             | _        | Critical                      |             |          |               | anual Prog             |               |   |         |      |     |

|       |  |                          |                       |                        |              | Cont         | Iact No. ED  | /2018/01 K   | TD Project    |              |                |          |                        |               |             |         |                |                       |             |            |        |
|-------|--|--------------------------|-----------------------|------------------------|--------------|--------------|--------------|--------------|---------------|--------------|----------------|----------|------------------------|---------------|-------------|---------|----------------|-----------------------|-------------|------------|--------|
| Γ     | Task Name  | Duration Actual Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start | Actual Finis | sh Late Start | Late Finish  | Total<br>Slack | TRA      | Predecessors           | 2020          | M 01 1      | 2021    | 04 01          | 2022<br>  Q2   Q3   0 | 04   01   1 | 2023       | 04 6   |
| 96    | Structure work   | 45 days 0 days           | 45 days               | 0%                     | Thu 7/10/21  | Mon 29/11/21 | NA           | NA           | Wed 20/10/21  | Fri 10/12/21 | 10 days        | 0.5 days | 1493,506,1495          | Q2 Q3 C       | 24   Q1   C | Q2   Q3 | Q4 Q1          | Q2 Q3 V               | Q4 Q1 (     | 22   Q3    | Q4   Q |
| 97    | MIC toilet unit  | 24 days 0 days           | 24 days               | 0%                     | Tue 30/11/21 | Wed 29/12/21 | NA           | NA           | Sat 11/12/21  | Tue 11/1/22  | 10 days        | 0.5 days | 1496                   |               |             |         |                |                       |             |            |        |
| 98    | MIC toilet unit: E&M and ABWF works  | 75 days 0 days           | 75 days               | 0%                     | Thu 30/12/21 | Thu 31/3/22  | NA           | NA           | Wed 23/2/22   | Wed 25/5/22  | 43 days        | 3 days   | 1497,717               |               |             |         |                |                       |             | H          |        |
| 199   | Observation Tower Construction   | 31 days 0 days           | 31 days               | 0%                     | Thu 30/12/21 | Tue 8/2/22   | NA           | NA           | Wed 19/1/22   | Sat 26/2/22  | 16 days        | 1 day    | 1496,1497              |               |             |         |                |                       |             |            |        |
| 500   | Observation Tower: Building Works and E&M Works                                    | 76 days 0 days           | 76 days               | 0%                     | Wed 9/2/22   | Thu 12/5/22  | NA           | NA           | Mon 28/2/22   | Tue 31/5/22  | 16 days        | 1 day    | 1499                   |               |             |         |                |                       |             |            |        |
| 501   | Refuse Collection Block and Back of House: Structure Works                         | 101 days 0 days          | 101 days              | 0%                     | Wed 9/2/22   | Sat 11/6/22  | NA           | NA           | Fri 20/5/22   | Sat 17/9/22  | 82 days        | 1 day    | 1496,1497,1499         |               |             |         | #_             |                       |             |            |        |
| 502   | Refuse Collection Block and Back of House: Building Works and E&M                  | 131 days 0 days          | 131 days              | 0%                     | Mon 13/6/22  | Wed 16/11/22 | NA           | NA           | Mon 19/9/22   | Fri 24/2/23  | 82 days        | 1 day    | 1501                   |               |             |         |                |                       |             |            |        |
| 03    | Works<br>Amphitheater  | 95 days 0 days           | 95 days               | 0%                     | Wed 9/2/22   | Sat 4/6/22   | NA           | NA           | Wed 11/5/22   | Wed 31/8/22  | 74 days        | 5 days   | 1496,639,646,14        |               |             |         | #_             |                       |             |            |        |
| 04    | Fast food (Light Refreshment) kiosk deck   | 45 days 0 days           | 45 days               | 0%                     | Tue 30/11/21 | Mon 24/1/22  | NA           | NA           | Thu 20/1/22   | Wed 16/3/22  | 41 days        | 0.5 days | 611,1496,604,61        |               |             |         |                |                       |             |            |        |
| 05    | Fast food (Light Refreshment) Kiosk: Building Works and E&M Works                  | 86 days 0 days           | 86 days               | 0%                     | Sat 26/2/22  | Sat 11/6/22  | NA           | NA           | Thu 17/3/22   | Thu 30/6/22  | 16 days        | 1 day    | 1504,639,646,14        |               |             |         |                |                       |             |            |        |
| )6    | Fitness Ground Lawn & Water Play Plaza   | 82 days 0 days           | 82 days               | 0%                     | Mon 13/6/22  | Sat 17/9/22  | NA           | NA           | Sat 2/7/22    | Sat 8/10/22  | 16 days        |          | days,1500FF+25<br>1505 |               |             |         |                |                       |             |            |        |
| )7    | Stepped Stage and Seating & Back of House Facility (under Bridge D3)               | 30 days 0 days           | 30 days               | 0%                     | Mon 22/8/22  | Mon 26/9/22  |              | NA           | Thu 1/9/22    | Sat 8/10/22  | 9 days         |          | 1503,1485              |               |             |         |                |                       |             |            |        |
| )8    | Trim and form formation level within Open Space & Promenade area                   | 45 days 0 days           | 45 days               | 0%                     | Tue 27/9/22  | Sat 19/11/22 |              | NA           | Mon 10/10/22  | Wed 30/11/22 | 1              |          | 1507,1505,1506,        |               |             |         |                |                       | 4           |            |        |
| )9    | Paving work & Hard Landscaping Works   | 45 days 0 days           | 45 days               | 0%                     |              | Thu 12/1/23  |              | NA           | Thu 1/12/22   | Thu 26/1/23  |                | 2 days   | 1508,1500,1498         |               |             |         |                |                       |             |            |        |
| 10    |  |                          |                       |                        |              |              |              |              |               |              | 1              | -        |                        |               |             |         |                |                       |             |            |        |
|       | ABWF, E&M work and street furniture  | 75 days 0 days           | 75 days               | 0%                     |              | Mon 20/2/23  |              | NA<br>NA     | Sat 25/2/23   | Tue 30/5/23  | 79 days        |          | 1508,1509SS,15         |               |             |         |                |                       |             |            |        |
| 11    | FSD Form 501 Submission for FS Inspection  | 0 days 0 days            | 0 days                | 0%                     | Mon 9/1/23   |              | NA           | NA           | Mon 1/5/23    | Mon 1/5/23   | 111 days       |          | 1510SS+50 days         |               |             |         |                |                       | 9/1         |            |        |
| 2     | FSD Inspection   | 0 days 0 days            | 0 days                | 0%                     | Tue 24/1/23  | Tue 24/1/23  |              | NA           | Tue 16/5/23   | Tue 16/5/23  | 111 days       |          | 1511FS+15 days         |               |             |         |                |                       | 24/1        |            |        |
| .3    | Issuance of FS Certificate   | 0 days 0 days            | 0 days                | 0%                     | Wed 8/2/23   | Wed 8/2/23   |              | NA           | Tue 30/5/23   | Tue 30/5/23  | 111 days       |          | 1512FS+15 days         |               |             |         |                |                       | ₩ 8/2       |            |        |
| 4     | Landscaping works and Planting works   | 100 days 0 days          | 100 days              | 0%                     | Fri 13/1/23  | Thu 18/5/23  | NA           | NA           | Fri 27/1/23   | Tue 30/5/23  | 1              | 4 days   | 1509,668,1503,6        |               |             |         |                |                       |             |            |        |
| 5     | Open Space & Promenade (From CH1720 - South End)                                   | 477 days 0 days          | 477 days              | 0%                     | Mon 12/7/21  | Mon 13/2/23  | NA           | NA           | Sun 1/8/21    | Tue 30/5/23  | 18 days        |          |                        |               |             |         |                |                       |             |            |        |
| 6     | Modification Seawall - Temp. Works Design and Method Statement Submission          | 0 days 0 days            | 0 days                | 0%                     | Mon 12/7/21  | Mon 12/7/21  | NA           | NA           | Sun 1/8/21    | Sun 1/8/21   | 20 days        | 1 day    |                        |               |             | 12/7    |                |                       |             |            |        |
| 7     | Modification Seawall - Temp. Works Design and Method Statement Comment & Appraoval | k 30 days 0 days         | 30 days               | 0%                     | Mon 12/7/21  | Tue 10/8/21  | NA           | NA           | Sun 1/8/21    | Mon 30/8/21  | 20 days        | 2 days   | 1516                   |               |             |         |                |                       |             |            |        |
| .8    | Modification (Seawall) CH1720-1820   | 150 days 0 days          | 150 days              | 0%                     | Wed 11/8/21  | Fri 11/2/22  | NA           | NA           | Tue 31/8/21   | Thu 3/3/22   | 17 days        | 1 day    | 1517                   |               |             |         |                |                       |             |            |        |
| 9     | Modification (Seawall) CH1820-1920   | 150 days 0 days          | 150 days              | 0%                     | Wed 15/9/21  | Fri 18/3/22  | NA           | NA           | Thu 7/10/21   | Fri 8/4/22   | 17 days        | 1 day    | 1518SS+30 days         |               |             |         |                |                       |             |            |        |
| 0     | Temporary toilet   | 24 days 0 days           | 24 days               | 0%                     | Mon 13/9/21  | Tue 12/10/21 | NA           | NA           | Fri 14/1/22   | Mon 14/2/22  | 100 days       | 0.5 days | 506,655,660            |               |             |         | $h \mid l'$    |                       |             |            |        |
| 1     | Temporary Toilet: Building Works and E&M Works                                     | 75 days 0 days           | 75 days               | 0%                     | Wed 13/10/21 | Wed 12/1/22  | NA           | NA           | Sat 28/1/23   | Sat 29/4/23  | 385 days       | 0.5 day  | 1520,655,660           |               |             |         |                |                       |             | H          |        |
| 2     | Temporary Management Office: Structure Works                                       | 45 days 0 days           | 45 days               | 0%                     | Sat 25/9/21  | Thu 18/11/21 | NA           | NA           | Wed 26/1/22   | Tue 22/3/22  | 100 days       | 0.5 days | 1520SS+10 days         |               |             | N N     |                |                       |             |            |        |
| 13    | Temporary Management Office: Building Works and E&M Works                          | 100 days 0 days          | 100 days              | 0%                     | Fri 19/11/21 | Tue 22/3/22  | NA           | NA           | Wed 23/3/22   | Sat 23/7/22  | 100 days       | 0.5 day  | 1522,655,660           |               |             |         | +              |                       |             | H          |        |
| 4     | Floating Stage Concrete structure  | 18 days 0 days           | 18 days               | 0%                     | Sat 19/3/22  | Sat 9/4/22   | NA           | NA           | Sat 9/4/22    | Tue 3/5/22   | 17 days        | 0 days   | 1519,1518,1522         |               |             |         | +              | <u> </u>              |             |            |        |
| 25    | Stepped Seating at Southern End  | 24 days 0 days           | 24 days               | 0%                     | Mon 11/4/22  | Wed 11/5/22  | NA           | NA           | Wed 4/5/22    | Tue 31/5/22  | 17 days        | 0.5 days | 1524                   |               |             |         |                |                       |             |            |        |
| 6     | Trim and form formation level within Open Space & Promenade area                   | 14 days 0 days           | 14 days               | 0%                     | Thu 12/5/22  | Fri 27/5/22  | NA           | NA           | Wed 1/6/22    | Fri 17/6/22  | 17 days        | 0 days   | 1525                   |               |             |         |                |                       |             |            |        |
| .7    | Paving work and Landscaping Works  | 30 days 0 days           | 30 days               | 0%                     | Sat 28/5/22  | Mon 4/7/22   | NA           | NA           | Sat 18/6/22   | Sat 23/7/22  | 17 days        | 0.5 days | 1526,1522,1525,        |               |             |         |                |                       |             |            |        |
| 28    | ABWF, E&M work and street furniture  | 75 days 0 days           | 75 days               | 0%                     | Tue 5/7/22   | Fri 30/9/22  | NA           | NA           | Mon 25/7/22   | Sat 22/10/22 | 17 days        | 1 day    | 1527,717,1523          |               |             |         |                | +                     |             |            |        |
| 29    | CLP Meter Installation   | 0 days 0 days            | 0 days                | 0%                     | Fri 30/9/22  | Fri 30/9/22  | NA           | NA           | Mon 1/5/23    | Mon 1/5/23   | 212 days       | 0.5 day  | 1528,1521,1523         |               |             |         |                |                       | 30/9        |            |        |
| 80    | FSD Form 501 Submission for FS Inspection  | 0 days 0 days            | 0 days                | 0%                     | Thu 8/12/22  | Thu 8/12/22  | NA           | NA           | Mon 1/5/23    | Mon 1/5/23   | 144 days       | 0.5 day  | 1529                   |               |             |         |                |                       | 8/12        |            |        |
| 31    | FSD Inspection   | 0 days 0 days            | 0 days                | 0%                     | Thu 22/12/22 | Thu 22/12/22 | NA           | NA           | Tue 16/5/23   | Tue 16/5/23  | 144 days       |          | 1530FS+15 days         |               |             |         |                |                       | 22/12       |            |        |
| 32    | Issuance of FS Certificate   | 0 days 0 days            | 0 days                | 0%                     | Fri 6/1/23   | Fri 6/1/23   |              | NA           | Tue 30/5/23   | Tue 30/5/23  | 144 days       | -        | 1531FS+15 days         |               |             |         |                |                       | 6/1         | <b>   </b> |        |
| 33    | Open Space & Promenade: Landscaping works  | 110 days 0 days          | 110 days              | 0%                     | Mon 3/10/22  | Mon 13/2/23  |              | NA           | Mon 24/10/22  | Sat 4/3/23   | 17 days        | -        | 1528,668,1243Fl        |               |             |         |                | \                     |             |            |        |
| 34    | Open Space & Promenade: Planting works   | 110 days 0 days          | 110 days              | 0%                     | Mon 3/10/22  | Mon 13/2/23  |              | NA           | Mon 24/10/22  | Sat 4/3/23   | 17 days        |          | 1528,668,1243Fl        |               |             |         |                |                       |             |            |        |
| 15    | Part 1, 2A, 2B - Road L12  | 193 days 0 days          | 193 days              | 0%                     | Tue 23/8/22  | Mon 17/4/23  |              | NA           | Thu 6/10/22   | Tue 30/5/23  | 35 days        |          | 1020,000,124011        |               |             |         |                |                       |             |            |        |
| 6     | Part 1, 2A, 2B - Road L12  Trim road formation                                     |                          |                       | 0%                     |              | Thu 25/8/22  |              | NA<br>NA     |               |              |                |          | 1274,1283,1296,        |               |             |         |                | ₩                     |             |            |        |
|       |  | 3 days 0 days            | 3 days                |                        | Tue 23/8/22  |              |              |              | Thu 6/10/22   | Sat 8/10/22  | 35 days        | -        |                        |               |             |         |                |                       |             |            |        |
| 37    | Lay sub base   | 7 days 0 days            | 7 days                | 0%                     | Fri 26/8/22  | Fri 2/9/22   |              | NA           |               | Mon 17/10/22 |                |          | 1536                   |               |             |         |                |                       |             |            |        |
| 38    | Lay kerb   | 12 days 0 days           | 12 days               | 0%                     | Sat 3/9/22   | Sat 17/9/22  |              | NA           | Tue 18/10/22  | Mon 31/10/22 |                | -        | 1537                   |               |             |         |                | 1                     |             |            |        |
| 539   | Construct pedestrian street/ footpath  | 14 days 0 days           | 14 days               | 0%                     | Mon 19/9/22  | Thu 6/10/22  |              | NA           | Tue 1/11/22   | Wed 16/11/22 |                | -        | 1538                   |               |             |         |                |                       |             |            |        |
| 40    | Install central median   | 14 days 0 days           | 14 days               | 0%                     | Fri 7/10/22  | Sat 22/10/22 | NA           | NA           | Thu 17/11/22  | Fri 2/12/22  | 35 days        | 1 day    | 1539                   |               |             |         |                |                       |             |            |        |
| e: Re | ev. I I Prod with Progress   | Summary                  |                       | Inactive M             |              |              | Duration-o   |              |               | Start-only   |                | [        |                        | nal Milestone | \$          |         | Critical Split |                       |             |            |        |
|       | 2-May-20 Split   | Project Summary          |                       | Inactive S             | ummary       |              | Manual Su    | mmary Rollup |               | Finish-only  |                | ]        | Dead                   | line          | 1           | P       | rogress        |                       |             |            |        |

|      |  |          |                    |                       |                        |              | Conf         | ract No. ED/ | 2018/01 KT    | D Project    |              |                |          |                 |                |         |          |                     |        |                      |          |                 |       |
|------|--|----------|--------------------|-----------------------|------------------------|--------------|--------------|--------------|---------------|--------------|--------------|----------------|----------|-----------------|----------------|---------|----------|---------------------|--------|----------------------|----------|-----------------|-------|
|      | Task Name  | Duration | Actual<br>Duration | Remaining<br>Duration | Physical %<br>Complete | Early Start  | Early Finish | Actual Start | Actual Finish | Late Start   | Late Finish  | Total<br>Slack | TRA      | Predecessors    | 2020<br>Q2   Q | 03   Q4 | O1   C   | 2021<br>02   Q3   Q | 4 01 0 | 2022<br>22   Q3   Q4 | 4 Q1     | 2023<br>Q2   Q3 | Q4 Q1 |
| 1541 | Concrete infill between profile barrier  | 7 days   | 0 days             | 7 days                | 0%                     | Mon 24/10/22 | Mon 31/10/22 | NA           | NA            | Sat 3/12/22  | Sat 10/12/22 | 35 days        | 0 days   | 1540            |                |         |          |                     |        | F                    |          |                 |       |
| 542  | Road pavement  | 5 days   | 0 days             | 5 days                | 0%                     | Tue 1/11/22  | Sat 5/11/22  | NA           | NA            | Mon 12/12/22 | Fri 16/12/22 | 35 days        | 0 days   | 1541            |                |         |          |                     |        | 5                    |          |                 |       |
| 543  | Install street furniture (Part 1, 2A, 2B - Road L12)   | 131 days | 0 days             | 131 days              | 0%                     | Mon 7/11/22  | Mon 17/4/23  | NA           | NA            | Sat 17/12/22 | Tue 30/5/23  | 35 days        | 6 days   | 1542            |                |         |          |                     |        |                      |          | 1               |       |
| 544  | Planting Works for Underpass, South Depress Road and At-Grade Road                             | 130 days | 0 days             | 130 days              | 0%                     | Mon 7/11/22  | Sat 15/4/23  | NA           | NA            | Mon 19/12/22 | Tue 30/5/23  | 36 days        | 10 days  | 668             |                |         |          |                     |        | 1                    |          | 1               |       |
| 545  | Landscaping Works for Underpass, South Depress Road and At-Grade                               | 130 days | 0 days             | 130 days              | 0%                     | Mon 7/11/22  | Sat 15/4/23  | NA           | NA            | Mon 19/12/22 | Tue 30/5/23  | 36 days        | 10 days  | 668             |                |         |          |                     |        | +                    |          | 1               |       |
| 546  | Planned Completion for Section 6   | 0 days   | 0 days             | 0 days                | 0%                     | Thu 18/5/23  | Thu 18/5/23  | NA           | NA            | Tue 30/5/23  | Tue 30/5/23  | 9 days         | 0 days   | 1533,1543,1532, |                |         |          |                     |        |                      |          | 18/5            |       |
| 547  | Section 7  | 365 days | 0 days             | 365 days              | 0%                     | Mon 6/3/23   | Wed 29/5/24  | NA           | NA            | Mon 6/3/23   | Wed 29/5/24  | 0 days         |          |                 |                |         |          |                     |        |                      | -        |                 |       |
| 548  | Establishment work for landscape softwork  | 365 days | 0 days             | 365 days              | 0%                     | Mon 6/3/23   | Wed 29/5/24  | NA           | NA            | Mon 6/3/23   | Wed 29/5/24  | 0 days         | 10 days  | 1533,1534       |                |         |          |                     |        |                      |          |                 |       |
| 549  | Planned Completion for Section 7   | 0 days   | 0 days             | 0 days                | 0%                     | Wed 29/5/24  | Wed 29/5/24  | NA           | NA            | Wed 29/5/24  | Wed 29/5/24  | 0 days         |          | 1548,6          |                |         |          |                     |        |                      |          |                 |       |
| 550  | Section 10 (Subject to Excision)   | 614 days | 0 days             | 614 days              | 0%                     | Tue 20/4/21  | Thu 11/5/23  | NA           | NA            | Mon 10/5/21  | Tue 30/5/23  | 15 days        |          |                 |                |         | -        |                     |        |                      |          | 1               |       |
| 551  | Decking for Underpass (Rd L14)   | 614 days | 0 days             | 614 days              | 0%                     | Tue 20/4/21  | Thu 11/5/23  | NA           | NA            | Mon 10/5/21  | Tue 30/5/23  | 15 days        |          |                 |                |         | -        |                     |        |                      |          | 1               |       |
| 552  | Deck for Underpass (Road L14) - Temp. Works Design and Method Statement                        | 0 days   | 0 days             | 0 days                | 0%                     | Tue 20/4/21  | Tue 20/4/21  | NA           | NA            | Mon 10/5/21  | Mon 10/5/21  | 20 days        | 0.5 day  |                 |                |         | •        | 20/4                |        |                      |          |                 |       |
| 553  | Deck for Underpass (Road L14) - Temp. Works Design and Method Statement<br>Comment & Appraoval | 21 days  | 0 days             | 21 days               | 0%                     | Tue 20/4/21  | Mon 10/5/21  | NA           | NA            | Mon 10/5/21  | Sun 30/5/21  | 20 days        | 0.5 day  | 1552            |                |         | <u> </u> | 4                   |        |                      |          |                 |       |
| 554  | Support along U-through  | 225 days | 0 days             | 225 days              | 0%                     | Mon 31/5/21  | Tue 1/3/22   | NA           | NA            | Mon 31/5/21  | Tue 1/3/22   | 0 days         | 10 days  | 23,185,1553,192 |                |         |          |                     |        |                      |          |                 |       |
| 555  | Plinth installation along support  | 123 days | 0 days             | 123 days              | 0%                     | Wed 2/3/22   | Fri 29/7/22  | NA           | NA            | Wed 2/3/22   | Fri 29/7/22  | 0 days         | 6 days   | 1554            |                |         |          |                     | *      |                      |          |                 |       |
| 556  | Placing of beam along underpass  | 90 days  | 0 days             | 90 days               | 0%                     | Thu 1/9/22   | Sun 18/12/22 | NA           | NA            | Thu 1/9/22   | Mon 19/12/22 | 0 days         | 4 days   | 1555FS+28 days  |                |         |          |                     |        | <b>—</b>             |          |                 |       |
| 557  | Finishing and E&M Works  | 110 days | 0 days             | 110 days              | 0%                     | Mon 19/12/22 | Fri 5/5/23   | NA           | NA            | Thu 12/1/23  | Tue 30/5/23  | 20 days        |          | 1556,279        |                |         |          |                     |        |                      |          | Ь               |       |
| 558  | Cover-up (Roof)  | 115 days | 0 days             | 115 days              | 0%                     | Mon 19/12/22 | Thu 11/5/23  | NA           | NA            | Mon 19/12/22 | Thu 11/5/23  | 0 days         | 5 days   | 1556            |                |         |          |                     |        |                      | <u> </u> | H               |       |
| 559  | Planned Completion for Section 10  | 0 days   | 0 days             | 0 days                | 0%                     | Thu 11/5/23  | Thu 11/5/23  | NA           | NA            | Tue 30/5/23  | Tue 30/5/23  | 19 days        | 0.5 days | 1558,158,1557   |                |         |          |                     |        |                      |          | 11/5            |       |

# **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 January 2022

# January 2022

| Sun | Mon                                   | Tue                              | Wed                                   | Thu                     | Fri | Sat                          |
|-----|---------------------------------------|----------------------------------|---------------------------------------|-------------------------|-----|------------------------------|
|     |                                       |                                  |                                       |                         |     | 1                            |
|     |                                       |                                  |                                       |                         |     |                              |
|     |                                       |                                  |                                       |                         |     |                              |
| 2   | 3                                     | 4                                | 5                                     | 6                       | 7   | 8                            |
| 2   |                                       | 7                                | 24-hr TSP: AM3, AM4(A),               | Weekly Site Inspection  | ,   |                              |
|     |                                       |                                  | AM7<br>1-hr X3 TSP: AM3,              |                         |     |                              |
|     |                                       |                                  | AM4(A), AM7                           |                         |     |                              |
|     | 10                                    |                                  | 30-min Noise: M11, M12                | 10                      | 4.4 | 1.5                          |
| 9   | 10                                    | 11<br>24-hr TSP: AM3, AM4(A),    | 12                                    | Weekly Site Inspection+ | 14  | 15                           |
|     |                                       | AM7                              |                                       | SSMC meeting            |     |                              |
|     |                                       | 1-hr X3 TSP: AM3,<br>AM4(A), AM7 |                                       |                         |     |                              |
|     |                                       | 30-min Noise: M11, M12           |                                       |                         |     |                              |
| 16  | 17                                    | 18                               | 19                                    | 20                      | 21  | 22<br>24 hr. TSD: AM2 AM4(A) |
|     | 24-hr TSP: AM3, AM4(A), AM7           |                                  |                                       | Weekly Site Inspection  |     | 24-hr TSP: AM3, AM4(A), AM7  |
|     | 1-hr X3 TSP: AM3,                     |                                  |                                       |                         |     | 1-hr X3 TSP: AM3,            |
|     | AM4(A), AM7<br>30-min Noise: M11, M12 |                                  |                                       |                         |     | AM4(A), AM7                  |
| 23  | 24                                    | 25                               | 26                                    | 27                      | 28  | 29                           |
|     |                                       |                                  | 24-hr TSP: AM3, AM4(A), AM7           | Weekly Site Inspection  |     |                              |
|     |                                       |                                  | 1-hr X3 TSP: AM3,                     |                         |     |                              |
|     |                                       |                                  | AM4(A), AM7<br>30-min Noise: M11, M12 |                         |     |                              |
| 30  | 31                                    |                                  | 50 mm 1000, 1111, 1112                |                         |     |                              |
|     | 24-hr TSP: AM3, AM4(A), AM7           |                                  |                                       |                         |     |                              |
|     | 1-hr X3 TSP: AM3,                     |                                  |                                       |                         |     |                              |
|     | AM4(A), AM7                           |                                  |                                       |                         |     |                              |
|     | 30-min Noise: M11, M12                |                                  |                                       |                         |     |                              |

## 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

# Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron Tentative Environmental Monitoring and Weekly Site Inspection Schedule for February 2022

# February 2022

| Sun | Mon | Tue | Wed                              | Thu                                    | Fri                    | Sat                              |
|-----|-----|-----|----------------------------------|--|------------------------|----------------------------------|
|     |     | 1   | 2                                | 3                                      | 4                      | 5                                |
|     |     |     |                                  |  |                        | 24-hr TSP: AM3,                  |
|     |     |     |                                  |  |                        | AM4(A), AM7                      |
|     |     |     |                                  |  |                        | 1-hr X3 TSP: AM3,<br>AM4(A), AM7 |
| 6   | 7   | 8   | 9                                | 10                                     | 11                     | 12                               |
|     | ,   | Ŭ   |                                  | Weekly Site Inspection +               | 24-hr TSP: AM3,        | 12                               |
|     |     |     |                                  | SSMC meeting                           | AM4(A), AM7            |                                  |
|     |     |     |                                  | _                                      | 1-hr X3 TSP: AM3,      |                                  |
|     |     |     |                                  |  | AM4(A), AM7            |                                  |
|     |     |     |                                  |  | 30-min Noise: M11, M12 |                                  |
| 13  | 14  | 15  | 16                               | 17                                     | 18                     | 19                               |
|     |     |     |                                  | Weekly Site Inspection 24-hr TSP: AM3, |                        |                                  |
|     |     |     |                                  | AM4(A), AM7                            |                        |                                  |
|     |     |     |                                  | 1-hr X3 TSP: AM3,                      |                        |                                  |
|     |     |     |                                  | AM4(A), AM7                            |                        |                                  |
|     |     |     |                                  | 30-min Noise: M11, M12                 |                        |                                  |
| 20  | 21  | 22  | 23                               | 24                                     | 25                     | 26                               |
|     |     |     | 24-hr TSP: AM3,                  | Weekly Site Inspection                 |                        |                                  |
|     |     |     | AM4(A), AM7                      |  |                        |                                  |
|     |     |     | 1-hr X3 TSP: AM3,<br>AM4(A), AM7 |  |                        |                                  |
|     |     |     | 30-min Noise: M11, M12           |  |                        |                                  |
| 27  | 28  |     | 50 mm 10050. 17111, 17112        |  |                        |                                  |
| -   |     |     |                                  |  |                        |                                  |
|     |     |     |                                  |  |                        |                                  |
|     |     |     |                                  |  |                        |                                  |
|     |     |     |                                  |  |                        |                                  |

## 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



Measurement setup at AM3



Measurement setup at AM4(A)

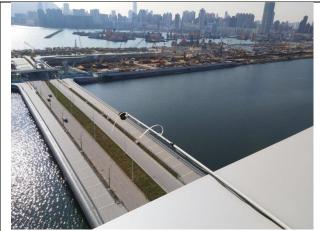


Measurement setup at AM7

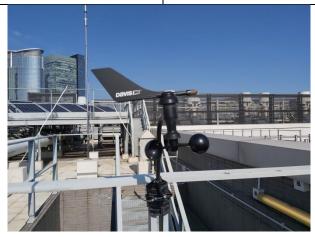
# Impact Noise Monitoring



Measurement setup at M11



Measurement setup at M12



Weather Station at the rooftop of Hong Kong Children's Hospital

Appendix E – Calibration certificates, catalogue of air quality monitoring equipment

# Catalogue of High Volume Sampler (HVS)



throughout the entire sample duration. The system utilizes a stainless steel filter holder for use with standard 8" x 10" filter paper. The anodized aluminum shelter and robust electrical components allow the system to operate a continuous 24 hour sample.

ABOUT US: Tisch Environmental Inc. Tisch Environmental is the benchmark for high volume air sampling, particulate. metals, volatiles, and specialty monitoring equipment. Since the company's inception in 1953 as General Metal Works, our product line has expanded from the first high volume air sampler to include high-tech and custom samplers. Our clients are professionals from every sector of the regulatory and industrial markets.

TISCH 🕡

www.tisch-env.com

Brush Style Motor

36-60 CFM

Made In USA

Dickson Chart Recorder, 24 Hour

Stainless Steel Filter Holder



# TSP MFC

MFC TSP Ambient Air Sampler

Particulate Size: Total Suspended Particulate (TSP) EPA Designation: CFR 40 Part 50 Appendix B Flow Controller: Mass Flow Controller Motor Style: Brush Style Motor Assembly

Pressure Recorder: Dickson Chart Recorder, 24 hour

Timer: 7 Day Mechanical

Elapsed Time Indicator: Mechanical, Hours and Tenths

Flow Range: 39-60CFM, 1.09M<sup>3</sup>M-1.68M<sup>3</sup>M

Housing: Anodized Aluminum Filter Holder: Stainless Steel, 8" x 10" 4" Recorder Charts: Box of 100

Filter Holder: 8" x 10" Stainless Steel with hold down frame

US EPA Reference Method Sampling, CFR Appendix J Part 50 Regulatory Compliance

Institutional Studies Construction Sites

Bridge and Water Tower Painting Sites

Fence Line Monitoring Industrial Monitoring Landfill Monitoring

Public Health Applications

TE-5170 TSP MFC, 110 Volt 60 Hertz, 8 Amps TE-5170X TSP MFC, 220 Volt 50 Hertz 4 Amps TE-5170XZ TSP MFC, 220 Volts 60 Hertz, 4 Amps

TE-5028 -Variable Flow Calibration Kit TE-HVC-V Xcalibrator HiVol Calibrator

TE-3000 Filter Holder Cartridge TE-G653 8" x 10" Glass Fiber Filter Media TE-33384 Motor Brush Set (110volt) TE-33378 Motor Brush Set (220volt) TE-116311 Replacement Motor (110volt) TE-116312 Replacement Motor (220volt) TE-106 Recorder Charts

TE-160 Recorder Pen Points TE-5018 Gasket 8" x 10"

Weight: 75lbs, Shelter

Shipping Dimensions: 46"W x 23"L x 20" H, Shelter 19"W x 19"L x 20"H, Lid

Assembled Dimensions: 28"W x 28"L x 61"H



## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

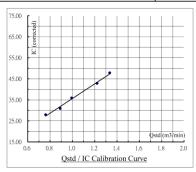
| Calibration curve ref. No. : | ATSPC-01-202  | 1111801 | Date of calibration :     | 18/11/2021 |           |
|------------------------------|---------------|---------|---------------------------|------------|-----------|
| Location :                   | Sky Tower     |         | Sampler :                 | TE-5170X   |           |
| Calibration Data             |               |         |                           |            |           |
| Ambient barometric pressure  | e, Pa = 760.6 | (mmHg)  | Ambient temperature, Ta = | 300.45     | ( deg K ) |
| Oetd Slope m = 2 035         | 18            |         | Octd Intercent h = -0.0   | 05890      |           |

## Calibration Curve

| Plate No. | $H_2O$ | Qstd                     | I         | IC            |
|-----------|--------|--------------------------|-----------|---------------|
| riate No. | ( in ) | ( m <sup>3</sup> / min ) | ( chart ) | ( corrected ) |
| 18        | 7.40   | 1.335                    | 48.0      | 47.82         |
| 13        | 6.20   | 1.222                    | 43.0      | 42.84         |
| 10        | 4.10   | 0.994                    | 36.0      | 35.87         |
| 7         | 3.30   | 0.892                    | 31.0      | 30.89         |
| 5         | 2.40   | 0.761                    | 28.0      | 27.90         |

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 ] | 34.907   | 0.7324       | 0.9962          |



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Qstd (  $m^3 / min$  ) = 1/m [ Sqrt (  $H_2O$  ( Pa / 760 ) ( 298 / Ta ) ) - b ]. Remark:

IC (corrected) = I [Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by: Name: ( Poon Tsz Wing Name:

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

Calibration curve ref. No. : ATSPC-01-2022011301 Date of calibration : 13/01/2022 Sampler

TE-5170X

Calibration Data

Location:

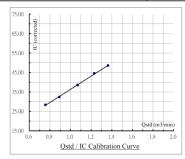
Ambient barometric pressure, Pa = 765.9 (mmHg) Ambient temperature, Ta = 293.35 ( deg K ) Qstd Slope, m = 2.03518 Qstd Intercept, b = -0.005890

Sky Tower

Calibration Curve

| Γ | Plate No. | H <sub>2</sub> O | Qstd                  | I         | IC            |
|---|-----------|------------------|-----------------------|-----------|---------------|
| L | Trate No. | ( in )           | (m <sup>3</sup> /min) | ( chart ) | ( corrected ) |
|   | 18        | 7.50             | 1.364                 | 48.0      | 48.56         |
| ſ | 13        | 6.10             | 1.231                 | 44.0      | 44.52         |
|   | 10        | 4.60             | 1.069                 | 38.0      | 38.45         |
| ſ | 7         | 3.20             | 0.892                 | 32.0      | 32.38         |
| Γ | 5         | 2.30             | 0.757                 | 28.0      | 28.33         |

Subsequent calculation of sampler flow Method Calibration equation Slope, m Intercept, b Corr. coeff., Qstd = 1 / m1 [ (1) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ] 0.9994 Dickson recorder 33.911 2.4141



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Qstd ( $m^3 / min$ ) = 1/m [ Sqrt ( $H_2O$  (Pa / 760) (298 / Ta)) - b].

IC ( corrected ) = I [ Sqrt ( (Pa / 760) (298 / Ta) ) ].

FLOW ( corrected ) = Sqrt ( FLOW ( mano ) ( Pa / 760 ) ( 298 / Ta ) ).

Calibrated by Checked by ( Poon Tsz Wing Name: Name: ( Wong Yin Tong

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

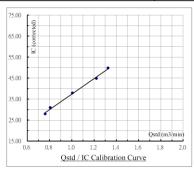
| Calibration cu | rve ref. No. : AT     | SPC-01-202  | 21111802 | Date of calibration:      | 18/11/2021 |           |
|----------------|-----------------------|-------------|----------|---------------------------|------------|-----------|
|                | The Hong Kong So      |             |          |                           | TT 445041  |           |
| Location:      | Factory cum She       | itered Worl | csnop    | Sampler :                 | TE-5170X   |           |
| Calibration D  | ata                   |             |          |                           |            |           |
| Ambient baro   | metric pressure, Pa = | 760.6       | ( mmHg ) | Ambient temperature, Ta = | 300.45     | ( deg K ) |
| Ostd Slope, m  | = 2.03518             |             |          | Ostd Intercent h = =0     | 005890     |           |

## Calibration Curve

| Plate No. | H <sub>2</sub> O | Qstd                     | I         | IC            |
|-----------|------------------|--------------------------|-----------|---------------|
| riate No. | ( in )           | ( m <sup>3</sup> / min ) | ( chart ) | ( corrected ) |
| 18        | 7.30             | 1.326                    | 50.0      | 49.81         |
| 13        | 6.20             | 1.222                    | 45.0      | 44.83         |
| 10        | 4.20             | 1.006                    | 38.0      | 37.86         |
| 7         | 2.70             | 0.807                    | 31.0      | 30.89         |
| 5         | 2.40             | 0.761                    | 28.0      | 27.90         |

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 ] | 36.925   | 0.4318       | 0.9976          |



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Calibrated by: Checked by: Checked by: Wong Yin Tong

Name: ( Poon Tsz Wing ) Name: ( Wong Yin Tong )

Form No. INS-HVS-CAL dd 16 01 2020

# Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

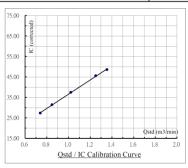
| Calibration cu                            | irve ref. No. : AT    | SPC-01-202        | 22011302 | Date of calibration :     | 13/01/2022 |           |
|---|-----------------------|-------------------|----------|---------------------------|------------|-----------|
|   | The Hong Kong So      | ciety for the     | Blind's  |                           |            |           |
| Location : Factory cum Sheltered Workshop |                       | Sampler: TE-5170X |          |                           |            |           |
| Calibration L                             | <u>Data</u>           |                   |          |                           |            |           |
| Ambient baro                              | metric pressure, Pa = | 765.9             | ( mmHg ) | Ambient temperature, Ta = | 293.35     | ( deg K ) |
| Qstd Slope, n                             | 1 = 2.03518           |                   |          | Qstd Intercept, b = -0.   | .005890    |           |

## Calibration Curve

| Plate No.  | H <sub>2</sub> O | Qstd                     | I         | IC            |
|------------|------------------|--------------------------|-----------|---------------|
| riate ivo. | ( in )           | ( m <sup>3</sup> / min ) | ( chart ) | ( corrected ) |
| 18         | 7.40             | 1.355                    | 48.0      | 48.56         |
| 13         | 6.30             | 1.251                    | 45.0      | 45.53         |
| 10         | 4.20             | 1.022                    | 37.0      | 37.44         |
| 7          | 2.90             | 0.849                    | 31.0      | 31.36         |
| 5          | 2.20             | 0.740                    | 27.0      | 27.32         |

## 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 ] | 34.740   | 1.7947       | 0.9997          |



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

 $\label{eq:Remark: Qstd ( m³/min ) = 1/m [ Sqrt ( H_2O ( Pa/760 ) ( 298 / Ta ) ) - b ]. } \\ IC ( corrected ) = I [ Sqrt ( ( Pa/760 ) ( 298 / Ta ) ) ]. \\ FLOW ( corrected ) = Sqrt ( FLOW ( mano ) ( Pa/760 ) ( 298 / Ta ) ). } \\$ 

Calibrated by: Checked by: Checked by: Wong Yin Tong

Name: ( Poon Tsz Wing ) Name: ( Wong Yin Tong )

Form No. INS-HVS-CAL dd 16 01 2020

# $\label{lem:air-sampler-calibration} \textbf{Air Sampler Calibration Curve Plotting \& Calculation}$

## (Dickson recorder)

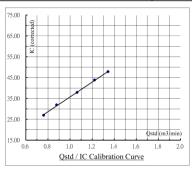
| Calibration curve ref. No. : |                      | ATSPC-01-2021111803 |          | Date of calibration :     | 18/11/2021 |           |
|------------------------------|----------------------|---------------------|----------|---------------------------|------------|-----------|
| Location : Hong Kong Childr  |                      | hildren's Hos       | spital   | Sampler :                 | TE-5170X   |           |
| Calibration Da               | <u>ita</u>           |                     |          |                           |            |           |
| Ambient baron                | etric pressure, Pa = | 760.6               | ( mmHg ) | Ambient temperature, Ta = | 300.45     | ( deg K ) |
| Oetd Slone m                 | 2.03518              |                     |          | Ostd Intercent h = -0.0   | 005800     |           |

## Calibration Curve

| Cumorunon Curre |                  |                          |           |               |
|-----------------|------------------|--------------------------|-----------|---------------|
| Plate No.       | H <sub>2</sub> O | Qstd                     | I         | IC            |
| riate No.       | ( in )           | ( m <sup>3</sup> / min ) | ( chart ) | ( corrected ) |
| 18              | 7.50             | 1.344                    | 48.0      | 47.82         |
| 13              | 6.20             | 1.222                    | 44.0      | 43.84         |
| 10              | 4.70             | 1.064                    | 38.0      | 37.86         |
| 7               | 3.20             | 0.879                    | 32.0      | 31.88         |
| 5               | 2.40             | 0.761                    | 27.0      | 26.90         |

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 ] | 35.609   | 0.1282       | 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).

Remark : Qstd (  $m^3$  / min ) = 1/m [ Sqrt (  $H_2O$  ( Pa / 760 ) ( 298 / Ta ) ) - b ]. IC ( corrected ) = I [ Sqrt ( ( Pa / 760 ) ( 298 / Ta ) ) ].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : Checked by : Checked by : Wong Yin Tong )

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation

## (Dickson recorder)

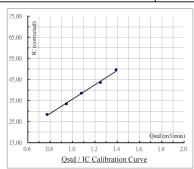
| Calibration curv | ve ref. No. :   | ATSPC-01-202      | 22011303 | Date of calibration :     | 13/01/2022 |           |
|------------------|-----------------|-------------------|----------|---------------------------|------------|-----------|
| Location:        | Hong Ko         | ng Children's Hos | spital   | Sampler :                 | TE-5170X   |           |
| Calibration Da   | <u>ta</u>       |                   |          |                           |            |           |
| Ambient barom    | etric pressure, | Pa = 765.9        | ( mmHg ) | Ambient temperature, Ta = | 293.35     | ( deg K ) |
| Qstd Slope, m=   | 2.03518         | 3                 |          | Qstd Intercept, b = -0    | .005890    |           |

## Calibration Curve

| Plate No. | H <sub>2</sub> O | Qstd        | I         | IC            |
|-----------|------------------|-------------|-----------|---------------|
| riate No. | ( in )           | $(m^3/min)$ | ( chart ) | ( corrected ) |
| 18        | 7.80             | 1.391       | 49.0      | 49.58         |
| 13        | 6.30             | 1.251       | 43.0      | 43.51         |
| 10        | 4.70             | 1.081       | 38.0      | 38.45         |
| 7         | 3.60             | 0.946       | 33.0      | 33.39         |
| 5         | 2.40             | 0.773       | 28.0      | 28.33         |

## 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 ] | 34.073   | 1.5669       | 0.9978          |



 $Calibration \ curve \ requirements: \quad (A). \ \ r \ge 0.990 \ ; \ \ (B). \ \ At \ least \ 3 \ Qstd \ numbers \ are \ in the \ TSP \ range ( \ 1.1 - 1.7 \ m3 \ / \ min \ ).$ 

Remark : Qstd ( $m^3 / min$ ) = 1/m [ Sqrt ( H<sub>2</sub>O ( Pa / 760 ) ( 298 / Ta ) ) - b ]. IC ( corrected ) = I [ Sqrt ( ( Pa / 760 ) ( 298 / Ta ) ) ]. FLOW ( corrected ) = Sqrt ( FLOW ( mano ) ( Pa / 760 ) ( 298 / Ta ) ).

 Calibrated by :
 Checked by :
 Wong Yin Tong

 Name :
 ( Poon Tsz Wing )
 Name : ( Wong Yin Tong )

## Air Sampler Calibration Curve Plotting & Calculation

## (Dickson recorder)

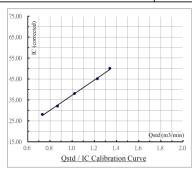
| Calibration curve ref. No. : | ATSPC-01-2021072 | Date of calibration :      | 20/07/2021  |           |
|------------------------------|------------------|----------------------------|-------------|-----------|
| Model no :                   | GS2310           | Serial number :            | 10346       |           |
| Calibration Data             |                  |                            |             |           |
| Ambient barometric pressure, | Pa =767.4 ( m    | mHg ) Ambient temperature, | Ta = 300.25 | ( deg K ) |
| Ostd Slone m = 2 0351:       | 8                | Ostd Intercent h =         | -0.005890   |           |

## Calibration Curve

| Distant.  | H <sub>2</sub> O | Qstd                     | I         | IC            |
|-----------|------------------|--------------------------|-----------|---------------|
| Plate No. | ( in )           | ( m <sup>3</sup> / min ) | ( chart ) | ( corrected ) |
| 18        | 7.40             | 1.341                    | 50.0      | 50.05         |
| 13        | 6.20             | 1.228                    | 45.0      | 45.05         |
| 10        | 4.30             | 1.023                    | 38.0      | 38.04         |
| 7         | 3.10             | 0.869                    | 32.0      | 32.03         |
| 5         | 2.20             | 0.732                    | 28.0      | 28.03         |

## Subsequent calculation of sampler flow

| Method           | Calibration equation  | Slope, m | Intercept, b | Corr. coeff., r |
|------------------|---|----------|--------------|-----------------|
| Dickson recorder | Qstd = 1 / ml [ (1) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - bl ] | 36.144   | 1.1009       | 0.9987          |



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark: Qstd  $(m^3 / min) = 1/m [Sqrt (H_2O (Pa / 760) (298 / Ta)) - b].$ 

IC (corrected) = I [ Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by Checked by ( Poon Tsz Wing Name: Wong Yin Tong Name:

Form No. INS-HVS-CAL dd 16 01 2020

# Calibration Certificate for Calibrator



RECALIBRATION DUE DATE:

June 1, 2022

|                               | alibration Certification Information | on        |       |
|-------------------------------|--------------------------------------|-----------|-------|
| Cal. Date: June 1, 2021       | Rootsmeter S/N: 438320               | Ta: 292   | °K    |
| Operator: Jim Tisch           |                                      | Pa: 754.9 | mm Hg |
| Calibration Model #: TE-5025A | Calibrator S/N: 0006                 |           |       |

| Run | Vol. Init<br>(m3) | Vol. Final<br>(m3) | ΔVol.<br>(m3) | ΔTime<br>(min) | ΔP<br>(mm Hg) | ΔH<br>(in H2O) |
|-----|-------------------|--------------------|---------------|----------------|---------------|----------------|
| 1   | 1                 | 2                  | 1             | 1.4370         | 3.2           | 2.00           |
| 2   | 3                 | 4                  | 1             | 1.0130         | 6.4           | 4.00           |
| 3   | 5                 | 6                  | 1             | 0.9060         | 8.0           | 5.00           |
| 4   | 7                 | 8                  | 1             | 0.8590         | 8.9           | 5.50           |
| 5   | 9                 | 10                 | 1             | 0.7110         | 12.9          | 8.00           |

|              |                  | Data Tabulat   | tion   |                |                        |
|--------------|------------------|--|--------|----------------|------------------------|
| Vstd<br>(m3) | Qstd<br>(x-axis) | $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$ (y-axis) | Va     | Qa<br>(x-axis) | √∆H(Ta/Pa)<br>(y-axis) |
| 1.0094       | 0.7024           | 1.4239   | 0.9958 | 0.6929         | 0.8796                 |
| 1.0051       | 0.9922           | 2.0136   | 0.9915 | 0.9788         | 1.2439                 |
| 1.0029       | 1.1070           | 2.2513   | 0.9894 | 1.0921         | 1.3907                 |
| 1.0017       | 1.1662           | 2.3612   | 0.9882 | 1.1504         | 1.4586                 |
| 0.9964       | 1.4014           | 2.8477   | 0.9829 | 1.3824         | 1.7591                 |
|              | m=               | 2.03518  |        | m=             | 1.27440                |
| QSTD         | b=               | -0.00589   | QA     | b=             | -0.00364               |
|              | r=               | 0.99997  |        | r=             | 0.99997                |

| Calcul   | ations .  |
|--|---|
| Vstd= ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)  | Va= ΔVol((Pa-ΔP)/Pa)  |
| Qstd= Vstd/∆Time   | Qa= Va/ΔTime  |
| For subsequent flo   | w rate calculations:  |
| Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ | $Qa = 1/m \left( \left( \sqrt{\Delta H \left( Ta/Pa \right)} \right) - b \right)$ |

|                | Standard Conditions          |
|----------------|------------------------------|
| Tstd:          | 298.15 °K                    |
| Pstd:          | 760 mm Hg                    |
|                | Key                          |
| ΔH: calibrator | manometer reading (in H2O)   |
| ΔP: rootsmete  | er manometer reading (mm Hg) |
| Ta: actual abs | olute temperature (°K)       |
| Pa: actual bar | ometric pressure (mm Hg)     |
| b: intercept   |                              |
| m: slope       |                              |
|                |                              |

| <br> | -   |     |    |    |
|------|-----|-----|----|----|
| REC  | AL. | IBR | AT | ON |

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

sch Environmental, Inc. 5 South Miami Avenue lage of Cleves, OH 45002 www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009

# Catalogue of Dust Meter (TSI Sidepak 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 AM510 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
- + Convenient, threaded tripod socket accommodates area sampling

### **Advanced Features**

- + Smart Battery Management System provides precise run time information, maximizes battery capacity and speeds charging
- Integrated pump allows use of size-selective aerosol inlet conditioners
- + Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off
- + 10-mm Dorr-Oliver cyclone for respirable sampling
- + Display shows real-time concentrations (mg/m3) and "on-the-fly" TWA as you data log
- + Display statistics: max, min and average readings, elapsed time and 8-hour TWA

## **Quick and Easy Reports**

- + Convenient preprogramming for occupational exposure sampling
- + Data log for long periods and store multiple tests
- + Analyze data, print graphs and create reports with TrakPro Data Analysis Software
- + USB port lets you conveniently connect to your computer

## Power to Spare

- + Long-lasting NiMH rechargeable battery packs eliminate
- + Choice of rechargeable NiMH smart battery packs or AA-cell pack

## Model AM510 SidePak Personal Aerosol Monitor

## Sensitivity

90° light scattering, Sensor Type 670 nm laser diode Aerosol 0.001 to 20 mg/m<sup>3</sup> Concentration Range (calibrated to respirable fraction of ISO 12103-1,

A1 test dust)

Particle Size Range 0.1 to 10 micrometer (µm) Minimum Resolution 0.001 mg/m<sup>3</sup>

Zero stability

±0.001 mg/m3 over 24 hours using 10-second time-constant Temperature Coefficient Approximately +0.0005 mg/m<sup>3</sup> per

°C (for variations from temperature

at which instrument was last zeroed)

Flow Rate

User-adjustable, 0.7 to 1.8 Range liters/min (L/min)

**Temperature Range** 

32 to 120°F (0 to 50°C)

Storage Range -4 to 140°F (-20 to 60°C)

## **Operational Humidity**

0 to 95% RH, non-condensing

## Time Constant (LCD display)

Jser-adjustable, 1 to 60 seconds

Data Logging

Approx. 31,000 Data Points Logging Interval User-adjustable, 1 second to 1 hour

**User-Select Calibration Factors** 

Factory Setting 1.0 (non-adjustable) User-defined Settings 3, with user-defined labels

Range Physical

Weight

4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or External Dimensions

801743 battery

5.1 x 3.7 x 2.8 in. (130 x 92 x 70 mm)

0.1 to 10.0, user-adjustable

with 801708, 801722, 801728, 801735, or 801736 battery

16 oz (0.46 kg) with 801723, 801724, 801729 or 801743 battery 19 oz (0.54 kg) with 801708, 01722,

801728, 801735, or 801736 battery 2 line x 12 character LCD

Display Tripod Socket 1/4-20 female thread

# Power Supply/Charger (P/N 2613210) Input Voltage Range 100 to 240 VAC. S0 to 60 Hz

Input Voltage Range Output Voltage 9 VDC @ 1.0 A

## Maintenance

Factory Clean/Calibrate Recommended annually User Zero Calibration Before each use User Flow Calibration As needed

### Communications Interface

**Battery Performance** 

Type Connector, Instrument USB Mini-B (socket)

## Minimum Computer Requirements for

TrakPro™ Data Analysis Software Communications Port Universal Serial Bus (USB)

v 1.1 or higher

Microsoft Windows® XP, or 7 Operating System (32-bit or 64-bit) operating systems

| Battery Options   | Charge Intrinsic Time (hrs)* Safety Rating |       | Run Time<br>(hrs @<br>1.7 L/min) |
|---|--|-------|----------------------------------|
| 1600 mAH<br>NiMH Pack, 4.8 V<br>(P/N 801723)  | 3.0  | No    | 7.1                              |
| 1650 mAH<br>NiMH Pack, 4.8V<br>(P/N 801724,<br>801729 or 801743)                                      | 3.5  | CSA** | 7.5                              |
| 2700 mAH NiMH<br>Pack, 4.8 V (P/N<br>801722 or 801728)  | 5.5  | No    | 12.0                             |
| 2700 mAH<br>NiMH Pack, 4.8 V<br>(P/N 801735)  | 5.5  | No    | 12.0                             |
| 6-Cell AA-size<br>Alkaline Pack***<br>(P/N 801708 or<br>801736 with six<br>user-supplied<br>AA cells) | N/A  | No    | 22.5                             |

\*Of a fully depleted battery

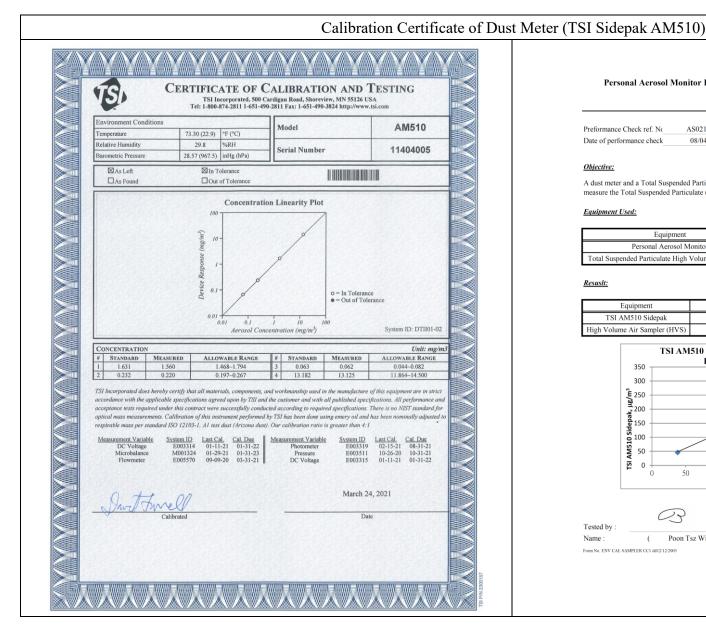
\*\*All dust plugs and dust gaskets must be installed.

\*\*\*Using Energizer AA-size, E91 alkaline batteries.

## **Battery Level Indicator**

The Smart Battery Management System™ technology utilizes a built-in "gauge" in the SidePak™ battery packs. The gauge monitors battery capacity and calculates run time information by dividing capacity of the battery (mAH) by the instantaneous current consumed by the instrument (mA). This calculation is correct for current operating conditions and can change due to current (mA) consumption or changes in battery capacity.





## Personal Aerosol Monitor Performance check with High Volume Sampler

| Preformance Check ref. No | AS0210410-1 | Report Issue Date | 10/04/2021 |  |
|---------------------------|-------------|-------------------|------------|--|
| Date of performance check | 08/04/2021  |                   |            |  |

## Objective:

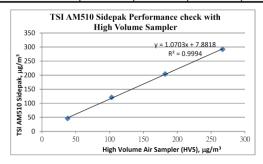
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

## Equipment Used:

| Equipment   | Manufacturer and Model | Serial Number |
|---|------------------------|---------------|
| Personal Aerosol Monitor                            | TSI AM510 Sidepak      | 11404005      |
| Total Suspended Particulate High Volume Air Sampler | GS2310                 | 10346         |

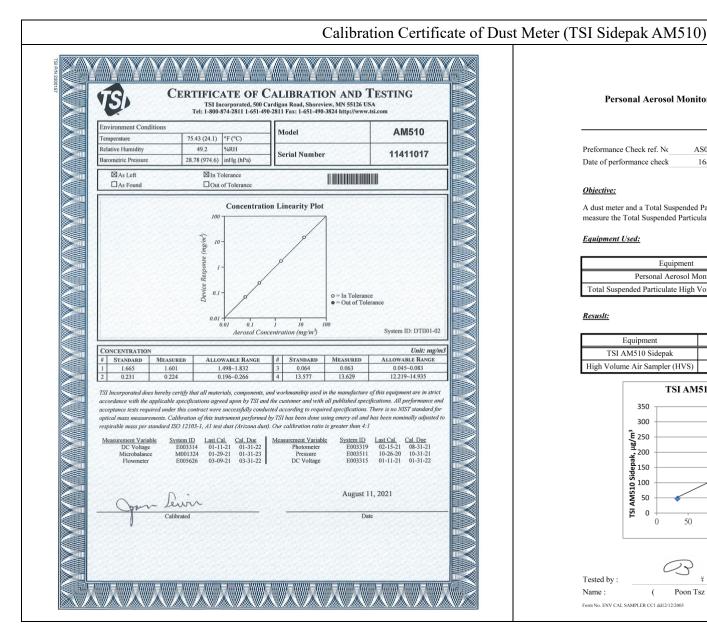
## Resustt:

| Equipment                     | Measurement Result, μg/m <sup>3</sup> |     |     |     |  |
|-------------------------------|---------------------------------------|-----|-----|-----|--|
| TSI AM510 Sidepak             | 46                                    | 121 | 204 | 292 |  |
| High Volume Air Sampler (HVS) | 38                                    | 103 | 182 | 267 |  |



| $\mathcal{O}_{\mathcal{I}}$ |   |               |   |             |   |               |
|-----------------------------|---|---------------|---|-------------|---|---------------|
| Tested by:                  |   | )             |   | Checked by: |   |               |
| Name :                      | ( | Poon Tsz Wing | ) | Name:       | ( | Wong Yin Tong |

Form No. ENV CAL SAMPLER CC1 dd12/12/2003



## Personal Aerosol Monitor Performance check with High Volume Sampler

| Preformance Check ref. No | AS0210818-1 | Report Issue Date | 18/08/2021 |  |
|---------------------------|-------------|-------------------|------------|--|
| Date of performance check | 16/08/2021  |                   |            |  |

## Objective:

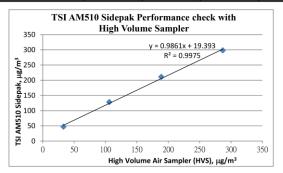
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

## Equipment Used:

| Equipment   | Manufacturer and Model | Serial Number |
|---|------------------------|---------------|
| Personal Aerosol Monitor                            | TSI AM510 Sidepak      | 11411017      |
| Total Suspended Particulate High Volume Air Sampler | GS2310                 | 10346         |

## Resustt:

| Equipment                     | Measurement Result, μg/m <sup>3</sup> |          |     |     |  |
|-------------------------------|---------------------------------------|----------|-----|-----|--|
| TSI AM510 Sidepak             | 47                                    | 47 128 2 |     | 298 |  |
| High Volume Air Sampler (HVS) | 33                                    | 106      | 189 | 287 |  |



| Tested by:           |              |               | Checked by: |       |   |               |
|----------------------|--------------|---------------|-------------|-------|---|---------------|
| Name:                | (            | Poon Tsz Wing | )           | Name: | ( | Wong Yin Tong |
| Form No. ENV CAL SAM | PLER CC1 dd1 | 2/12/2003     |             |       |   |               |

# Catalogue of Weather Station

# Cabled Vantage Pro2™ & Vantage Pro2 Plus™ Stations



6152C 6162C

Vantage Pro2™

The Vantage Pro2<sup>™</sup> (# 6152C) and Vantage Pro2<sup>™</sup> 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, 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 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 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.

## Integrated Sensor Suite (ISS)

| Operating Temperature     | -40° to +150°F (-40° to +65°C)  |
|---------------------------|---|
| Non-operating Temperature | -40° to +158°F (-40° to +70°C)  |
|                           | 5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS |
| Connectors, Sensor        | Modular RJ-11   |
| Cable Type                | 4-conductor, 26 AWG   |
| Cable Length, Anemometer  | 40' (12 m) (included); 240' (73 m) (maximum recommended)                          |

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 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 Sensor Inputs 

ISS Dimensions(not including anemometer or bird spikes):

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 [""||| \* 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

Vantage Pro2

## Ultra Violet (UV) Radiation Index (requires UV sensor)

Historical Graph Data . . . . . . . . . . . . Hourly Average, Daily, Monthly Highs

## Wind

### Wind Chill (Calculated)

Range . . . . . . -110° to +135°F (-79° to +57°C)

Alarm High Threshold from Instant Calculation

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 . . . . . . . . Instant Calculation; Hourly, Daily and Monthly Low

Historical Graph Data. . . . . . . . . . . . . . . . . Hourly, Daily and Monthly Lows Alarm..... Low Threshold from Instant Calculation

Wind Direction

Current Graph Data . . . . . . . . . . . . . . . . . Instant Reading (user adjustable); 10-min. Dominant; Hourly, Daily,

Monthly Dominant

Monthly Dominants

Wind Speed

other units are converted from mph and rounded to nearest 1 km/hr, 0.1

m/s or 1 knot

length of cable from anemometer to ISS increases.)

Current Display Data . . . . . . . . . . . . . . . Instant

Current Graph Data . . . . . . . . . . Instant Reading; 10-minute and Hourly Average; Hourly High; Daily,

Monthly and Yearly High with Direction of High

Highs with Direction of Highs

High Thresholds from Instant Reading and 10-minute Average

# Calibration Certificate of Weather Station



# **Calibration Certificate**

## Certificate No.: CC0062109

| Calibration item :       | a) Temperature               |
|--------------------------|------------------------------|
|                          | b) Relative Humidity         |
|                          | c) Wind Speed                |
|                          | d) Wind Direction            |
| Equipment description :  | Weather Station              |
| Manufacturer :           | Davis Vantage PRO 2          |
| Type / Model No. :       | 6152CUK                      |
| Serial No. :             | BD181101023                  |
| Assigned equipment no. : | N/A                          |
| Adjustment :             | N/A                          |
| Remark :                 | Received with good condition |

## 2. Customer information

| Customer:         | Castco Testing Centre Limited    |  |  |  |  |
|-------------------|----------------------------------|--|--|--|--|
| Address :         | 33, On Kui Street, Fanling, N.T. |  |  |  |  |
| Date of receipt : | 6 September 2021                 |  |  |  |  |

3. Date of performance of the calibration

6 September 2021 Date of calibration :

Company Chop: Certificate issue date: 7 September 2021

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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



## Result of Calibration

| Reference reading ; °C | Reading; °C | Error of indication; °C |
|------------------------|-------------|-------------------------|
| 15.0                   | 15          | 0.0                     |
| 20.0                   | 20          | 0.0                     |
| 25.0                   | 25          | 0.0                     |
| 30.0                   | 30          | 0.0                     |

Estimated expanded uncertainty: 1.0 °C

Technical Requirement: N/A

Note: The technical requirement is refer to JJF 1183-2007

CT-001-04

b) Relative Humidity

Temperature setting of humidity chamber: 23 °C

| Reference reading ; % RH | Reading; % RH | Error of indication; % RH |
|--------------------------|---------------|---------------------------|
| 40.0                     | 42            | 5.0                       |
| 50.0                     | 54            | 8.0                       |
| 70.0                     | 73            | 4.3                       |

Estimated expanded uncertainty: 3 %RH

Technical Requirement: N/A

Note: The technical requirement is refer to JJG 1076-2001

CT-002-04

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# Calibration Certificate of Weather Station



## c) Wind Speed

| Reference reading ; m/s | Measured reading; m/s | Error of indication; % |
|-------------------------|-----------------------|------------------------|
| 0.0                     | 0.0                   | N/A                    |
| 2.0                     | 2.1                   | 5.0                    |
| 5.0                     | 5.2                   | 4.0                    |
| 8.0                     | 8.4                   | 5.0                    |

Estimated expanded uncertainty: 0.5 m/s

Technical Requirement: +/-5% or 1 m/s

## a) Wind direction

| Reference reading | Measured reading | Error of indication |
|-------------------|------------------|---------------------|
| 0°                | O <sub>0</sub>   | 0°                  |
| 45°               | 45°              | 0°                  |
| 90°               | 90°              | O°                  |
| 135°              | 135°             | O <sub>o</sub>      |
| 180°              | 180°             | 0°                  |
| 225°              | 225°             | 0°                  |
| 270°              | 270°             | O <sub>o</sub>      |
| 315°              | 315°             | O°                  |

Estimated expanded uncertainty: 5°

Technical Requirement: N/A

Note: The arrow head was adjusted to the magnetic north before performing calibration.

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CALIBRATION

## 5. Reference method for calibration

| Temperature       | JJF 1183-2007 |
|-------------------|---------------|
| Relative humidity | JJG 1076-2001 |
| Wind Speed        | SOP-251       |
| Wind Direction    | SOP-252       |

## 6. Environment condition of calibration

| Temperature       | 23.5 °C |  |
|-------------------|---------|--|
| Relative humidity | 54 %RH  |  |

## 7. Reference equipment used in the calibration

| Item                               | Model      | Serial No.             | Expiry date | Traceable to |
|------------------------------------|------------|------------------------|-------------|--------------|
| Platinum resistance<br>thermometer | KPPRHT-A-1 | KCI I-1095, KCI P-1095 | 4 Mar 2022  | SMQ          |
| Humidity sensor                    | KPPRHT-A-1 | KCI I-1095, KCI P-1095 | 4 Mar 2022  | SMQ          |
| Reference Anemometer               | 405-V1     | 41543692               | 1 Jan 2022  | SMQ          |

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 (s) 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.

ote3: The result reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument.

Carry no implication regarding the long term sability of the instrument.

Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

\*\*\* End of Certificate \*\*\*

CT-END-02

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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<br>Temperature (°C) | Absolute Daily Max<br>Temperature (°C) | Total Rainfall (mm) |
|------------|--|--|---------------------|
| 01/01/2022 | 16.4                                   | 19.3                                   | 0                   |
| 02/01/2022 | 16                                     | 22                                     | 0                   |
| 03/01/2022 | 17                                     | 20.5                                   | 0                   |
| 04/01/2022 | 17.4                                   | 21.5                                   | 0                   |
| 05/01/2022 | 18.3                                   | 23.6                                   | Trace               |
| 06/01/2022 | 18.3                                   | 23.6                                   | 0                   |
| 07/01/2022 | 17.2                                   | 21.1                                   | 0                   |
| 08/01/2022 | 16                                     | 20.2                                   | 0                   |
| 09/01/2022 | 16.7                                   | 20.1                                   | 0                   |
| 10/01/2022 | 16.5                                   | 20.9                                   | 0                   |
| 11/01/2022 | 13.7                                   | 18.8                                   | 1.2                 |
| 12/01/2022 | 14.7                                   | 17.9                                   | 0                   |
| 13/01/2022 | 15.6                                   | 18.9                                   | Trace               |
| 14/01/2022 | 15.4                                   | 17.3                                   | 0                   |
| 15/01/2022 | 16.5                                   | 19.8                                   | 0                   |
| 16/01/2022 | 17.4                                   | 21.1                                   | 0                   |
| 17/01/2022 | 17.1                                   | 18.4                                   | 0                   |
| 18/01/2022 | 15.8                                   | 18.3                                   | 0.2                 |
| 19/01/2022 | 14.9                                   | 20.3                                   | 0                   |
| 20/01/2022 | 15.4                                   | 20.8                                   | 0                   |
| 21/01/2022 | 16.5                                   | 19.7                                   | 0                   |
| 22/01/2022 | 16.8                                   | 17.8                                   | 1.5                 |
| 23/01/2022 | 17.5                                   | 21.8                                   | 0.1                 |
| 24/01/2022 | 18.8                                   | 21.8                                   | 1                   |
| 25/01/2022 | 17.5                                   | 20.9                                   | 0                   |
| 26/01/2022 | 17.7                                   | 21.1                                   | Trace               |
| 27/01/2022 | 18.4                                   | 22.1                                   | Trace               |
| 28/01/2022 | 18.1                                   | 19.9                                   | Trace               |
| 29/01/2022 | 16.3                                   | 20.2                                   | 0.1                 |
| 30/01/2022 | 13.2                                   | 20                                     | 0                   |
| 31/01/2022 | 13.6                                   | 15.5                                   | Trace               |

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory.

NOTE2: Trace means rainfall less than 0.05 mm

 $\underline{https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2022\&m=01}$ 

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 01/01/2022 | 0:00  | 1.3                    | 67.5              | 02/01/2022 | 0:00  | 0.4                    | 112.5             | 03/01/2022 | 0:00  | 0.4                    | 315               | 04/01/2022 | 0:00  | 0.9                    | 315               |
| 01/01/2022 | 1:00  | 1.3                    | 45                | 02/01/2022 | 1:00  | 0.4                    | 112.5             | 03/01/2022 | 1:00  | 0.4                    | 315               | 04/01/2022 | 1:00  | 0.4                    | 315               |
| 01/01/2022 | 2:00  | 1.3                    | 22.5              | 02/01/2022 | 2:00  | 0.4                    | 112.5             | 03/01/2022 | 2:00  | 0.4                    | 90                | 04/01/2022 | 2:00  | 0.9                    | 90                |
| 01/01/2022 | 3:00  | 0.9                    | 337.5             | 02/01/2022 | 3:00  | 0.4                    | 112.5             | 03/01/2022 | 3:00  | 0.4                    | 270               | 04/01/2022 | 3:00  | 0.9                    | 270               |
| 01/01/2022 | 4:00  | 1.3                    | 45                | 02/01/2022 | 4:00  | 0.4                    | 157.5             | 03/01/2022 | 4:00  | 1.3                    | 112.5             | 04/01/2022 | 4:00  | 0.4                    | 112.5             |
| 01/01/2022 | 5:00  | 1.3                    | 90                | 02/01/2022 | 5:00  | 0.4                    | 157.5             | 03/01/2022 | 5:00  | 1.3                    | 45                | 04/01/2022 | 5:00  | 1.3                    | 45                |
| 01/01/2022 | 6:00  | 1.3                    | 45                | 02/01/2022 | 6:00  | 0.4                    | 157.5             | 03/01/2022 | 6:00  | 1.8                    | 90                | 04/01/2022 | 6:00  | 0.9                    | 90                |
| 01/01/2022 | 7:00  | 0.9                    | 315               | 02/01/2022 | 7:00  | 0.4                    | 157.5             | 03/01/2022 | 7:00  | 1.8                    | 90                | 04/01/2022 | 7:00  | 0.9                    | 90                |
| 01/01/2022 | 8:00  | 0.9                    | 45                | 02/01/2022 | 8:00  | 1.3                    | 157.5             | 03/01/2022 | 8:00  | 1.3                    | 67.5              | 04/01/2022 | 8:00  | 0.4                    | 67.5              |
| 01/01/2022 | 9:00  | 1.3                    | 67.5              | 02/01/2022 | 9:00  | 1.3                    | 270               | 03/01/2022 | 9:00  | 1.8                    | 90                | 04/01/2022 | 9:00  | 0.4                    | 90                |
| 01/01/2022 | 10:00 | 1.8                    | 45                | 02/01/2022 | 10:00 | 1.8                    | 225               | 03/01/2022 | 10:00 | 1.3                    | 45                | 04/01/2022 | 10:00 | 0.9                    | 45                |
| 01/01/2022 | 11:00 | 1.8                    | 67.5              | 02/01/2022 | 11:00 | 1.8                    | 225               | 03/01/2022 | 11:00 | 1.3                    | 112.5             | 04/01/2022 | 11:00 | 0.4                    | 270               |
| 01/01/2022 | 12:00 | 1.8                    | 45                | 02/01/2022 | 12:00 | 2.2                    | 180               | 03/01/2022 | 12:00 | 2.2                    | 90                | 04/01/2022 | 12:00 | 0.4                    | 90                |
| 01/01/2022 | 13:00 | 1.3                    | 67.5              | 02/01/2022 | 13:00 | 1.8                    | 180               | 03/01/2022 | 13:00 | 1.8                    | 45                | 04/01/2022 | 13:00 | 0.9                    | 337.5             |
| 01/01/2022 | 14:00 | 0.9                    | 112.5             | 02/01/2022 | 14:00 | 1.8                    | 157.5             | 03/01/2022 | 14:00 | 2.2                    | 112.5             | 04/01/2022 | 14:00 | 0.4                    | 90                |
| 01/01/2022 | 15:00 | 0.9                    | 112.5             | 02/01/2022 | 15:00 | 1.8                    | 157.5             | 03/01/2022 | 15:00 | 1.8                    | 135               | 04/01/2022 | 15:00 | 0.4                    | 112.5             |
| 01/01/2022 | 16:00 | 1.3                    | 112.5             | 02/01/2022 | 16:00 | 1.3                    | 135               | 03/01/2022 | 16:00 | 2.2                    | 90                | 04/01/2022 | 16:00 | 1.3                    | 67.5              |
| 01/01/2022 | 17:00 | 1.3                    | 112.5             | 02/01/2022 | 17:00 | 0.9                    | 112.5             | 03/01/2022 | 17:00 | 2.2                    | 135               | 04/01/2022 | 17:00 | 1.3                    | 112.5             |
| 01/01/2022 | 18:00 | 0.4                    | 112.5             | 02/01/2022 | 18:00 | 0.9                    | 112.5             | 03/01/2022 | 18:00 | 2.2                    | 90                | 04/01/2022 | 18:00 | 0.9                    | 90                |
| 01/01/2022 | 19:00 | 0.9                    | 112.5             | 02/01/2022 | 19:00 | 0.4                    | 135               | 03/01/2022 | 19:00 | 1.8                    | 90                | 04/01/2022 | 19:00 | 1.3                    | 45                |
| 01/01/2022 | 20:00 | 0.4                    | 112.5             | 02/01/2022 | 20:00 | 0.4                    | 90                | 03/01/2022 | 20:00 | 1.8                    | 90                | 04/01/2022 | 20:00 | 1.3                    | 112.5             |
| 01/01/2022 | 21:00 | 0.9                    | 112.5             | 02/01/2022 | 21:00 | 0.9                    | 90                | 03/01/2022 | 21:00 | 1.8                    | 112.5             | 04/01/2022 | 21:00 | 0.9                    | 135               |
| 01/01/2022 | 22:00 | 0.4                    | 135               | 02/01/2022 | 22:00 | 0.4                    | 112.5             | 03/01/2022 | 22:00 | 1.3                    | 112.5             | 04/01/2022 | 22:00 | 0.9                    | 90                |
| 01/01/2022 | 23:00 | 0.4                    | 112.5             | 02/01/2022 | 23:00 | 0.4                    | 292.5             | 03/01/2022 | 23:00 | 0.9                    | 112.5             | 04/01/2022 | 23:00 | 0.4                    | 135               |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 05/01/2022 | 0:00  | 0.4                    | 112.5             | 06/01/2022 | 0:00  | 1.3                    | 90                | 07/01/2022 | 0:00  | 0.9                    | 45                | 08/01/2022 | 0:00  | 0.4                    | 135               |
| 05/01/2022 | 1:00  | 0.4                    | 90                | 06/01/2022 | 1:00  | 1.3                    | 112.5             | 07/01/2022 | 1:00  | 0.9                    | 90                | 08/01/2022 | 1:00  | 1.3                    | 45                |
| 05/01/2022 | 2:00  | 0.4                    | 45                | 06/01/2022 | 2:00  | 1.3                    | 112.5             | 07/01/2022 | 2:00  | 0.9                    | 270               | 08/01/2022 | 2:00  | 0.9                    | 45                |
| 05/01/2022 | 3:00  | 1.3                    | 45                | 06/01/2022 | 3:00  | 1.3                    | 90                | 07/01/2022 | 3:00  | 0.9                    | 22.5              | 08/01/2022 | 3:00  | 1.8                    | 45                |
| 05/01/2022 | 4:00  | 1.3                    | 112.5             | 06/01/2022 | 4:00  | 0.9                    | 90                | 07/01/2022 | 4:00  | 1.3                    | 45                | 08/01/2022 | 4:00  | 1.8                    | 135               |
| 05/01/2022 | 5:00  | 1.3                    | 112.5             | 06/01/2022 | 5:00  | 0.9                    | 112.5             | 07/01/2022 | 5:00  | 0.4                    | 22.5              | 08/01/2022 | 5:00  | 0.9                    | 90                |
| 05/01/2022 | 6:00  | 1.8                    | 90                | 06/01/2022 | 6:00  | 0.9                    | 90                | 07/01/2022 | 6:00  | 0.9                    | 22.5              | 08/01/2022 | 6:00  | 1.3                    | 45                |
| 05/01/2022 | 7:00  | 1.8                    | 90                | 06/01/2022 | 7:00  | 0.4                    | 112.5             | 07/01/2022 | 7:00  | 1.3                    | 180               | 08/01/2022 | 7:00  | 0.9                    | 67.5              |
| 05/01/2022 | 8:00  | 1.3                    | 112.5             | 06/01/2022 | 8:00  | 0.9                    | 112.5             | 07/01/2022 | 8:00  | 0.9                    | 90                | 08/01/2022 | 8:00  | 0.4                    | 112.5             |
| 05/01/2022 | 9:00  | 1.8                    | 45                | 06/01/2022 | 9:00  | 1.3                    | 112.5             | 07/01/2022 | 9:00  | 1.3                    | 135               | 08/01/2022 | 9:00  | 0.9                    | 90                |
| 05/01/2022 | 10:00 | 1.3                    | 45                | 06/01/2022 | 10:00 | 0.9                    | 45                | 07/01/2022 | 10:00 | 1.3                    | 45                | 08/01/2022 | 10:00 | 1.3                    | 112.5             |
| 05/01/2022 | 11:00 | 1.3                    | 112.5             | 06/01/2022 | 11:00 | 0.9                    | 112.5             | 07/01/2022 | 11:00 | 0.9                    | 45                | 08/01/2022 | 11:00 | 0.9                    | 135               |
| 05/01/2022 | 12:00 | 2.2                    | 135               | 06/01/2022 | 12:00 | 0.4                    | 112.5             | 07/01/2022 | 12:00 | 1.8                    | 45                | 08/01/2022 | 12:00 | 0.4                    | 337.5             |
| 05/01/2022 | 13:00 | 1.8                    | 90                | 06/01/2022 | 13:00 | 0.9                    | 112.5             | 07/01/2022 | 13:00 | 1.3                    | 135               | 08/01/2022 | 13:00 | 0.4                    | 90                |
| 05/01/2022 | 14:00 | 1.8                    | 112.5             | 06/01/2022 | 14:00 | 0.4                    | 90                | 07/01/2022 | 14:00 | 1.3                    | 90                | 08/01/2022 | 14:00 | 0.4                    | 22.5              |
| 05/01/2022 | 15:00 | 1.3                    | 112.5             | 06/01/2022 | 15:00 | 0.9                    | 90                | 07/01/2022 | 15:00 | 1.8                    | 45                | 08/01/2022 | 15:00 | 0.4                    | 112.5             |
| 05/01/2022 | 16:00 | 1.3                    | 112.5             | 06/01/2022 | 16:00 | 0.4                    | 90                | 07/01/2022 | 16:00 | 2.2                    | 67.5              | 08/01/2022 | 16:00 | 0.9                    | 135               |
| 05/01/2022 | 17:00 | 1.3                    | 112.5             | 06/01/2022 | 17:00 | 0.4                    | 112.5             | 07/01/2022 | 17:00 | 1.8                    | 112.5             | 08/01/2022 | 17:00 | 1.3                    | 135               |
| 05/01/2022 | 18:00 | 0.9                    | 45                | 06/01/2022 | 18:00 | 0.9                    | 45                | 07/01/2022 | 18:00 | 1.3                    | 90                | 08/01/2022 | 18:00 | 0.4                    | 90                |
| 05/01/2022 | 19:00 | 0.9                    | 112.5             | 06/01/2022 | 19:00 | 0.9                    | 45                | 07/01/2022 | 19:00 | 1.8                    | 112.5             | 08/01/2022 | 19:00 | 0.9                    | 90                |
| 05/01/2022 | 20:00 | 0.9                    | 112.5             | 06/01/2022 | 20:00 | 0.9                    | 67.5              | 07/01/2022 | 20:00 | 1.3                    | 135               | 08/01/2022 | 20:00 | 1.3                    | 90                |
| 05/01/2022 | 21:00 | 1.3                    | 90                | 06/01/2022 | 21:00 | 0.9                    | 90                | 07/01/2022 | 21:00 | 0.4                    | 337.5             | 08/01/2022 | 21:00 | 0.9                    | 135               |
| 05/01/2022 | 22:00 | 1.8                    | 45                | 06/01/2022 | 22:00 | 0.4                    | 337.5             | 07/01/2022 | 22:00 | 0.4                    | 90                | 08/01/2022 | 22:00 | 1.3                    | 90                |
| 05/01/2022 | 23:00 | 1.8                    | 45                | 06/01/2022 | 23:00 | 0.9                    | 90                | 07/01/2022 | 23:00 | 0.4                    | 22.5              | 08/01/2022 | 23:00 | 1.3                    | 112.5             |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 09/01/2022 | 0:00  | 1.3                    | 135               | 10/01/2022 | 0:00  | 0.4                    | 67.5              | 11/01/2022 | 0:00  | 0.4                    | 112.5             | 12/01/2022 | 0:00  | 0.9                    | 67.5              |
| 09/01/2022 | 1:00  | 1.3                    | 45                | 10/01/2022 | 1:00  | 0.4                    | 292.5             | 11/01/2022 | 1:00  | 0                      | 135               | 12/01/2022 | 1:00  | 1.8                    | 90                |
| 09/01/2022 | 2:00  | 1.8                    | 45                | 10/01/2022 | 2:00  | 0.9                    | 22.5              | 11/01/2022 | 2:00  | 0.4                    | 22.5              | 12/01/2022 | 2:00  | 1.3                    | 112.5             |
| 09/01/2022 | 3:00  | 1.3                    | 45                | 10/01/2022 | 3:00  | 0.9                    | 22.5              | 11/01/2022 | 3:00  | 0.9                    | 135               | 12/01/2022 | 3:00  | 1.3                    | 180               |
| 09/01/2022 | 4:00  | 1.3                    | 135               | 10/01/2022 | 4:00  | 0.4                    | 22.5              | 11/01/2022 | 4:00  | 1.3                    | 112.5             | 12/01/2022 | 4:00  | 1.8                    | 22.5              |
| 09/01/2022 | 5:00  | 0.9                    | 90                | 10/01/2022 | 5:00  | 0.4                    | 22.5              | 11/01/2022 | 5:00  | 1.8                    | 112.5             | 12/01/2022 | 5:00  | 0.9                    | 22.5              |
| 09/01/2022 | 6:00  | 0.9                    | 45                | 10/01/2022 | 6:00  | 0.9                    | 22.5              | 11/01/2022 | 6:00  | 1.3                    | 337.5             | 12/01/2022 | 6:00  | 0.9                    | 90                |
| 09/01/2022 | 7:00  | 1.3                    | 67.5              | 10/01/2022 | 7:00  | 0.4                    | 135               | 11/01/2022 | 7:00  | 0.9                    | 45                | 12/01/2022 | 7:00  | 0.9                    | 157.5             |
| 09/01/2022 | 8:00  | 0.9                    | 112.5             | 10/01/2022 | 8:00  | 0.9                    | 135               | 11/01/2022 | 8:00  | 0.9                    | 45                | 12/01/2022 | 8:00  | 0.9                    | 135               |
| 09/01/2022 | 9:00  | 0.9                    | 90                | 10/01/2022 | 9:00  | 0.9                    | 90                | 11/01/2022 | 9:00  | 1.3                    | 45                | 12/01/2022 | 9:00  | 1.3                    | 270               |
| 09/01/2022 | 10:00 | 1.3                    | 112.5             | 10/01/2022 | 10:00 | 0.9                    | 270               | 11/01/2022 | 10:00 | 0.4                    | 45                | 12/01/2022 | 10:00 | 0.9                    | 67.5              |
| 09/01/2022 | 11:00 | 1.8                    | 135               | 10/01/2022 | 11:00 | 0.4                    | 247.5             | 11/01/2022 | 11:00 | 0.9                    | 247.5             | 12/01/2022 | 11:00 | 0.4                    | 112.5             |
| 09/01/2022 | 12:00 | 1.8                    | 337.5             | 10/01/2022 | 12:00 | 0.4                    | 112.5             | 11/01/2022 | 12:00 | 0.9                    | 22.5              | 12/01/2022 | 12:00 | 0.4                    | 112.5             |
| 09/01/2022 | 13:00 | 1.3                    | 90                | 10/01/2022 | 13:00 | 1.3                    | 45                | 11/01/2022 | 13:00 | 1.3                    | 22.5              | 12/01/2022 | 13:00 | 0.4                    | 90                |
| 09/01/2022 | 14:00 | 1.3                    | 22.5              | 10/01/2022 | 14:00 | 1.3                    | 112.5             | 11/01/2022 | 14:00 | 1.3                    | 45                | 12/01/2022 | 14:00 | 0.4                    | 22.5              |
| 09/01/2022 | 15:00 | 1.3                    | 112.5             | 10/01/2022 | 15:00 | 1.3                    | 90                | 11/01/2022 | 15:00 | 0.4                    | 67.5              | 12/01/2022 | 15:00 | 0.4                    | 247.5             |
| 09/01/2022 | 16:00 | 1.3                    | 135               | 10/01/2022 | 16:00 | 1.3                    | 67.5              | 11/01/2022 | 16:00 | 0.4                    | 135               | 12/01/2022 | 16:00 | 0.4                    | 247.5             |
| 09/01/2022 | 17:00 | 0.4                    | 135               | 10/01/2022 | 17:00 | 0.9                    | 135               | 11/01/2022 | 17:00 | 0.4                    | 202.5             | 12/01/2022 | 17:00 | 0.4                    | 247.5             |
| 09/01/2022 | 18:00 | 0.4                    | 90                | 10/01/2022 | 18:00 | 1.8                    | 22.5              | 11/01/2022 | 18:00 | 0.4                    | 45                | 12/01/2022 | 18:00 | 0.9                    | 247.5             |
| 09/01/2022 | 19:00 | 0.4                    | 90                | 10/01/2022 | 19:00 | 1.3                    | 45                | 11/01/2022 | 19:00 | 0.4                    | 315               | 12/01/2022 | 19:00 | 1.3                    | 247.5             |
| 09/01/2022 | 20:00 | 0.9                    | 135               | 10/01/2022 | 20:00 | 0.9                    | 112.5             | 11/01/2022 | 20:00 | 0.4                    | 337.5             | 12/01/2022 | 20:00 | 1.3                    | 337.5             |
| 09/01/2022 | 21:00 | 0.9                    | 135               | 10/01/2022 | 21:00 | 1.3                    | 67.5              | 11/01/2022 | 21:00 | 0.4                    | 67.5              | 12/01/2022 | 21:00 | 0.9                    | 337.5             |
| 09/01/2022 | 22:00 | 0.4                    | 112.5             | 10/01/2022 | 22:00 | 0.9                    | 112.5             | 11/01/2022 | 22:00 | 0.4                    | 45                | 12/01/2022 | 22:00 | 0.9                    | 337.5             |
| 09/01/2022 | 23:00 | 0.4                    | 90                | 10/01/2022 | 23:00 | 1.3                    | 112.5             | 11/01/2022 | 23:00 | 0.9                    | 22.5              | 12/01/2022 | 23:00 | 0.9                    | 337.5             |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 13/01/2022 | 0:00  | 1.3                    | 90                | 14/01/2022 | 0:00  | 1.3                    | 337.5             | 15/01/2022 | 0:00  | 1.3                    | 292.5             | 16/01/2022 | 0:00  | 0.9                    | 247.5             |
| 13/01/2022 | 1:00  | 0.9                    | 112.5             | 14/01/2022 | 1:00  | 0.9                    | 135               | 15/01/2022 | 1:00  | 0.4                    | 225               | 16/01/2022 | 1:00  | 1.3                    | 90                |
| 13/01/2022 | 2:00  | 1.3                    | 112.5             | 14/01/2022 | 2:00  | 0.9                    | 67.5              | 15/01/2022 | 2:00  | 0.9                    | 112.5             | 16/01/2022 | 2:00  | 1.3                    | 45                |
| 13/01/2022 | 3:00  | 1.3                    | 45                | 14/01/2022 | 3:00  | 0.4                    | 247.5             | 15/01/2022 | 3:00  | 0.9                    | 67.5              | 16/01/2022 | 3:00  | 1.3                    | 270               |
| 13/01/2022 | 4:00  | 1.3                    | 45                | 14/01/2022 | 4:00  | 0.9                    | 45                | 15/01/2022 | 4:00  | 0.9                    | 67.5              | 16/01/2022 | 4:00  | 1.8                    | 247.5             |
| 13/01/2022 | 5:00  | 0.9                    | 45                | 14/01/2022 | 5:00  | 0.9                    | 90                | 15/01/2022 | 5:00  | 0.4                    | 22.5              | 16/01/2022 | 5:00  | 1.8                    | 22.5              |
| 13/01/2022 | 6:00  | 0.9                    | 90                | 14/01/2022 | 6:00  | 0.9                    | 337.5             | 15/01/2022 | 6:00  | 0.9                    | 67.5              | 16/01/2022 | 6:00  | 0.9                    | 90                |
| 13/01/2022 | 7:00  | 0.9                    | 67.5              | 14/01/2022 | 7:00  | 0.4                    | 337.5             | 15/01/2022 | 7:00  | 0.9                    | 67.5              | 16/01/2022 | 7:00  | 0.9                    | 67.5              |
| 13/01/2022 | 8:00  | 0.9                    | 247.5             | 14/01/2022 | 8:00  | 0.4                    | 22.5              | 15/01/2022 | 8:00  | 0.9                    | 45                | 16/01/2022 | 8:00  | 0.9                    | 22.5              |
| 13/01/2022 | 9:00  | 0.9                    | 45                | 14/01/2022 | 9:00  | 0.9                    | 22.5              | 15/01/2022 | 9:00  | 1.3                    | 67.5              | 16/01/2022 | 9:00  | 1.3                    | 22.5              |
| 13/01/2022 | 10:00 | 0.4                    | 67.5              | 14/01/2022 | 10:00 | 0.4                    | 22.5              | 15/01/2022 | 10:00 | 0.4                    | 45                | 16/01/2022 | 10:00 | 0.9                    | 180               |
| 13/01/2022 | 11:00 | 0.9                    | 315               | 14/01/2022 | 11:00 | 0.4                    | 0                 | 15/01/2022 | 11:00 | 0.9                    | 135               | 16/01/2022 | 11:00 | 1.8                    | 112.5             |
| 13/01/2022 | 12:00 | 1.3                    | 315               | 14/01/2022 | 12:00 | 0.4                    | 0                 | 15/01/2022 | 12:00 | 0.9                    | 135               | 16/01/2022 | 12:00 | 0.4                    | 90                |
| 13/01/2022 | 13:00 | 0.4                    | 45                | 14/01/2022 | 13:00 | 0.4                    | 202.5             | 15/01/2022 | 13:00 | 0.4                    | 22.5              | 16/01/2022 | 13:00 | 0.9                    | 135               |
| 13/01/2022 | 14:00 | 0.9                    | 90                | 14/01/2022 | 14:00 | 0.4                    | 315               | 15/01/2022 | 14:00 | 1.3                    | 45                | 16/01/2022 | 14:00 | 0.4                    | 67.5              |
| 13/01/2022 | 15:00 | 0.4                    | 67.5              | 14/01/2022 | 15:00 | 0.4                    | 270               | 15/01/2022 | 15:00 | 1.3                    | 45                | 16/01/2022 | 15:00 | 0.9                    | 112.5             |
| 13/01/2022 | 16:00 | 0.9                    | 90                | 14/01/2022 | 16:00 | 0.4                    | 315               | 15/01/2022 | 16:00 | 1.3                    | 45                | 16/01/2022 | 16:00 | 1.3                    | 135               |
| 13/01/2022 | 17:00 | 1.3                    | 90                | 14/01/2022 | 17:00 | 0.4                    | 112.5             | 15/01/2022 | 17:00 | 1.3                    | 90                | 16/01/2022 | 17:00 | 1.8                    | 135               |
| 13/01/2022 | 18:00 | 0.9                    | 90                | 14/01/2022 | 18:00 | 0.4                    | 180               | 15/01/2022 | 18:00 | 0.9                    | 22.5              | 16/01/2022 | 18:00 | 1.3                    | 112.5             |
| 13/01/2022 | 19:00 | 0.9                    | 135               | 14/01/2022 | 19:00 | 0.4                    | 67.5              | 15/01/2022 | 19:00 | 1.8                    | 22.5              | 16/01/2022 | 19:00 | 0.9                    | 90                |
| 13/01/2022 | 20:00 | 0.4                    | 90                | 14/01/2022 | 20:00 | 0.4                    | 180               | 15/01/2022 | 20:00 | 1.8                    | 90                | 16/01/2022 | 20:00 | 1.3                    | 112.5             |
| 13/01/2022 | 21:00 | 0.4                    | 90                | 14/01/2022 | 21:00 | 0.9                    | 22.5              | 15/01/2022 | 21:00 | 1.3                    | 90                | 16/01/2022 | 21:00 | 1.3                    | 112.5             |
| 13/01/2022 | 22:00 | 0.4                    | 45                | 14/01/2022 | 22:00 | 1.3                    | 90                | 15/01/2022 | 22:00 | 1.3                    | 135               | 16/01/2022 | 22:00 | 0.9                    | 90                |
| 13/01/2022 | 23:00 | 0.9                    | 90                | 14/01/2022 | 23:00 | 0.4                    | 202.5             | 15/01/2022 | 23:00 | 1.8                    | 45                | 16/01/2022 | 23:00 | 1.8                    | 135               |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 17/01/2022 | 0:00  | 1.3                    | 45                | 18/01/2022 | 0:00  | 0.4                    | 247.5             | 19/01/2022 | 0:00  | 1.3                    | 90                | 20/01/2022 | 0:00  | 0.9                    | 112.5             |
| 17/01/2022 | 1:00  | 1.8                    | 112.5             | 18/01/2022 | 1:00  | 1.3                    | 247.5             | 19/01/2022 | 1:00  | 0.9                    | 112.5             | 20/01/2022 | 1:00  | 0.9                    | 112.5             |
| 17/01/2022 | 2:00  | 1.3                    | 22.5              | 18/01/2022 | 2:00  | 0.9                    | 292.5             | 19/01/2022 | 2:00  | 0.9                    | 112.5             | 20/01/2022 | 2:00  | 1.3                    | 112.5             |
| 17/01/2022 | 3:00  | 1.8                    | 67.5              | 18/01/2022 | 3:00  | 0.9                    | 22.5              | 19/01/2022 | 3:00  | 1.8                    | 67.5              | 20/01/2022 | 3:00  | 1.8                    | 112.5             |
| 17/01/2022 | 4:00  | 1.8                    | 67.5              | 18/01/2022 | 4:00  | 1.3                    | 270               | 19/01/2022 | 4:00  | 1.3                    | 90                | 20/01/2022 | 4:00  | 1.3                    | 90                |
| 17/01/2022 | 5:00  | 1.8                    | 270               | 18/01/2022 | 5:00  | 0.4                    | 135               | 19/01/2022 | 5:00  | 1.3                    | 45                | 20/01/2022 | 5:00  | 0.9                    | 90                |
| 17/01/2022 | 6:00  | 1.8                    | 112.5             | 18/01/2022 | 6:00  | 0.4                    | 135               | 19/01/2022 | 6:00  | 0.4                    | 135               | 20/01/2022 | 6:00  | 0.9                    | 135               |
| 17/01/2022 | 7:00  | 1.8                    | 112.5             | 18/01/2022 | 7:00  | 0.4                    | 45                | 19/01/2022 | 7:00  | 0.4                    | 67.5              | 20/01/2022 | 7:00  | 0.9                    | 112.5             |
| 17/01/2022 | 8:00  | 1.3                    | 67.5              | 18/01/2022 | 8:00  | 0.4                    | 22.5              | 19/01/2022 | 8:00  | 0.9                    | 90                | 20/01/2022 | 8:00  | 1.3                    | 112.5             |
| 17/01/2022 | 9:00  | 1.3                    | 157.5             | 18/01/2022 | 9:00  | 0.4                    | 45                | 19/01/2022 | 9:00  | 1.3                    | 90                | 20/01/2022 | 9:00  | 0.9                    | 22.5              |
| 17/01/2022 | 10:00 | 1.3                    | 45                | 18/01/2022 | 10:00 | 0.9                    | 67.5              | 19/01/2022 | 10:00 | 1.3                    | 90                | 20/01/2022 | 10:00 | 0.9                    | 135               |
| 17/01/2022 | 11:00 | 1.3                    | 22.5              | 18/01/2022 | 11:00 | 0.9                    | 22.5              | 19/01/2022 | 11:00 | 1.3                    | 112.5             | 20/01/2022 | 11:00 | 0.9                    | 22.5              |
| 17/01/2022 | 12:00 | 1.3                    | 90                | 18/01/2022 | 12:00 | 0.9                    | 67.5              | 19/01/2022 | 12:00 | 1.3                    | 135               | 20/01/2022 | 12:00 | 0.4                    | 112.5             |
| 17/01/2022 | 13:00 | 1.3                    | 135               | 18/01/2022 | 13:00 | 0.9                    | 292.5             | 19/01/2022 | 13:00 | 0.9                    | 90                | 20/01/2022 | 13:00 | 0.4                    | 45                |
| 17/01/2022 | 14:00 | 1.8                    | 315               | 18/01/2022 | 14:00 | 0.9                    | 180               | 19/01/2022 | 14:00 | 0.9                    | 112.5             | 20/01/2022 | 14:00 | 0.4                    | 45                |
| 17/01/2022 | 15:00 | 1.3                    | 112.5             | 18/01/2022 | 15:00 | 0.9                    | 337.5             | 19/01/2022 | 15:00 | 0.9                    | 90                | 20/01/2022 | 15:00 | 0.9                    | 45                |
| 17/01/2022 | 16:00 | 0.9                    | 337.5             | 18/01/2022 | 16:00 | 1.3                    | 112.5             | 19/01/2022 | 16:00 | 0.9                    | 90                | 20/01/2022 | 16:00 | 0.9                    | 315               |
| 17/01/2022 | 17:00 | 1.3                    | 337.5             | 18/01/2022 | 17:00 | 1.3                    | 292.5             | 19/01/2022 | 17:00 | 1.8                    | 135               | 20/01/2022 | 17:00 | 0.9                    | 247.5             |
| 17/01/2022 | 18:00 | 0.9                    | 270               | 18/01/2022 | 18:00 | 1.3                    | 292.5             | 19/01/2022 | 18:00 | 0.9                    | 135               | 20/01/2022 | 18:00 | 0.4                    | 247.5             |
| 17/01/2022 | 19:00 | 1.3                    | 337.5             | 18/01/2022 | 19:00 | 0.9                    | 112.5             | 19/01/2022 | 19:00 | 0.9                    | 112.5             | 20/01/2022 | 19:00 | 0.4                    | 90                |
| 17/01/2022 | 20:00 | 0.9                    | 112.5             | 18/01/2022 | 20:00 | 0.9                    | 157.5             | 19/01/2022 | 20:00 | 0.9                    | 90                | 20/01/2022 | 20:00 | 0.9                    | 22.5              |
| 17/01/2022 | 21:00 | 0.9                    | 292.5             | 18/01/2022 | 21:00 | 0.9                    | 112.5             | 19/01/2022 | 21:00 | 1.8                    | 112.5             | 20/01/2022 | 21:00 | 0.4                    | 45                |
| 17/01/2022 | 22:00 | 0.9                    | 292.5             | 18/01/2022 | 22:00 | 0.9                    | 90                | 19/01/2022 | 22:00 | 1.3                    | 112.5             | 20/01/2022 | 22:00 | 0.9                    | 45                |
| 17/01/2022 | 23:00 | 0.4                    | 112.5             | 18/01/2022 | 23:00 | 0.9                    | 112.5             | 19/01/2022 | 23:00 | 1.3                    | 112.5             | 20/01/2022 | 23:00 | 0.9                    | 112.5             |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 21/01/2022 | 0:00  | 0.9                    | 45                | 22/01/2022 | 0:00  | 0.9                    | 67.5              | 23/01/2022 | 0:00  | 1.3                    | 22.5              | 24/01/2022 | 0:00  | 0.9                    | 270               |
| 21/01/2022 | 1:00  | 0.4                    | 45                | 22/01/2022 | 1:00  | 0.4                    | 67.5              | 23/01/2022 | 1:00  | 0.9                    | 22.5              | 24/01/2022 | 1:00  | 0.4                    | 22.5              |
| 21/01/2022 | 2:00  | 0.4                    | 45                | 22/01/2022 | 2:00  | 0.9                    | 247.5             | 23/01/2022 | 2:00  | 0.4                    | 45                | 24/01/2022 | 2:00  | 0.4                    | 90                |
| 21/01/2022 | 3:00  | 0.4                    | 90                | 22/01/2022 | 3:00  | 0.9                    | 225               | 23/01/2022 | 3:00  | 0.4                    | 225               | 24/01/2022 | 3:00  | 0.4                    | 90                |
| 21/01/2022 | 4:00  | 0.4                    | 90                | 22/01/2022 | 4:00  | 0.4                    | 22.5              | 23/01/2022 | 4:00  | 0.9                    | 247.5             | 24/01/2022 | 4:00  | 0.9                    | 90                |
| 21/01/2022 | 5:00  | 0.4                    | 45                | 22/01/2022 | 5:00  | 0.4                    | 22.5              | 23/01/2022 | 5:00  | 1.3                    | 112.5             | 24/01/2022 | 5:00  | 0.4                    | 90                |
| 21/01/2022 | 6:00  | 0.4                    | 337.5             | 22/01/2022 | 6:00  | 0.4                    | 22.5              | 23/01/2022 | 6:00  | 0.9                    | 45                | 24/01/2022 | 6:00  | 0.4                    | 90                |
| 21/01/2022 | 7:00  | 0.4                    | 270               | 22/01/2022 | 7:00  | 0.4                    | 45                | 23/01/2022 | 7:00  | 0.9                    | 67.5              | 24/01/2022 | 7:00  | 0.4                    | 112.5             |
| 21/01/2022 | 8:00  | 0.9                    | 247.5             | 22/01/2022 | 8:00  | 0.9                    | 45                | 23/01/2022 | 8:00  | 0.4                    | 67.5              | 24/01/2022 | 8:00  | 0.9                    | 90                |
| 21/01/2022 | 9:00  | 0.9                    | 247.5             | 22/01/2022 | 9:00  | 0.4                    | 45                | 23/01/2022 | 9:00  | 0.4                    | 67.5              | 24/01/2022 | 9:00  | 0.4                    | 90                |
| 21/01/2022 | 10:00 | 1.3                    | 247.5             | 22/01/2022 | 10:00 | 0.4                    | 157.5             | 23/01/2022 | 10:00 | 0.9                    | 67.5              | 24/01/2022 | 10:00 | 0.4                    | 90                |
| 21/01/2022 | 11:00 | 0.9                    | 247.5             | 22/01/2022 | 11:00 | 0.4                    | 225               | 23/01/2022 | 11:00 | 0.9                    | 112.5             | 24/01/2022 | 11:00 | 0.9                    | 90                |
| 21/01/2022 | 12:00 | 0.9                    | 270               | 22/01/2022 | 12:00 | 0.4                    | 225               | 23/01/2022 | 12:00 | 0.4                    | 112.5             | 24/01/2022 | 12:00 | 0.9                    | 90                |
| 21/01/2022 | 13:00 | 0.4                    | 22.5              | 22/01/2022 | 13:00 | 0.9                    | 225               | 23/01/2022 | 13:00 | 0.4                    | 90                | 24/01/2022 | 13:00 | 0.4                    | 90                |
| 21/01/2022 | 14:00 | 0.4                    | 247.5             | 22/01/2022 | 14:00 | 0.9                    | 225               | 23/01/2022 | 14:00 | 0.9                    | 22.5              | 24/01/2022 | 14:00 | 0.9                    | 112.5             |
| 21/01/2022 | 15:00 | 1.3                    | 45                | 22/01/2022 | 15:00 | 0.9                    | 22.5              | 23/01/2022 | 15:00 | 0.4                    | 22.5              | 24/01/2022 | 15:00 | 1.3                    | 90                |
| 21/01/2022 | 16:00 | 0.9                    | 337.5             | 22/01/2022 | 16:00 | 1.8                    | 135               | 23/01/2022 | 16:00 | 1.3                    | 315               | 24/01/2022 | 16:00 | 0.9                    | 112.5             |
| 21/01/2022 | 17:00 | 0.4                    | 337.5             | 22/01/2022 | 17:00 | 1.8                    | 112.5             | 23/01/2022 | 17:00 | 0.9                    | 112.5             | 24/01/2022 | 17:00 | 1.3                    | 112.5             |
| 21/01/2022 | 18:00 | 0.4                    | 270               | 22/01/2022 | 18:00 | 1.8                    | 90                | 23/01/2022 | 18:00 | 0.9                    | 67.5              | 24/01/2022 | 18:00 | 1.3                    | 90                |
| 21/01/2022 | 19:00 | 0.4                    | 157.5             | 22/01/2022 | 19:00 | 1.8                    | 135               | 23/01/2022 | 19:00 | 1.3                    | 202.5             | 24/01/2022 | 19:00 | 1.3                    | 90                |
| 21/01/2022 | 20:00 | 0.9                    | 292.5             | 22/01/2022 | 20:00 | 1.3                    | 112.5             | 23/01/2022 | 20:00 | 0.9                    | 45                | 24/01/2022 | 20:00 | 1.3                    | 112.5             |
| 21/01/2022 | 21:00 | 0.4                    | 292.5             | 22/01/2022 | 21:00 | 0.9                    | 112.5             | 23/01/2022 | 21:00 | 1.3                    | 90                | 24/01/2022 | 21:00 | 0.9                    | 90                |
| 21/01/2022 | 22:00 | 0.9                    | 337.5             | 22/01/2022 | 22:00 | 0.4                    | 135               | 23/01/2022 | 22:00 | 1.3                    | 90                | 24/01/2022 | 22:00 | 1.8                    | 112.5             |
| 21/01/2022 | 23:00 | 0.4                    | 247.5             | 22/01/2022 | 23:00 | 0.9                    | 90                | 23/01/2022 | 23:00 | 0.9                    | 135               | 24/01/2022 | 23:00 | 1.8                    | 112.5             |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 25/01/2022 | 0:00  | 0.4                    | 90                | 26/01/2022 | 0:00  | 0.4                    | 112.5             | 27/01/2022 | 0:00  | 0.4                    | 135               | 28/01/2022 | 0:00  | 1.3                    | 67.5              |
| 25/01/2022 | 1:00  | 0.4                    | 90                | 26/01/2022 | 1:00  | 1.3                    | 67.5              | 27/01/2022 | 1:00  | 0.4                    | 112.5             | 28/01/2022 | 1:00  | 1.3                    | 90                |
| 25/01/2022 | 2:00  | 0.4                    | 337.5             | 26/01/2022 | 2:00  | 1.3                    | 112.5             | 27/01/2022 | 2:00  | 0.4                    | 112.5             | 28/01/2022 | 2:00  | 0.9                    | 90                |
| 25/01/2022 | 3:00  | 0.4                    | 45                | 26/01/2022 | 3:00  | 0.9                    | 112.5             | 27/01/2022 | 3:00  | 0.9                    | 112.5             | 28/01/2022 | 3:00  | 0.9                    | 45                |
| 25/01/2022 | 4:00  | 1.3                    | 90                | 26/01/2022 | 4:00  | 1.3                    | 67.5              | 27/01/2022 | 4:00  | 0.4                    | 112.5             | 28/01/2022 | 4:00  | 0.9                    | 157.5             |
| 25/01/2022 | 5:00  | 0.9                    | 112.5             | 26/01/2022 | 5:00  | 1.3                    | 135               | 27/01/2022 | 5:00  | 0.4                    | 112.5             | 28/01/2022 | 5:00  | 0.9                    | 90                |
| 25/01/2022 | 6:00  | 0.9                    | 112.5             | 26/01/2022 | 6:00  | 0.9                    | 90                | 27/01/2022 | 6:00  | 1.3                    | 135               | 28/01/2022 | 6:00  | 0.4                    | 67.5              |
| 25/01/2022 | 7:00  | 0.4                    | 67.5              | 26/01/2022 | 7:00  | 0.9                    | 135               | 27/01/2022 | 7:00  | 1.3                    | 337.5             | 28/01/2022 | 7:00  | 0.9                    | 112.5             |
| 25/01/2022 | 8:00  | 0.4                    | 90                | 26/01/2022 | 8:00  | 0.9                    | 112.5             | 27/01/2022 | 8:00  | 1.3                    | 45                | 28/01/2022 | 8:00  | 1.3                    | 90                |
| 25/01/2022 | 9:00  | 0.9                    | 90                | 26/01/2022 | 9:00  | 0.9                    | 90                | 27/01/2022 | 9:00  | 1.3                    | 112.5             | 28/01/2022 | 9:00  | 0.9                    | 112.5             |
| 25/01/2022 | 10:00 | 0.9                    | 90                | 26/01/2022 | 10:00 | 0.9                    | 67.5              | 27/01/2022 | 10:00 | 0.9                    | 67.5              | 28/01/2022 | 10:00 | 0.9                    | 90                |
| 25/01/2022 | 11:00 | 0.9                    | 45                | 26/01/2022 | 11:00 | 1.3                    | 135               | 27/01/2022 | 11:00 | 1.3                    | 67.5              | 28/01/2022 | 11:00 | 0.9                    | 90                |
| 25/01/2022 | 12:00 | 0.9                    | 45                | 26/01/2022 | 12:00 | 0.9                    | 135               | 27/01/2022 | 12:00 | 1.3                    | 337.5             | 28/01/2022 | 12:00 | 0.9                    | 67.5              |
| 25/01/2022 | 13:00 | 0.9                    | 247.5             | 26/01/2022 | 13:00 | 0.9                    | 135               | 27/01/2022 | 13:00 | 1.3                    | 90                | 28/01/2022 | 13:00 | 0.4                    | 112.5             |
| 25/01/2022 | 14:00 | 0.9                    | 135               | 26/01/2022 | 14:00 | 0.4                    | 135               | 27/01/2022 | 14:00 | 1.3                    | 45                | 28/01/2022 | 14:00 | 0.4                    | 135               |
| 25/01/2022 | 15:00 | 0.9                    | 22.5              | 26/01/2022 | 15:00 | 0.9                    | 135               | 27/01/2022 | 15:00 | 1.3                    | 67.5              | 28/01/2022 | 15:00 | 0.4                    | 112.5             |
| 25/01/2022 | 16:00 | 1.3                    | 22.5              | 26/01/2022 | 16:00 | 0.4                    | 112.5             | 27/01/2022 | 16:00 | 1.8                    | 45                | 28/01/2022 | 16:00 | 0.9                    | 112.5             |
| 25/01/2022 | 17:00 | 1.3                    | 112.5             | 26/01/2022 | 17:00 | 0.4                    | 90                | 27/01/2022 | 17:00 | 0.9                    | 90                | 28/01/2022 | 17:00 | 0.9                    | 112.5             |
| 25/01/2022 | 18:00 | 1.3                    | 112.5             | 26/01/2022 | 18:00 | 0.4                    | 112.5             | 27/01/2022 | 18:00 | 0.9                    | 67.5              | 28/01/2022 | 18:00 | 0.9                    | 90                |
| 25/01/2022 | 19:00 | 1.3                    | 112.5             | 26/01/2022 | 19:00 | 0.4                    | 112.5             | 27/01/2022 | 19:00 | 1.8                    | 90                | 28/01/2022 | 19:00 | 1.3                    | 90                |
| 25/01/2022 | 20:00 | 0.4                    | 67.5              | 26/01/2022 | 20:00 | 0.4                    | 112.5             | 27/01/2022 | 20:00 | 2.2                    | 90                | 28/01/2022 | 20:00 | 0.9                    | 45                |
| 25/01/2022 | 21:00 | 0.9                    | 112.5             | 26/01/2022 | 21:00 | 0.9                    | 112.5             | 27/01/2022 | 21:00 | 2.2                    | 112.5             | 28/01/2022 | 21:00 | 0.9                    | 337.5             |
| 25/01/2022 | 22:00 | 0.9                    | 112.5             | 26/01/2022 | 22:00 | 0.9                    | 135               | 27/01/2022 | 22:00 | 2.7                    | 112.5             | 28/01/2022 | 22:00 | 0.9                    | 112.5             |
| 25/01/2022 | 23:00 | 1.3                    | 112.5             | 26/01/2022 | 23:00 | 0.9                    | 90                | 27/01/2022 | 23:00 | 2.7                    | 67.5              | 28/01/2022 | 23:00 | 0.4                    | 112.5             |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date | Time | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------|------|------------------------|-------------------|
| 29/01/2022 | 0:00  | 1.3                    | 22.5              | 30/01/2022 | 0:00  | 1.3                    | 22.5              | 31/01/2022 | 0:00  | 1.8                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 1:00  | 1.3                    | 90                | 30/01/2022 | 1:00  | 0.4                    | 22.5              | 31/01/2022 | 1:00  | 0.9                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 2:00  | 0.9                    | 67.5              | 30/01/2022 | 2:00  | 0.9                    | 67.5              | 31/01/2022 | 2:00  | 0.4                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 3:00  | 0.9                    | 90                | 30/01/2022 | 3:00  | 0.9                    | 22.5              | 31/01/2022 | 3:00  | 0.4                    | 45                |      |      |                        |                   |
| 29/01/2022 | 4:00  | 0.9                    | 22.5              | 30/01/2022 | 4:00  | 0.9                    | 135               | 31/01/2022 | 4:00  | 0.9                    | 337.5             |      |      |                        |                   |
| 29/01/2022 | 5:00  | 0.9                    | 45                | 30/01/2022 | 5:00  | 1.3                    | 90                | 31/01/2022 | 5:00  | 1.3                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 6:00  | 1.3                    | 337.5             | 30/01/2022 | 6:00  | 0.9                    | 112.5             | 31/01/2022 | 6:00  | 0.9                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 7:00  | 1.3                    | 67.5              | 30/01/2022 | 7:00  | 1.3                    | 90                | 31/01/2022 | 7:00  | 1.3                    | 337.5             |      |      |                        |                   |
| 29/01/2022 | 8:00  | 1.3                    | 315               | 30/01/2022 | 8:00  | 1.3                    | 112.5             | 31/01/2022 | 8:00  | 0.9                    | 45                |      |      |                        |                   |
| 29/01/2022 | 9:00  | 0.9                    | 112.5             | 30/01/2022 | 9:00  | 0.4                    | 135               | 31/01/2022 | 9:00  | 0.9                    | 337.5             |      |      |                        |                   |
| 29/01/2022 | 10:00 | 0.9                    | 90                | 30/01/2022 | 10:00 | 0.4                    | 202.5             | 31/01/2022 | 10:00 | 0.9                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 11:00 | 1.3                    | 157.5             | 30/01/2022 | 11:00 | 0.9                    | 112.5             | 31/01/2022 | 11:00 | 1.3                    | 270               |      |      |                        |                   |
| 29/01/2022 | 12:00 | 1.3                    | 90                | 30/01/2022 | 12:00 | 0.4                    | 112.5             | 31/01/2022 | 12:00 | 1.8                    | 225               |      |      |                        |                   |
| 29/01/2022 | 13:00 | 0.9                    | 202.5             | 30/01/2022 | 13:00 | 0.4                    | 112.5             | 31/01/2022 | 13:00 | 2.2                    | 135               |      |      |                        |                   |
| 29/01/2022 | 14:00 | 0.9                    | 112.5             | 30/01/2022 | 14:00 | 0.4                    | 135               | 31/01/2022 | 14:00 | 1.3                    | 90                |      |      |                        |                   |
| 29/01/2022 | 15:00 | 0.9                    | 112.5             | 30/01/2022 | 15:00 | 0.9                    | 112.5             | 31/01/2022 | 15:00 | 0.9                    | 45                |      |      |                        |                   |
| 29/01/2022 | 16:00 | 2.7                    | 90                | 30/01/2022 | 16:00 | 1.3                    | 112.5             | 31/01/2022 | 16:00 | 0.9                    | 45                |      |      |                        |                   |
| 29/01/2022 | 17:00 | 2.2                    | 112.5             | 30/01/2022 | 17:00 | 0.9                    | 112.5             | 31/01/2022 | 17:00 | 0.9                    | 22.5              |      |      |                        |                   |
| 29/01/2022 | 18:00 | 1.8                    | 112.5             | 30/01/2022 | 18:00 | 0.9                    | 112.5             | 31/01/2022 | 18:00 | 0.9                    | 225               |      |      |                        |                   |
| 29/01/2022 | 19:00 | 1.8                    | 112.5             | 30/01/2022 | 19:00 | 1.3                    | 112.5             | 31/01/2022 | 19:00 | 1.3                    | 225               |      |      |                        |                   |
| 29/01/2022 | 20:00 | 1.8                    | 112.5             | 30/01/2022 | 20:00 | 1.3                    | 112.5             | 31/01/2022 | 20:00 | 0.9                    | 225               |      |      |                        |                   |
| 29/01/2022 | 21:00 | 2.2                    | 112.5             | 30/01/2022 | 21:00 | 1.3                    | 67.5              | 31/01/2022 | 21:00 | 1.3                    | 315               |      |      |                        |                   |
| 29/01/2022 | 22:00 | 1.3                    | 135               | 30/01/2022 | 22:00 | 0.9                    | 90                | 31/01/2022 | 22:00 | 0.9                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 23:00 | 1.8                    | 112.5             | 30/01/2022 | 23:00 | 0.9                    | 90                | 31/01/2022 | 23:00 | 0.9                    | 337.5             |      |      |                        |                   |

Appendix G-24-hr TSP monitoring results and graphical presentation

Location: AM3 – Sky Tower

| Start Date | Weather | Air<br>Temp.           | Atmospheric<br>Pressure | Filter we | eight (g) | Particulate | Elapse  | e Time  | Sampling<br>Time | Flow<br>(cf |       | Av.<br>Flow           | Total vol. | Conc.         |
|------------|---------|------------------------|-------------------------|-----------|-----------|-------------|---------|---------|------------------|-------------|-------|-----------------------|------------|---------------|
|            |         | $(^{\circ}\mathbb{C})$ | (hPa)                   | Initial   | Final     | weight (g)  | Initial | Final   | (min)            | Initial     | Final | (m <sup>3</sup> /min) | $(m^3)$    | $(\mu g/m^3)$ |
| 05/01/2022 | Sunny   | 23.5                   | 1017.3                  | 15.0885   | 15.2101   | 0.1216      | 3956.77 | 3980.79 | 1441             | 46          | 46    | 1.30                  | 1877       | 65            |
| 11/01/2022 | Sunny   | 19.4                   | 1020.2                  | 15.5073   | 15.6548   | 0.1475      | 3981.87 | 4005.89 | 1441             | 48          | 48    | 1.37                  | 1977       | 75            |
| 17/01/2022 | Cloudy  | 18.7                   | 1020.7                  | 17.8233   | 18.0038   | 0.1805      | 4007.22 | 4031.24 | 1441             | 48          | 48    | 1.36                  | 1967       | 92            |
| 22/01/2022 | Sunny   | 17.9                   | 1014.3                  | 15.1549   | 15.2513   | 0.0964      | 4032.12 | 4056.15 | 1442             | 50          | 50    | 1.42                  | 2050       | 47            |
| 26/01/2022 | Sunny   | 20.4                   | 1017.1                  | 18.0634   | 18.1855   | 0.1221      | 4057.55 | 4081.57 | 1441             | 50          | 50    | 1.42                  | 2043       | 60            |
| 31/01/2022 | Sunny   | 15.3                   | 1019.2                  | 15.1903   | 15.2584   | 0.0681      | 4082.93 | 4106.95 | 1441             | 50          | 50    | 1.43                  | 2064       | 33            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Maxir                 | num        | 92            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Minin                 | num        | 33            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Aver                  | age        | 62            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Action                | Level      | 182           |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Limit I               | Level      | 260           |

Location: AM4(A) – The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

| Start Date | Weather | Air<br>Temp.  | Atmospheric<br>Pressure | Filter we | eight (g) | Particulate | Elapse  | Time    | Sampling<br>Time | Flow<br>(cf: |       | Av.<br>Flow           | Total vol. | Conc.                |
|------------|---------|---------------|-------------------------|-----------|-----------|-------------|---------|---------|------------------|--------------|-------|-----------------------|------------|----------------------|
|            |         | $(^{\circ}C)$ | (hPa)                   | Initial   | Final     | weight (g)  | Initial | Final   | (min)            | Initial      | Final | (m <sup>3</sup> /min) | $(m^3)$    | (μg/m <sup>3</sup> ) |
| 05/01/2022 | Sunny   | 23.5          | 1017.3                  | 15.2322   | 15.3648   | 0.1326      | 3585.43 | 3609.45 | 1441             | 52           | 52    | 1.40                  | 2022       | 66                   |
| 11/01/2022 | Sunny   | 19.4          | 1020.2                  | 15.1119   | 15.2567   | 0.1448      | 3610.47 | 3634.49 | 1441             | 52           | 52    | 1.41                  | 2039       | 71                   |
| 17/01/2022 | Cloudy  | 18.7          | 1020.7                  | 18.4765   | 18.6286   | 0.1521      | 3635.50 | 3659.52 | 1441             | 52           | 52    | 1.47                  | 2114       | 72                   |
| 22/01/2022 | Sunny   | 17.9          | 1014.3                  | 14.9936   | 15.0597   | 0.0661      | 3660.11 | 3684.12 | 1441             | 50           | 50    | 1.41                  | 2025       | 33                   |
| 26/01/2022 | Sunny   | 20.4          | 1017.1                  | 15.2677   | 15.4120   | 0.1443      | 3685.04 | 3709.06 | 1441             | 50           | 50    | 1.40                  | 2020       | 71                   |
| 31/01/2022 | Sunny   | 15.3          | 1019.2                  | 15.1776   | 15.2555   | 0.0779      | 3710.26 | 3734.28 | 1441             | 50           | 50    | 1.42                  | 2041       | 38                   |

 Maximum
 72

 Minimum
 33

 Average
 58

 Action Level
 187

 Limit Level
 260

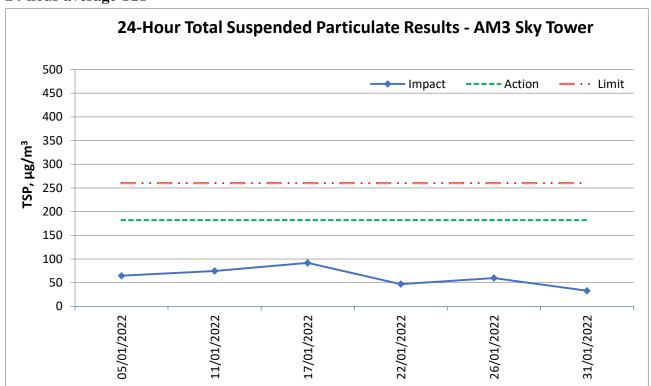
## Location: AM7 – Hong Kong Children's Hospital

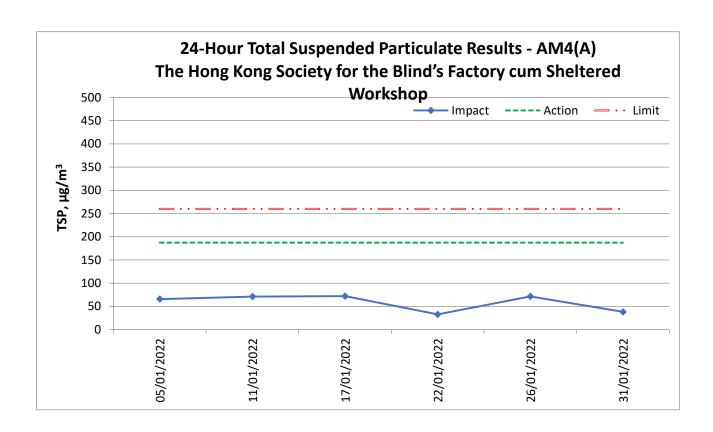
| Start Date | Weather | Air<br>Temp.           | Atmospheric<br>Pressure | Filter we | eight (g) | Particulate | Elapse  | Time    | Sampling<br>Time | Flow<br>(cf |       | Av.<br>Flow           | Total vol. | Conc.         |
|------------|---------|------------------------|-------------------------|-----------|-----------|-------------|---------|---------|------------------|-------------|-------|-----------------------|------------|---------------|
|            |         | $(^{\circ}\mathbb{C})$ | (hPa)                   | Initial   | Final     | weight (g)  | Initial | Final   | (min)            | Initial     | Final | (m <sup>3</sup> /min) | $(m^3)$    | $(\mu g/m^3)$ |
| 05/01/2022 | Sunny   | 23.5                   | 1017.3                  | 15.3632   | 15.4867   | 0.1235      | 8475.51 | 8499.53 | 1441             | 48          | 48    | 1.35                  | 1946       | 63            |
| 11/01/2022 | Sunny   | 19.4                   | 1020.2                  | 15.8163   | 15.9413   | 0.125       | 8499.69 | 8523.71 | 1441             | 50          | 50    | 1.42                  | 2045       | 61            |
| 17/01/2022 | Cloudy  | 18.7                   | 1020.7                  | 17.9005   | 18.0971   | 0.1966      | 8523.96 | 8547.98 | 1441             | 53          | 53    | 1.53                  | 2208       | 89            |
| 22/01/2022 | Sunny   | 17.9                   | 1014.3                  | 15.0647   | 15.1496   | 0.0849      | 8548.57 | 8572.59 | 1441             | 52          | 52    | 1.50                  | 2161       | 39            |
| 26/01/2022 | Sunny   | 20.4                   | 1017.1                  | 15.1453   | 15.2435   | 0.0982      | 8572.75 | 8596.77 | 1441             | 50          | 50    | 1.44                  | 2069       | 47            |
| 31/01/2022 | Sunny   | 15.3                   | 1019.2                  | 15.4705   | 15.5457   | 0.0752      | 8597.19 | 8621.21 | 1441             | 50          | 50    | 1.45                  | 2090       | 36            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Maxin                 | num        | 89            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Minim                 | num        | 36            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Avera                 | age        | 56            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       | Action 1              | Level      | 181           |

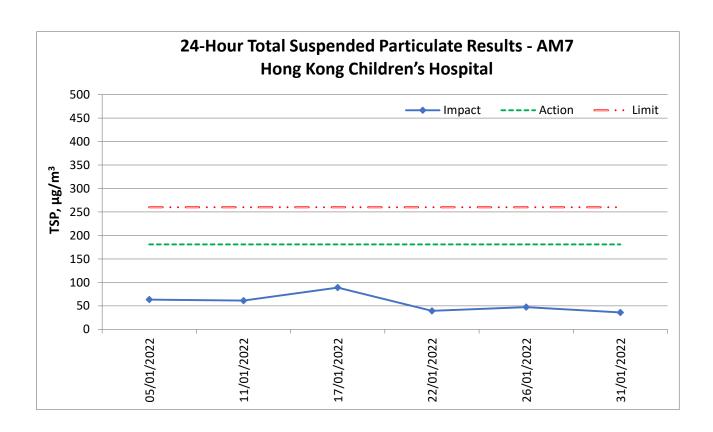
Limit Level

260

## 24-hour average TSP







| $\label{eq:Appendix H-1-hr} \textbf{Appendix H-1-hr TSP monitoring results and graphical presentation}$ |
|---|
|   |
|   |
|   |
|   |
|   |
|   |
|   |
|   |

Location:
AM3 Sky Tower

| Date       | Measure    | emei | nt Period | 1-hr TSP concentration,<br>μg/m <sup>3</sup> | Weather |
|------------|------------|------|-----------|--|---------|
|            | 13:00      | -    | 14:00     | 35   |         |
| 05/01/2022 | 14:00      | -    | 15:00     | 35   | Sunny   |
|            | 15:00      | -    | 16:00     | 39   |         |
|            | 9:00       | -    | 10:00     | 54   |         |
| 11/01/2022 | 10:00      | -    | 11:00     | 58   | Sunny   |
|            | 11:00      | -    | 12:00     | 59   |         |
|            | 9:00       | -    | 10:00     | 76   |         |
| 17/01/2022 | 10:00      | -    | 11:00     | 82   | Cloudy  |
|            | 11:00      | -    | 12:00     | 89   | -       |
|            | 13:00      | -    | 14:00     | 39   |         |
| 22/01/2022 | 14:00      | -    | 15:00     | 42   | Sunny   |
|            | 15:00      | -    | 16:00     | 48   |         |
|            | 13:00      | -    | 14:00     | 41   |         |
| 26/01/2022 | 14:00      | -    | 15:00     | 45   | Sunny   |
|            | 15:00      | -    | 16:00     | 44   |         |
|            | 9:00       | -    | 10:00     | 20   |         |
| 31/01/2022 | 10:00      | -    | 11:00     | 22   | Sunny   |
|            | 11:00      |      |           | 23   |         |
| M          | aximum     |      |           | 89   |         |
| N          | Iinimum    |      |           | 20   |         |
|            | Average    |      |           | 47   |         |
| Ac         | tion Level |      |           | 297  |         |
| Li         | mit Level  |      |           | 500  |         |

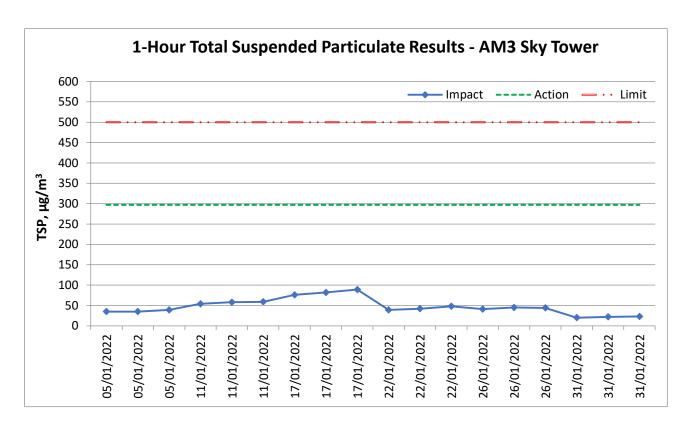
Location:
AM4(A) The Hong Kong
Society for the
Blind's Factory
cum Sheltered
Workshop

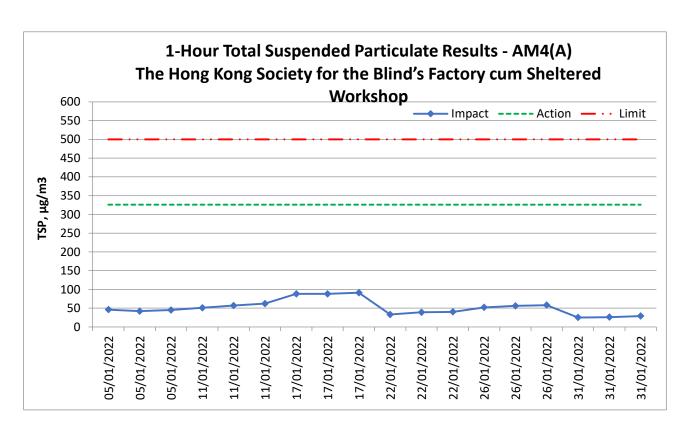
| Date       | Measurement Period |   | nt Period | 1-hr TSP concentration,<br>μg/m <sup>3</sup> | Weather |
|------------|--------------------|---|-----------|--|---------|
|            | 9:00               | - | 10:00     | 46   |         |
| 05/01/2022 | 10:00              | - | 11:00     | 42   | Sunny   |
|            | 11:00              | - | 12:00     | 45   | •       |
|            | 13:00              | - | 14:00     | 51   |         |
| 11/01/2022 | 14:00              | - | 15:00     | 57   | Sunny   |
|            | 15:00              | - | 16:00     | 62   |         |
|            | 9:00               | - | 10:00     | 88   |         |
| 17/01/2022 | 10:00              | - | 11:00     | 88   | Cloudy  |
|            | 11:00              | - | 12:00     | 91   |         |
|            | 9:00               | - | 10:00     | 33   |         |
| 22/01/2022 | 10:00              | - | 11:00     | 39   | Sunny   |
|            | 11:00              | - | 12:00     | 40   |         |
|            | 13:00              | - | 14:00     | 52   |         |
| 26/01/2022 | 14:00              | - | 15:00     | 56   | Sunny   |
|            | 15:00              | - | 16:00     | 58   |         |
|            | 13:00              | - | 14:00     | 25   |         |
| 31/01/2022 | 14:00              | - | 15:00     | 26   | Sunny   |
|            | 15:00              | - | 16:00     | 29   |         |
| Maximum    |                    |   |           | 91   |         |
| M          | Minimum            |   |           | 25   |         |
| Average    |                    |   |           | 52   |         |
| Ac         | tion Level         |   |           | 326  |         |
| Li         | mit Level          |   |           | 500  |         |

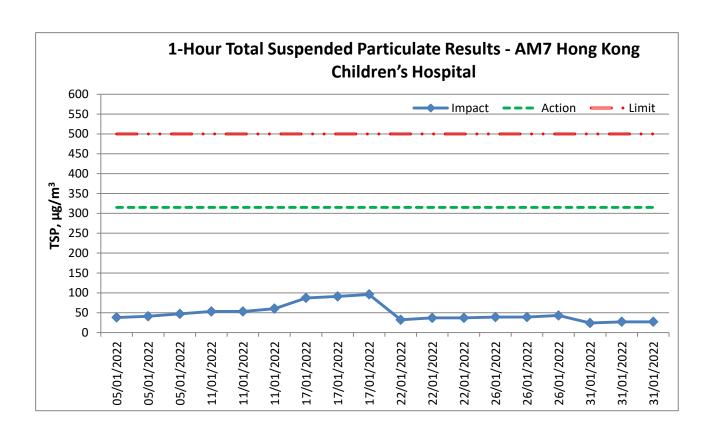
Location:
AM7 Hong Kong
Children's
Hospital

| Date       | Measurement<br>Period |   |       | 1-hr TSP concentration,<br>μg/m <sup>3</sup> | Weather |
|------------|-----------------------|---|-------|--|---------|
|            | 13:00                 | - | 14:00 | 38   |         |
| 05/01/2022 | 14:00                 | - | 15:00 | 41   | Sunny   |
|            | 15:00                 | - | 16:00 | 47   |         |
|            | 9:00                  | - | 10:00 | 53   |         |
| 11/01/2022 | 10:00                 | - | 11:00 | 53   | Sunny   |
|            | 11:00                 | - | 12:00 | 60   |         |
|            | 13:00                 | - | 14:00 | 87   |         |
| 17/01/2022 | 14:00                 | - | 15:00 | 91   | Cloudy  |
|            | 15:00                 | - | 16:00 | 96   |         |
|            | 13:00                 | - | 14:00 | 32   |         |
| 22/01/2022 | 14:00                 | - | 15:00 | 37   | Sunny   |
|            | 15:00                 | - | 16:00 | 37   |         |
|            | 9:00                  | - | 10:00 | 39   |         |
| 26/01/2022 | 10:00                 | - | 11:00 | 39   | Sunny   |
|            | 11:00                 | - | 12:00 | 43   |         |
|            | 9:00                  | - | 10:00 | 24   |         |
| 31/01/2022 | 10:00                 | - | 11:00 | 27   | Sunny   |
|            | 11:00                 | - | 12:00 | 27   |         |
| Maximum    |                       |   |       | 96   |         |
| Minimum    |                       |   |       | 24   |         |
| Average    |                       |   |       | 48   |         |
| Act        | tion Level            |   |       | 315  |         |
| Li         | mit Level             |   |       | 500  |         |

### 1-hour average TSP







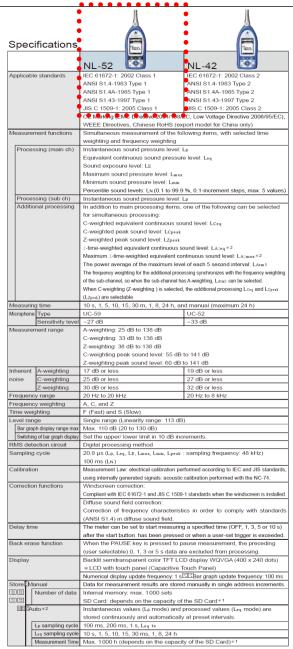
## Appendix I – Event and Action Plan for air quality

| T   |   | Ac  | tion  |  |
|---|---|---|---|--|
| Event   | ET  | IEC   | Supervisor / ER   | Contractor   |
| Action Level being exceeded by one sampling                     | <ol> <li>Identify source and investigate the causes of exceedance;</li> <li>Inform Contractor, IEC and Supervisor /ER;</li> <li>Repeat measurement to confirm finding.</li> </ol>   | <ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>                              | 1. Notify Contractor.   | <ol> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>  |
| Action Level being exceeded by two or more consecutive sampling | <ol> <li>Identify source and investigate the causes of exceedance;</li> <li>Inform Contractor, IEC and Supervisor /ER;</li> </ol>   | <ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and</li> </ol> | Confirm receipt of notification of exceedance in writing;     Notify Contractor;     In consolidation with the  | Discuss with ET and IEC on proper remedial actions;     Submit proposals for remedial actions to   |
|   | <ol> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> </ol>  | Contractor on possible remedial measures; 4. Advise the Supervisor /ER on the effectiveness of the proposed remedial                | IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise implementation  | Supervisor /ER and IEC within three working day of notification; 3. Implement the agreed proposals;  |
|   | <ul> <li>5. Assess the effectiveness of Contractor's remedial actions;</li> <li>6. If exceedance continues, arrange meeting with IEC and Supervisor /ER;</li> <li>7. If exceedance stops, cease additional monitoring.</li> </ul> | measures.   | of remedial measures; 5. Conduct meeting with ET and IEC if exceedance continues.   | 4. Amend proposal if appropriate.  |
| Limit Level being exceeded by one sampling                      | Č   | $\mathcal{E}$   | <ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial</li> </ol> | Take immediate action to avoid further exceedance;     Discuss with ET and IEC on proper remedial actions;     Submit proposal for remedial actions to |
|   | 4. Assess effectiveness of  | <u>'</u>  | measures to be  | Supervisor /ER and IEC   |

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

 $\label{eq:continuous} \begin{tabular}{ll} Appendix J-Calibration certificates, catalogue of noise monitoring \\ equipment \end{tabular}$ 

### Catalogue of Sound Level Meter



| Data recall |                          | Allows viewing of stored data   |  |  |
|-------------|--------------------------|---|--|--|
| Setup       | memory                   | Up to five setup configurations can be saved in internal memory, for later recal              |  |  |
|             |                          | Start up via file settings previously stored on SD card possible                              |  |  |
| Wavefo      | orm recording *3         |   |  |  |
| File        | format                   | Uncompressed waveform WAVE file   |  |  |
| San         | npling frequency         | Select 48 kHz, 24 kHz or 12 kHz   |  |  |
| Dat         | ta length                | Select 24 bit or 16 bit   |  |  |
| Outputs     | DC output                | Output DC signals using a frequency weighting characteristic selected by processing           |  |  |
|             | Output voltage           | 2.5 V, 25 mV / dB at bar graph display full scale   |  |  |
|             | AC output                | Output AC signals using a frequency weighting characteristic selected by                      |  |  |
|             |                          | processing or by A, C, Z-weighting.   |  |  |
|             | Output voltage           | 1 ∨ (rms values) at bar graph display full scale  |  |  |
|             | Comparator               | Turns on when the open-collector output exceeds the set value                                 |  |  |
|             | output*2                 | (max. applied voltage 24 V, max. current 60 mA, allowable dissipation 300 mW).                |  |  |
| USB         | 18                       | Allows USB to be connected to a computer and recognized as a removable dis                    |  |  |
| 22 20 20    | 1                        | Allows USB to be controlled via communication commands  |  |  |
| RS-23       | 2C communication         | Allows for RS-232C communication via use of a dedicated cable                                 |  |  |
| Data c      | ontinuous output*2       |   |  |  |
| Тур         | e of Instantaneous value | Lp  |  |  |
| dat         | a Processed value        | Leq, Lmax, Lmin, Lpeak  |  |  |
| Out         | tput interval            | 100 ms  |  |  |
| Print o     | out                      | Printing of measurement results on dedicated printer DPU-414                                  |  |  |
| Power       | requirements             | Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply |  |  |
| Bat         | tery life (23 °C)        | Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h                                 |  |  |
|             |                          | At the maximum *Depends on the setting  |  |  |
| AC          | adapter                  | NC-98C (NC-34 for previous models cannot be used)   |  |  |
| Ext         | emal power voltage       | 5 to 7 V (rated voltage: 6 V)   |  |  |
| Cui         | rrent consumption        | Approximately 90 mA (normal operation, rated voltage)   |  |  |
| Ambie       | nt Temperature           | −10 to +50 °C   |  |  |
| conditi     | ons Humidity             | 10 to 90 % RH (non-condensing)  |  |  |
| Dustpr      | oof / water-resistant    | IP code: IP54 (except for microphone)   |  |  |
| perforr     | mance *4                 | See precautions regarding waterproofing   |  |  |
| Dimen       | sions, weight            | Approx. 250 (H) x 76 (W) x 33 mm(D), approx. 400 g (with batteries)                           |  |  |
| Suppli      | ed accessories           | Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1,                |  |  |
|             |                          | Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB×1 (NX-42EX                    |  |  |
|             |                          | preinstalled model only)  |  |  |

| Product name   | Product number   |
|--|------------------|
| Extended function program (Inst.on 512 MB SD card)   | NX-42EX          |
| Waveform recording program*2 (Inst.on 2 GB SD card)  | NX-42WR          |
| Octave, 1/3 octave real-time analysis program*2 (Inst.on 512 MB SD card)   | NX-42RT          |
| FFT analysis program *2 (Inst.on 512 MB SD card)   | NX-42FT          |
| Data management software for environmental measurement   | AS-60            |
| Data management software for environmental measurement (Includes the octave and 1/3 octave data management software) | AS-60RT          |
| Data management software for environmental measurement<br>(Includes the vibration level data management software)    | AS-60∨M          |
| Waveform analysis software   | CAT-WAVE         |
| SD Card 512 MB   | SD-512M          |
| SD Card 2 GB   | SD-2G            |
| AC adapter (100 ∨ to 240 ∨)  | NC-98C           |
| Battery pack   | BP-21            |
| Microphone extension cables  | EC-04 (from 2 m) |
| BNC-Pin output code  | CC-24            |
| Comparator output cable  | CC-42C           |
| Printer  | DPU-414          |
| Printer cable  | CC-42P           |
| RS 232C serial I/O cable   | CC-42R           |
| USB cable  | _                |
| Sound calibrator   | NC-74            |
| All-weather windscreen   | WS-15            |
| Windscreen mounting adapter  | WS-15006         |
| Rain-protection windscreen   | WS-16            |
| Sound level meter tripod   | ST-80            |
| All-weather windscreen tripod  | ST-81            |

\*4 Protection against harmful dust and water splashing from any direction.

Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed. To maintain the water and dust proof rating, internal packing replacement is required every two years (at



RION CO., LTD.

3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.

This product is certified to an International Protection rating of IP54 (dust protected and resistant to splashing water).
This leaffet is printed with environmentally friendly vegetable-based ink on recycled paper.

1011-4 El 212.P.D

AAST-SLM-10 Cal Cost: 2021/7/19



中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心) CHINA CEPREL LABORATORY CALIBRATION & TESTING CENTRE

# CALIBRATION CERTIFICATE

证书编号: 2HB21001383-0001 Certificate No.



| 委托单位: _<br>Client    | Castco Testing Centre Limited |  |                 |  |  |
|----------------------|-------------------------------|--|-----------------|--|--|
| 仪器名称:<br>Description | Sound Level Meter             |  |                 |  |  |
| 型号规格:<br>Model/Type  |                               | NL-52  |                 |  |  |
| 制造商:<br>Manufacturer | -                             | RION   |                 |  |  |
| 机身号:<br>Serial No.   | 00976203                      |  |                 |  |  |
| 管理号:<br>Asset No.    |                               | AAST-SLM-10                                  |                 |  |  |
| 接收日期:                | 2021-07-08                    | 校准日期:  | 2021-07-19      |  |  |
| Rec. Date<br>签发日期:   | 2021-07-19                    | Cal. Date<br>建议校准周期:                         | 12个月(12 months) |  |  |
| App. Date            | 所校准项                          | Reference Cal. Peri<br>目合格(Passed at Calibra |                 |  |  |

Approved by

Conclusion

賽宝计量检测中心 广州总部地址:广州市增城区朱村街朱村大道西78号 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896 邮件: cal@ceprei.com 周址: www.ceprei-cal.com

印章:

Stamp

CEPREI Calibration and Testing Centre HO Addr: No.78 Zhucun Avenue West Zenechene District Guanezhou, China Service Tel: 020-87237633 Fax: 020-87236189 Complaint Tel: 020-87236896 Email: cal@ceprei.com Website: www.ceprei-cal.com

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31.5Hz~16kHz

## DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会( CNAS) 认可, 认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):

■ JJG 188-2017 声级计检定规程: Sound pressure level: (20~130)dB: Frequency Weighting: (20~130)dB@(10 Hz~20kHz).

TILE - CANALE/S · 详细内容请查看CNAS网络中注册编号为113344的证书别件,超出范围的内容未被认可,其结果/结论所依据的合格评定活动不在认可范围内,(Please see the attachment of certificate No. L13344 at (CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the expery of accreditation.).

3 木次检准所使用的主要测量标准(The main measurement standards used during the calibration):

| 名称            | 证书号/有效期/溯源单位                               | 技术指标  | 测量范围  |
|---------------|--|---|---|
| (Description) | (Certificate No./Due Date/Traceability to) | (Specification)   | (Measuring Range)   |
| 正弦信号发生器       | 4GC20000427-0010/2021-11-04/赛宝(广州)         | f: ±1mHz: 失真度<br>Distortion: <-70dB   | f: 0.001Hz~200kHz: <i>U</i><br>: 100µV~5Vrms  |
| 数字多用表         | 4GC20000358-0060/2021-09-09/賽宝(广州)         | DCV: ±0.0035%; ACV: ±<br>0.06%; DCI: ±0.05%; ACI<br>: ±0.1%; R: ±0.01%; f:<br>±0.001% | DCV:(0~1000)V; ACV<br>(0.001~750)V@(3Hz~<br>300kHz); DCI:(0~3)A<br>; ACI:(0~3)A@(3Hz~<br>5kHz); R:(0~100)MΩ<br>; f:3Hz~300kHz |
| 步进衰减器         | 4GC21000155-0024/2022-04-29/赛宝(广州)         | ±3dB  | (0~110) dB/10dB step<br>@(DC~1GHz)  |
| PULSE分析系统     | GFJGJL1001210202725/2022-03-03/航空<br>304所  | 频率:U <sub>rel</sub> =0.001%,k=2;电压:<br>U <sub>rel</sub> =0.04%,k=2                    | 頻率:0.001Hz~51.2kHz,<br>电压:(1×10 <sup>5</sup> ~30)V  |
| 标准传声器         | LSsx2021-13180/2022-04-24/中国计量院            | U=(0.05~0.20)dB (k=2)   | 20Hz~20kHz  |
| 前置放大器         | LSsx2021-11346/2022-03-07/中国计量院            | U=0.3dB (k=2)   | (10~20000) Hz   |
| 功率放大器         | 4GC20000457-0065/2021-11-17/赛宝(广州)         | 频率响应: ±ldB, 失真度   | 20Hz~20kHz  |

4. 校准地点(The calibration place): 广州市增城区朱村街朱村大道西78号9栋110室

环境条件(Environmental conditions): 温度(Temperature): 23.4°C 相对湿度(Relative Humidity): 55.8%

多功能声学校准器 4EC20000091-0005/2021-11-05/赛宝(广州) 1级

6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标 准不确定度乘以包含概率约为95%时对应的包含因子k得到。

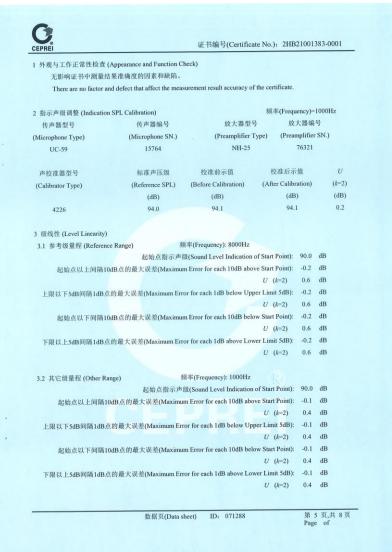
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

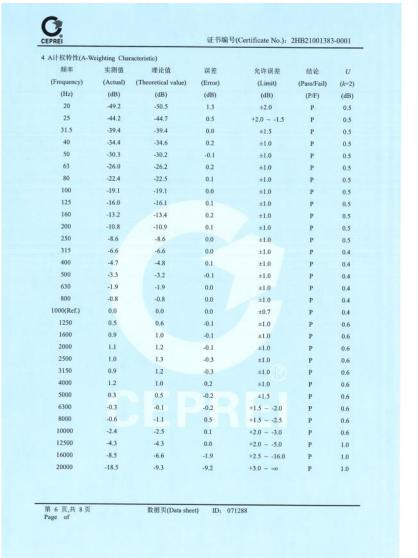
7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围内", "N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。

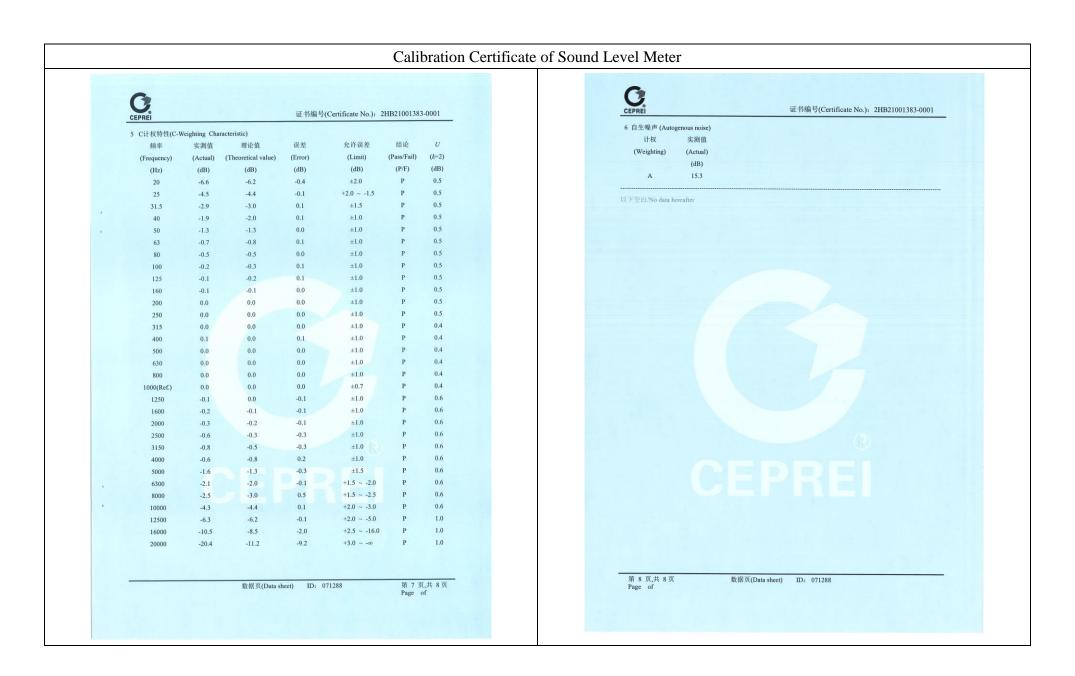
"P" and "Pass" in this certificate stand for "Low Limit's the measured value SHigh Limit", "F" and "Fail" stand for "the measured value Low Limit or the measured value High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc". The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement

8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委 托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

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中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心) CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

# CALIBRATION CERTIFICATE

证书编号: 2HB21001370-0002 Certificate No.



| 委托单位:                              | Castco Testing Centre Limited |  |
|------------------------------------|-------------------------------|--|
| 仪器名称:                              | Sound Level Meter             |  |
| Description<br>型号规格:<br>Model/Type | NL-52                         |  |
| 制造商:                               | RION                          |  |
| 机身号:                               | 00976204                      |  |

管理号: Asset No.

接收日期: Rec. Date 签发日期:

Serial No.

App. Date 结论: Conclusion 2021-07-08 2021-07-19

校准日期: Cal. Date

AAST-SLM-11

建议校准周期:

12个月(12 months)

2021-07-19

Reference Cal. Period

所校准项目合格(Passed at Calibration Items)



Approved by



寨宝计量检测中心 广州总部地址:广州市增城区朱村街朱村大道西78号 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896 邮件: cal@ceprei.com

网址: www.ceprei-cal.com

Stamp CEPREI Calibration and Testing Centre

印章:

HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China Service Tel: 020-87237633 Fax: 020-87236189 Complaint Tel: 020-87236896

Email: cal@ceprei.com Website: www.ceprei-cal.com

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# DIRECTIONS

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■ JJG 188-2017 声级计检定规程: Sound pressure level: (20~130)dB: Frequency Weighting: (20~130)dB@(10

AND 4-29

- 第個內容清查看CNAS阿站中注册编号为L13344的证书附件,超出范围的内容未被认可,其结果结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.).

3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

| 3. | 名称            | 证书号/有效期/溯源单位                               | 技术指标  | 测量范围  |
|----|---------------|--|---|---|
|    | (Description) | (Certificate No./Due Date/Traceability to) | (Specification)   | (Measuring Range)                                   |
|    | 正弦信号发生器       | 4GC20000427-0010/2021-11-04/賽宝(广州)         | Distortion: <-70dB  | f: 0.001Hz~200kHz: <i>U</i><br>: 100μV~5Vrms        |
|    | 数字多用表         | 4GC20000358-0060/2021-09-09/賽宝(广州)         | DCV: ±0.0035%; ACV: ±<br>0.06%; DCI: ±0.05%; ACI<br>: ±0.1%; R: ±0.01%; f:<br>±0.001% |   |
|    | 步进衰减器         | 4GC21000155-0024/2022-04-29/赛宝(广州)         | ±3dB  | (0~110) dB/10dB step<br>@(DC~1GHz)                  |
|    | PULSE分析系统     | GFJGJL1001210202725/2022-03-03/航空<br>304所  | 频率: U <sub>rel</sub> =0.001%,k=2;电压:<br>U <sub>rel</sub> =0.04%,k=2                   | 频率:0.001Hz~51.2kHz,<br>电压:(1×10 <sup>-5</sup> ~30)V |
|    | 标准传声器         | LSsx2021-13180/2022-04-24/中国计量院            | U=(0.05~0.20)dB (k=2)   | 20Hz~20kHz  |
|    | 前置放大器         | LSsx2021-11346/2022-03-07/中国计量院            | U=0.3dB (k=2)   | (10~20000) Hz                                       |
|    | 功率放大器         | 4GC20000457-0065/2021-11-17/赛宝(广州)         | 频率响应: ±1dB, 失真度: ≤0.2%  | 20Hz~20kHz  |
|    | 多功能声学校准器      | 4EC20000091-0005/2021-11-05/賽宝(广州)         | 1级  | 31.5Hz~16kHz  |

4. 校准地点(The calibration place):

广州市增城区朱村街朱村大道西78号9栋110室 5. 环境条件(Environmental conditions):

温度(Temperature): 23.4℃ 相对湿度(Relative Humidity): 55.8% 6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标

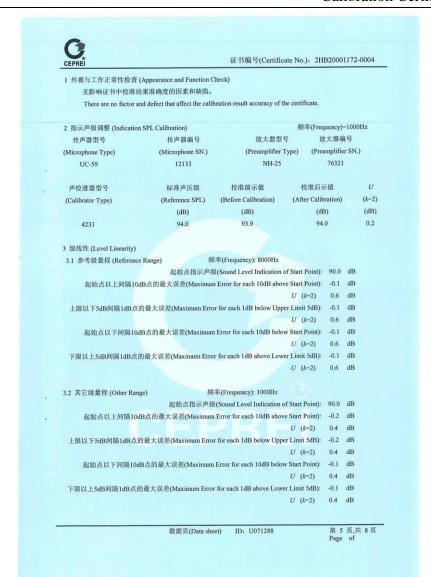
准不确定度乘以包含概率约为95%时对应的包含因子k得到。 The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

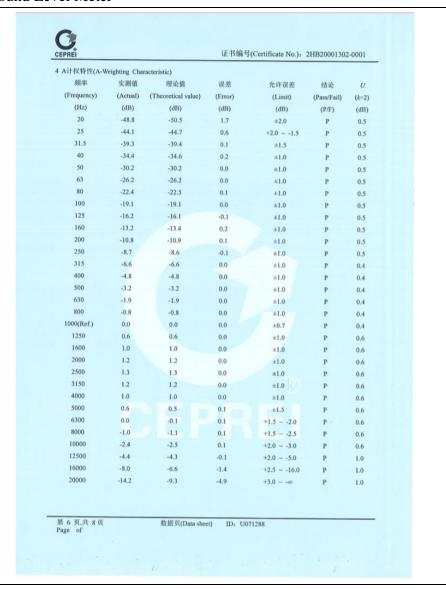
7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围内", "N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应 结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。

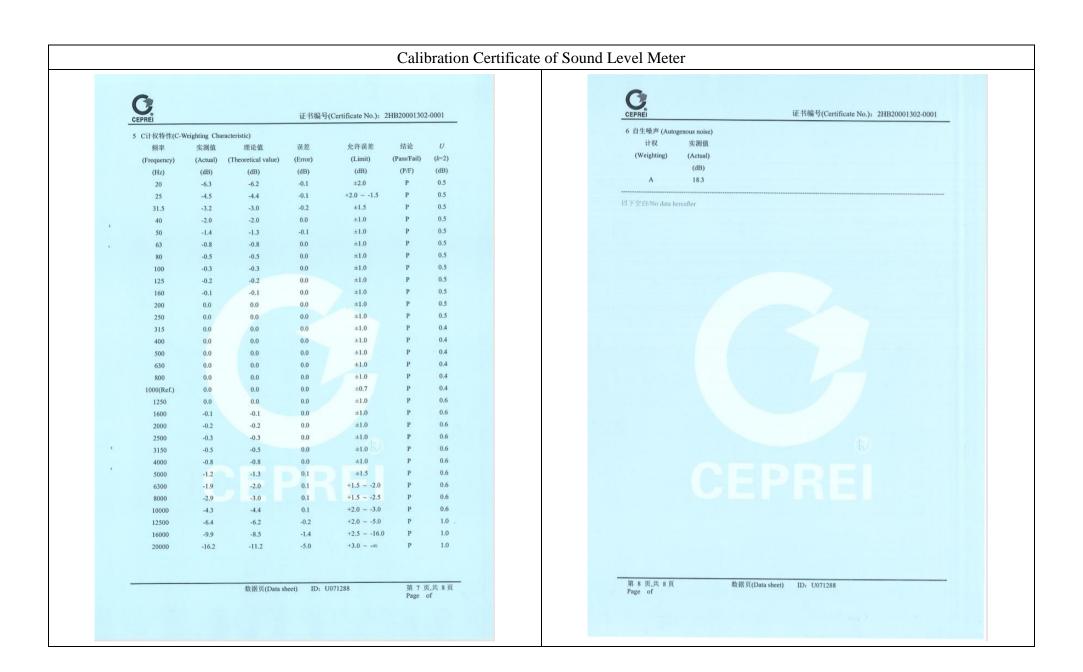
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value < Low Limit or the measured value > High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc". The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement

8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委 托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

> 第 3 页,共 8 页 Page of







### Catalogue of Sound Calibrator

Sound Calibrator NC-75





Compact and lightweight sound calibrator allows highly reliable and accurate measurement anywhere

# Sound Calibrator



- Integrated newly developed reference microphone enables feedback control that completely eliminates the need for atmospheric pressure and coupler volume correction, resulting in highly accurate and reliable calibration.
- Effective coupler sound insulation (30 dB or higher\*) permits calibration also in relatively noisy environments. \*A-weighed sound level insulation performance measured with pink noise
- Each product comes standard with a JCSS Calibration Certificate, demonstrating high quality.
- Ocnforming with IEC 60942: 2017 class 1 and
- (Also complies with IEC 60942 Version 4 currently under revision) Supports calibration of RION sound level meters compliant with IEC 61672-1: 2013, JIS C 1509-1: 2017 and JIS C 1516: 2014.
- Supports calibration of RION microphones and microphones of
- other manufacturers meeting the size specifications of IEC 61094-4.

  Supports 1-inch, 1/2-inch, and 1/4-inch microphones (1/4 inch with optional adapter)



### Catalogue of Sound Calibrator



How to use the adapter

### ■ 1-inch microphones

To use the sound calibrator with 1-inch diameter microphones, remove the 1/2-inch microphone adapter



### ■ 1/2-inch microphones

To use the sound calibrator with 1/2-inch diameter microphones, the supplied 1/2-inch microphone adapter must be in place.



 1/4-inch microphones To use the sound calibrator with 1/4-inch diameter microphones use the supplied 1/2-inch microphone adapter together with the optional



1/4-inch adapter.

| ecifications (under         | standard ambient conditions*)   | Strap        |
|-----------------------------|---|--------------|
| plicable standards          | IEC 60942: 2017 class1, ANSI/ASA S1.40-2006 class1,<br>JIS C 1515: 2004 class 1, CE marking, WEEE directive,<br>Chinese RoHS  |              |
| pported<br>prophones        | Microphones made by RION and microphones made by other<br>manufacturers that meet the IEC 61094-4 size specifications<br>1-inch microphones (with supplied adapter)<br>1/2-inch microphones (with optional adapter) |              |
| ninal sound pressure level  | 94 dB   | 1            |
| nd pressure level tolerance | Max. ±0.20 dB   |              |
| minal frequency             | 1 000 Hz  |              |
| quency tolerance            | Max. ±0.1%  | Securely car |
| D + noise                   | Max. 1.0 % (22.4 Hz to 22.4 kHz)  | the supplied |
| nensions and weight         | Approx. 42 mm (H) x 77 mm (W) x 70 mm (D), approx. 200 g  |              |
| wer supply                  | IEC LR6 (size AA) alkaline battery x 2 IEC LR6 (size AA) nickel-hydride rechargeable battery ("eneloop pro" supported) x 2  |              |
| tery life                   | 50 hours or more (using two alkaline batteries, continuous use)   |              |
|                             | 50 hours or more (using two nickel-hydride rechargeable<br>batteries [eneloop pro], continuous use)   | PISTO        |
| nation assessment           | Coft sees v. 1. 1/0 inch missenhous adentes v. 1. IEC I DR  | NC-72        |





IEC 60942: 2017 class LS/M, class 1/M, JIS C 1515: 2004 class LS/C, class 1/C





(size AA) alkaline battery x 2, hand strap x 1, JCSS Calibration Certificate x 1



3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442

### Catalogue of Sound Calibrator

For microphone calibration NC-74

#### How to use

Carefully insert the microphone all the way into the coupler of the NC-74. Then simply turn the power on to apply a constant sound pressure level to the diaphragm of the microphone.



The performance of the NC-74 is suitable for calibration of high-precision sound level meters. The unit is compact, lightweight, and easy to use. Two IEC LR6 (size AA) alkaline batteries will power the unit for more than 30 hours of continuous use at room temperature.

The NC-74 incorporates a sensor that detects atmospheric pressure. Based on the information provided by the sensor, the CPU controls the signal amplitude. This allows the unit to always provide the correct output for achieving constant sound pressure level, regardless of fluctuations in atmospheric pressure.



#### Using the 1/2-inch adapter

To allow calibration of sound level meter microphones with 1 inch diameter, the 1/2-inch microphone adapter can be removed. 1/2-inch microphones are calibrated with the adapter in place.



#### Specifications

| Applicable standards           | IEC 60942:2003 Class 1<br>JIS C1515:2004 Class 1  |   |  |
|--------------------------------|---|---|--|
| Suitable microphones           | 1-inch microphones  | IEC 61094-1 Type LS1P<br>UC-27<br>UC-25<br>UC-34  |  |
|                                | 1/2-inch microphones  | IEC 61094-1 Type LS2aP<br>UC-59<br>UC-57<br>UC-53A<br>UC-52<br>UC-26<br>UC-26<br>UC-30<br>UC-31<br>UC-33P |  |
| Nominal sound pressure level   | 94 dB   |   |  |
| Sound pressure level tolerance | ±0.3 dB   |   |  |
| Nominal frequency              | 1 kHz   |   |  |
| Frequency tolerance            | ±1.0 % or less  |   |  |
| Power requirements             | IEC LR6 (size AA) alkal   | ine battery X 2   |  |
| Dimensions, mass               | Approx. 49 (H) × 80 (W) × 74 (D) mm<br>Approx. 200 g (including batteries)                |   |  |
| Supplied accessories           | Case × 1 IEC LR6 (size AA) alkaline battery × 2 1/2-inch microphone adapter NC-74-002 × 1 |   |  |

\* Specification subject to change without notice.



3-20-41,Higashimotomachi,Kokubunji,Tokyo 185-8533,Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442 http://www.rion.co.jp/english/



### Calibration Certificate of Sound Calibrator



中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心) CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

## 校准证书 CALIBRATION CERTIFICATE

证书编号: 2HB21001749-0002 Certificate No.





| 終托单位: _<br>lient       | Castco Testing Centre Limited        |                                 |                       |  |  |
|------------------------|--------------------------------------|---------------------------------|-----------------------|--|--|
| 以器名称: _<br>Description | Sound Level Calibrator               |                                 |                       |  |  |
| U号规格:<br> odel/Type    | NC-75                                |                                 |                       |  |  |
| 月造商:<br>Ianufacturer   | RION                                 |                                 |                       |  |  |
| L身号: _<br>erial No.    | 34280310                             |                                 |                       |  |  |
| 理号:<br>sset No.        | AAST-SLC-07                          |                                 |                       |  |  |
| 後收日期:<br>ec. Date      | 2021-08-05                           | 校准日期:<br>Cal. Date              | 2021-08-17            |  |  |
| E发日期: _<br>pp. Date    | 2021-08-18                           | 建议校准周期:<br>Reference Cal. Perio | 12个月(12 months)<br>od |  |  |
| 节论:<br>onclusion       | 所校准项目合格(Passed at Calibration Items) |                                 |                       |  |  |

GEPRE

校准: Calibrated b

Approved by

赵文红

為中木も

Inspected by

Stamp

賽宝计量檢測中心 广州总部地址: 广州市增城区朱村街朱村大道两78号 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896

邮件: cal@ceprei.com 同址: www.ceprei-cal.com CEPREI Calibration and Testing Centre

CEPREI Calibration and Testing Centre
HQ Addr. No.78\_Ducum Avenue West.Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87237693
Email: cali@ceprei.com

第 1 页,共 5 页 Page of

### Calibration Certificate of Sound Calibrator

TE 1848 E (Costi Scotte No. 3 - 21/R21001749-0002

### 说 明 DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会(CNAS)认可,认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

- 2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):

  "JIG 176-2005 声校准器检定规程: Sound Pressure Level: 94dB. 104dB. 114dB. 124dB(63Hz~8kHz): 94dB. 104dB. 114dB. 114dB(31.5Hz~16kHz): Frequency: 31.5Hz~16kHz: Harmonic Distortion: 0~10%. (20Hz~20
- KHZ)。 详细内容请查看CNAS网络中连师编号为L13344的证书册件,超出范围的内容未被认可,其结果/结论所依据的合格评定活动不在认可 范围号,(Please see the attachment of certificate No. L13344 at (CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results conclusions are based are outside the scope of accreditation.)
- 3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):
  名称
  证书号/有效期/测源单位
  技术指标
  测量范围

| (Description) | (Certificate No./Due Date/Traceability to | (Specification)                          | (Measuring Range)                                   |
|---------------|---|--|---|
| 标准传声器         | LSsx2021-13180/2022-04-24/中国计量院           |  | 10Hz~20kHz  |
| PULSE分析系统     | 4GC21000026-0375/2022-01-21/赛宝(广州)        | 頻率:Urei=0.001%,k=2;电压:<br>Urei=0.04%,k=2 | 频率:0.001Hz~51.2kHz,<br>电压:(1×10 <sup>-5</sup> ~30)V |
| 前置放大器         | LSsx2021-13000/2022-04-19/中国计量院           | U=0.3dB (k=2)                            | (10~50000) Hz                                       |

4. 校准地点(The calibration place):

广州市增城区朱村街朱村大道西78号9栋110室

- 5. 环境条件(Environmental conditions):
- 温度(Temperature): 22.9°C 相对湿度(Relative Humidity): 59.5%
- 6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。

The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor & which corresponding to the coverage probability about 95%.

7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围内", "N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。

"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value <Low Limit or the measured value > High Limit", "NA stands for "Not Applicable or The technical specification has not been confirmed ete."The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement

8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the

- 注: 1.本证书未经本机构书面授权,不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)
- 2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

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证书编号(Certificate No.): 2HB21001749-0002 1 外观与工作正常性检查 (Appearance and Function Check) 无影响证书中校准结果准确度的因素和缺陷。 There are no factor and defect that affect the calibration result accuracy of the certificate. 2 声压级 (Sound Pressure Level) 允许范围 结论 规定声压级 测量声压级 声压级差的绝对值 (Pass/Fail) (k=2)(Prescribed SPL) (Measured SPL) (Absolute value of SPL) (Limit) (dB) (dB) (dB) (dB) (dB) 0.10 94.12 0.12 ≤0.40 94 3 頻率 (Frequency)  $U_{\rm rel}$ 结论 规定频率 测量频率 频率误差的绝对值 允许范围 (Pass/Fail) (k=2)(Prescribed Fre.) (Measured Fre.) (Absolute value of Fre.) (Limit) (%) (%) (%) (Hz) (Hz) 0.10 ≤1.00 1000.0 0.00 1000 4 总失真 (Distortion) 结论 Urel 规定声压级 规定频率 总失真 允许范围 (k=2)(Pass/Fail) (Prescribed SPL) (Measured Fre.) (Distortion) (Limit) (%) (%) (Hz) (%) 5.0 ≤3.00 1000 0.15 数据页(Data sheet) ID: 013393 第5页,共5页 Page of

### Calibration Certificate of Sound Calibrator

AAST-SLC-05 Cal Cert: 2021/07/19 中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心) CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE CALIBRATION CERTIFICATE 证书编号: 2HB21001370-0004 Certificate No. Castco Testing Centre Limited 委托单位: Sound Level Calibrator 仪器名称: Description NC-74 型号规格: Model/Type RION 制造商: Manufacturer 34178129 机身号: Serial No. AAST-SLC-05 管理号: Asset No. 2021-07-08 2021-07-19 接收日期: 校准日期: Cal. Date Rec Date 12个月(12 months) 建议校准周期: 签发日期: Reference Cal. Period App. Date 所校准项目合格(Passed at Calibration Items) 结论: Conclusion 签发: 印章: Approved by Stamp 赛宝计量检测中心 CEPREI Calibration and Testing Centre 广州总部地址:广州市增城区朱村街朱村大道西78号 HQ Addr: No.78, Zhucun Avenue West, Zengcheng District, Guangzhou, China Service Tel: 020-87237633 Fax: 020-87236189 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896 Complaint Tel: 020-87236896

Email: cal@ceprei.con

Website: www.ceprei-cal.com

邮件: cal@ceprei.com

网址: www.ceprei-cal.com

iii 1888 85 (Corrificate No.) - 2HB21001370-0004

### 说 明 DIRECTIONS

 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会( CNAS)认可,认可证书号为; CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

- 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):
   JJG 176-2005 声枝准器检定规程: Sound Pressure Level: 94dB、104dB、114dB、124dB(63Hz~8kHz): 94dB、104dB、114dB、31.5Hz~16kHz): Frequency: 31.5Hz~16kHz; Harmonic Distortion: 0~10%, (20Hz~20
- \* 详由作容清查看CNAS网站中注册编号为L13344的证书附件,超出范围的内容未被认可,其结果结论所依据的合格评定活动不在认可 范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)-
- 3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration);

   名
   事
   证书与/有效期/测源单位
   技术指标
   (Magazing Range)

   PULS启分析系统
   4GC21000026-0375/2022-01-21/率宝(厂州)
   频率±U<sub>n</sub>=0.001%<sub>n</sub>-2-1 些 版单、0018x-51.2kHz。
   频率0.01Hx-51.2kHz。

   标准作声器
   LSsx2021-131802/022-04-19/中国计量版
   U=0.05-0.2018 (A=2)
   201x2-20kHz

   前置放大器
   LSsx2021-13000/2022-04-19/中国计量版
   U=0.05-0.2018 (A=2)
   1(10-50000)
- 4. 校准地点(The calibration place):

广州市增城区朱村街朱村大道西78号9栋110室

5. 环境条件(Environmental conditions):

温度(Temperature): 23.3°C 相对湿度(Relative Humidity): 59.6%

6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。

The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor & which corresponding to the coverage probability about 95%.

7. 证书中"P"、"合格"代表"测量结果在允许范围内","F"、"不合格"代表"测量结果不在允许范围内","N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。

"P" and "Pass" in this certificate stand for "Low Limit's the measured value \ High Limit", "F" and "Fail" stand for "the measured value \ Low Limit or the measured value \ High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed ete". The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

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- 2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

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第1页共5页

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#### Calibration Certificate of Sound Calibrator **SPECIFICATIONS** 证书编号(Certificate No.): 2HB21001370-0004 1 外观与工作正常性检查 (Appearance and Function Check) 无影响证书中校准结果准确度的因素和缺陷。 There are no factor and defect that affect the calibration result accuracy of the certificate. Velocity Range (TA410) Range (TA430, TA440) 2 声压级 (Sound Pressure Level) Accuracy (TA410)192 Accuracy (TA430, TA440)<sup>162</sup> ±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater 允许范围 结论 U测量声压级 声压级差的绝对值 Resolution (k-2)(Pass/Fail) (Prescribed SPL) (Measured SPL) (Absolute value of SPL) (Limit) Duct Size (TA430, TA440) (dB) (dB) (dB) Dimensions 0.10 ≤0.40 94 94.29 0.29 Range 3 频率 (Frequency) Temperature Range (TA410, TA430) Range (TA440) 结论 Uset 规定频率 频率误差的绝对值 允许范围 Resolution (k=2) (Prescribed Fre.) (Measured Fre.) (Absolute value of Fre.) (Limit) (Pass/Fail) (%) (%) (Hz) Range ≤1.00 0.10 1000 1002.1 0.21 Accuracy4 Resolution 4 总失真 (Distortion) Range Resolution 規定声压级 规定频率 总失真 允许范围 结论 Utel Dew Point (TA440 only) Range (k-2)(Prescribed SPL) (Measured Fre.) Resolution (%) (%) (dB) ≤3.00 5.0 94 1000 1.34 Operating (Electronics) Model TA410, TA430 Model TA440 以下空白/No data hereafter Operating (Probe) Storage Range 1 second to 1 hour 数据页(Data sheet) ID: 013393 第5页,共5页

### Catalogue of Air Flow Meter (TSI TA440)

MODELS TA410, TA430 AND TA440

0 to 20 m/s (0 to 4,000 ft/min) 0 to 30 m/s (0 to 6,000 ft/min) ±5% of reading or ±0.025 m/s (±5 ft/min), whichever is greater

0.01 m/s (1 ft/min)

1 to 635 cm in increments of 0.1 cm (1 to 250 inches in increments of 0.1 in.)

#### Volumetric Flow Rate (TA430, TA440)

Actual range is a function of velocity, and duct size

-18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) ±0.3°C (±0.5°F) 0.1°C (0.1°F)

#### Relative Humidity (TA440 only)

5 to 95% RH ±3% RH 0.1% RH

### Wet Bulb Temperature (TA440 only)

5 to 60°C (40 to 140°F)

-15 to 49°C (5 to 120°F) 0.1°C (0.1°F)

#### Instrument Temperature Range

-18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) -20 to 60°C (-4 to 140°F)

#### Data Storage Capabilities (TA430, TA440)

12,700+ samples and 100 test IDs

5 to 45°C (40 to 113°F)

#### Logging Interval (TA430, TA440)



#### Time Constant (TA430, TA440) User selectable

#### **External Meter Dimensions**

8.4 cm x 17.8 cm x 4.4 cm (3.3 in. x 7.0 in. x 1.8 in.)

Meter Weight with Batteries

0.27 kg (0.6 lbs.)

#### **Meter Probe Dimensions**

Probe Length 101.6 cm (40 in.) Probe Diameter of Tip 7.0 mm (0.28 in.) Probe Diameter of Base 13.0 mm (0.51 in.)

#### **Articulating Probe Dimensions**

Articulating Section Length 19.7 cm (7.8 in.) Diameter of Articulating Knuckle 9.5 mm (0.38 in.)

#### **Power Requirements**

Four AA-size batteries or AC adapter

|  | TA410    | TA430,<br>TA430-A             | TA440,<br>TA440-A             |  |
|--|----------|-------------------------------|-------------------------------|--|
| Velocity range<br>0 to 20.00 m/s<br>(0 to 4000 ft/min) | +        |                               |                               |  |
| Velocity range<br>0 to 30.00 m/s<br>(0 to 6000 ft/min) |          | +                             | +                             |  |
| Temperature  | +        | +                             | *                             |  |
| Flow   |          | +                             | +                             |  |
| Humidity, wet bulb,<br>dew point                       |          |                               |                               |  |
| Probe  | Straight | Straight or -A<br>articulated | Straight or -A<br>articulated |  |
| Variable time<br>constant                              |          | +                             | +                             |  |
| Manual<br>data logging                                 |          | +                             |                               |  |
| Auto save<br>data logging                              |          |                               | +                             |  |
| Statistics   |          | +                             | +                             |  |
| Review data  |          | +                             | +                             |  |
| LogDat2<br>downloading<br>software                     |          | +                             | +                             |  |
| Free Certificate of Calibration                        | +        | +                             | 141                           |  |

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 at 25°C (77°F), add uncertainty of 0.03°C/°C (0.05°F/°F)

for change in instrument temperature.

Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% 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 more information

UK Tel: +44 149 4 459200 Germany Tel: +49 241 523030 France Tel: +33 491 11 87 64

P/N 2980548 Rev D (A4) ©2014 TSI Incorporated

### Calibration Certificate of Air Flow Meter AAST-FLOW-03, Gal Cent 2021/2/26 深圳市东华计量检测技术有限公司 CALIBRATION CERTIFICATE 证书编号: DH21AA002160001 Certificate No. 委托方名称: Castco Testing Centre Limited Client name 委托方地址: 33, On Kui Street, Fanling, N.T. Add.of Client 计量器具名称: 风速计 Name of Instrument 型号/规格: TA440 Type/Specification 制造单位: AIRFLOW Manufacturer 器具编号: AAST-FLOW-03/TA4401706003 Serial No. 接收日期: 02 Month 23 校准日期: Date of calibration Year Month 批准人: 签发日期: 2021 年 02 月 26 日 Approved by Date of issue Year Month 张吉庆 核验员: 张吉庆 Checked by (证书专用章) 校准员: Calibrated by 扫码查证书信息 (真伪) 计量校准机构备案号: 粤校备2017B010 Register No: 粤校备2017B010 地址:深圳市龙华区大浪街道同胜社区浦华科技园厂房 Add: 1st Floor, Building A1, Puhua Science and Technology Park, Tongsheng Community, Dalang Street, Longhua District, Shenzhen, Guangdong, China 电话: 0755-28161768/28162768/28166778 Tel: 0755-28161768/28162768/28166778 传真: 0755-21004376 邮编: 518109 Fax: 0755-21004376 Zip Code: 518109 http://www.szdhjl.com E-mail: szdhjl@163.com 第 1 页 . 共 3 页 page



Certificate No.

DH21AA002160001

### 证书说明

Certificate Statement

- 1、本校准证书包含的数据和信息仅对本次被校准的计量器具负责。 The calibration certificate contains data and information applies only to the calibrated instrument.
- 2、本公司仅对加盖我司的"证书专用章"的完整证书负责。
- The company only Division I stamped "certificate special seal" is responsible for the full certificate. 3、未经本公司书面授权,不得部分复印证书。
- The certificate shall not be photocopied without the written authorization of the company.
- 4、本次校准依据的技术文件:

Reference Documents for the Calibration:

JJG(建设)0001-1992 热球式风速仪计量检定规程

JJG(建设)0001-1992 Metrological Verification Regulation of Hot Ball shaped Anemmeter

5、本次校准所使用的主要计量标准器具: Major standards of measurement used in the calibration:

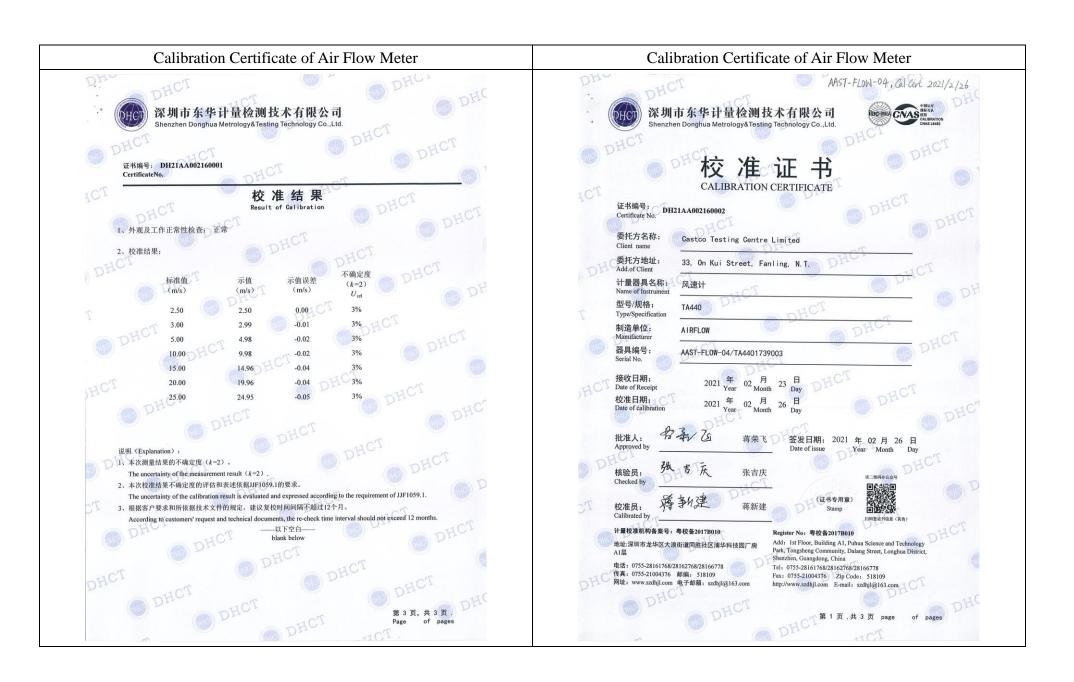
| 设备名称<br>Equipment Name | 测量范围<br>Measuring Range                | 不确定度/准确度等级<br>/最大允许误差<br>Uncertainty/AccuracyClass/<br>Maximum permissible Error | 设备编号<br>Equipment No. | 溯源机构/<br>证书编号<br>Traceability to/<br>Certificate No. | 溯源有效期<br>Traceability<br>Due Date |
|------------------------|--|--|-----------------------|--|-----------------------------------|
| 补偿式微压计                 | (-2500~2500) Pa                        | DE<br>ICI  | SM1926                | 上海市计量测试技术研究院<br>2018E21-20-<br>2637951001            | 2022-07-28                        |
| 皮托管                    | (0~30) m/s                             | •  | SM326                 | 中国计量科学研究院<br>RGfv2019-0007                           | 2024-01-20                        |
| 机械式温湿度计                | 温度: (-20~80)<br>℃; 湿度: (0~<br>100) %RH | MPE:温度;±2℃,湿<br>度;± (5~7)%   | 85926                 | 深圳市计量质量检测研究院<br>205605616                            | 2021-05-10                        |
| 空盒气压表                  | (800~1060)hPa                          | U=0.6hPa, k=2  | 15033115              | 深圳市计量质量检测研<br>究院<br>204373348                        | 2021-08-17                        |
| 标准水银温度计                | (0~50)°e C                             | U=0.03℃, k=2   | 2-204                 | 深圳市计量质量检测研<br>究院<br>205502058                        | 2022-03-09                        |

- 6、校准地点: 本公司力学实验室 Operation Location
- 7、环境条件: Operation Environment

温度 21.7 °C Temperature

相对湿度

1010.0 hPa



#### Calibration Certificate of Air Flow Meter



#### 深圳市东华计量检测技术有限公司

Shenzhen Donghua Metrology & Testing Technology Co., Ltd.

Certificate No.

DH21AA002160002

Certificate Statement

1、本校准证书包含的数据和信息仅对本次被校准的计量器具负责。

The calibration certificate contains data and information applies only to the calibrated instrument.

2、本公司仅对加盖我司的"证书专用章"的完整证书负责。

The company only Division I stamped "certificate special seal" is responsible for the full certificate.

3、未经本公司书面授权,不得部分复印证书。

The certificate shall not be photocopied without the written authorization of the company.

4、本次校准依据的技术文件:

Reference Documents for the Calibration:

JJG(建设)0001-1992 热球式风速仪计量检定规程

JJG(建设)0001-1992 Metrological Verification Regulation of Hot Ball shaped Anemmeter

5、本次校准所使用的主要计量标准器具

Major standards of measurement used in the calibration:

| 设备名称<br>Equipment Name | 测量范围<br>Measuring Range                | 不确定度/准确度等级<br>/最大允许误差<br>Uncertainty/AccuracyClass/<br>Maximum permissible Error | 设备编号<br>Equipment No. | 溯源机构/<br>证书编号<br>Traceability to/<br>Certificate No. | 溯源有效期<br>Traceability<br>Due Date |
|------------------------|--|--|-----------------------|--|-----------------------------------|
| 补偿式微压计                 | (-2500~2500) Pa                        | =# DE  | SM1926                | 上海市计量测试技术研究院<br>2018E21-20-<br>2637951001            | 2022-07-28                        |
| 皮托管                    | (0~30) m/s                             |  | SM326                 | 中国计量科学研究院<br>RGfv2019-0007                           | 2024-01-20                        |
| 机械式温湿度计                | 温度: (-20~80)<br>C; 湿度: (0~<br>100) %RH | MPE:温度: ±2℃,湿<br>度:± (5~7)%  | 85926                 | 深圳市计量质量检测研究院<br>205605616                            | 2021-05-10                        |
| 空盒气压表                  | (800~1060)hPa                          | U=0.6hPa, k=2  | 15033115              | 深圳市计量质量检测研究院<br>204373348                            | 2021-08-17                        |
| 标准水银温度计                | (0~50)°C                               | U=0.03°C, k=2  | 2-204                 | 深圳市计量质量检测研<br>究院<br>205502058                        | 2022-03-09                        |

6、校准地点: 本公司力学实验室 Operation Location

7、环境条件: Operation Environment

温度 21.7 °C Temperature 1

1010.0 hPa



#### 深圳市东华计量检测技术有限公司

Shenzhen Donghua Metrology&Testing Technology Co.,Ltd.

证书编号: DH21AA002160002 CertificateNo.

#### 校准结果

Result of Calibration

1、外观及工作正常性检查; 正常

2、校准结果:

| 2   |              |             |               | 0 -                               |
|-----|--------------|-------------|---------------|-----------------------------------|
|     | 标准值<br>(m/s) | 示值<br>(m/s) | 示值误差<br>(m/s) | 不确定度<br>(k=2)<br>U <sub>rel</sub> |
|     | 2.50         | 2.50        | 0.00          | 3%                                |
| 07  | 3.00         | 3.00        | 0.00          | 3%                                |
| HO, | 5.00         | 4.99        | -0.01         | 3%                                |
|     | 10.00 HC1    | 9.98        | -0.02         | 3%                                |
|     | 15.00        | 14.96       | -0.04         | 3%                                |
|     | 20.00        | 19.95       | -0.05         | 3%                                |
|     | 25.00        | 24.95       | -0.05         | 3%                                |
|     |              |             |               |                                   |

说明 (Explanation):

1、本次測量结果的不确定度(k=2)。

The uncertainty of the measurement result (k=2). 2、本次校准结果不确定度的评估和表述依据JJF1059.1的要求。

The uncertainty of the calibration result is evaluated and expressed according to the requirement of JJF1059.1.

3、根据客户要求和所依据技术文件的规定,建议复校时间间隔不超过12个月。

According to customers' request and technical documents, the re-check time interval should not exceed 12 months.

| Appendix K – Noise monitoring results and graphical | l presentation |
|---|----------------|
|   |                |
|   |                |
|   |                |
|   |                |
|   |                |
|   |                |
|   |                |
|   |                |

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

| Temp       |      | XX7 .1  |       | T,      |         |          |                            |           |           |       |
|------------|------|---------|-------|---------|---------|----------|----------------------------|-----------|-----------|-------|
| Date       | (°C) | Weather | -     | Γiı     | me      | Baseline | $\mathcal{L}_{\text{Aeq}}$ | $L_{A10}$ | $L_{A90}$ | Limit |
| 05/01/2022 | 23.5 | Sunny   | 10:11 | -       | 10:41   | 68.3     | 68.8                       | 71.6      | 63.7      | 75    |
| 11/01/2022 | 19.4 | Sunny   | 14:04 | -       | 14:34   | 68.3     | 68.5                       | 71.0      | 64.0      | 75    |
| 17/01/2022 | 18.7 | Cloudy  | 9:27  | -       | 9:57    | 68.3     | 68.5                       | 71.0      | 64.2      | 75    |
| 26/01/2022 | 20.4 | Sunny   | 14:33 | -       | 15:03   | 68.3     | 68.3                       | 70.3      | 62.5      | 75    |
| 31/01/2022 | 15.3 | Sunny   | 13:55 | -       | 14:25   | 68.3     | 65.5                       | 68.3      | 59.0      | 75    |
|            |      |         |       | Maximum |         |          | 68.8                       |           |           |       |
|            |      |         |       |         | Minimum |          | 65.5                       |           |           |       |
|            |      |         |       |         | Average |          | 68.1                       |           |           |       |

#### M12 - Hong Kong Children's Hospital

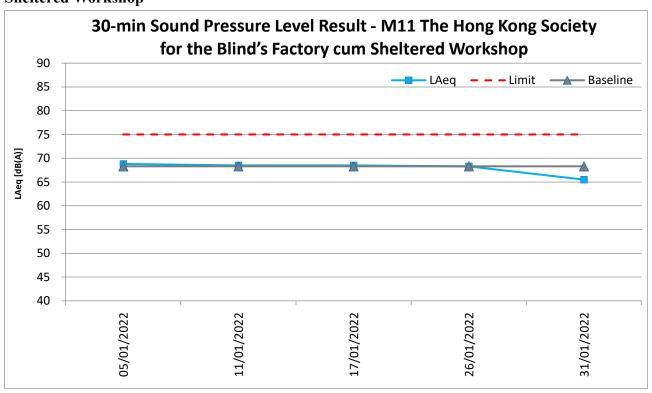
|            | 0       |                                    |       |    |         |          |                     |           |           |       |
|------------|---------|------------------------------------|-------|----|---------|----------|---------------------|-----------|-----------|-------|
| Temp       | XX / .1 | Measured Noise Level at M12, dB(A) |       |    |         |          |                     |           |           |       |
| Date       | (°C)    | Weather                            | Т     | in | ne      | Baseline | $\mathcal{L}_{Aeq}$ | $L_{A10}$ | $L_{A90}$ | Limit |
| 05/01/2022 | 23.5    | Sunny                              | 15:03 | -  | 15:33   | 61.9     | 65.6                | 67.5      | 62.7      | 75    |
| 11/01/2022 | 19.4    | Sunny                              | 10:54 | -  | 11:24   | 61.9     | 64.4                | 66.9      | 61.3      | 75    |
| 17/01/2022 | 18.7    | Cloudy                             | 14:34 | -  | 15:04   | 61.9     | 68.1                | 71.4      | 64.0      | 75    |
| 26/01/2022 | 20.4    | Sunny                              | 10:41 | -  | 11:11   | 61.9     | 61.9                | 64.0      | 58.1      | 75    |
| 31/01/2022 | 15.3    | Sunny                              | 11:10 | -  | 11:40   | 61.9     | 60.3                | 62.2      | 55.4      | 75    |
|            | •       |                                    |       |    | Maximum |          | 68.1                |           |           | •     |

 Maximum
 68.1

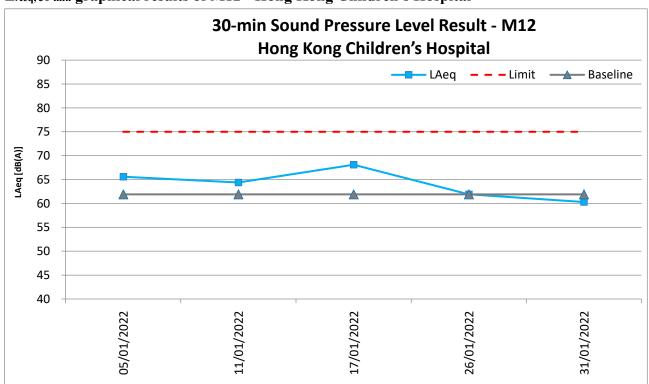
 Minimum
 60.3

 Average
 64.9

 $L_{\text{Aeq, }30\text{-min}}$  graphical results of M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop



LAeq, 30-min graphical results of M12 - Hong Kong Children's Hospital



### Appendix L – Event and Action Plan for noise

| E4                          |  | Acı   | tion   |   |
|-----------------------------|--|---|--|---|
| Event                       | ET   | IEC   | Supervisor / ER  | Contractor  |
| Action Level being exceeded | <ol> <li>Notify Supervisor / ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, Supervisor / ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> <li>(The above actions should be taken within 2 working days after the exceedance is</li> </ol> | results submitted by the ET;  | 1. Confirm receipt of notification of failure in writing;  2. Notify Contractor;  3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;  4. Supervise the implementation of remedial measures.  (The above actions should be taken within 2 working days after the exceedance is identified.)                          | <ol> <li>Submit noise mitigation proposal to IEC and Supervisor / ER;</li> <li>Implement noise mitigation proposals.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified.)</li> </ol>  |
| Limit Level being exceeded  | identified.)  1. Inform IEC, Supervisor /ER, Contractor and EPD;  2. Repeat measurement to confirm findings;  3. Increase monitoring frequency;  4. Identify source and investigate the cause of exceedance;  5. Carry out analysis of Contract's working procedure;  6. Discuss remedial measures required with the IEC, Contractor and Supervisor /ER;  7. Assess effectiveness of   | 1. Discuss the potential remedial actions with Supervisor /ER, ET and Contractor;  2. 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.) | 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 | <ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification;</li> <li>Implement the agreed proposal;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.</li> <li>(The above actions should be</li> </ol> |

| Event |                               | Act | tion                              |                             |
|-------|-------------------------------|-----|-----------------------------------|-----------------------------|
| Event | ET                            | 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 after |                             |
|       | 8. If exceedance stops, cease |     | the exceedance is identified.)    |                             |
|       | additional monitoring.        |     |                                   |                             |
|       | (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 |
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|  |

| Event                          |  | Act   | ion  |  |
|--------------------------------|--|---|--|--|
| Event                          | ET   | IEC   | Supervisor / ER  | Contractor   |
| Design Check                   | 1. Check final design conforms to the requirements of EP and prepare report.   | 2. Recommend remedial   | Undertake remedial design if necessary.  |  |
| Non-conformity on one occasion | <ol> <li>Identify Source.</li> <li>Inform IEC and Supervisor /ER.</li> <li>Discuss remedial actions with IEC, Supervisor /ER and Contractor.</li> <li>Monitor remedial actions until rectification has been completed.</li> </ol>  | working method.  3. Discuss with ET and Contractor on possible remedial measures.   | <ol> <li>Notify Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ol> | Amend working methods.     Rectify damage and undertake any necessary replacement. |
| Repeated<br>Non-conformity     | <ol> <li>Identify Source.</li> <li>Inform IEC and Supervisor /ER.</li> <li>Increase monitoring frequency.</li> <li>Discuss remedial actions with IEC, Supervisor /ER and Contractor.</li> <li>Monitor remedial actions until rectification has been completed.</li> <li>If non-conformity stops, cease additional monitoring.</li> </ol> | method.  3. Discuss with ET and Contractor on possible remedial measures.  4. Advise Supervisor /ER on effectiveness of proposed remedial measures. | <ol> <li>Notify Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ol> | Amend working methods.     Rectify damage and undertake any necessary replacement. |

#### Appendix N – Waste Flow Table



#### Appendix F - Monthly Summary Waste Flow Table

Name of Department: CEDD Contract No.: ED/2018/01

Monthly Summary Waste Flow Table for January 2022

|                               |   |  |                        | Monthly S                        | ullilliai y                   | vvaste Fi    | JW Table I   | oi Jaii  | uary ZUZZ                         |                          |                   |                                   |
|-------------------------------|---|--|------------------------|----------------------------------|-------------------------------|--------------|--------------|----------|-----------------------------------|--------------------------|-------------------|-----------------------------------|
|                               | Ad                                      | tual Quantitie                               | s of Inert C&D         | <b>Materials Gene</b>            | rated Mont                    | thly         |              | Act      | tual Quantities                   | of C&D Waste             | s Generated M     | onthly                            |
| Month                         | Total<br>Quantity<br>Generated          | Hard Rock<br>and Large<br>Broken<br>Concrete | Reused in the Contract | Reused in other Projects         | Disposed<br>as Public<br>Fill |              | ed Met       | als      | Paper /<br>cardboard<br>packaging | Plastics<br>(see Note    | Chemical<br>Waste | Others, e.g.<br>general<br>refuse |
|                               | (in '000m³)                             | (in '000m <sup>3</sup> )                     | (in '000m³)            | (in '000m <sup>3</sup> )         | (in<br>'000m <sup>3</sup> )   | (in<br>'000m | (in '00      | 00 kg)   | (in '000kg)                       | (in '000kg               | (in '000kg)       | (in '000m³)                       |
| Jan                           | 0.832                                   |  |                        |                                  | 0.832                         |              | -            | -        | 0.100                             |                          |                   | 0.144                             |
| Feb                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Mar                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Apr                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| May                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Jun                           | *************************************** |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Sub-total                     | 0.832                                   |  |                        |                                  | 0.832                         |              | _            | -        | 0.100                             |                          |                   | 0.144                             |
| July                          |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Aug                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Sep                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Oct                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Nov                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Dec                           |   |  |                        |                                  |                               |              |              |          |                                   |                          |                   |                                   |
| Total                         | 0.832                                   |  |                        |                                  | 0.832                         |              |              | -        | 0.100                             |                          |                   | 0.144                             |
|                               |   |  | Forecast               | of Total Quanti                  | ties of C&E                   | ) Materials  | to be Gene   | rated fr | om the Contra                     | ct*                      |                   |                                   |
| Total<br>Quantity<br>Generate |   | oken Reuse                                   |                        | sed in Dispos<br>Projects Public |                               | oorted Fill  | Metals       |          | Paper /<br>cardboard<br>packaging | Plastics<br>(see Note 3) | Chemical<br>Waste | Others, e.g.<br>general refuse    |
| (in '000m                     | 3) (in '000ı                            | m³) (in '00                                  | 0m³) (in '0            | 00m³) (in '00                    | 0m³) (in                      | (000m³)      | (in '000 kg) | (        | (in '000kg)                       | (in '000kg)              | (in '000kg)       | (in '000m³)                       |
| 195.01                        | 2.103                                   | 10.  | .2 1                   | 40 19.8                          | 31                            | 25           | 200          |          | 0.8                               | 0.1                      |                   | 3.4                               |

lotes: (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 and water barrier

(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 Mitigation Implementation Schedule**(EMIS)

| Implementatio                      | n Schedule for A                   | Air Quality Measures  |        |
|------------------------------------|------------------------------------|---|--------|
| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures             | Status |
| S3.2                               |                                    | 8 times daily watering of the work site with active dust emitting   | ٨      |
|                                    |                                    | activities.   |        |
| S3.2                               | S4.8                               | Implementation of dust suppression measures stipulated in Air       | ٨      |
|                                    |                                    | 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     | ۸      |
|                                    |                                    | and bunded. Stockpiles should be fully covered by                   |        |
|                                    |                                    | impermeable sheeting to reduce dust emission.                       |        |
|                                    |                                    | - Misting for the dusty material should be carried out before       | ٨      |
|                                    |                                    | being loaded into the vehicle.                                      |        |
|                                    |                                    | - Any vehicle with an open load carrying area should have           | ٨      |
|                                    |                                    | properly fitted side and tail boards.                               |        |
|                                    |                                    | - Material having the potential to create dust should not be loaded | ٨      |
|                                    |                                    | 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     | ٨      |
|                                    |                                    | 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       | ٨      |
|                                    |                                    | 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    | ٨      |
|                                    |                                    | exit point.   |        |
|                                    |                                    | - The area where vehicle washing takes place and the section of     | ٨      |
|                                    |                                    | 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      | ۸*     |
|                                    |                                    | 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      | ٨      |
|                                    |                                    | 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      | ۸      |
|                                    |                                    | from its body and wheels before leaving the construction sites.     |        |

|                                    | n Schedule for 1                   |   |        |
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| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures           | Status |
| S3.3                               |                                    | Use of quiet PME, movable barriers for Asphalt Paver, Breaker,    | ٨      |
|                                    |                                    | Excavator and Hand-held breaker and full enclosure for Air        |        |
|                                    |                                    | Compressor, Bar Bender, Concrete Pump, Generator and Water        |        |
|                                    |                                    | Pump.   |        |
| S3.3                               |                                    | Good Site Practice:   |        |
| S3.3                               |                                    | - Only well-maintained plant should be operated on-site and       | ۸      |
|                                    |                                    | plant should be serviced regularly during the construction        |        |
|                                    |                                    | program.  |        |
|                                    |                                    | - Silencers or mufflers on construction equipment should be       | ۸      |
|                                    |                                    | utilized and should be properly maintained during the             |        |
|                                    |                                    | construction program.   |        |
|                                    |                                    | - Mobile plant, if any, should be sited as far away from NSRs as  | ۸      |
|                                    |                                    | possible.   |        |
|                                    |                                    | - Machines and plant (such as trucks) that may be in intermittent | ٨      |
|                                    |                                    | 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,     | ٨      |
|                                    |                                    | 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                  | N/A    |
|                                    |                                    | Examination Period  |        |

| Implementatio                      | Implementation Schedule for Water Quality Measures |  |        |  |
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| EIA for KTD<br>Development<br>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.   | ۸      |  |
| S3.4                               |  | - adequate maintenance of drainage systems to prevent flooding and overflow.   | ۸      |  |

| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref. |   | <b>Environmental Protection Measures / Mitigation Measures</b>       | Status |
|------------------------------------|------------------------------------|---|--|--------|
|                                    | S5.8                               | - | Surface run-off from construction sites should be discharged         | ٨      |
|                                    |                                    |   | 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      | ۸      |
|                                    |                                    |   | 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             | ۸      |
|                                    |                                    |   | 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           | ۸      |
|                                    |                                    |   | 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        | ۸      |
|                                    |                                    |   | 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,          | ٨      |
|                                    |                                    |   | 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         | ٨      |
|                                    |                                    |   | 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           |        |
|                                    |                                    |   | always be prevented in order not to unduly overload the foul         |        |

|                                    | mplementation Schedule for Water Quality Measures |   |        |  |
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| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref.                | Environmental Protection Measures / Mitigation Measures                 | Status |  |
|                                    |   | sewerage system.  |        |  |
|                                    | S5.8  | - Good site practices should be adopted to remove rubbish and           | ۸      |  |
|                                    |   | 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           | ٨      |  |
|                                    |   | 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            | ٨      |  |
|                                    |   | 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.                                 |        |  |
| S3.4                               |   | Sediment tanks of sufficient capacity, constructed from pre-formed      | ٨      |  |
|                                    |   | individual cells of approximately 6 to 8 m <sup>3</sup> 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   |        |  |

|                                    | mplementation Schedule for Water Quality Measures |   |        |  |
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| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref.                | Environmental Protection Measures / Mitigation Measures                       | Status |  |
|                                    |   | and particularly suited to applications where the influent is pumped.         |        |  |
| S3.4                               |   | Open stockpiles of construction materials (for examples, aggregates,          | ۸      |  |
|                                    |   | sand and fill material) of more than 50 m <sup>3</sup> 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                  | ٨      |  |
|                                    |   | 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               | ٨      |  |
|                                    |   | 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   | ٨      |  |
|                                    |   | 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.                              |        |  |
| S3.4                               |   | Drainage  | ٨      |  |
|                                    |   | 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.         |        |  |
| S3.4                               |   | All temporary and permanent drainage pipes and culverts provided              | ٨      |  |

| Implementation Schedule for Water Quality Measures |                                    |   |        |
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| EIA for KTD<br>Development<br>Ref.                 | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures                   | Status |
|  |                                    | 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        | ٨      |
|  |                                    | 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   | ٨      |
|  |                                    | 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   | ٨      |
|  |                                    | 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   | ٨      |
| 20.1   |                                    | 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       |        |

| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures   | Status |
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|                                    |                                    | and that disposal of any solid materials, litter or wastes to marine  |        |
|                                    |                                    | waters does not occur.  |        |
|                                    | S5.8                               | Boring and Drilling Water   | ۸      |
|                                    |                                    | 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  | ۸      |
|                                    |                                    | 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   | ^      |
|                                    | 55.6                               | 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 |        |
|                                    |                                    | Regulation, should be observed and complied with for control of   |        |
|                                    |                                    | chemical wastes.  |        |

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|                                    |                                    | 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.   | ۸      |
|                                    | S5.8                               | - Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.   | ۸      |

| Implementatio                      | Implementation Schedule for Waste Management Measures |  |        |  |
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| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref.                    | Environmental Protection Measures / Mitigation Measures              | Status |  |
| S3.5                               |   | 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:  |        |  |
| S3.5                               |   | - Nomination of an approved person, such as a site manager, to       | ٨      |  |
|                                    |   | 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       | ٨      |  |
|                                    |   | 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.                    |        |  |
| S3.5                               | S6.7  | - Training of site personnel in proper waste management and          | ٨      |  |
|                                    |   | chemical waste handling procedures.                                  |        |  |

| EIA for KTD      | Implementation Schedule for Waste Management Measures  EIA for KTD   EIA for KTD   Environmental Protection Measures / Mitigation Measures |  |        |  |
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| Development Ref. | - Roads D3A<br>& D4A Ref.  | Environmental Protection Weasures / Wildgation Weasures              | Status |  |
| 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         | ٨      |  |
|                  |  | 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,             | ٨      |  |
|                  |  | recycled and disposed of (including the disposal sites).             |        |  |
|                  | S6.7   | - Regular cleaning and maintenance programme for drainage            | ٨      |  |
|                  |  | systems, sumps and oil interceptors.                                 |        |  |
|                  | S6.7   | - Training should be provided to workers about the concepts of       | ٨      |  |
|                  |  | 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      | NA     |  |
|                  |  | recover recyclable portions such as metals.                          |        |  |
| S3.5             | S6.7   | - Segregation and storage of different types of waste in different   | ۸      |  |
|                  |  | 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            | ٨      |  |
|                  |  | capacity should be recycled.   |        |  |
| S3.5             | S6.7   | - Proper storage and site practices to minimise the potential for    | ۸      |  |
|                  |  | 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:  |        |  |
| S3.5             |  | - Where it is unavoidable to have transient stockpiles of C&D        | ۸      |  |
|                  |  | material within the Project work site pending collection for         |        |  |

| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref. | Environmental Protection Measures / Mitigation Measures           | Status |
|------------------------------------|------------------------------------|---|--------|
|                                    |                                    | disposal, the transient stockpiles shall be located away from     |        |
|                                    |                                    | waterfront or storm drains as far as possible.                    |        |
| S3.5                               |                                    | - Open stockpiles of construction materials or construction       | ۸      |
|                                    |                                    | wastes on-site should be covered with tarpaulin or similar        |        |
|                                    |                                    | fabric.   |        |
| S3.5                               |                                    | - Skip hoist for material transport should be totally enclosed by | ۸      |
|                                    |                                    | impervious sheeting.  |        |
| S3.5                               |                                    | - Every vehicle should be washed to remove any dusty materials    | ٨      |
|                                    |                                    | from its body and wheels before leaving a construction site.      |        |
| S3.5                               |                                    | - The area where vehicle washing takes place and the section of   | ۸      |
|                                    |                                    | the road between the washing facilities and the exit point should |        |
|                                    |                                    | be paved with concrete, bituminous materials or hardcores.        |        |
| S3.5                               |                                    | - The load of dusty materials carried by vehicle leaving a        | ٨      |
|                                    |                                    | construction site should be covered entirely by clean             |        |
|                                    |                                    | impervious sheeting to ensure dust materials do not leak from     |        |
|                                    |                                    | the vehicle.  |        |
| S3.5                               |                                    | - All dusty materials should be sprayed with water prior to any   | ٨      |
|                                    |                                    | loading, unloading or transfer operation so as to maintain the    |        |
|                                    |                                    | dusty materials wet.  |        |
| S3.5                               |                                    | - The height from which excavated materials are dropped should    | ٨      |
|                                    |                                    | 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     | ۸      |
|                                    |                                    | 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.   |        |
|                                    | S6.7                               | - Plan and stock construction materials carefully to minimize     | ۸      |
|                                    |                                    | amount of waste generated and avoid unnecessary generation        |        |

| Implementation                     | Implementation Schedule for Waste Management Measures |  |        |  |
|------------------------------------|---|--|--------|--|
| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref.                    | Environmental Protection Measures / Mitigation Measures              | Status |  |
|                                    |   | of waste.  |        |  |
| S3.5                               |   | Chemical Waste   | ٨      |  |
|                                    |   | 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   | ۸      |  |
|                                    |   | treatment.   |        |  |
| S3.5                               |   | General Refuse   | ٨      |  |
|                                    |   | 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.   |        |  |

| Implementatio                      | Implementation Schedule for Landscape and Visual Measures |   |        |  |
|------------------------------------|---|---|--------|--|
| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref.                        | Environmental Protection Measures / Mitigation Measures   | Status |  |
| S3.8.12                            |   | All existing trees should be carefully protected during construction.   | ٨      |  |
| S3.8.12                            |   | 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. | NA     |  |
| S3.8.12                            |   | Control of night-time lighting.   | ٨      |  |
| S3.8.12                            |   | Erection of decorative screen hoarding.   | ٨      |  |
|                                    | S7.9  | Construction Site Control  - CM1 - Minimized construction area and contractor's temporary works areas.  | ^      |  |
|                                    |   | - CM2- Control of night-time lighting and glare by hooding all lights.  | ۸      |  |
|                                    |   | - CM3 - Erection of decorative mesh screens or construction   | ٨      |  |

| Implementatio                      | Implementation Schedule for Landscape and Visual Measures |   |        |  |
|------------------------------------|---|---|--------|--|
| EIA for KTD<br>Development<br>Ref. | EIA for KTD - Roads D3A & D4A Ref.                        | Environmental Protection Measures / Mitigation Measures   | Status |  |
|                                    |   | hoardings around works areas in visually unobtrusive colours.   |        |  |
|                                    |   | - CM4 - Reduction of construction period to practical minimum.  | ٨      |  |
|                                    |   | - CM5 - Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.   | ٨      |  |
|                                    |   | - 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. | NA     |  |

| Remarks: |   |   |   |
|----------|---|---|---|
| ٨        | Compliance of mitigation measure.         | X | 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 undertaken by the Contractor for site inspections





| Date:                | 06 January 2022       |
|----------------------|-----------------------|
| Mitigation Measures: | Haul road was         |
|                      | sprayed with water to |
|                      | maintain the entire   |
|                      | road surface wet.     |

Date: 06 January 2022

Mitigation The open stockpiles of construction materials on sites were covered





| Date:                | 20 January 2022    | Date:      | 27 January 2022           |
|----------------------|--------------------|------------|---------------------------|
| Mitigation Measures: | Recycle chemical   | Mitigation | The portable toilets were |
|                      | waste bins were    | Measures:  | provided in the           |
|                      | provided in the    |            | construction site.        |
|                      | construction site. |            |                           |

**Appendix P – Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution** 

**Reporting Month: January 2022** 

| Contract No. | Record of Complaint<br>(Yes/No) | Record of Warning<br>(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   | 3                   | 0                 | 0   |

| Complaint          | Log for ED/2018/01  |   |   |   |
|--------------------|---|---|---|---|
| Complaint Ref. No. | Date of Complaint   | Description of Complaint  | Investigation / Recommendations / Actions   | Close-Out Date / Status   |
| C0001              | A dust complaint was referred from the Contractor on 21 October 2020 regarding a pubic complaint via 1823 hotline (Case no. 3-6518939602) on 20 October 2020. | <ol> <li>The water spraying system was not operated in proper time.</li> <li>Stockpile was not covered properly.</li> <li>Haul road was not wetted.</li> <li>Materials transported on trucks were not provided with mechanical covers.</li> </ol> | 1. Based on the information provided by the Contractor on 22 October 2020, the water sprinklers system was sprayed every 15 | - Closed-out on 5 Nov 2020 - No further complaint was received. |

| Complaint 1        | Complaint Log for ED/2018/01  |  |  |   |
|--------------------|---|--|--|---|
| Complaint Ref. No. | Date of Complaint   | Description of Complaint   | Investigation / Recommendations / Actions  | Close-Out Date<br>/ Status                        |
| C0002              | A dust complaint was  | Complaint of dust problem at the pavement of Muk   | As per the Contractor, the water sprinkler are now adjusted to start at 8:00am and end at 6:00pm for Monday to Saturday while from 8:00am to 5:00pm on Sunday. Water spraying are set with 5-minute time interval with duration 30-60 seconds.  Investigation  | - Closed-out                                      |
|                    | referred from the Contractor on 8 September 2021 through E-Mail regarding a complaint received by EPD (EPD ref.: K19/RE/00021205-21) on 7 September 2021. | Tai Street near Sports Park.   | As per contractor, part of the complaint area was within the site boundary of the project.  - Manual water spraying was provided.  - The exposed surface and stockpile areas were covered by the impermeable tarpaulin sheet.  Recommendations There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however the contractor is recommended to implement the following measures to minimize the impact for air quality:  1. Ensure stockpiling sites should be lined with impermeable sheeting and bunded.  2. Stockpiles should be fully covered by impermeable sheeting at all time except during working process.  3. Ensure the work fulfill the relevant statutory requirements on control of air pollution.  4. Take necessary measures to minimize the environmental nuisance arising from the construction site.  Action taken The exposed surface and stockpile area was | on 4 Oct 2021  No further complaint was received. |
| G0002              | 4. 4.   |  | covered by the impermeable tarpaulin sheet.  | C1 1  |
| C0003              | A water discharge<br>complaint was referred<br>from the Contractor on   | Complaint of muddy water being discharged into the sea of To Kwa Wan Typhoon Shelter via a DSD outfall near the roundabout of Shing Fung Road. | Investigation Joint site inspection was conducted by ER, IEC, ET and the contractor on 14 December 2021, no  | - Closed-out<br>on 5 Jan<br>2022                  |

| Complaint          | Log for ED/2018/01  |                          |   |                                      |
|--------------------|---|--------------------------|---|--------------------------------------|
| Complaint Ref. No. | Date of Complaint   | Description of Complaint | Investigation / Recommendations / Actions   | Close-Out Date / Status              |
|                    | through E-Mail regarding a complaint received by EPD (ref.: K19/RE/00029046-21) on 9 December 2021. |                          | adverse observation against the water impact was recorded.  There was no muddy water discharge to DSD outfall near the roundabout of Shing Fung Road.  The sand bag with layers and filter were provided at the manholes.  Recommendations There was no direct evidence showing that the water nuisance was caused by the contractor at the complaint area.  Some of muddy water generated from wheel washing might be flow to the outfall inside the site boundary, however the contractor had taken the mitigation measure by using sand bag and filter to ease the nuisance. The contractor is recommended to implement the following measures to minimize the impact for waste water:  Enhance the sand bag with several layers instead of one layer only and replace the filter frequently.  Modify the wheel washing area such that the muddy water will be directly flow to the pit and then waste water treatment facility.  Take necessary measures to minimize the environmental nuisance arising from the construction site.  Action taken  Sand bags and filter were used to block the manholes.  Manholes had been adequately covered and replace the filter frequently. | - No further complaint was received. |

#### **FUGRO TECHNICAL SERVICES LIMITED**

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



#### Appendix D

Monthly EM&A Report
For
Contract No. ED/2018/05
Kai Tak Development – Stage 5B infrastructure works at the former north apron area

## **Environmental Monitoring and Audit Report** for

# Contract No. ED/2018/05 – Kai Tak Development – Stage 5B infrastructure works at the former north apron area

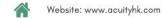
Contract No.: EDO 2/2020

January 2022

(Version 1.1)

Certified By:\_\_

(Environmental Team Leader)







Unit E, 12/F., Ford Glory Plaza, Nos. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon

Tel. : (852) 2698 6833 Fax.: (852) 2698 9383

Date: 18 February 2022

Your ref:

Our ref: PL-202202020

AECOM Asia Company Limited 12/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, New Territories, Hong Kong

Attn.: Mr. LEUNG Wai Kit, CRE

Dear Mr. Leung,

Re: Agreement No. EDO 6/2019

Independent Environmental Checker for Contract No. ED/2018/05 Kai Tak Development – Stage 5B Infrastructure works at the Former North Apron Area Verification of Monthly EM&A Report (January 2022)

Reference is made to the Monthly EM&A Report (January 2022) (Version 1.1) provided by the Environmental Team on 18 February 2022.

Please be informed that we have no adverse comment on the captioned submission. We hereby verify the Monthly EM&A Report (January 2022) in accordance with Condition 3.3 of Environmental Permit No. EP-337/2009.

Thank you for your attention.

Yours sincerely, For and on behalf of Acuity Sustainability Consulting Limited

Kevin Li

Independent Environmental Checker

c.c. CEDD Attn.: Mr. Kinox Wong By email Ka Shing Attn.: Mr. Chan Pang (ETL) By email

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# **EXECUTIVE SUMMARY**

1. This is the 12<sup>th</sup> Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 31 January 2022.

## **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.

Table I Non-compliance Record in the Reporting Month

| Domonoton          | No. of Ex    | Action Taken |              |
|--------------------|--------------|--------------|--------------|
| 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          |

#### **Complaint log**

6. No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table II.

Table II Summary of complaints in the Reporting Month

| Date of complaint received | Date of compliant | Description of complaint | Recommendations / Action take | Close-out<br>date /<br>Status |
|----------------------------|-------------------|--------------------------|-------------------------------|-------------------------------|
| N/A                        | N/A               | N/A                      | N/A                           | N/A                           |

# 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.

Table III Summary of summons and successful prosecutions in the Reporting Month

| Date of receiving notification of summons or prosecutions                                    | Date of event | Description of event | Action taken | Close-out<br>date / Status |
|--|---------------|----------------------|--------------|----------------------------|
| No notification of summons and successful prosecutions were received in the reporting month. | NA            | NA                   | NA           | NA                         |

# 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:
  - Bored pile works for landscape elevated walkway LW-02
  - ELS and excavation at Pier 9 and Pier 10 for Elevated Walkway LW-02
  - Underground utility diversion works at Sa Po Road
  - ELS and excavation at launching shaft for subway SB-01
  - Drainage works for Pedestrian Street No. 1, No. 2, No. 3 & No. 4
  - Construction of Crowd Dispersal Route
  - Construction works for Road L16

- Construction of DCS
- Pre-bored socket H-piles construction for Subway KS10
- Twin rising mains diversion works

# **Future key issues**

10. The future key issues and potential impact in the coming month are given in Table IV.

Table IV Summary of future key issues and potential impact in the coming month

| Future key issues in the coming month                    | Potential impact      |
|--|-----------------------|
| Advance works for traffic diversion at Sa Po Road        | Noise and Air Quality |
| Bored pile works for landscape elevated walkway          | Noise and Air Quality |
| Pre-drilling work for S14                                | Noise and Air Quality |
| Drainage works for Pedestrian Street No. 1, No. 2 & No.3 | Noise and Air Quality |
| Construction of Crowd Dispersal Route                    | Noise and Air Quality |
| Rising main construction                                 | Noise and Air Quality |
| Sheetpile installation for launching shaft of SB-01      | Noise and Air Quality |

# 1. INTRODUCTION

# **Project Background**

- 1.1 The Kai Tak Development (KTD) is located in the southern 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/2018/05 Kai Tak Development stage 5B infrastructure works at the former north apron area (The Project), comprises mainly the design and construction of a section of dual two-lane Road D1; single two-lane Road L9 and Road L16; a single-lane slip road S14; a pedestrian subway SB-01; an elevated walkway LW-02; renovation of the existing pedestrian subways KS9, KS10 and KS32, as well as modification of the southern end of the existing pedestrian subway KS10; associated footpaths, street lighting, traffic aids, drainage, sewerage, water mains, landscaping, electrical and mechanical works, and ancillary works. The proposed works are shown in Figure 1 and Figure 2. The proposed works and site boundary are shown in Figure 3 and Figure 4. Civil Engineering and Development Department (CEDD) had completed an Environmental Impact Assessment (EIA) and is the Permit Holder.
- 1.3 In accordance with the approved EIA Reports, Environmental Monitoring and Audit (EM&A) programmes are recommended to ensure compliance with the EIA study recommendations. The project proponent was the Civil Engineering and Development Department (CEDD). AECOM Asia Co. Ltd. (AECOM) was commissioned by CEDD as Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual). Acuity Sustainability Consulting Limited (Acuity) was commissioned as the Independent Environmental Checker (IEC). Build King STEC Joint Venture (Build King) was appointed as the main Contractor for the construction works of Contract No. ED/2018/05. Ka Shing was commissioned by CEDD to undertake the role of the Environmental Team (ET) to implement the EM&A programme for The Project.
- 1.4 The construction work under ED/2018/05 comprises the EM&A Manual (EIA Register No. AEIAR-130/2009 for Kai Tak Development) and Environmental Permit No. EP- 337/2009.
- 1.5 Air quality and noise monitoring has been proposed in the EM&A Manual with EIA Register No. AEIAR-130/2009 for Kai Tak Development.

# **Project Organization**

1.6 The project organization chart and with respect to the EM&A programme is shown in AppendixA. Information of key personnel contact names and telephone numbers are summarized in Table1.1.

Table 1.1 Contact Information of Key Personnel

| Party   | Role   | Contact Person       | Position                 | Phone No. | Fax No.   |
|---|--|----------------------|--------------------------|-----------|-----------|
| Civil Engineering and                               | Project  | Mr. George Ng        | Senior<br>Engineer       | 3842 7107 | 2739 0076 |
| Development   | Proponent  | Mr. Albert Tse       | Engineer                 | 3842 7137 | 2739 0076 |
| Department (CEDD)                                   | _  | Mr. Perry Lo         | Engineer                 | 3842 7143 | 2739 0076 |
| AECOM Asia<br>Co. Ltd.<br>(AECOM)                   | Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual) | Mr. Leung Wai<br>Kit | CRE                      | 2412 3410 | 2798 0783 |
| Acuity Sustainability Consulting Limited (Acuity)   | Independent<br>Environmental<br>Checker (IEC)                            | Mr. Kevin Li         | IEC                      | 2698 6833 | 2698 9383 |
| Ka Shing Management Consultant Limited (Ka Shing)   | Environmental<br>Team (ET)   | Ir. Chan Pang        | ET Leader                | 2618 2166 | 2120 7752 |
| Build King –<br>STEC Joint<br>Venture (BK-<br>STEC) | Contractor   | Mr. Raymond<br>Lam   | Environmental<br>Officer | 9713 6817 | 3850 8508 |

# **Works Area and Construction Programme**

1.7 The construction works commenced on 16 February 2021. 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

| Bored pile works for landscape elevated walkway LW-02      | Twin rising mains diversion works     |
|--|---------------------------------------|
| ELS and excavation at Pier 9 and Pier 10 for Elevated      | Construction of Crowd Dispersal Route |
| Walkway LW-02  |                                       |
| Underground utility diversion works at Sa Po Road          | Construction works for Road L16       |
| ELS and excavation at launching shaft for subway SB-01     | Construction of DCS                   |
| Drainage works for Pedestrian Street No. 1, No. 2, No. 3 & | Pre-bored socket H-piles construction |
| No. 4  | for Subway KS10                       |

# **Submission Status under the Environmental Permits**

1.9 The status of required submission under Environmental Permit (EP) conditions under EP-337/2009 are summarized in Table 1.3.

Table 1.3 Summary of Status of Required Submission of EPs

| EP Condition<br>EP-337/2009 | Submission   | Submission Date |
|-----------------------------|--|-----------------|
| Condition 1.11              | Notification of Commencement Date of Construction of the Project | 12 Jan 2021     |
| Condition 2.3               | Management Organization of Main Construction Companies           | 21 Sep 2020     |
| Condition 2.4               | Design Drawings  | 12 Jan 2021     |
| Condition 2.11              | Landscape Mitigation Plans                                       | 17 Dec 2020     |
| Condition 3.2               | Baseline Monitoring Report                                       | 12 Jan 2021     |
| Condition 3.2               | Monthly EM&A Report  | 14 Jan 2022     |

# 2. AIR QUALITY MONITORING

# **Monitoring Requirements**

2.1 In accordance with EM&A Manual (EIA Register No. 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 days 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 Two designated monitoring stations were selected for air quality monitoring programme. Impact air quality monitoring was conducted at two air quality monitoring stations in the reporting month. Table 2.1 describes the air quality monitoring locations, which are also depicted in Figure 5.

Table 2.1 Locations of Air Quality Monitoring Stations

| Air Quality Monitoring Locations for the Project | Location of Measurement |
|--|-------------------------|
| AM2(A) – Ng Wah Catholic Secondary School        | Rooftop                 |
| AM3 – Sky Tower                                  | Podium floor near T7    |

## **Monitoring Parameters, Frequency and Duration**

2.3 The air quality monitoring locations and monitoring frequency are listed in Table 2.2.

Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration

| Air Monitoring Station                          | Location for Measurement  | Parameter               | Duration   | Frequency                  |
|---|---------------------------|-------------------------|------------|----------------------------|
| AM2(A) – Ng Wah<br>Catholic Secondary<br>School | Rooftop                   | - 24-hour - average TSP | - 24 hours | - Once every 6 days        |
| AM3 – Sky Tower                                 | Podium Floor near Tower 7 | - 1-hour - average TSP  | - 1 hour   | - Three times every 6 days |

- 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.

## **Monitoring Equipment**

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.

Table 2.3 Air Quality Monitoring Equipment

| Equipment Model  |                                     | Quantity | Calibration<br>Interval |
|--|-------------------------------------|----------|-------------------------|
| HVS Sampler  | TE-5170 X c/w of TSP sampling inlet | 2        | 2 months                |
| HVS Calibrator TISCH TE-5025A  |                                     | 1        | 1 year                  |
| 1-hour TSP Dust TSI Model AM510 SidePak Personal Aerosol Meter Monitor |                                     | 2        | 1 year                  |
| Weather Station  | Davis Vantage Pro2 Weather Station  | 1        | 6 months                |

- 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.
- 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 m<sup>3</sup>/min. and 1.7 m<sup>3</sup>/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" having 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 and then placed 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 HOKLAS accredited or other internationally accredited laboratory for weighting.

### Maintenance/Calibration

- 2.18 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

- 2.19 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, spot check reading at each sampling location for data processing.
  - Recorded any activities that may generate dust during measurement period.

#### Maintenance/Calibration

- 2.20 The following maintenance/calibration are required for the direct dust meters:
  - To validate the accuracy of dust meter, compare the results measured by dust meter and HVS every 12 months throughout all stages of the air quality monitoring.

## **Wind Data Monitoring**

- 2.21 Wind Anemometer was installed at the roof-top of AM2(A) Ng Wah Catholic Secondary School with 10m above ground and clear of constructions or turbulence caused by the buildings.
- 2.22 The wind data was captured by a data logger and the data was downloaded at least once per month for analysis.
- 2.23 The wind data monitoring equipment will be re-calibrated at least once every six months.
- 2.24 Wind direction is divided into 16 sectors of 22.5 degrees each.
- 2.25 Details of weather information during the monitoring period are shown in Appendix F.

## **Action and Limit Levels**

2.26 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.

Table 2.4 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring

| Parameter            | Air Monitoring<br>Station | Action Level,<br>μg/m <sup>3</sup> | Limit Level,<br>μg/m <sup>3</sup> |
|----------------------|---------------------------|------------------------------------|-----------------------------------|
| 24 hours arrange TCD | AM2(A)                    | 175                                | 260                               |
| 24-hour average TSP  | AM3                       | 172                                | 260                               |

Table 2.5 Action and Limit Levels of 1-hour average TSP for Construction Dust Monitoring

| Parameter           | Air Monitoring<br>Station | Action Level,<br>μg/m <sup>3</sup> | Limit Level,<br>μg/m³ |
|---------------------|---------------------------|------------------------------------|-----------------------|
| 1 hours arrange TCD | AM2(A)                    | 302                                | 500                   |
| 1-hour average TSP  | AM3                       | 301                                | 500                   |

#### **Impact Air Quality Monitoring results**

2.27 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.

<u>Table 2.6 Summary of 24-hour average TSP Monitoring Data during the reporting month</u>

| Air Monitoring<br>Station | Average TSP<br>Concentration,<br>µg/m <sup>3</sup> | Range,<br>µg/m <sup>3</sup> | Action Level,<br>μg/m <sup>3</sup> | Limit Level,<br>μg/m <sup>3</sup> |
|---------------------------|--|-----------------------------|------------------------------------|-----------------------------------|
| AM2(A)                    | 59   | 28-81                       | 175                                | 260                               |
| AM3                       | 62   | 33-92                       | 172                                | 260                               |

Table 2.7 Summary of 1-hour average TSP Monitoring Data during the reporting month

| Air Monitoring<br>Station | Average TSP<br>Concentration,<br>µg/m <sup>3</sup> | Range,<br>μg/m <sup>3</sup> | Action Level,<br>μg/m <sup>3</sup> | Limit Level,<br>μg/m <sup>3</sup> |
|---------------------------|--|-----------------------------|------------------------------------|-----------------------------------|
| AM2(A)                    | 44   | 20-60                       | 302                                | 500                               |
| AM3                       | 47   | 20-89                       | 301                                | 500                               |

- 2.28 There was no Action and Limit Level exceedance of 24-hour average TSP and 1-hour average TSP levels recorded during the reporting month.
- 2.29 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.
- 2.30 The Event and Action Plan is provided in Appendix I.
- 2.31 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 2.32 Weather conditions during the monitoring periods were generally fine and did not affect the monitoring results.

# 3. NOISE MONITORING

## **Monitoring Requirements**

- 3.1 In accordance with EM&A Manual (EIA Register No. 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 hrs on normal weekdays.
- 3.3 If construction works are extended to include works during 1900 0700 hrs 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.

Table 3.1 Locations of Noise Monitoring Stations

| Noise Monitoring Locations for the Project | Location of Measurement |
|--|-------------------------|
| M4(A) – Le Billionnaire                    | Podium (Façade)         |
| M5(A) – Prince Ritz                        | Podium (Façade)         |

### Monitoring Parameters, Frequency and Duration

3.5 The noise monitoring locations and monitoring frequency are listed in Table 3.2.

*Table 3.2 Noise Monitoring Parameters, Frequency and Duration* 

| Noise Monitoring Station | Location for Measurement | Parameter                                 | Frequency and Duration  |
|--------------------------|--------------------------|---|---|
| M4(A) – Le Billionnaire  | Podium<br>(Façade)       | I I and                                   | 30-minute measurement at each monitoring station between 0700                     |
| M5(A) – Prince Ritz      | Podium<br>(Façade)       | $L_{ m Aeq}, L_{ m A10}$ and $L_{ m A90}$ | - 1900 hrs on normal weekdays (Monday to Saturday) at frequency of once per week. |

- 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.

# **Monitoring Equipment**

3.8 As referred to 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 | Calibration<br>Interval |
|------------------------|------------------------|----------|-------------------------|
| Sound Level Meter      | RION NL52              | 1        | 1 year                  |
| Sound Level Calibrator | RION NC 75             | 1        | 1 year                  |
| Air Flow meter         | TSI TA440 Air Velocity | 1        | 1 year                  |

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 of the sound level meter and calibrator were 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 Construction Noise Monitoring

| Time Period           | Noise Monitoring<br>Station | Baseline Noise<br>Levels, dB (A) | Action Level                      | Limit<br>Level ^ |
|-----------------------|-----------------------------|----------------------------------|-----------------------------------|------------------|
| 0700 – 1900 hrs       | M4(A)                       | 69.5                             | When one                          | 75 ID(A)         |
| on normal<br>weekdays | M5(A)                       | 72.5                             | documented complaint is received. | 75 dB(A)         |

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

## **Impact Noise Monitoring results**

3.20 Impact noise monitoring results at the designated noise monitoring stations are summarized in Table 3.5 respectively.

Table 3.5 Summary of Noise Monitoring Data during the reporting month

| Noise<br>Monitoring<br>Station | Measured L <sub>Aeq, 30-</sub><br>min, Average, dB(A) | Measured L <sub>Aeq, 30</sub> - min, Range, dB(A) | Action Level          | Limit<br>Level ^ |
|--------------------------------|---|---|-----------------------|------------------|
| M4(A)                          | 70.1  | 69.4 – 71.2                                       | When one documented   | 75               |
| M5(A)                          | 73.0  | 72.1 – 74.3                                       | 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  $L_{Aeq, 30-min}$  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.
- 3.25 Weather conditions during the monitoring periods were generally fine and did not 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 No. 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.

Table 4.1 Comparison of 24-hour average TSP Monitoring Data with EIA predictions

| Air Monitoring Station                       | ASR No.<br>in EIA<br>report | Maximum 24-ho | Cumulative our average TSP atration Scenario 2 (Mid 2013 to Late 2016), µg/m³ | Measured 24-hr<br>average TSP in<br>Reporting<br>Month<br>(Jan 2022)<br>µg/m <sup>3</sup> |
|--|-----------------------------|---------------|---|---|
| AM2(A) - Ng Wah Catholic<br>Secondary School | NA                          | NA            | NA  | 28-81   |
| AM3 - Sky Tower                              | A40^                        | 106^          | 138^  | 33-92   |

Note:

Table 4.2 Comparison of 1-hour average TSP Monitoring Data with EIA predictions

| Air Monitoring Station                       | ASR No.<br>in EIA<br>report | Maximum 1-ho | Cumulative our average TSP extration  Scenario 2 (Mid 2013 to Late 2016), µg/m³ | Measured 1-hr<br>average TSP in<br>Reporting<br>Month<br>(Jan 2022)<br>µg/m³ |
|--|-----------------------------|--------------|---|--|
| AM2(A) - Ng Wah Catholic<br>Secondary School | NA                          | NA           | NA  | 20-60  |
| AM3 - Sky Tower                              | A40^                        | 217^         | 247^  | 20-89  |

Note:

<sup>^</sup> Prediction results are given in the Table 3.13 of the EIA report EIA Register No. AEIAR-130/2009 for Kai Tak Development.

<sup>^</sup> Prediction results are given in the Table 3.13 of the EIA report EIA Register No. AEIAR-130/2009 for Kai Tak Development.

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

| Noise Monitoring Station | NSR No. in<br>EIA report | Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour LAeq, 30min, dB(A) | Measured Noise Level<br>in Reporting Month<br>(Jan 2022)<br>L <sub>Aeq, 30min</sub> , dB(A) |
|--------------------------|--------------------------|---|---|
| M4(A) – Le Billionnaire  | NA                       | NA  | 69.4 – 71.2   |
| M5(A) – Prince Ritz      | NA                       | NA  | 72.1 - 74.3   |

- 4.2 No prediction in the EIA Report for 24-hour TSP monitoring results at AM2(A).
- 4.3 24-hour TSP monitoring results at AM3 was recorded lower than the prediction in the EIA Report.
- 4.4 No prediction in the EIA Report for 1-hour TSP monitoring results at AM2(A).
- 4.5 1-hour TSP monitoring results at AM3 was recorded lower than the prediction in the EIA Report.
- 4.6 No prediction in the EIA Report for noise monitoring results at M4(A) and M5(A).

# 5. LANDSCAPE AND VISUAL MONITORING

5.1 In accordance with EM&A Manual (EIA Register No. AEIAR-130/2009), 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, 20, 27 and 31 January 2022 in the reporting month.
- 5.4 The summary of site audits is attached in Table 5.1.

Table 5.1 Summary of observations of Landscape and Visual impact during the reporting month

| Inspection Date | Key Observations | Recommendations / Actions | Close-out Date / Status |
|-----------------|------------------|---------------------------|-------------------------|
| 6 January 2022  | No               | NA                        | NA                      |
| 13 January 2022 | No               | NA                        | NA                      |
| 20 January 2022 | No               | NA                        | NA                      |
| 27 January 2022 | No               | NA                        | NA                      |
| 31 January 2022 | No               | NA                        | NA                      |

- 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, 20, 27 and 31 January 2022 in the reporting month.
- 6.3 The summaries of site audits are attached in Table 6.1.

Table 6.1 Summary of site inspections observations during the reporting month

| Tuble 0.1 Summa    | <u>ry oj site inspections observations au</u>   | ring the reporting month  |  |
|--------------------|---|---|--|
| Inspection Date    | Key Observations  | Recommendations / Actions   | Close-out<br>Date /<br>Status          |
| 6 January 2022     | Observation: Stockpiles should be fully covered by impermeable sheeting to reduce dust emission in PS4.                             | Action Taken: The uncovered stockpile was covered by impermeable sheeting | Closed out<br>on<br>13 January<br>2022 |
| 13 January<br>2022 | Observation: The inert waste (broken concrete) generated from the breaking of pile cap shall be well separated from general refuse. | Action Taken: The inert waste (broken concrete) has been removed.         | Closed out<br>on<br>20 January<br>2022 |

| Inspection<br>Date | Key Observations  | Recommendations / Actions  | Close-out<br>Date /<br>Status          |
|--------------------|---|--|--|
| 20 January<br>2022 | Observation: 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 in LW02.   | Observation: Every stock of more than 20 bags of cement had been covered   | Closed out<br>on<br>27 January<br>2022 |
| 27 January<br>2022 | Observation: Stockpiles should be fully covered by impermeable sheeting to reduce dust emission in KS10.  Observation: Secondary container shall be provided for the diesel drum to prevent soil contamination in LW02. | Observation: The uncovered stockpile was covered by impermeable sheeting in KS10.  Observation: The diesel drum has been removed | Closed out<br>on<br>31 January<br>2022 |

| Inspection<br>Date | Key Observations   | Recommendations / Actions                     | Close-out<br>Date /<br>Status      |
|--------------------|--|---|------------------------------------|
| 31 January<br>2022 | Observation: Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. | Action Taken: The stockpile had been removed. | Closed out<br>on<br>10 Feb<br>2022 |

# **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.

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

| Environmental Licenses,<br>Notifications and Permits | Ref. No.          | Valid From  | Valid Till |
|--|-------------------|-------------|------------|
| Environmental Permit under EIAO                      | EP-337/2009       | 23 Apr 2009 | N/A        |
| Construction Dust Notification under APCO            | HA/1826/1         | 29 Dec 2020 | N/A        |
| Waste Disposal Billing Account                       | 7038086           | 21 Aug 2020 | N/A        |
| Registration as a Chemical Waste<br>Producer         | 5111-286-B2596-01 | 15 Sep 2020 | N/A        |

| Environmental Licenses, Notifications and Permits | Ref. No.        | Valid From    | Valid Till    |
|---|-----------------|---------------|---------------|
| W   | WT00037618-2021 | 29 March 2021 | 31 March 2026 |
| Wastewater Discharge License under WPCO           | WT00037370-2021 | 29 March 2021 | 31 March 2026 |
| WPCO  | WT00038562-2021 | 15 July 2021  | 31 July 2026  |
| <u> </u>  |                 | •             |               |

| Construction Noise Permit | GW-RE1233-21 | 21 Dec 2021 | 10 March 2022 |
|---------------------------|--------------|-------------|---------------|
| Construction Noise Permit | GW-RE1262-21 | 22 Dec 2021 | 19 June 2022  |
|                           | GW-RE1275-21 | 30 Dec 2021 | 19 June 2022  |

# **Implementation Status of Environmental Mitigation Measures**

6.7 The Contractor has implemented environmental mitigation measures and requires as stated in the EIA report, the EP and the EM&A Manual. The implementation status of the mitigation measures is summarized in Appendix O.

# **Environmental Complaint and Non-compliance**

6.8 No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table 6.3.

Table 6.3 Summary of complaints in the Reporting Month

| Date of complaint received | Date of compliant | Description of complaint | Recommendations / Action taken | Close-out date / Status |
|----------------------------|-------------------|--------------------------|--------------------------------|-------------------------|
| N/A                        | N/A               | N/A                      | N/A                            | N/A                     |

6.9 Complaint log is shown in Appendix P.

## Notifications of summons and successful prosecutions

6.10 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.

Table 6.4 Summary of summons and successful prosecutions in the Reporting Month

| Date of receiving notification of summons or prosecutions | Date of event | Description of event | Action taken | Close-out<br>date / Status |
|---|---------------|----------------------|--------------|----------------------------|
| No notification   | NA            | NA                   | NA           | NA                         |
| of summons  |               |                      |              |                            |
| and successful  |               |                      |              |                            |
| prosecutions  |               |                      |              |                            |
| were  |               |                      |              |                            |
| received in   |               |                      |              |                            |
| the reporting   |               |                      |              |                            |
| month.  |               |                      |              |                            |

6.11 The summaries of cumulative environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in Appendix P.

# 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 follows:

Table 7.1 Summary of future key issues and potential impact in the coming month

| Future key issues in the coming month                    | Potential impact      |
|--|-----------------------|
| Advance works for traffic diversion at Sa Po Road        | Noise and Air Quality |
| Bored pile works for landscape elevated walkway          | Noise and Air Quality |
| Pre-drilling work for S14                                | Noise and Air Quality |
| Drainage works for Pedestrian Street No. 1, No. 2 & No.3 | Noise and Air Quality |
| Construction of Crowd Dispersal Route                    | Noise and Air Quality |
| Rising main construction                                 | Noise and Air Quality |
| Sheetpile installation for launching shaft of SB-01      | Noise and Air Quality |

- 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.
- 7.3 The recommended environmental measures proposed in the EM&A Manual (EIA Register No. AEIAR-130/2009) shall be effectively implemented to minimize the potential environmental impacts. The Contractor is reminded to implement the mitigation measures properly.

## **Environmental Site Inspection and Monitoring Schedule for next month**

7.4 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.
- 8.7 Based on the site inspection and audits, impact air quality and noise monitoring results, it was considered that the mitigation measures were effective to control the potential environmental impacts from the Project during the reporting period.

# Figures

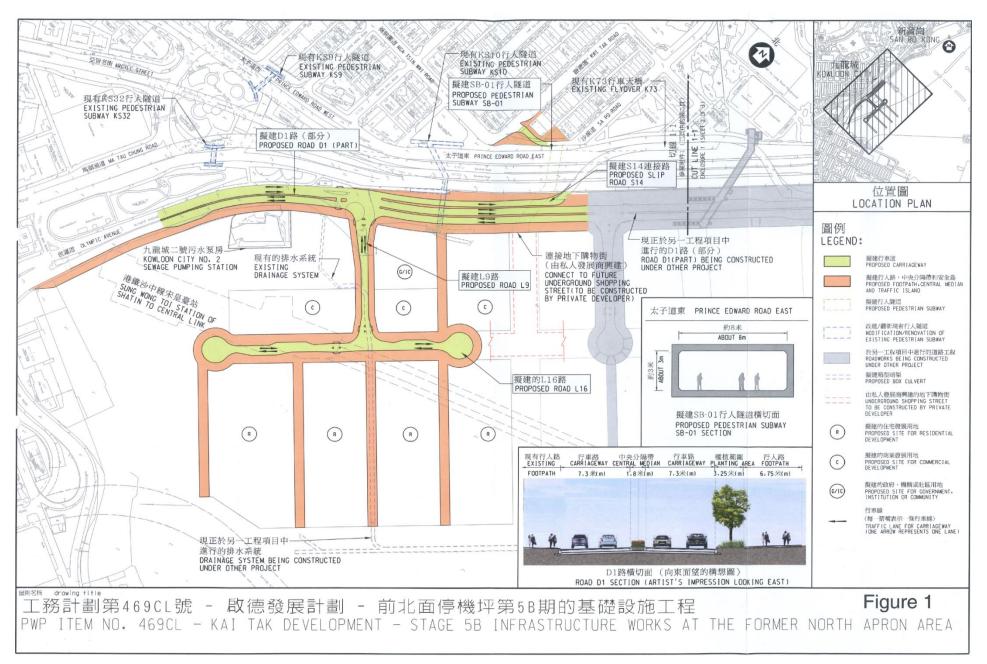


Figure 1 – Proposed works of Contract No. ED/2018/05

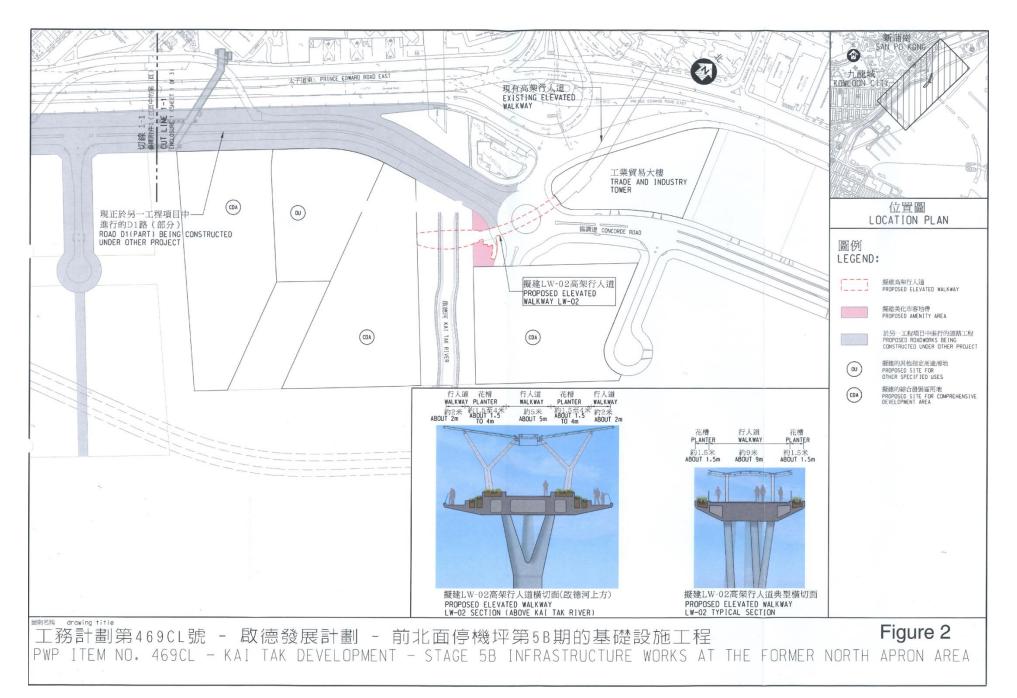
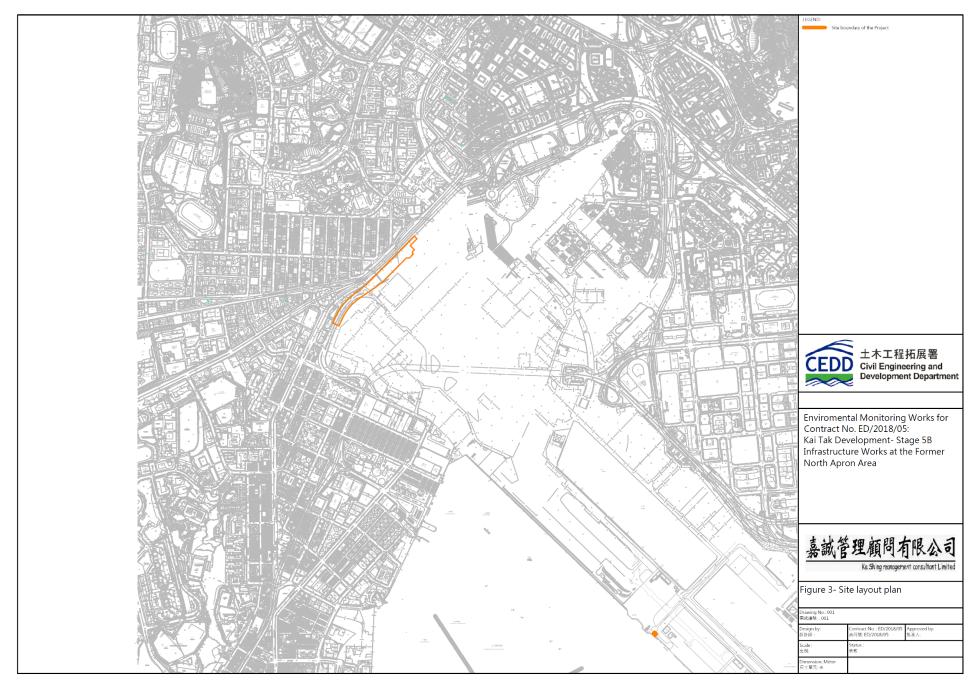


Figure 2 – Proposed works of Contract No. ED/2018/05



 $Figure \ 3-D1 \ Road \ Site \ Layout \ Plan$ 

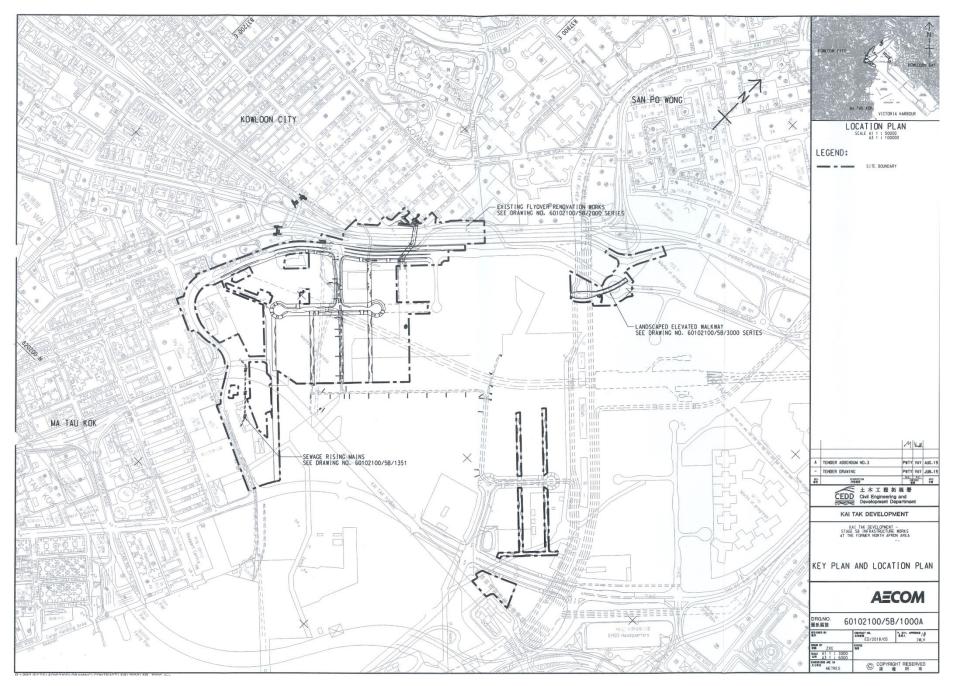


Figure 4 – Site Layout Plan

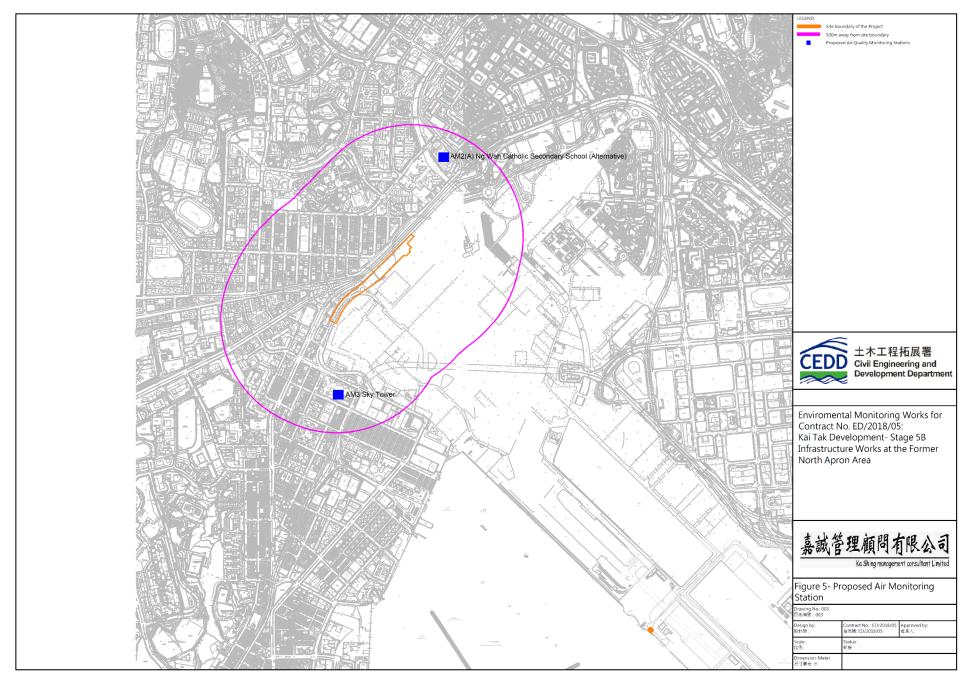
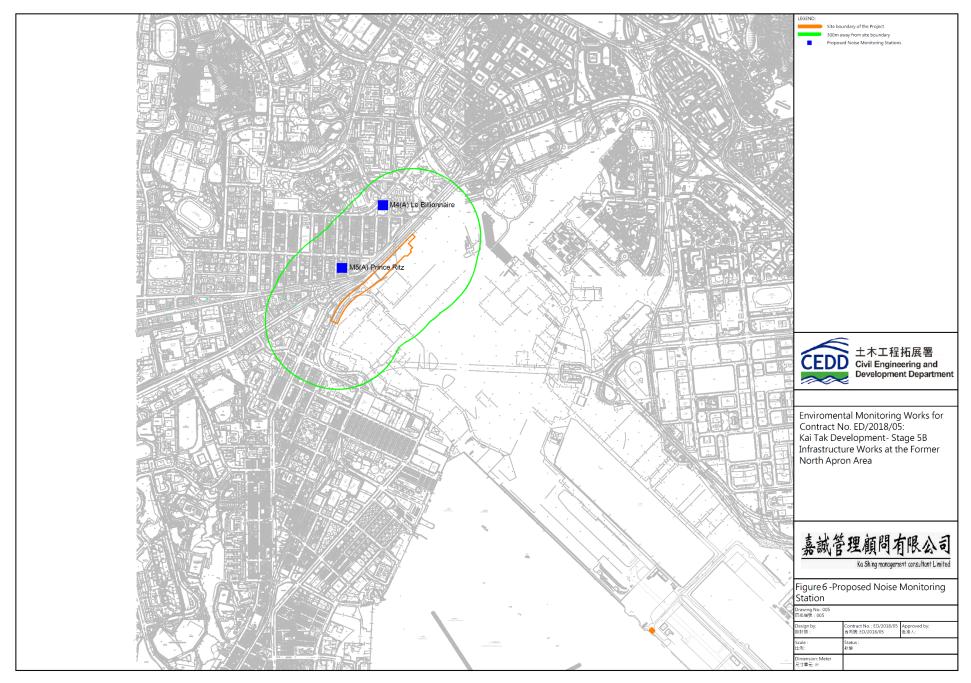
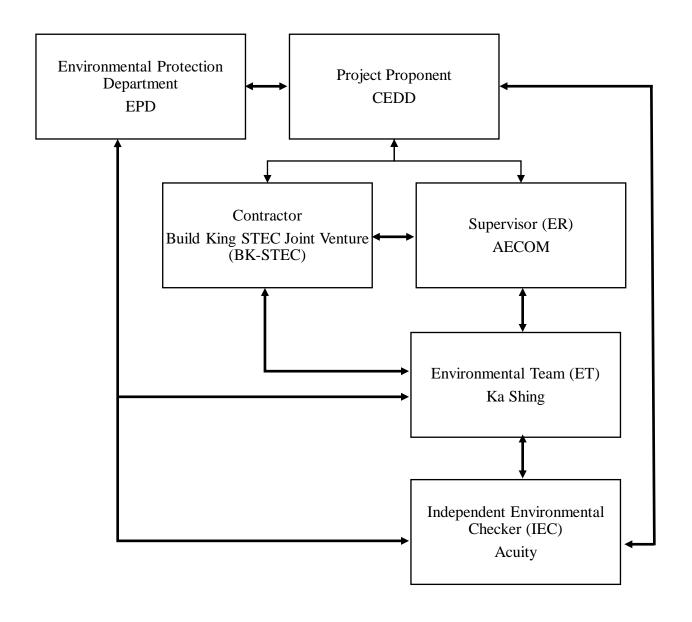


Figure 5 – Air Quality Monitoring Stations



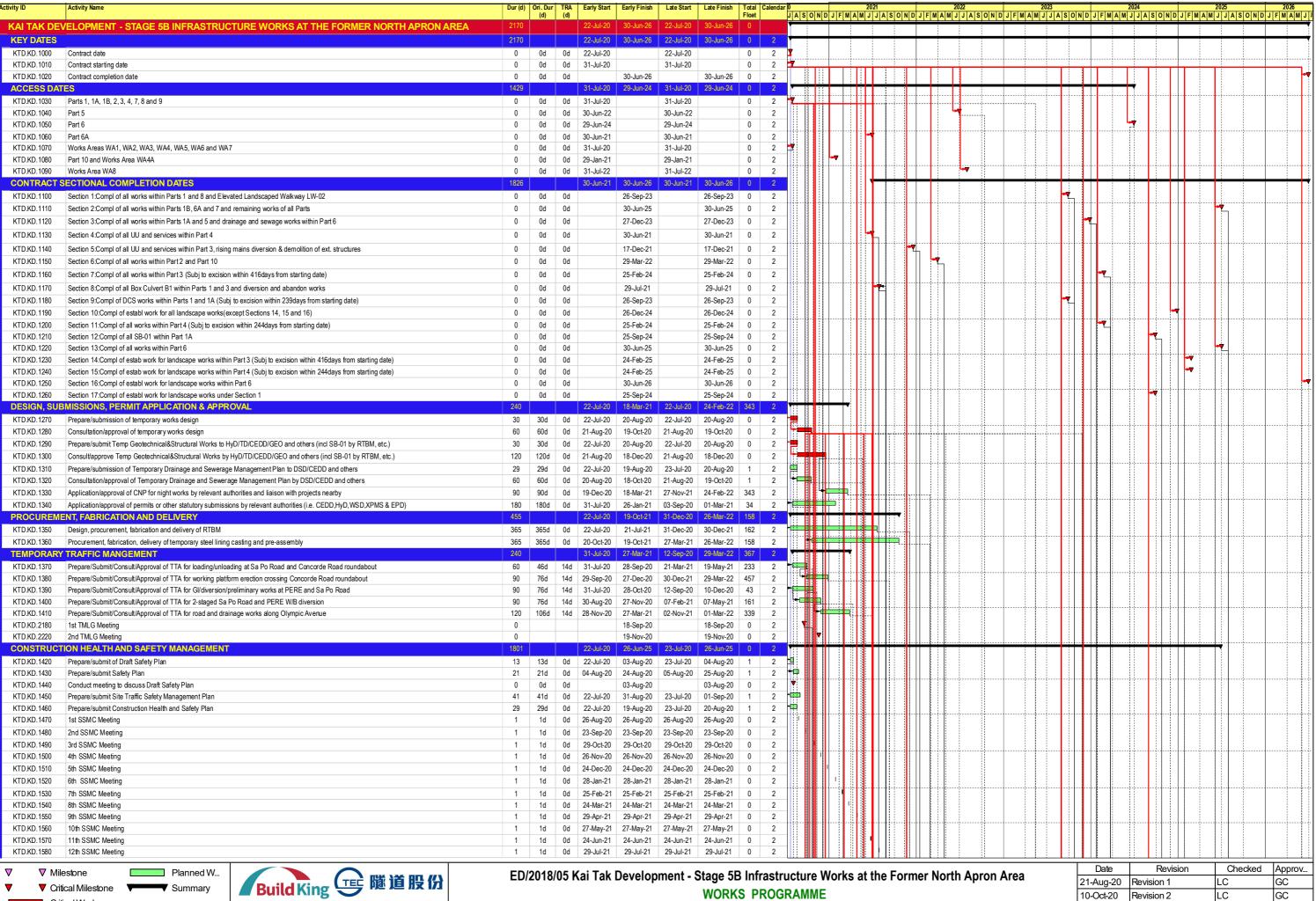
 $Figure\ 6-Noise\ Monitoring\ Stations$ 

# Appendix A – Organization Chart of EM&A Team



Link of communication

# **Appendix B – Construction Programme**

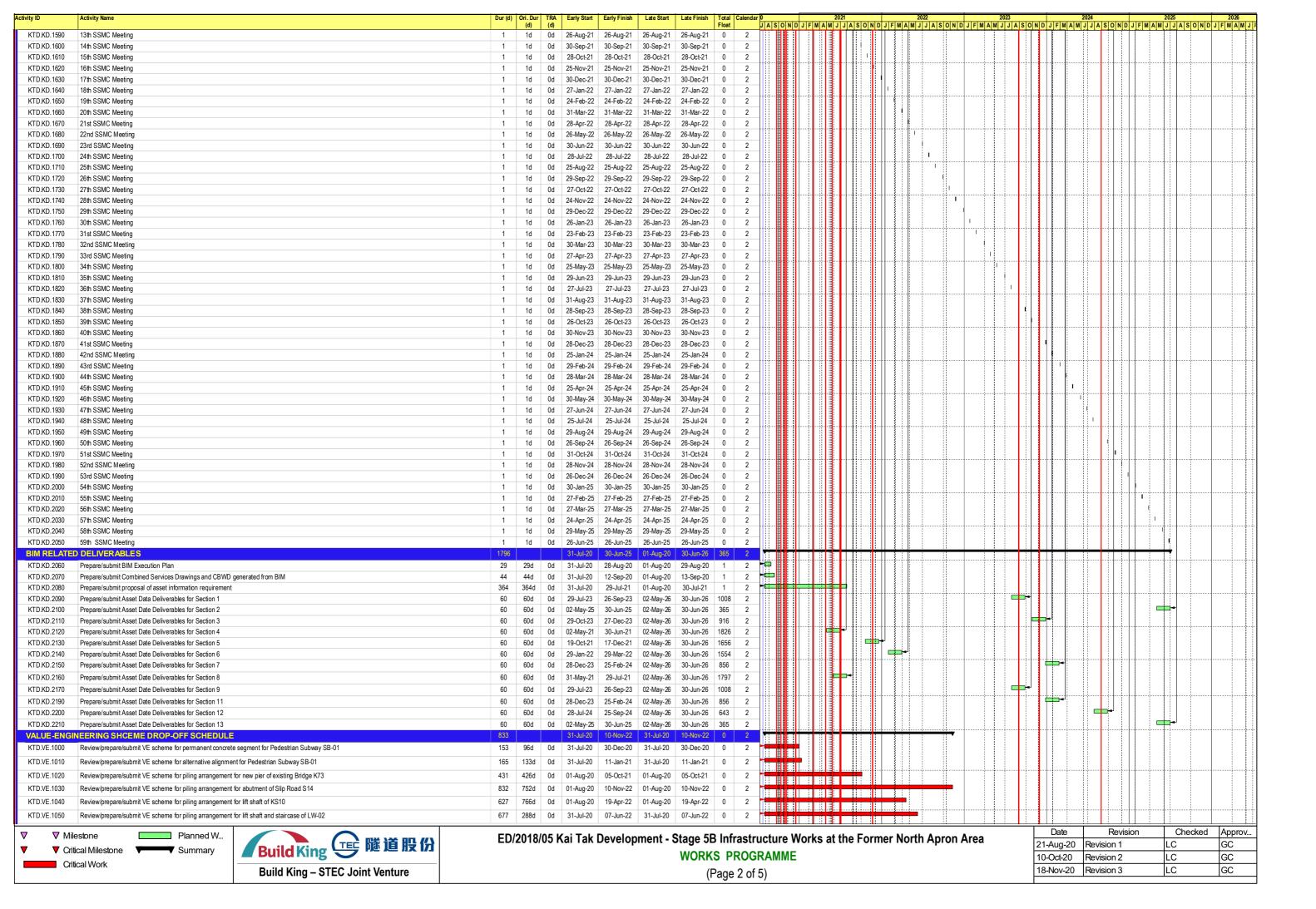


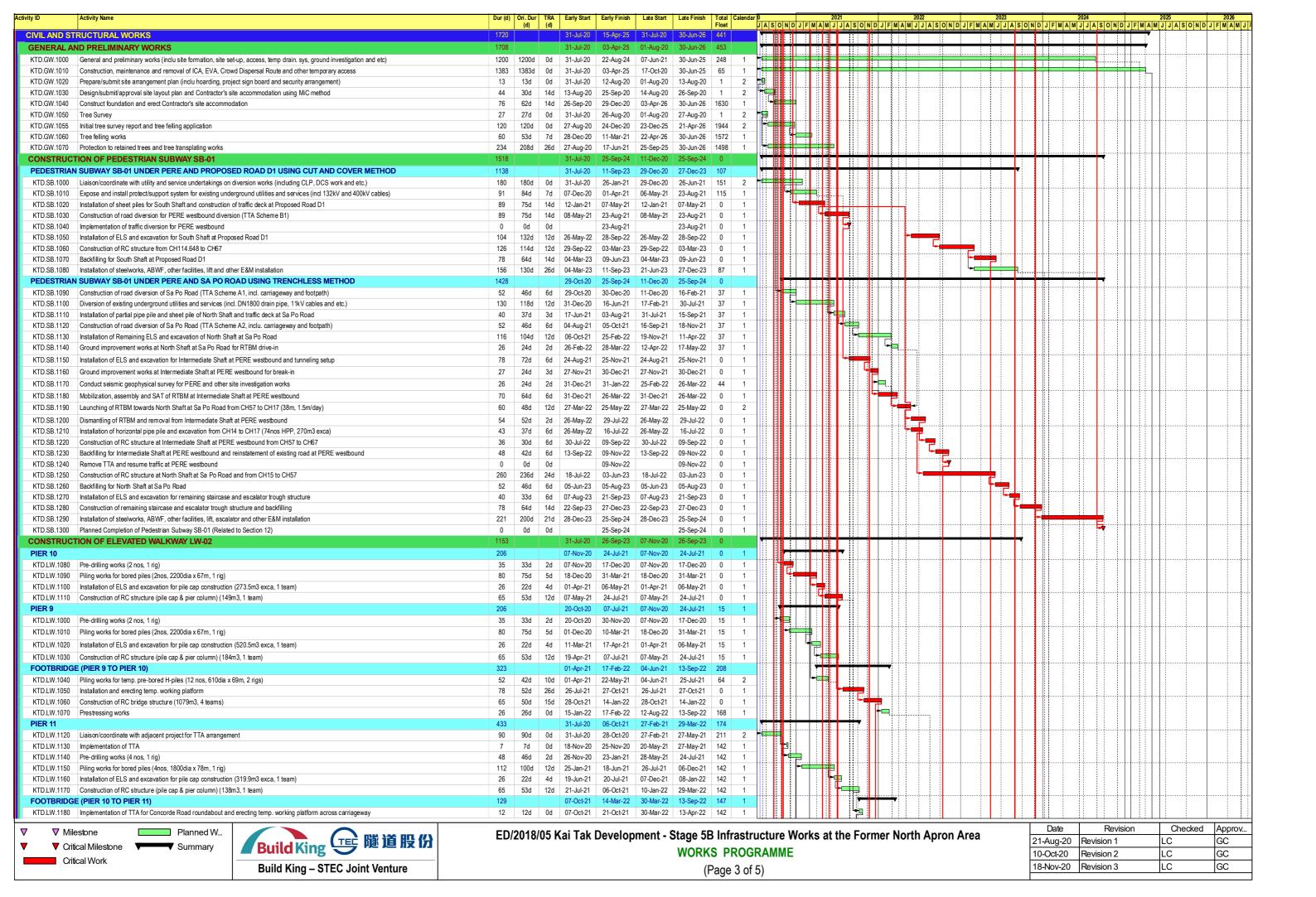
Critical Work

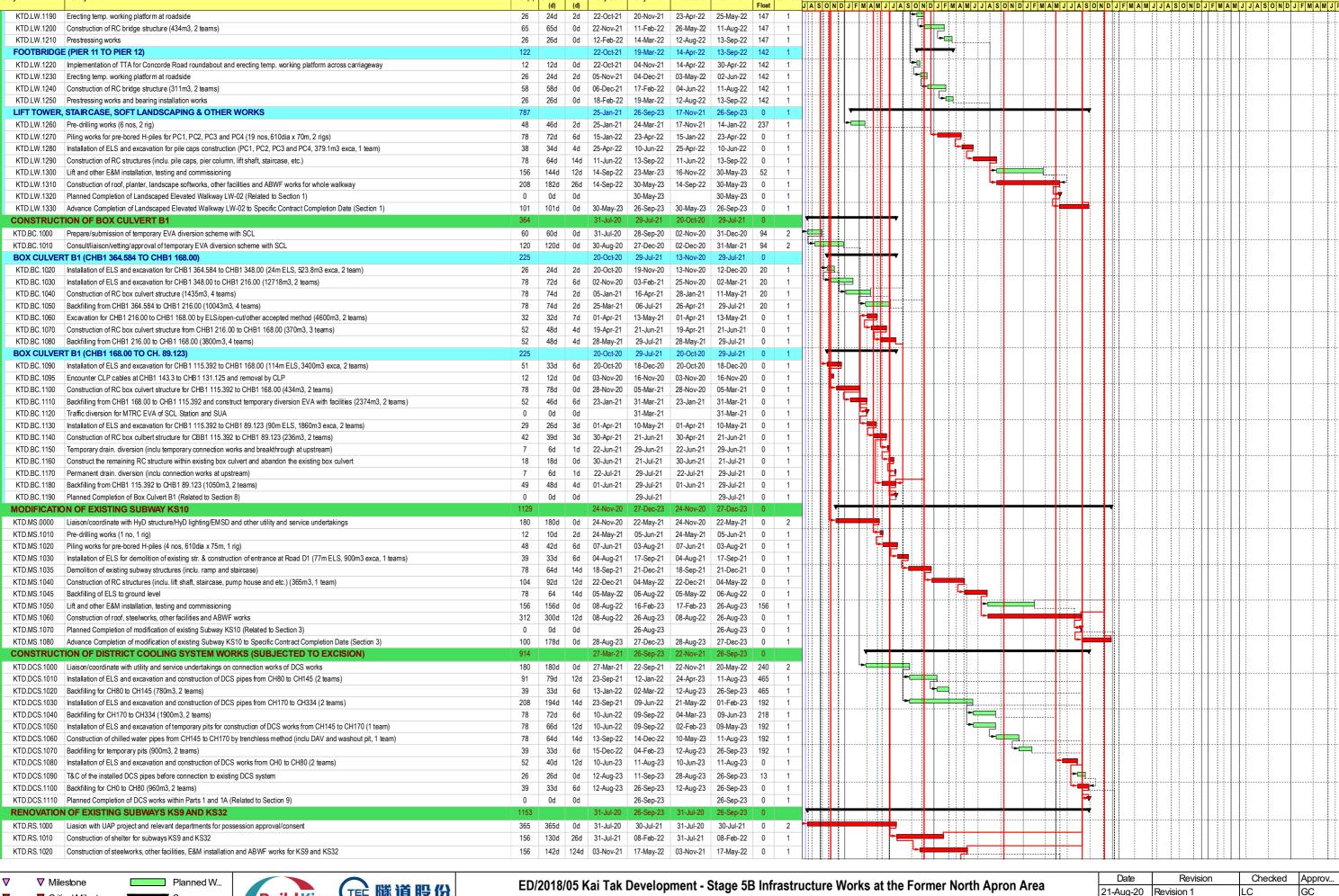


(Page 1 of 5)

| Date      | Revision   | Checked | Approv |
|-----------|------------|---------|--------|
| 21-Aug-20 | Revision 1 | LC      | GC     |
| 10-Oct-20 | Revision 2 | LC      | GC     |
| 18-Nov-20 | Revision 3 | LC      | GC     |
|           |            |         |        |







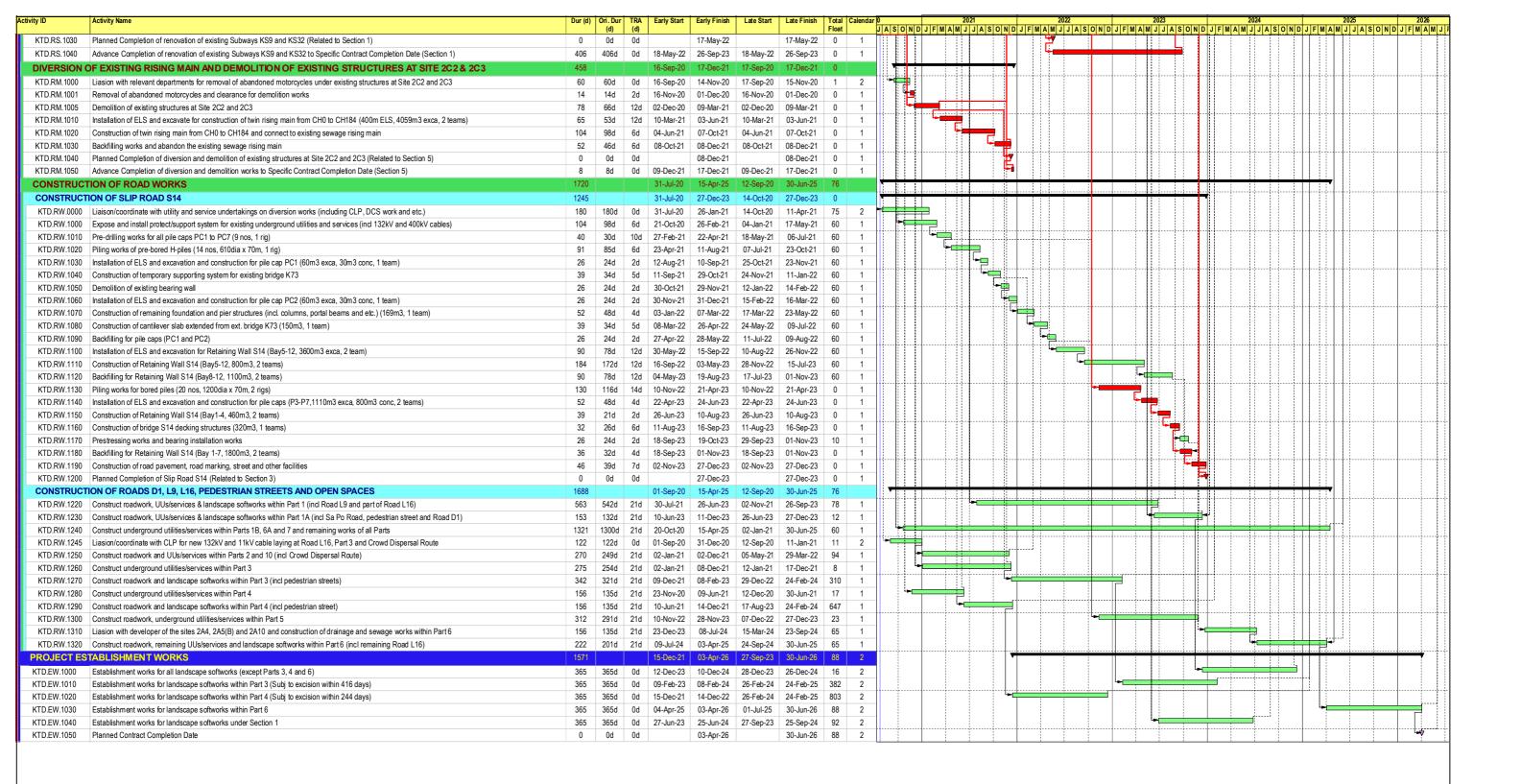
Critical Milestone Critical Work

Summary



**WORKS PROGRAMME** (Page 4 of 5)

| Date      | Revision   | Checked | Approv |
|-----------|------------|---------|--------|
| 21-Aug-20 | Revision 1 | LC      | GC     |
| 10-Oct-20 | Revision 2 | LC      | GC     |
| 18-Nov-20 | Revision 3 | LC      | GC     |
|           |            |         |        |







Critical Work







| Date   | Revision | Checked | Approv |
|--|----------|---------|--------|
| 21-Aug-20     Revision 1       10-Oct-20     Revision 2       18-Nov-20     Revision 3 |          | LC      | GC     |
|  |          | LC      | GC     |
|  |          | LC      | GC     |
|  |          |         |        |

# Appendix C – Environmental monitoring schedules

Contract No. EDO 2/2020 Environmental Monitoring at Kai Tak Development Stage 5B infrastructure works at the former north apron area

## Environmental Monitoring and Weekly Site Inspection Schedule for January 2022

## January 2022

| Sun | Mon   | Tue   | Wed   | Thu  | Fri | Sat  |
|-----|---|---|---|--|-----|--|
|     |   |   |   |  |     | 1  |
| 2   | 3   | 4   | 5<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A)  | 6<br>Weekly Site Inspection                    | 7   | 8  |
| 9   | 10  | 11<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A) | 12  | 13<br>Weekly Site Inspection                   | 14  | 15   |
| 16  | 17<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A)                           | 18  | 19  | Weekly Site Inspection                         | 21  | 22<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3 |
| 23  | 24  | 25  | 26<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A) | 27<br>Weekly Site Inspection +<br>SSMC meeting | 28  | 29   |
| 30  | 31<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A) Weekly Site<br>Inspection |   |   |  |     |  |

Air Quality Monitoring Station AM2(A) Ng Wah Catholic Secondary School AM3 - Sky Tower Noise Quality Monitoring Station M4(A) - Le Billionnaire M5(A) - Prince Ritz Contract No. EDO 2/2020 Environmental Monitoring at Kai Tak Development Stage 5B infrastructure works at the former north apron area

## Tentative Environmental Monitoring and Weekly Site Inspection Schedule for February 2022

## February 2022

| Sun | Mon | Tue | Wed   | Thu  | Fri   | Sat   |
|-----|-----|-----|---|--|---|---|
|     |     | 1   | 2   | 3  | 4   | 5<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3 |
| 6   | 7   | 8   | 9   | 10<br>Weekly Site Inspection   | 11<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A) | 12  |
| 13  | 14  | 15  | 16  | 17 Weekly Site Inspection 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A) | 18  | 19  |
| 20  | 21  | 22  | 23<br>24-hr TSP and 1-hrX3 TSP:<br>AM2(A), AM3<br>30-min Noise:<br>M4(A), M5(A) | 24<br>Weekly Site Inspection +<br>SSMC meeting   | 25  | 26  |
| 27  | 28  |     |   |  |   |   |

**Air Quality Monitoring Station**AM2(A) Ng Wah Catholic Secondary School
AM3 - Sky Tower

**Noise Quality Monitoring Station** 

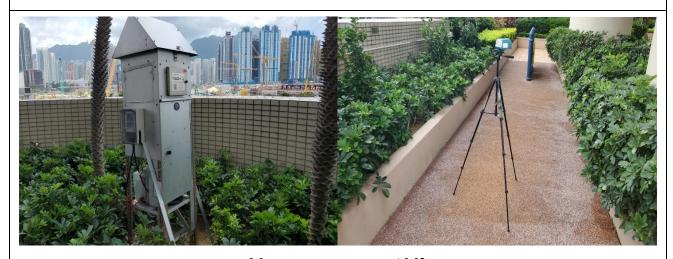
M4(A) - Le Billionnaire M5(A) - Prince Ritz

# **Appendix D – Photographic records**

Impact Air Quality Monitoring



Measurement setup at AM2(A)

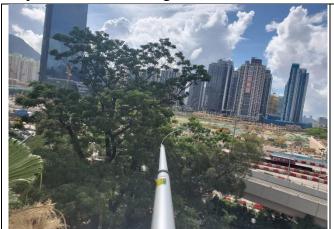


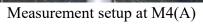
Measurement setup at AM3



Weather Station at the rooftop of Ng Wah Catholic Secondary School

## Impact Noise Monitoring







Measurement setup at M5(A)

Appendix E – Calibration certificates, catalogue of air quality monitoring equipment

## Catalogue of High Volume Sampler (HVS)



Suspended Particulate (TSP) air sampler featuring a mass flow controller (MFC) for accurate and consistent particulate sampling. The mass flow controller adjust the motor speed as the filter media collects particulate to maintain a constant flow rate throughout the entire sample duration. The system utilizes a stainless steel filter holder for use with standard 8" x 10" filter paper. The anodized aluminum shelter and robust electrical components allow the system to operate a continuous 24 hour sample.

ABOUT US: Tisch Environmental Inc. Tisch Environmental is the benchmark for high volume air sampling, particulate. metals, volatiles, and specialty monitoring equipment. Since the company's inception in 1953 as General Metal Works, our product line has expanded from the first high volume air sampler to include high-tech and custom samplers. Our clients are professionals from every sector of the regulatory and industrial markets.

TISCH 🕡

Mass Flow Controlled

- 7-Day Mechanical Timer
- Flapsed Time Indicator
- Aluminum Outdoor Shelter
- Brush Style Motor
- Dickson Chart Recorder, 24 Hour
- Stainless Steel Filter Holder
- 36-60 CFM
- Made In USA

www.tisch-env.com

TE-5170 TSP MFC, 110 Volt 60 Hertz, 8 Amps TE-5170X TSP MFC, 220 Volt 50 Hertz 4 Amps TE-5170XZ TSP MFC, 220 Volts 60 Hertz, 4 Amps



## TSP MFC

MFC TSP Ambient Air Sampler

Particulate Size: Total Suspended Particulate (TSP) EPA Designation: CFR 40 Part 50 Appendix B Flow Controller: Mass Flow Controller Motor Style: Brush Style Motor Assembly

Pressure Recorder: Dickson Chart Recorder, 24 hour

Timer: 7 Day Mechanical

Elapsed Time Indicator: Mechanical, Hours and Tenths

Flow Range: 39-60CFM, 1.09M<sup>3</sup>M-1.68M<sup>3</sup>M

Housing: Anodized Aluminum Filter Holder: Stainless Steel, 8" x 10" 4" Recorder Charts: Box of 100

Filter Holder: 8" x 10" Stainless Steel with hold down frame

US EPA Reference Method Sampling, CFR Appendix J Part 50 Regulatory Compliance

Institutional Studies Construction Sites

Bridge and Water Tower Painting Sites

Fence Line Monitoring Industrial Monitoring Landfill Monitoring

Public Health Applications

TE-3000 Filter Holder Cartridge TE-G653 8" x 10" Glass Fiber Filter Media TE-33384 Motor Brush Set (110volt)

TE-33378 Motor Brush Set (220volt) TE-116311 Replacement Motor (110volt)

TE-116312 Replacement Motor (220volt) TE-106 Recorder Charts TE-160 Recorder Pen Points TE-5018 Gasket 8" x 10"

TE-5028 -Variable Flow Calibration Kit TE-HVC-V Xcalibrator HiVol Calibrator

Weight: 75lbs, Shelter

Shipping Dimensions: 46"W x 23"L x 20" H, Shelter 19"W x 19"L x 20"H, Lid

Assembled Dimensions: 28"W x 28"L x 61"H



### Calibration Certificate of HVS

### ${\bf Air\ Sampler\ Calibration\ Curve\ Plotting\ \&\ Calculation}$

(Dickson recorder)

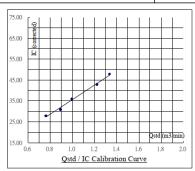
| Calibration curve ref. No. : | ATSPC-01-20  | 21111801 | Date of calibration :     | 18/11/2021 |         |
|------------------------------|--------------|----------|---------------------------|------------|---------|
| Location :                   | Sky Tower    |          | Sampler :                 | TE-5170X   |         |
| Calibration Data             |              |          | Serial Number :           | 4687       |         |
| Ambient barometric pressure  | , Pa = 760.6 | (mmHg)   | Ambient temperature, Ta = | 300.45     | (deg K) |
| Ostd Slone m = 2 035         | 18           |          | Ostd Intercent h = -0     | 005890     |         |

### Calibration Curve

| Plate No. | H <sub>2</sub> O<br>(in) | Qstd<br>(m³/min) | I<br>( chart ) | IC<br>( corrected ) |
|-----------|--------------------------|------------------|----------------|---------------------|
| 18        | 7.40                     | 1.335            | 48.0           | 47.82               |
| 13        | 6.20                     | 1.222            | 43.0           | 42.84               |
| 10        | 4.10                     | 0.994            | 36.0           | 35.87               |
| 7         | 3.30                     | 0.892            | 31.0           | 30.89               |
| 5         | 2.40                     | 0.761            | 28.0           | 27.90               |

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 ] | 34.907   | 0.7324       | 0.9962          |



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

 $\begin{array}{ll} \mbox{Remark}: & \mbox{Qstd} \ (\, m^3 \, / \, min \,) = 1/m \, [ \ \mbox{Sqrt} \ (\, H_2O \, (\, Pa \, / \, 760 \, ) \, (\, 298 \, / \, Ta \, ) \, ) \, -b \, \, ]. \\ \\ \mbox{IC} \ (\, \mbox{corrected} \,) = I \, [ \ \mbox{Sqrt} \ (\, (\, Pa \, / \, 760 \, ) \, (\, 298 \, / \, Ta \, ) \, ) \, ]. \\ \end{array}$ 

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : 18/11/2021 Checked by : 18/11/2021
Name : ( Ben Poon ) Name : ( Tommy Wong )

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

 Calibration curve ref. No.:
 ATSPC-01-2021111804
 Date of calibration:
 18/11/2021

 Location:
 Ng Wah Catholic Secondary School
 Sampler:
 TE-5170X

 Calibration Data
 Serial Numbers:
 4360

 Ambient barometric pressure, Pa = 760.6 (mmHg)
 Ambient temperature, Ta = 300.45 (deg K)

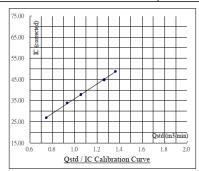
 Qstd Slope, m = 2.03518
 Qstd Intercept, b = -0.005890

### Calibration Curve

| Plate No. | H <sub>2</sub> O | Qstd                     | I         | IC            |
|-----------|------------------|--------------------------|-----------|---------------|
| Plate No. | ( in )           | ( m <sup>3</sup> / min ) | ( chart ) | ( corrected ) |
| 18        | 7.70             | 1.361                    | 49.0      | 48.82         |
| 13        | 6.60             | 1.261                    | 45.0      | 44.83         |
| 10        | 4.60             | 1.053                    | 38.0      | 37.86         |
| 7         | 3.60             | 0.932                    | 34.0      | 33.87         |
| 5         | 2.30             | 0.745                    | 27.0      | 26.90         |

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 ] | 35.073   | 0.9142       | 0.9996          |



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark: Qstd  $(m^3 / min) = 1/m [ Sqrt (H_2O (Pa / 760) (298 / Ta)) - b ].$ IC (corrected) = I [ Sqrt ((Pa / 760) (298 / Ta)) ]. FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : 18/11/2021 Checked by : 18/11/2021
Name : ( Ben Poon ) Name : ( Tommy Wong )

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

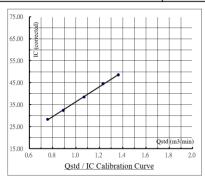
| Calibration curve ref. No. : | ATSPC-01-2022011301   | Date of calibration :     | 13/01/2022       |
|------------------------------|-----------------------|---------------------------|------------------|
| Location :                   | Sky Tower             | Sampler :                 | TE-5170X         |
| Calibration Data             |                       | Serial Number :           | 4687             |
| Ambient barometric pressure  | e, Pa =765.9 ( mmHg ) | Ambient temperature, Ta = | 293.35 ( deg K ) |
| Qstd Slope, m = 2.035        | 18                    | Qstd Intercept, b = -0.0  | 005890           |

### Calibration Curve

| CHITCH CHITE |        |             |           |               |
|--------------|--------|-------------|-----------|---------------|
| Plate No.    | $H_2O$ | Qstd        | I         | IC            |
| Flate No.    | ( in ) | $(m^3/min)$ | ( chart ) | ( corrected ) |
| 18           | 7.50   | 1.364       | 48.0      | 48.56         |
| 13           | 6.10   | 1.231       | 44.0      | 44.52         |
| 10           | 4.60   | 1.069       | 38.0      | 38.45         |
| 7            | 3.20   | 0.892       | 32.0      | 32.38         |
| 5            | 2.30   | 0.757       | 28.0      | 28.33         |

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 ] | 33.911   | 2.4141       | 0.9994          |  |



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

 $\begin{array}{ll} Remark: & Qstd \ (\ m^3 \ / \ min \ ) = 1/m \ [\ Sqrt \ (\ H_2O \ (\ Pa \ / \ 760 \ ) \ (\ 298 \ / \ Ta \ ) \ ) - b \ ]. \\ \\ IC \ (\ corrected \ ) = I \ [\ Sqrt \ (\ Pa \ / \ 760 \ ) \ (\ 298 \ / \ Ta \ ) \ ]. \\ \\ FLOW \ (\ corrected \ ) = Sqrt \ (\ FLOW \ (\ mano \ ) \ (\ Pa \ / \ 760 \ ) \ (\ 298 \ / \ Ta \ ) \ ). \end{array}$ 

| Calibrated by : |   | 03       | 13/01/2022 | Checked by : | 1          | 13/01/2022 |
|-----------------|---|----------|------------|--------------|------------|------------|
| Name :          | ( | Ben Poon | )          | Name: (      | Tommy Wong | )          |

Form No. INS-HVS-CAL dd 16 01 2020

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

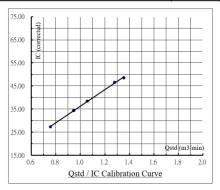
| Calibration curve ref. No. : ATS  | SPC-01-2022011304 | Date of calibration :     | 13/01/2022     |
|-----------------------------------|-------------------|---------------------------|----------------|
| Location : Ng Wah Catholic        | Secondary School  | Sampler :                 | TE-5170X       |
| Calibration Data                  |                   | Serial Number :           | 4360           |
| Ambient barometric pressure, Pa = | 765.9 ( mmHg )    | Ambient temperature, Ta = | 293.35 (deg K) |
| Qstd Slope, m = 2.03518           |                   | Qstd Intercept, b = -0    | .005890        |

### **Calibration Curve**

| Cumbranton Curre |        |             |           |               |
|------------------|--------|-------------|-----------|---------------|
| Plate No.        | $H_2O$ | Qstd        | I         | IC            |
| Flate No.        | ( in ) | $(m^3/min)$ | ( chart ) | ( corrected ) |
| 18               | 7.40   | 1.355       | 48.0      | 48.56         |
| 13               | 6.60   | 1.280       | 46.0      | 46.54         |
| 10               | 4.50   | 1.057       | 38.0      | 38.45         |
| 7                | 3.60   | 0.946       | 34.0      | 34.40         |
| 5                | 2.30   | 0.757       | 27.0      | 27.32         |

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 ] | 35.813   | 0.4121       | 0.9995          |



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

 $\begin{array}{ll} Remark: & Qstd \, (\,\, m^3 \, / \, min \,) = 1/m \, [\,\, Sqrt \, (\,\, H_2O \, (\,\, Pa \, / \,\, 760 \,\,) \, (\,\, 298 \, / \,\, Ta \,\,) \,\,) \, - \, b \,\,]. \\ \\ IC \, (\,\, corrected \,) = I \, [\,\, Sqrt \, (\,\, (\,\, Pa \, / \,\, 760 \,\,) \, (\,\, 298 \, / \,\, Ta \,\,) \,\,) \,\,. \\ \\ FLOW \, (\,\, corrected \,) = \,\, Sqrt \, (\,\, FLOW \, (\,\, mano \,\,) \, (\,\, Pa \, / \,\, 760 \,\,) \, (\,\, 298 \, / \,\, Ta \,\,) \,\,). \end{array}$ 

| Calibrated by : |   | 03       | 13/01/2022 | Checked by: |            | 13/01/2022 |
|-----------------|---|----------|------------|-------------|------------|------------|
| Name:           | ( | Ben Poon | )          | Name: (     | Tommy Wong | )          |

Form No. INS-HVS-CAL dd 16 01 2020



RECALIBRATION DUE DATE:

June 1, 2022

|                               | Calibration Certification Informati | on        |       |
|-------------------------------|-------------------------------------|-----------|-------|
| Cal. Date: June 1, 2021       | Rootsmeter S/N: 438320              | Ta: 292   | °K    |
| Operator: Jim Tisch           |                                     | Pa: 754.9 | mm Hg |
| Calibration Model #: TE-5025A | Calibrator S/N: 0006                |           |       |

| Run | Vol. Init<br>(m3) | Vol. Final<br>(m3) | ΔVol.<br>(m3) | ΔTime<br>(min) | ΔP<br>(mm Hg) | ΔH<br>(in H2O) |
|-----|-------------------|--------------------|---------------|----------------|---------------|----------------|
| 1   | 1                 | 2                  | 1             | 1.4370         | 3.2           | 2.00           |
| 2   | 3                 | 4                  | 1             | 1.0130         | 6.4           | 4.00           |
| 3   | 5                 | 6                  | 1             | 0.9060         | 8.0           | 5.00           |
| 4   | 7                 | 8                  | 1             | 0.8590         | 8.9           | 5.50           |
| 5   | 9                 | 10                 | 1             | 0.7110         | 12.9          | 8.00           |

|        |          | Data Tabula   | tion   |          |            |
|--------|----------|---|--------|----------|------------|
| Vstd   | Qstd     | $\sqrt{\Delta H(\frac{Pa}{Pstd})(\frac{Tstd}{Ta})}$ | - 1    | Qa       | √∆H(Ta/Pa) |
| (m3)   | (x-axis) | (y-axis)  | Va     | (x-axis) | (y-axis)   |
| 1.0094 | 0.7024   | 1.4239  | 0.9958 | 0.6929   | 0.8796     |
| 1.0051 | 0.9922   | 2.0136  | 0.9915 | 0.9788   | 1.2439     |
| 1.0029 | 1.1070   | 2.2513  | 0.9894 | 1.0921   | 1.3907     |
| 1.0017 | 1.1662   | 2.3612  | 0.9882 | 1.1504   | 1.4586     |
| 0.9964 | 1.4014   | 2.8477  | 0.9829 | 1.3824   | 1.7591     |
|        | m=       | 2.03518   |        | m=       | 1.27440    |
| QSTD   | b=       | -0.00589  | QA     | b=       | -0.00364   |
|        | r=       | 0.99997   | ~.     | r=       | 1.4586     |

|       | Calculation  | IS           |                     |
|-------|--|--------------|---------------------|
| Vstd= | ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)  | Va=          | ΔVol((Pa-ΔP)/Pa)    |
| Qstd= | Vstd/ΔTime   | Qa=          | Va/ΔTime            |
|       | For subsequent flow rat  | e calculatio | ns:                 |
| Qstd= | $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ | Qa=          | 1/m(( √ΔH(Ta/Pa))-b |

|  | Standard Conditions          |  |  |  |
|--|------------------------------|--|--|--|
| Tstd:                                  | 298.15 °K                    |  |  |  |
| Pstd:                                  | 760 mm Hg                    |  |  |  |
|  | Key                          |  |  |  |
| ΔH: calibrator                         | manometer reading (in H2O)   |  |  |  |
| ΔP: rootsmete                          | er manometer reading (mm Hg) |  |  |  |
| Ta: actual absolute temperature (°K)   |                              |  |  |  |
| Pa: actual barometric pressure (mm Hg) |                              |  |  |  |
| 1 1 1 0                                |                              |  |  |  |

### RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

:h Environmental, Inc.

South Miami Avenue age of Cleves, OH 45002

m: slope

www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009

## Catalogue of Dust Meter (TSI Sidepak 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 AM510 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
- + Convenient, threaded tripod socket accommodates area sampling

### **Advanced Features**

- + Smart Battery Management System provides precise run time information, maximizes battery capacity and speeds charging
- + Integrated pump allows use of size-selective aerosol inlet conditioners
- + Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off
- + 10-mm Dorr-Oliver cyclone for respirable sampling
- + Display shows real-time concentrations (mg/m³) and "on-the-fly" TWA as you data log
- + Display statistics: max, min and average readings, elapsed time and 8-hour TWA

### **Quick and Easy Reports**

- + Convenient preprogramming for occupational exposure sampling
- + Data log for long periods and store multiple tests
- + Analyze data, print graphs and create reports with TrakPro Data Analysis Software
- + USB port lets you conveniently connect to your computer

- + Long-lasting NiMH rechargeable battery packs eliminate "memory" issues
- + Choice of rechargeable NiMH smart battery packs or AA-cell pack

### Model AM510 SidePak Personal Aerosol Monitor

Sensitivity

90° light scattering, Sensor Type 670 nm laser diode Aerosol 0.001 to 20 mg/m<sup>3</sup> Concentration Range (calibrated to respirable

fraction of ISO 12103-1.

A1 test dust) 0.1 to 10 micrometer (um) Particle Size Range Minimum Resolution  $0.001 \text{ mg/m}^3$ 

Zero stability ±0.001 mg/m³ over 24 hours using 10-second time-constant Temperature Coefficient Approximately +0.0005 mg/m3 per °C (for variations from temperature

at which instrument was last zeroed)

Flow Rate

User-adjustable, 0.7 to 1.8 Range

liters/min (L/min)

**Temperature Range** 

32 to 120°F (0 to 50°C) Operating Range Storage Range -4 to 140°F (-20 to 60°C)

Operational Humidity

0 to 95% RH, non-condensing

Time Constant (LCD display)

Jser-adjustable, 1 to 60 seconds

**Data Logging** 

Approx. 31,000 Data Points Logging Interval

User-adjustable, 1 second to 1 hour

**User-Select Calibration Factors** 

1.0 (non-adjustable) 3, with user-defined labels User-defined Settings 0.1 to 10.0, user-adjustable Range

Physical

Weight

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)

with 801708, 801722, 801728, 801735, or 801736 battery 16 oz (0.46 kg) with 801723, 801724,

801729 or 801743 battery 19 oz (0.54 kg) with 801708, 01722, 801728, 801735, or 801736 battery

Display Tripod Socket 2 line x 12 character LCD 1/4-20 female thread

Power Supply/Charger (P/N 2613210)

100 to 240 VAC, 50 to 60 Hz Input Voltage Range

Output Voltage 9 VDC @ 1.0 A Maintenance

Recommended annually Factory Clean/Calibrate User Zero Calibration Before each use User Flow Calibration As needed

**Communications Interface** 

Connector, Instrument

USB Mini-B (socket)

Minimum Computer Requirements for TrakPro™ Data Analysis Software Communications Port Universal Serial Bus (USB)

Operating System Microsoft Windows® XP, or 7

(32-bit or 64-bit) operating systems

### **Battery Performance**

| Battery Options   | Charge<br>Time (hrs)* | Intrinsic<br>Safety Rating | Run Time<br>(hrs @<br>1.7 L/min) |
|---|-----------------------|----------------------------|----------------------------------|
| 1600 mAH<br>NiMH Pack, 4.8 V<br>(P/N 801723)  | 3.0                   | No                         | 7.1                              |
| 1650 mAH<br>NiMH Pack, 4.8V<br>(P/N 801724,<br>801729 or 801743)                                      | 3.5                   | CSA**                      | 7.5                              |
| 2700 mAH NiMH<br>Pack, 4.8 V (P/N<br>801722 or 801728)  | 5.5                   | No                         | 12.0                             |
| 2700 mAH<br>NiMH Pack, 4.8 V<br>(P/N 801735)  | 5.5                   | No                         | 12.0                             |
| 6-Cell AA-size<br>Alkaline Pack***<br>(P/N 801708 or<br>801736 with six<br>user-supplied<br>AA cells) | N/A                   | No                         | 22.5                             |

\*Of a fully depleted battery

\*\*All dust plugs and dust gaskets must be installed.

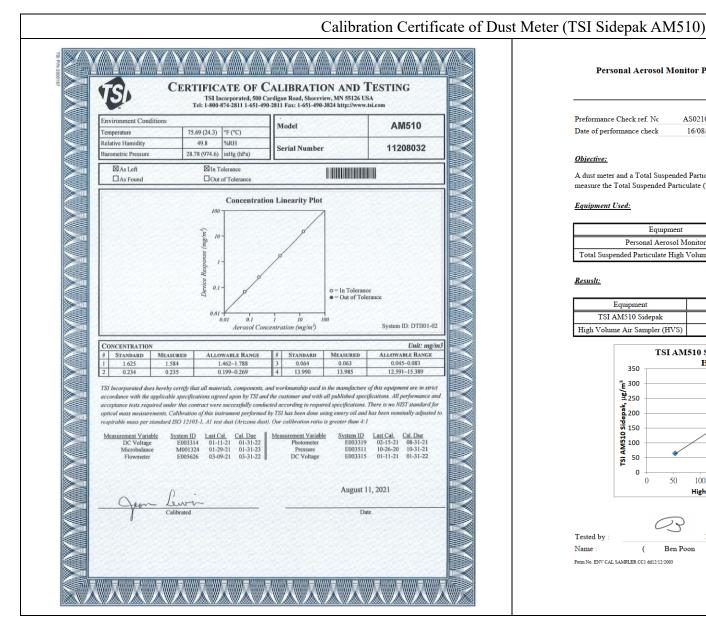
\*\*\*Using Energizer AA-size, E91 alkaline batteries.

### **Battery Level Indicator**

The Smart Battery Management System™ technology utilizes a built-in "gauge" in the SidePak™ battery packs. The gauge monitors battery capacity and calculates run time information by dividing capacity of the battery (mAH) by the instantaneous current consumed by the instrument (mA). This calculation is correct for current operating conditions and can change due to current (mA) consumption or changes in battery capacity.







### Personal Aerosol Monitor Performance check with High Volume Sampler

| Preformance Check ref. No | AS0210818-4 | Report Issue Date | 18/08/2021 |  |
|---------------------------|-------------|-------------------|------------|--|
| Date of performance check | 16/08/2021  |                   |            |  |

### Objective:

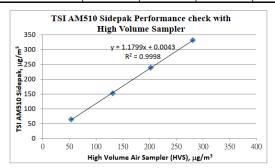
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

### Equipment Used:

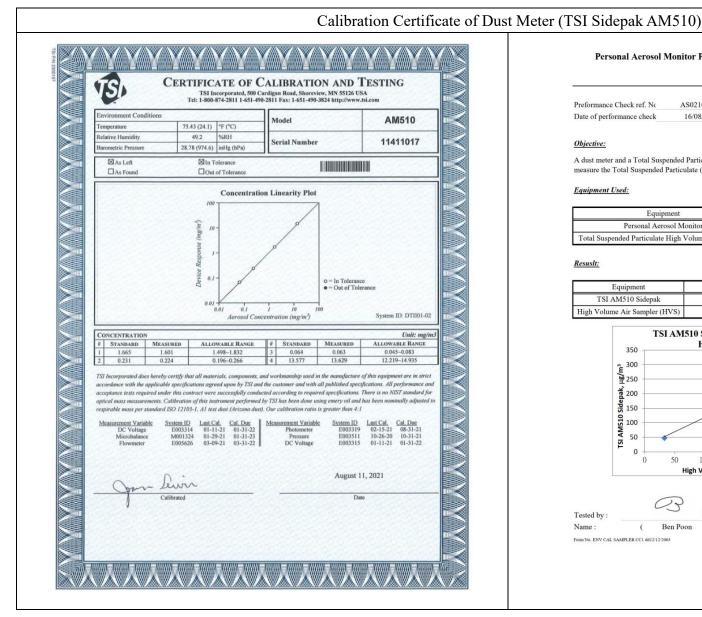
| Equipment   | Manufacturer and Model | Serial Number |
|---|------------------------|---------------|
| Personal Aerosol Monitor                            | TSI AM510 Sidepak      | 11208032      |
| Total Suspended Particulate High Volume Air Sampler | GS2310                 | 10346         |

### Resustt:

| Equipment                     | Measurement Result, μg/m³ |     |     |     |
|-------------------------------|---------------------------|-----|-----|-----|
| TSI AM510 Sidepak             | 64 152 239 332            |     |     |     |
| High Volume Air Sampler (HVS) | 53                        | 131 | 202 | 281 |







### Personal Aerosol Monitor Performance check with High Volume Sampler

| Preformance Check ref. No | AS0210818-1 | Report Issue Date | 18/08/2021 |  |
|---------------------------|-------------|-------------------|------------|--|
| Date of performance check | 16/08/2021  |                   |            |  |

### Objective:

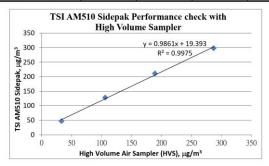
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

### Equipment Used:

| Equipment   | Manufacturer and Model | Serial Number |
|---|------------------------|---------------|
| Personal Aerosol Monitor                            | TSI AM510 Sidepak      | 11411017      |
| Total Suspended Particulate High Volume Air Sampler | GS2310                 | 10346         |

### Resustt:

| Equipment                     | Measurement Result, μg/m <sup>3</sup> |     |     |     |
|-------------------------------|---------------------------------------|-----|-----|-----|
| TSI AM510 Sidepak             | 47                                    | 128 | 211 | 298 |
| High Volume Air Sampler (HVS) | 33                                    | 106 | 189 | 287 |





## Catalogue of Weather Station

### Cabled Vantage Pro2™ & Vantage Pro2 Plus™ Stations



6152C 6162C

Vantage Pro2™

The Vantage Pro2<sup>™</sup> (# 6152C) and Vantage Pro2<sup>™</sup> 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, 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 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 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.

### Integrated Sensor Suite (ISS)

| Operating Temperature     | -40° to +150°F (-40° to +65°C)  |
|---------------------------|---|
| Non-operating Temperature | -40° to +158°F (-40° to +70°C)  |
|                           | 5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS |
| Connectors, Sensor        | Modular RJ-11   |
| Cable Type                | 4-conductor, 26 AWG   |
| Cable Length, Anemometer  | 40' (12 m) (included); 240' (73 m) (maximum recommended)                          |

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 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 Sensor Inputs 

ISS Dimensions(not including anemometer or bird spikes):

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 [""||| \* 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

Vantage Pro2

### Ultra Violet (UV) Radiation Index (requires UV sensor)

Historical Graph Data . . . . . . . . . . . . Hourly Average, Daily, Monthly Highs Alarm High Threshold from Instant Calculation

### Wind

### Wind Chill (Calculated)

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 . . . . . . . . Instant Calculation; Hourly, Daily and Monthly Low

Historical Graph Data. . . . . . . . . . . . . . . . . Hourly, Daily and Monthly Lows Alarm..... Low Threshold from Instant Calculation

Wind Direction

Update Interval . . . . . . . . . . . . . . . . . . 2.5 to 3 seconds

Monthly Dominant

Monthly Dominants

Wind Speed

other units are converted from mph and rounded to nearest 1 km/hr, 0.1

m/s or 1 knot

length of cable from anemometer to ISS increases.)

Current Display Data . . . . . . . . . . . . . . . Instant

Current Graph Data . . . . . . . . . . Instant Reading; 10-minute and Hourly Average; Hourly High; Daily,

Monthly and Yearly High with Direction of High

Highs with Direction of Highs

High Thresholds from Instant Reading and 10-minute Average

### Calibration Certificate of Weather Station



### Cal Lab Limited 校正實驗室有限公司

Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong Tel: +852 25680106 Email: info@callab.com.hk Fax: +852 30116194 Website: www.callab.com.hk

Calibration Certificate No.: CC0262109

Customer Information

Customer: Castco Testing Centre Limited 33, On Kui Street, Fanling, N.T. Address:

**Equipment Identification** 

Equipment Description Manufacturer Model No. Serial No. Assigned equipment No.: Weather Station Davis Vantage PRO 2 6152CUK AZ170710016

Certificate Information

Calibration Procedure:

Date of Receipt: Date of Calibration:

29 September 2021 30 September 2021 Calibration Condition: Adjustment:

24.5°C, 54%RH, 1001hPa The arrow head was adjusted to the magnetic north before

AAST-WS-03, 30/9/2021

Due Date of Calibration:

performing calibration. Good N/A

JJF 1183-2007, JJG 1076-2001, SOP-116, SOP-252

Reference Equipment Identification

Equipment Description Model KPPRHT-A-1 Platinum resistance thermometer KPPRHT-A-1 Humidity sensor 9535 Hot Wire Anemometer

Serial No. KCI I-1095, KCI P-1095 KCI I-1095, KCI P-1095 T95351316004

Appearance:

Remark:

Expiration Date 28 June 2023 4 March 2022 11 July 2022

Note: The estimated expanded uncertainties have been calculated in Tivaluation 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 origificity stated.

Note: The stated of 3 and instrument used in the californion are traceable to noticol or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.

Note: The result reported in this carefulcae feeter to the condition of the instrument on the date of californion and corry no implication regarding the long term stability of the

Waras Warren Yeung

Certificate Issue Date: 4 October 2021

CT-REG-03

1. The certificate shall not be reproduced except in full, without written approval of Cal Lab Calibration 2. The certificate is issued subject to the latest Terms and Conditions, available at our web site

CC0262109 Page 1 of 2



### Cal Lab Limited 校正實驗室有限公司

Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong Tel: +852 25680106 Email: info@callab.com.hk Fax: +852 30116194 Website: www.callab.com.hk

**Result of Calibration** 

| Reference reading (°C) | Reading (°C) | Error (°C) |
|------------------------|--------------|------------|
| 15.0                   | 15           | 0.0        |
| 20.0                   | 20           | 0.0        |
| 25.0                   | 25           | 0.0        |
| 30.0                   | 30           | 0.0        |

| tive Humidity           |               |             |
|-------------------------|---------------|-------------|
| Reference reading (%RH) | Reading (%RH) | Error (%RH) |
| 40.0                    | 41            | 1           |
| 50.0                    | 52            | 2           |
| 70.0                    | 72            | 2           |

| Reference reading (m/s) | Measured reading (m/s) | Error (%) |
|-------------------------|------------------------|-----------|
| 0.0                     | 0.0                    | N/A       |
| 2.0                     | 2.1                    | 5.0       |
| 5.0                     | 5.2                    | 4.0       |
| 8.0                     | 8.2                    | 2.5       |

| Reference reading | Measured reading | Error |
|-------------------|------------------|-------|
| 0°                | 00               | 00    |
| 45°               | 45°              | 0°    |
| 90°               | 90°              | On    |
| 135°              | 135°             | Oo    |
| 180°              | 180°             | 00    |
| 225°              | 225°             | 0°    |
| 270°              | 270°             | 0°    |
| 315°              | 315°             | Oo    |

<sup>\*\*\*</sup> End of Certificate \*\*\*

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CC0262109

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# Appendix F – Weather information

## General Information

| Date       | Absolute Daily Min<br>Temperature (°C) | Absolute Daily Max<br>Temperature (°C) | Total Rainfall (mm) | Mean Relative<br>Humidity (%) |
|------------|--|--|---------------------|-------------------------------|
| 01/01/2022 | 16.4                                   | 19.3                                   | 0.0                 | 76                            |
| 02/01/2022 | 16.0                                   | 22.0                                   | 0.0                 | 77                            |
| 03/01/2022 | 17.0                                   | 20.5                                   | 0.0                 | 79                            |
| 04/01/2022 | 17.4                                   | 21.5                                   | 0.0                 | 75                            |
| 05/01/2022 | 18.3                                   | 23.6                                   | Trace               | 75                            |
| 06/01/2022 | 18.3                                   | 23.6                                   | 0.0                 | 80                            |
| 07/01/2022 | 17.2                                   | 21.1                                   | 0.0                 | 79                            |
| 08/01/2022 | 16.0                                   | 20.2                                   | 0.0                 | 75                            |
| 09/01/2022 | 16.7                                   | 20.1                                   | 0.0                 | 79                            |
| 10/01/2022 | 16.5                                   | 20.9                                   | 0.0                 | 76                            |
| 11/01/2022 | 13.7                                   | 18.8                                   | 1.2                 | 70                            |
| 12/01/2022 | 14.7                                   | 17.9                                   | 0.0                 | 72                            |
| 13/01/2022 | 15.6                                   | 18.9                                   | Trace               | 64                            |
| 14/01/2022 | 15.4                                   | 17.3                                   | 0.0                 | 75                            |
| 15/01/2022 | 16.5                                   | 19.8                                   | 0.0                 | 82                            |
| 16/01/2022 | 17.4                                   | 21.1                                   | 0.0                 | 82                            |
| 17/01/2022 | 17.1                                   | 18.4                                   | 0.0                 | 84                            |
| 18/01/2022 | 15.8                                   | 18.3                                   | 0.2                 | 82                            |
| 19/01/2022 | 14.9                                   | 20.3                                   | 0.0                 | 70                            |
| 20/01/2022 | 15.4                                   | 20.8                                   | 0.0                 | 73                            |
| 21/01/2022 | 16.5                                   | 19.7                                   | 0.0                 | 80                            |
| 22/01/2022 | 16.8                                   | 17.8                                   | 1.5                 | 91                            |
| 23/01/2022 | 17.5                                   | 21.8                                   | 0.1                 | 84                            |
| 24/01/2022 | 18.8                                   | 21.8                                   | 1.0                 | 88                            |
| 25/01/2022 | 17.5                                   | 20.9                                   | 0.0                 | 82                            |
| 26/01/2022 | 17.7                                   | 21.1                                   | Trace               | 83                            |
| 27/01/2022 | 18.4                                   | 22.1                                   | Trace               | 84                            |
| 28/01/2022 | 18.1                                   | 19.9                                   | Trace               | 86                            |
| 29/01/2022 | 16.3                                   | 20.2                                   | 0.1                 | 81                            |
| 30/01/2022 | 13.2                                   | 20.0                                   | 0.0                 | 64                            |
| 31/01/2022 | 13.6                                   | 15.5                                   | Trace               | 70                            |

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=2022&m=01

Kai Tak Runway Park Information

| Date       | Absolute Daily Min Temperature (°C) | Absolute Daily Max Temperature (°C) |
|------------|-------------------------------------|-------------------------------------|
| 01/01/2022 | 16.5                                | 18.8                                |
| 02/01/2022 | 15.3                                | 23.6                                |
| 03/01/2022 | 17.1                                | 20.4                                |
| 04/01/2022 | 17.4                                | 21.3                                |
| 05/01/2022 | 17.9                                | 23.5                                |
| 06/01/2022 | 17.6                                | 23.4                                |
| 07/01/2022 | 17.3                                | 20.4                                |
| 08/01/2022 | 16.0                                | 19.4                                |
| 09/01/2022 | 16.9                                | 20.0                                |
| 10/01/2022 | 16.6                                | 20.4                                |
| 11/01/2022 | 13.7                                | 19.4                                |
| 12/01/2022 | 14.3                                | 16.8                                |
| 13/01/2022 | 15.3                                | 20.2                                |
| 14/01/2022 | 15.3                                | 17.2                                |
| 15/01/2022 | 16.5                                | 18.9                                |
| 16/01/2022 | 17.7                                | 21.4                                |
| 17/01/2022 | 17.3                                | 18.0                                |
| 18/01/2022 | 15.8                                | 18.2                                |
| 19/01/2022 | 14.5                                | 22.1                                |
| 20/01/2022 | 14.0                                | 19.8                                |
| 21/01/2022 | 16.6                                | 18.9                                |
| 22/01/2022 | 16.5                                | 17.9                                |
| 23/01/2022 | 17.6                                | 21.6                                |
| 24/01/2022 | 18.5                                | 21.8                                |
| 25/01/2022 | 17.5                                | 20.4                                |
| 26/01/2022 | 17.5                                | 20.4                                |
| 27/01/2022 | 18.1                                | 21.6                                |
| 28/01/2022 | 17.8                                | 19.6                                |
| 29/01/2022 | 16.7                                | 19.5                                |
| 30/01/2022 | 13.2                                | 20.9                                |
| 31/01/2022 | 13.3                                | 15.3                                |

NOTE1: The above weather information was obtained from manned weather station of Kai Tak Runway Park. <a href="https://i-lens.hk/hkweather/history\_chart.php?date=2022-01-01&chart\_type=DG\_TEMP">https://i-lens.hk/hkweather/history\_chart.php?date=2022-01-01&chart\_type=DG\_TEMP</a>

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 01/01/2022 | 0:00  | 1.3                    | 22.5              | 02/01/2022 | 0:00  | 0.4                    | 90                | 03/01/2022 | 0:00  | 1.3                    | 0                 | 04/01/2022 | 0:00  | 0.4                    | 22.5              |
| 01/01/2022 | 1:00  | 1.3                    | 90                | 02/01/2022 | 1:00  | 1.3                    | 90                | 03/01/2022 | 1:00  | 0.4                    | 270               | 04/01/2022 | 1:00  | 0.9                    | 90                |
| 01/01/2022 | 2:00  | 1.8                    | 45                | 02/01/2022 | 2:00  | 0.9                    | 45                | 03/01/2022 | 2:00  | 0.4                    | 90                | 04/01/2022 | 2:00  | 0.9                    | 157.5             |
| 01/01/2022 | 3:00  | 1.3                    | 67.5              | 02/01/2022 | 3:00  | 1.3                    | 45                | 03/01/2022 | 3:00  | 0.9                    | 270               | 04/01/2022 | 3:00  | 0.9                    | 90                |
| 01/01/2022 | 4:00  | 1.3                    | 67.5              | 02/01/2022 | 4:00  | 0.4                    | 45                | 03/01/2022 | 4:00  | 1.3                    | 90                | 04/01/2022 | 4:00  | 1.3                    | 45                |
| 01/01/2022 | 5:00  | 1.3                    | 45                | 02/01/2022 | 5:00  | 0.9                    | 90                | 03/01/2022 | 5:00  | 0.9                    | 112.5             | 04/01/2022 | 5:00  | 0.4                    | 112.5             |
| 01/01/2022 | 6:00  | 0.9                    | 112.5             | 02/01/2022 | 6:00  | 0.4                    | 45                | 03/01/2022 | 6:00  | 0.9                    | 45                | 04/01/2022 | 6:00  | 0.4                    | 135               |
| 01/01/2022 | 7:00  | 0.4                    | 292.5             | 02/01/2022 | 7:00  | 1.3                    | 45                | 03/01/2022 | 7:00  | 0.9                    | 112.5             | 04/01/2022 | 7:00  | 1.3                    | 112.5             |
| 01/01/2022 | 8:00  | 0.9                    | 67.5              | 02/01/2022 | 8:00  | 1.3                    | 90                | 03/01/2022 | 8:00  | 1.3                    | 225               | 04/01/2022 | 8:00  | 0.9                    | 157.5             |
| 01/01/2022 | 9:00  | 1.3                    | 0                 | 02/01/2022 | 9:00  | 1.3                    | 90                | 03/01/2022 | 9:00  | 1.3                    | 67.5              | 04/01/2022 | 9:00  | 1.3                    | 67.5              |
| 01/01/2022 | 10:00 | 0.9                    | 112.5             | 02/01/2022 | 10:00 | 0.4                    | 90                | 03/01/2022 | 10:00 | 0.9                    | 45                | 04/01/2022 | 10:00 | 1.8                    | 90                |
| 01/01/2022 | 11:00 | 1.3                    | 0                 | 02/01/2022 | 11:00 | 0.4                    | 112.5             | 03/01/2022 | 11:00 | 1.3                    | 135               | 04/01/2022 | 11:00 | 1.3                    | 112.5             |
| 01/01/2022 | 12:00 | 0.4                    | 157.5             | 02/01/2022 | 12:00 | 1.3                    | 90                | 03/01/2022 | 12:00 | 1.3                    | 90                | 04/01/2022 | 12:00 | 1.3                    | 135               |
| 01/01/2022 | 13:00 | 0.9                    | 135               | 02/01/2022 | 13:00 | 1.8                    | 90                | 03/01/2022 | 13:00 | 1.3                    | 90                | 04/01/2022 | 13:00 | 1.3                    | 135               |
| 01/01/2022 | 14:00 | 0.9                    | 135               | 02/01/2022 | 14:00 | 1.3                    | 112.5             | 03/01/2022 | 14:00 | 0.9                    | 45                | 04/01/2022 | 14:00 | 0.9                    | 135               |
| 01/01/2022 | 15:00 | 1.3                    | 135               | 02/01/2022 | 15:00 | 0.9                    | 90                | 03/01/2022 | 15:00 | 1.3                    | 22.5              | 04/01/2022 | 15:00 | 0.9                    | 112.5             |
| 01/01/2022 | 16:00 | 0.4                    | 112.5             | 02/01/2022 | 16:00 | 1.8                    | 135               | 03/01/2022 | 16:00 | 0.9                    | 135               | 04/01/2022 | 16:00 | 1.3                    | 112.5             |
| 01/01/2022 | 17:00 | 0.9                    | 135               | 02/01/2022 | 17:00 | 0.9                    | 112.5             | 03/01/2022 | 17:00 | 0.9                    | 135               | 04/01/2022 | 17:00 | 0.9                    | 90                |
| 01/01/2022 | 18:00 | 0.4                    | 112.5             | 02/01/2022 | 18:00 | 1.3                    | 180               | 03/01/2022 | 18:00 | 0.4                    | 112.5             | 04/01/2022 | 18:00 | 1.3                    | 45                |
| 01/01/2022 | 19:00 | 0.4                    | 112.5             | 02/01/2022 | 19:00 | 0.9                    | 90                | 03/01/2022 | 19:00 | 0.4                    | 135               | 04/01/2022 | 19:00 | 1.3                    | 45                |
| 01/01/2022 | 20:00 | 0.9                    | 90                | 02/01/2022 | 20:00 | 0.4                    | 22.5              | 03/01/2022 | 20:00 | 0.9                    | 112.5             | 04/01/2022 | 20:00 | 0.9                    | 0                 |
| 01/01/2022 | 21:00 | 1.3                    | 90                | 02/01/2022 | 21:00 | 0.4                    | 0                 | 03/01/2022 | 21:00 | 0.4                    | 90                | 04/01/2022 | 21:00 | 0.9                    | 90                |
| 01/01/2022 | 22:00 | 0.4                    | 112.5             | 02/01/2022 | 22:00 | 0.9                    | 90                | 03/01/2022 | 22:00 | 0.4                    | 90                | 04/01/2022 | 22:00 | 0.4                    | 292.5             |
| 01/01/2022 | 23:00 | 0.4                    | 112.5             | 02/01/2022 | 23:00 | 0.9                    | 270               | 03/01/2022 | 23:00 | 0.9                    | 67.5              | 04/01/2022 | 23:00 | 0.9                    | 90                |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 05/01/2022 | 0:00  | 1.3                    | 67.5              | 06/01/2022 | 0:00  | 0.4                    | 337.5             | 07/01/2022 | 0:00  | 1.8                    | 337.5             | 08/01/2022 | 0:00  | 1.3                    | 90                |
| 05/01/2022 | 1:00  | 0.9                    | 45                | 06/01/2022 | 1:00  | 0.9                    | 337.5             | 07/01/2022 | 1:00  | 2.2                    | 67.5              | 08/01/2022 | 1:00  | 1.3                    | 135               |
| 05/01/2022 | 2:00  | 0.4                    | 112.5             | 06/01/2022 | 2:00  | 0.4                    | 112.5             | 07/01/2022 | 2:00  | 1.3                    | 0                 | 08/01/2022 | 2:00  | 1.3                    | 112.5             |
| 05/01/2022 | 3:00  | 0.4                    | 315               | 06/01/2022 | 3:00  | 0.9                    | 22.5              | 07/01/2022 | 3:00  | 1.3                    | 90                | 08/01/2022 | 3:00  | 1.3                    | 67.5              |
| 05/01/2022 | 4:00  | 1.3                    | 90                | 06/01/2022 | 4:00  | 0.4                    | 337.5             | 07/01/2022 | 4:00  | 1.3                    | 90                | 08/01/2022 | 4:00  | 1.3                    | 90                |
| 05/01/2022 | 5:00  | 0.4                    | 90                | 06/01/2022 | 5:00  | 0.4                    | 0                 | 07/01/2022 | 5:00  | 0.4                    | 135               | 08/01/2022 | 5:00  | 1.8                    | 112.5             |
| 05/01/2022 | 6:00  | 0.9                    | 67.5              | 06/01/2022 | 6:00  | 0.9                    | 112.5             | 07/01/2022 | 6:00  | 0.9                    | 0                 | 08/01/2022 | 6:00  | 2.2                    | 90                |
| 05/01/2022 | 7:00  | 0.4                    | 112.5             | 06/01/2022 | 7:00  | 1.3                    | 112.5             | 07/01/2022 | 7:00  | 1.3                    | 22.5              | 08/01/2022 | 7:00  | 2.2                    | 112.5             |
| 05/01/2022 | 8:00  | 1.3                    | 112.5             | 06/01/2022 | 8:00  | 1.3                    | 112.5             | 07/01/2022 | 8:00  | 0.9                    | 247.5             | 08/01/2022 | 8:00  | 1.3                    | 90                |
| 05/01/2022 | 9:00  | 1.8                    | 90                | 06/01/2022 | 9:00  | 0.9                    | 67.5              | 07/01/2022 | 9:00  | 1.3                    | 67.5              | 08/01/2022 | 9:00  | 0.9                    | 45                |
| 05/01/2022 | 10:00 | 1.3                    | 112.5             | 06/01/2022 | 10:00 | 0.9                    | 135               | 07/01/2022 | 10:00 | 1.3                    | 90                | 08/01/2022 | 10:00 | 1.3                    | 180               |
| 05/01/2022 | 11:00 | 0.9                    | 270               | 06/01/2022 | 11:00 | 0.9                    | 270               | 07/01/2022 | 11:00 | 0.9                    | 112.5             | 08/01/2022 | 11:00 | 0.4                    | 180               |
| 05/01/2022 | 12:00 | 1.3                    | 90                | 06/01/2022 | 12:00 | 1.3                    | 90                | 07/01/2022 | 12:00 | 1.3                    | 90                | 08/01/2022 | 12:00 | 0.4                    | 135               |
| 05/01/2022 | 13:00 | 1.3                    | 157.5             | 06/01/2022 | 13:00 | 1.3                    | 90                | 07/01/2022 | 13:00 | 0.4                    | 90                | 08/01/2022 | 13:00 | 0.9                    | 67.5              |
| 05/01/2022 | 14:00 | 0.9                    | 90                | 06/01/2022 | 14:00 | 1.3                    | 112.5             | 07/01/2022 | 14:00 | 0.9                    | 90                | 08/01/2022 | 14:00 | 0.9                    | 135               |
| 05/01/2022 | 15:00 | 0.9                    | 112.5             | 06/01/2022 | 15:00 | 1.3                    | 90                | 07/01/2022 | 15:00 | 0.9                    | 90                | 08/01/2022 | 15:00 | 0.9                    | 112.5             |
| 05/01/2022 | 16:00 | 1.3                    | 157.5             | 06/01/2022 | 16:00 | 1.8                    | 112.5             | 07/01/2022 | 16:00 | 0                      | 67.5              | 08/01/2022 | 16:00 | 1.3                    | 135               |
| 05/01/2022 | 17:00 | 0.9                    | 112.5             | 06/01/2022 | 17:00 | 0.9                    | 112.5             | 07/01/2022 | 17:00 | 0.4                    | 67.5              | 08/01/2022 | 17:00 | 1.3                    | 90                |
| 05/01/2022 | 18:00 | 0.9                    | 90                | 06/01/2022 | 18:00 | 0.4                    | 90                | 07/01/2022 | 18:00 | 0.4                    | 67.5              | 08/01/2022 | 18:00 | 1.8                    | 0                 |
| 05/01/2022 | 19:00 | 1.3                    | 90                | 06/01/2022 | 19:00 | 1.3                    | 90                | 07/01/2022 | 19:00 | 1.3                    | 0                 | 08/01/2022 | 19:00 | 1.3                    | 112.5             |
| 05/01/2022 | 20:00 | 0.9                    | 112.5             | 06/01/2022 | 20:00 | 0.4                    | 90                | 07/01/2022 | 20:00 | 0                      | 67.5              | 08/01/2022 | 20:00 | 0.9                    | 112.5             |
| 05/01/2022 | 21:00 | 0.4                    | 90                | 06/01/2022 | 21:00 | 0.4                    | 22.5              | 07/01/2022 | 21:00 | 0.4                    | 90                | 08/01/2022 | 21:00 | 1.3                    | 135               |
| 05/01/2022 | 22:00 | 1.3                    | 90                | 06/01/2022 | 22:00 | 0.9                    | 22.5              | 07/01/2022 | 22:00 | 0.4                    | 90                | 08/01/2022 | 22:00 | 1.3                    | 67.5              |
| 05/01/2022 | 23:00 | 0.4                    | 337.5             | 06/01/2022 | 23:00 | 1.3                    | 90                | 07/01/2022 | 23:00 | 0.4                    | 67.5              | 08/01/2022 | 23:00 | 1.3                    | 67.5              |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 09/01/2022 | 0:00  | 0.4                    | 135               | 10/01/2022 | 0:00  | 0.4                    | 337.5             | 11/01/2022 | 0:00  | 0.4                    | 22.5              | 12/01/2022 | 0:00  | 0.9                    | 90                |
| 09/01/2022 | 1:00  | 0.4                    | 292.5             | 10/01/2022 | 1:00  | 0.4                    | 337.5             | 11/01/2022 | 1:00  | 0.9                    | 45                | 12/01/2022 | 1:00  | 1.3                    | 45                |
| 09/01/2022 | 2:00  | 0.9                    | 270               | 10/01/2022 | 2:00  | 0.4                    | 90                | 11/01/2022 | 2:00  | 0.4                    | 45                | 12/01/2022 | 2:00  | 1.3                    | 22.5              |
| 09/01/2022 | 3:00  | 1.2                    | 22.5              | 10/01/2022 | 3:00  | 0.9                    | 135               | 11/01/2022 | 3:00  | 0.4                    | 22.5              | 12/01/2022 | 3:00  | 0.9                    | 22.5              |
| 09/01/2022 | 4:00  | 1.3                    | 0                 | 10/01/2022 | 4:00  | 0.9                    | 67.5              | 11/01/2022 | 4:00  | 1.3                    | 337.5             | 12/01/2022 | 4:00  | 0.9                    | 45                |
| 09/01/2022 | 5:00  | 0.4                    | 135               | 10/01/2022 | 5:00  | 0.9                    | 112.5             | 11/01/2022 | 5:00  | 0.4                    | 112.5             | 12/01/2022 | 5:00  | 0.9                    | 112.5             |
| 09/01/2022 | 6:00  | 0.4                    | 135               | 10/01/2022 | 6:00  | 0.4                    | 135               | 11/01/2022 | 6:00  | 0.4                    | 270               | 12/01/2022 | 6:00  | 0.4                    | 45                |
| 09/01/2022 | 7:00  | 0.9                    | 112.5             | 10/01/2022 | 7:00  | 0.9                    | 22.5              | 11/01/2022 | 7:00  | 0.9                    | 45                | 12/01/2022 | 7:00  | 0.9                    | 45                |
| 09/01/2022 | 8:00  | 0.4                    | 337.5             | 10/01/2022 | 8:00  | 0.9                    | 67.5              | 11/01/2022 | 8:00  | 1.3                    | 90                | 12/01/2022 | 8:00  | 0.9                    | 22.5              |
| 09/01/2022 | 9:00  | 0.4                    | 135               | 10/01/2022 | 9:00  | 1.3                    | 90                | 11/01/2022 | 9:00  | 0.9                    | 90                | 12/01/2022 | 9:00  | 0.9                    | 0                 |
| 09/01/2022 | 10:00 | 0.4                    | 135               | 10/01/2022 | 10:00 | 0.9                    | 90                | 11/01/2022 | 10:00 | 0.9                    | 0                 | 12/01/2022 | 10:00 | 1.3                    | 67.5              |
| 09/01/2022 | 11:00 | 0.9                    | 112.5             | 10/01/2022 | 11:00 | 1.3                    | 45                | 11/01/2022 | 11:00 | 0.9                    | 22.5              | 12/01/2022 | 11:00 | 1.3                    | 337.5             |
| 09/01/2022 | 12:00 | 1.8                    | 135               | 10/01/2022 | 12:00 | 1.3                    | 135               | 11/01/2022 | 12:00 | 1.3                    | 112.5             | 12/01/2022 | 12:00 | 1.8                    | 45                |
| 09/01/2022 | 13:00 | 0.9                    | 135               | 10/01/2022 | 13:00 | 0.9                    | 90                | 11/01/2022 | 13:00 | 0.9                    | 22.5              | 12/01/2022 | 13:00 | 1.3                    | 90                |
| 09/01/2022 | 14:00 | 1.3                    | 90                | 10/01/2022 | 14:00 | 0.9                    | 157.5             | 11/01/2022 | 14:00 | 0.9                    | 157.5             | 12/01/2022 | 14:00 | 1.3                    | 337.5             |
| 09/01/2022 | 15:00 | 1.3                    | 135               | 10/01/2022 | 15:00 | 0.9                    | 135               | 11/01/2022 | 15:00 | 1.3                    | 90                | 12/01/2022 | 15:00 | 1.8                    | 67.5              |
| 09/01/2022 | 16:00 | 1.3                    | 135               | 10/01/2022 | 16:00 | 0.9                    | 112.5             | 11/01/2022 | 16:00 | 0.9                    | 22.5              | 12/01/2022 | 16:00 | 1.3                    | 135               |
| 09/01/2022 | 17:00 | 0.9                    | 180               | 10/01/2022 | 17:00 | 0.9                    | 0                 | 11/01/2022 | 17:00 | 0.4                    | 270               | 12/01/2022 | 17:00 | 0.9                    | 90                |
| 09/01/2022 | 18:00 | 0.4                    | 90                | 10/01/2022 | 18:00 | 0.4                    | 337.5             | 11/01/2022 | 18:00 | 0.4                    | 90                | 12/01/2022 | 18:00 | 0.4                    | 90                |
| 09/01/2022 | 19:00 | 0.4                    | 112.5             | 10/01/2022 | 19:00 | 0.4                    | 22.5              | 11/01/2022 | 19:00 | 0.4                    | 247.5             | 12/01/2022 | 19:00 | 0.4                    | 337.5             |
| 09/01/2022 | 20:00 | 0.4                    | 22.5              | 10/01/2022 | 20:00 | 0.4                    | 112.5             | 11/01/2022 | 20:00 | 0.9                    | 247.5             | 12/01/2022 | 20:00 | 0.4                    | 45                |
| 09/01/2022 | 21:00 | 0.4                    | 0                 | 10/01/2022 | 21:00 | 0.4                    | 45                | 11/01/2022 | 21:00 | 0.4                    | 270               | 12/01/2022 | 21:00 | 0                      | 67.5              |
| 09/01/2022 | 22:00 | 0                      | 22.5              | 10/01/2022 | 22:00 | 0.9                    | 22.5              | 11/01/2022 | 22:00 | 0.4                    | 315               | 12/01/2022 | 22:00 | 0.4                    | 22.5              |
| 09/01/2022 | 23:00 | 0.4                    | 90                | 10/01/2022 | 23:00 | 0.9                    | 22.5              | 11/01/2022 | 23:00 | 0.4                    | 67.5              | 12/01/2022 | 23:00 | 0.9                    | 22.5              |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 13/01/2022 | 0:00  | 0.4                    | 0                 | 14/01/2022 | 0:00  | 0.9                    | 0                 | 15/01/2022 | 0:00  | 1.3                    | 67.5              | 16/01/2022 | 0:00  | 0.9                    | 157.5             |
| 13/01/2022 | 1:00  | 0.4                    | 247.5             | 14/01/2022 | 1:00  | 0.9                    | 22.5              | 15/01/2022 | 1:00  | 0.9                    | 90                | 16/01/2022 | 1:00  | 0.4                    | 337.5             |
| 13/01/2022 | 2:00  | 0.4                    | 337.5             | 14/01/2022 | 2:00  | 0.4                    | 157.5             | 15/01/2022 | 2:00  | 1.8                    | 22.5              | 16/01/2022 | 2:00  | 0.9                    | 45                |
| 13/01/2022 | 3:00  | 0.4                    | 0                 | 14/01/2022 | 3:00  | 1.3                    | 135               | 15/01/2022 | 3:00  | 0.9                    | 22.5              | 16/01/2022 | 3:00  | 1.3                    | 0                 |
| 13/01/2022 | 4:00  | 0.9                    | 270               | 14/01/2022 | 4:00  | 0.9                    | 135               | 15/01/2022 | 4:00  | 0.9                    | 135               | 16/01/2022 | 4:00  | 0.4                    | 45                |
| 13/01/2022 | 5:00  | 0.4                    | 315               | 14/01/2022 | 5:00  | 0.9                    | 45                | 15/01/2022 | 5:00  | 0.9                    | 45                | 16/01/2022 | 5:00  | 0.4                    | 22.5              |
| 13/01/2022 | 6:00  | 0.4                    | 180               | 14/01/2022 | 6:00  | 0.9                    | 337.5             | 15/01/2022 | 6:00  | 1.3                    | 90                | 16/01/2022 | 6:00  | 0.4                    | 112.5             |
| 13/01/2022 | 7:00  | 0.9                    | 270               | 14/01/2022 | 7:00  | 1.8                    | 90                | 15/01/2022 | 7:00  | 0.9                    | 135               | 16/01/2022 | 7:00  | 0.9                    | 45                |
| 13/01/2022 | 8:00  | 1.3                    | 270               | 14/01/2022 | 8:00  | 1.3                    | 90                | 15/01/2022 | 8:00  | 1.3                    | 112.5             | 16/01/2022 | 8:00  | 1.3                    | 315               |
| 13/01/2022 | 9:00  | 0.4                    | 45                | 14/01/2022 | 9:00  | 1.3                    | 45                | 15/01/2022 | 9:00  | 1.8                    | 90                | 16/01/2022 | 9:00  | 1.3                    | 270               |
| 13/01/2022 | 10:00 | 0                      | 180               | 14/01/2022 | 10:00 | 1.8                    | 67.5              | 15/01/2022 | 10:00 | 1.3                    | 67.5              | 16/01/2022 | 10:00 | 1.3                    | 157.5             |
| 13/01/2022 | 11:00 | 0.9                    | 90                | 14/01/2022 | 11:00 | 1.8                    | 67.5              | 15/01/2022 | 11:00 | 1.3                    | 112.5             | 16/01/2022 | 11:00 | 1.3                    | 315               |
| 13/01/2022 | 12:00 | 0.4                    | 157.5             | 14/01/2022 | 12:00 | 2.2                    | 67.5              | 15/01/2022 | 12:00 | 1.3                    | 112.5             | 16/01/2022 | 12:00 | 0.9                    | 315               |
| 13/01/2022 | 13:00 | 0.4                    | 202.5             | 14/01/2022 | 13:00 | 1.3                    | 45                | 15/01/2022 | 13:00 | 0.9                    | 112.5             | 16/01/2022 | 13:00 | 0.4                    | 180               |
| 13/01/2022 | 14:00 | 0.4                    | 90                | 14/01/2022 | 14:00 | 1.3                    | 135               | 15/01/2022 | 14:00 | 1.3                    | 112.5             | 16/01/2022 | 14:00 | 0.9                    | 292.5             |
| 13/01/2022 | 15:00 | 0.4                    | 90                | 14/01/2022 | 15:00 | 1.8                    | 45                | 15/01/2022 | 15:00 | 0.9                    | 157.5             | 16/01/2022 | 15:00 | 0.9                    | 90                |
| 13/01/2022 | 16:00 | 0.9                    | 22.5              | 14/01/2022 | 16:00 | 1.3                    | 0                 | 15/01/2022 | 16:00 | 0.9                    | 112.5             | 16/01/2022 | 16:00 | 1.3                    | 90                |
| 13/01/2022 | 17:00 | 0.4                    | 337.5             | 14/01/2022 | 17:00 | 1.3                    | 67.5              | 15/01/2022 | 17:00 | 1.3                    | 45                | 16/01/2022 | 17:00 | 0.9                    | 112.5             |
| 13/01/2022 | 18:00 | 0.9                    | 337.5             | 14/01/2022 | 18:00 | 1.3                    | 90                | 15/01/2022 | 18:00 | 1.3                    | 90                | 16/01/2022 | 18:00 | 0.4                    | 112.5             |
| 13/01/2022 | 19:00 | 0.4                    | 45                | 14/01/2022 | 19:00 | 0.9                    | 45                | 15/01/2022 | 19:00 | 0.4                    | 270               | 16/01/2022 | 19:00 | 0.9                    | 202.5             |
| 13/01/2022 | 20:00 | 0.4                    | 90                | 14/01/2022 | 20:00 | 1.8                    | 112.5             | 15/01/2022 | 20:00 | 0.4                    | 270               | 16/01/2022 | 20:00 | 0.9                    | 315               |
| 13/01/2022 | 21:00 | 0.9                    | 0                 | 14/01/2022 | 21:00 | 1.3                    | 112.5             | 15/01/2022 | 21:00 | 0.4                    | 45                | 16/01/2022 | 21:00 | 0.9                    | 247.5             |
| 13/01/2022 | 22:00 | 0.4                    | 90                | 14/01/2022 | 22:00 | 1.8                    | 90                | 15/01/2022 | 22:00 | 0.9                    | 135               | 16/01/2022 | 22:00 | 0.9                    | 135               |
| 13/01/2022 | 23:00 | 0.9                    | 0                 | 14/01/2022 | 23:00 | 0.9                    | 90                | 15/01/2022 | 23:00 | 0.4                    | 45                | 16/01/2022 | 23:00 | 0.9                    | 45                |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 17/01/2022 | 0:00  | 1.3                    | 112.5             | 18/01/2022 | 0:00  | 0.4                    | 90                | 19/01/2022 | 0:00  | 0.4                    | 315               | 20/01/2022 | 0:00  | 0.4                    | 22.5              |
| 17/01/2022 | 1:00  | 1.3                    | 67.5              | 18/01/2022 | 1:00  | 0.9                    | 112.5             | 19/01/2022 | 1:00  | 0.4                    | 112.5             | 20/01/2022 | 1:00  | 0.4                    | 247.5             |
| 17/01/2022 | 2:00  | 0.9                    | 67.5              | 18/01/2022 | 2:00  | 1.3                    | 22.5              | 19/01/2022 | 2:00  | 0.4                    | 292.5             | 20/01/2022 | 2:00  | 0.4                    | 67.5              |
| 17/01/2022 | 3:00  | 1.3                    | 112.5             | 18/01/2022 | 3:00  | 0.4                    | 45                | 19/01/2022 | 3:00  | 0.9                    | 112.5             | 20/01/2022 | 3:00  | 0.9                    | 112.5             |
| 17/01/2022 | 4:00  | 0.9                    | 90                | 18/01/2022 | 4:00  | 0.4                    | 337.5             | 19/01/2022 | 4:00  | 0.4                    | 225               | 20/01/2022 | 4:00  | 0.4                    | 315               |
| 17/01/2022 | 5:00  | 1.3                    | 90                | 18/01/2022 | 5:00  | 0.4                    | 247.5             | 19/01/2022 | 5:00  | 0.4                    | 315               | 20/01/2022 | 5:00  | 0.4                    | 45                |
| 17/01/2022 | 6:00  | 0.9                    | 112.5             | 18/01/2022 | 6:00  | 0.9                    | 0                 | 19/01/2022 | 6:00  | 0.9                    | 225               | 20/01/2022 | 6:00  | 0.9                    | 45                |
| 17/01/2022 | 7:00  | 1.3                    | 90                | 18/01/2022 | 7:00  | 0.4                    | 67.5              | 19/01/2022 | 7:00  | 0.4                    | 45                | 20/01/2022 | 7:00  | 0.9                    | 45                |
| 17/01/2022 | 8:00  | 1.3                    | 90                | 18/01/2022 | 8:00  | 0.4                    | 247.5             | 19/01/2022 | 8:00  | 0.4                    | 225               | 20/01/2022 | 8:00  | 0.4                    | 67.5              |
| 17/01/2022 | 9:00  | 0.9                    | 135               | 18/01/2022 | 9:00  | 0.4                    | 67.5              | 19/01/2022 | 9:00  | 0.9                    | 22.5              | 20/01/2022 | 9:00  | 0.9                    | 337.5             |
| 17/01/2022 | 10:00 | 0.9                    | 112.5             | 18/01/2022 | 10:00 | 0.9                    | 90                | 19/01/2022 | 10:00 | 0.9                    | 225               | 20/01/2022 | 10:00 | 1.3                    | 135               |
| 17/01/2022 | 11:00 | 0.4                    | 90                | 18/01/2022 | 11:00 | 1.3                    | 0                 | 19/01/2022 | 11:00 | 0.4                    | 270               | 20/01/2022 | 11:00 | 1.3                    | 112.5             |
| 17/01/2022 | 12:00 | 0.4                    | 90                | 18/01/2022 | 12:00 | 0.4                    | 0                 | 19/01/2022 | 12:00 | 0.9                    | 135               | 20/01/2022 | 12:00 | 1.8                    | 112.5             |
| 17/01/2022 | 13:00 | 0.9                    | 0                 | 18/01/2022 | 13:00 | 0.9                    | 112.5             | 19/01/2022 | 13:00 | 0.4                    | 112.5             | 20/01/2022 | 13:00 | 1.8                    | 90                |
| 17/01/2022 | 14:00 | 0.4                    | 45                | 18/01/2022 | 14:00 | 0.9                    | 22.5              | 19/01/2022 | 14:00 | 1.3                    | 90                | 20/01/2022 | 14:00 | 1.3                    | 112.5             |
| 17/01/2022 | 15:00 | 0.4                    | 67.5              | 18/01/2022 | 15:00 | 0.9                    | 45                | 19/01/2022 | 15:00 | 1.8                    | 90                | 20/01/2022 | 15:00 | 0.9                    | 112.5             |
| 17/01/2022 | 16:00 | 0.9                    | 112.5             | 18/01/2022 | 16:00 | 0.4                    | 0                 | 19/01/2022 | 16:00 | 0.4                    | 112.5             | 20/01/2022 | 16:00 | 1.3                    | 90                |
| 17/01/2022 | 17:00 | 0.9                    | 135               | 18/01/2022 | 17:00 | 0.4                    | 337.5             | 19/01/2022 | 17:00 | 0.4                    | 135               | 20/01/2022 | 17:00 | 0.9                    | 135               |
| 17/01/2022 | 18:00 | 0.4                    | 135               | 18/01/2022 | 18:00 | 0.4                    | 292.5             | 19/01/2022 | 18:00 | 0.4                    | 180               | 20/01/2022 | 18:00 | 1.3                    | 90                |
| 17/01/2022 | 19:00 | 0.4                    | 45                | 18/01/2022 | 19:00 | 0.4                    | 0                 | 19/01/2022 | 19:00 | 0.4                    | 135               | 20/01/2022 | 19:00 | 0.9                    | 0                 |
| 17/01/2022 | 20:00 | 0.9                    | 247.5             | 18/01/2022 | 20:00 | 0.9                    | 315               | 19/01/2022 | 20:00 | 0.9                    | 22.5              | 20/01/2022 | 20:00 | 0.9                    | 135               |
| 17/01/2022 | 21:00 | 1.3                    | 45                | 18/01/2022 | 21:00 | 0.4                    | 270               | 19/01/2022 | 21:00 | 0.4                    | 67.5              | 20/01/2022 | 21:00 | 0.4                    | 67.5              |
| 17/01/2022 | 22:00 | 0.4                    | 22.5              | 18/01/2022 | 22:00 | 0.9                    | 315               | 19/01/2022 | 22:00 | 0.9                    | 135               | 20/01/2022 | 22:00 | 0.4                    | 0                 |
| 17/01/2022 | 23:00 | 0.4                    | 22.5              | 18/01/2022 | 23:00 | 0.4                    | 22.5              | 19/01/2022 | 23:00 | 0.4                    | 45                | 20/01/2022 | 23:00 | 0.9                    | 22.5              |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 21/01/2022 | 0:00  | 1.3                    | 90                | 22/01/2022 | 0:00  | 0.9                    | 337.5             | 23/01/2022 | 0:00  | 1.3                    | 90                | 24/01/2022 | 0:00  | 0.4                    | 337.5             |
| 21/01/2022 | 1:00  | 1.8                    | 67.5              | 22/01/2022 | 1:00  | 1.3                    | 112.5             | 23/01/2022 | 1:00  | 1.3                    | 67.5              | 24/01/2022 | 1:00  | 0.4                    | 112.5             |
| 21/01/2022 | 2:00  | 1.8                    | 67.5              | 22/01/2022 | 2:00  | 1.3                    | 90                | 23/01/2022 | 2:00  | 0.9                    | 90                | 24/01/2022 | 2:00  | 1.3                    | 112.5             |
| 21/01/2022 | 3:00  | 0.9                    | 90                | 22/01/2022 | 3:00  | 0.4                    | 135               | 23/01/2022 | 3:00  | 0.9                    | 90                | 24/01/2022 | 3:00  | 0.4                    | 67.5              |
| 21/01/2022 | 4:00  | 0.4                    | 45                | 22/01/2022 | 4:00  | 0.4                    | 112.5             | 23/01/2022 | 4:00  | 0.9                    | 112.5             | 24/01/2022 | 4:00  | 0.4                    | 67.5              |
| 21/01/2022 | 5:00  | 0.4                    | 112.5             | 22/01/2022 | 5:00  | 0.4                    | 112.5             | 23/01/2022 | 5:00  | 1.3                    | 90                | 24/01/2022 | 5:00  | 0.4                    | 112.5             |
| 21/01/2022 | 6:00  | 0.4                    | 225               | 22/01/2022 | 6:00  | 0.9                    | 337.5             | 23/01/2022 | 6:00  | 0.9                    | 67.5              | 24/01/2022 | 6:00  | 0.4                    | 67.5              |
| 21/01/2022 | 7:00  | 0.4                    | 112.5             | 22/01/2022 | 7:00  | 1.3                    | 337.5             | 23/01/2022 | 7:00  | 0.4                    | 45                | 24/01/2022 | 7:00  | 0.9                    | 135               |
| 21/01/2022 | 8:00  | 0.9                    | 90                | 22/01/2022 | 8:00  | 0.4                    | 67.5              | 23/01/2022 | 8:00  | 0.9                    | 90                | 24/01/2022 | 8:00  | 0.9                    | 112.5             |
| 21/01/2022 | 9:00  | 1.3                    | 157.5             | 22/01/2022 | 9:00  | 0.4                    | 67.5              | 23/01/2022 | 9:00  | 0.4                    | 270               | 24/01/2022 | 9:00  | 0.9                    | 135               |
| 21/01/2022 | 10:00 | 1.8                    | 90                | 22/01/2022 | 10:00 | 0.9                    | 337.5             | 23/01/2022 | 10:00 | 0.9                    | 90                | 24/01/2022 | 10:00 | 0.9                    | 135               |
| 21/01/2022 | 11:00 | 1.8                    | 90                | 22/01/2022 | 11:00 | 0.9                    | 90                | 23/01/2022 | 11:00 | 0.9                    | 90                | 24/01/2022 | 11:00 | 0.9                    | 135               |
| 21/01/2022 | 12:00 | 1.3                    | 112.5             | 22/01/2022 | 12:00 | 1.3                    | 90                | 23/01/2022 | 12:00 | 0.4                    | 112.5             | 24/01/2022 | 12:00 | 0.9                    | 157.5             |
| 21/01/2022 | 13:00 | 1.3                    | 112.5             | 22/01/2022 | 13:00 | 0.9                    | 90                | 23/01/2022 | 13:00 | 0.4                    | 112.5             | 24/01/2022 | 13:00 | 1.3                    | 45                |
| 21/01/2022 | 14:00 | 1.3                    | 90                | 22/01/2022 | 14:00 | 0.9                    | 337.5             | 23/01/2022 | 14:00 | 1.3                    | 112.5             | 24/01/2022 | 14:00 | 1.3                    | 337.5             |
| 21/01/2022 | 15:00 | 0.9                    | 67.5              | 22/01/2022 | 15:00 | 0.9                    | 112.5             | 23/01/2022 | 15:00 | 1.3                    | 135               | 24/01/2022 | 15:00 | 0.9                    | 45                |
| 21/01/2022 | 16:00 | 1.3                    | 112.5             | 22/01/2022 | 16:00 | 0.4                    | 90                | 23/01/2022 | 16:00 | 1.8                    | 90                | 24/01/2022 | 16:00 | 1.3                    | 112.5             |
| 21/01/2022 | 17:00 | 0.9                    | 90                | 22/01/2022 | 17:00 | 1.3                    | 112.5             | 23/01/2022 | 17:00 | 1.3                    | 112.5             | 24/01/2022 | 17:00 | 1.8                    | 67.5              |
| 21/01/2022 | 18:00 | 1.3                    | 67.5              | 22/01/2022 | 18:00 | 0.9                    | 112.5             | 23/01/2022 | 18:00 | 1.3                    | 112.5             | 24/01/2022 | 18:00 | 1.3                    | 292.5             |
| 21/01/2022 | 19:00 | 1.3                    | 90                | 22/01/2022 | 19:00 | 0.9                    | 90                | 23/01/2022 | 19:00 | 0.9                    | 90                | 24/01/2022 | 19:00 | 1.3                    | 90                |
| 21/01/2022 | 20:00 | 0.9                    | 90                | 22/01/2022 | 20:00 | 1.3                    | 67.5              | 23/01/2022 | 20:00 | 0.4                    | 135               | 24/01/2022 | 20:00 | 1.3                    | 45                |
| 21/01/2022 | 21:00 | 1.3                    | 112.5             | 22/01/2022 | 21:00 | 1.3                    | 112.5             | 23/01/2022 | 21:00 | 0.4                    | 112.5             | 24/01/2022 | 21:00 | 1.3                    | 112.5             |
| 21/01/2022 | 22:00 | 1.3                    | 112.5             | 22/01/2022 | 22:00 | 0.9                    | 90                | 23/01/2022 | 22:00 | 0.4                    | 112.5             | 24/01/2022 | 22:00 | 1.3                    | 67.5              |
| 21/01/2022 | 23:00 | 0.9                    | 90                | 22/01/2022 | 23:00 | 1.3                    | 90                | 23/01/2022 | 23:00 | 0.9                    | 112.5             | 24/01/2022 | 23:00 | 1.3                    | 90                |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|
| 25/01/2022 | 0:00  | 1.3                    | 67.5              | 26/01/2022 | 0:00  | 1.3                    | 45                | 27/01/2022 | 0:00  | 1.3                    | 45                | 28/01/2022 | 0:00  | 1.3                    | 135               |
| 25/01/2022 | 1:00  | 1.3                    | 135               | 26/01/2022 | 1:00  | 1.3                    | 157.5             | 27/01/2022 | 1:00  | 1.3                    | 67.5              | 28/01/2022 | 1:00  | 1.3                    | 22.5              |
| 25/01/2022 | 2:00  | 0.9                    | 90                | 26/01/2022 | 2:00  | 0.9                    | 112.5             | 27/01/2022 | 2:00  | 0.9                    | 45                | 28/01/2022 | 2:00  | 1.3                    | 90                |
| 25/01/2022 | 3:00  | 1.3                    | 67.5              | 26/01/2022 | 3:00  | 0.9                    | 247.5             | 27/01/2022 | 3:00  | 1.3                    | 0                 | 28/01/2022 | 3:00  | 1.8                    | 67.5              |
| 25/01/2022 | 4:00  | 1.3                    | 90                | 26/01/2022 | 4:00  | 1.3                    | 112.5             | 27/01/2022 | 4:00  | 0.4                    | 135               | 28/01/2022 | 4:00  | 1.8                    | 67.5              |
| 25/01/2022 | 5:00  | 1.3                    | 135               | 26/01/2022 | 5:00  | 0.9                    | 45                | 27/01/2022 | 5:00  | 1.3                    | 90                | 28/01/2022 | 5:00  | 0.9                    | 90                |
| 25/01/2022 | 6:00  | 0.9                    | 90                | 26/01/2022 | 6:00  | 0.9                    | 22.5              | 27/01/2022 | 6:00  | 0.4                    | 90                | 28/01/2022 | 6:00  | 0.9                    | 90                |
| 25/01/2022 | 7:00  | 1.3                    | 90                | 26/01/2022 | 7:00  | 0.9                    | 90                | 27/01/2022 | 7:00  | 1.3                    | 112.5             | 28/01/2022 | 7:00  | 1.8                    | 67.5              |
| 25/01/2022 | 8:00  | 0.9                    | 270               | 26/01/2022 | 8:00  | 0.4                    | 247.5             | 27/01/2022 | 8:00  | 0.9                    | 135               | 28/01/2022 | 8:00  | 1.3                    | 45                |
| 25/01/2022 | 9:00  | 0.9                    | 45                | 26/01/2022 | 9:00  | 0.9                    | 112.5             | 27/01/2022 | 9:00  | 0.9                    | 45                | 28/01/2022 | 9:00  | 1.3                    | 45                |
| 25/01/2022 | 10:00 | 1.3                    | 315               | 26/01/2022 | 10:00 | 1.3                    | 67.5              | 27/01/2022 | 10:00 | 0.4                    | 90                | 28/01/2022 | 10:00 | 0.4                    | 45                |
| 25/01/2022 | 11:00 | 0.9                    | 67.5              | 26/01/2022 | 11:00 | 0.9                    | 180               | 27/01/2022 | 11:00 | 0.9                    | 135               | 28/01/2022 | 11:00 | 0.4                    | 67.5              |
| 25/01/2022 | 12:00 | 0.9                    | 22.5              | 26/01/2022 | 12:00 | 0.4                    | 112.5             | 27/01/2022 | 12:00 | 0.4                    | 22.5              | 28/01/2022 | 12:00 | 0.4                    | 45                |
| 25/01/2022 | 13:00 | 0.4                    | 90                | 26/01/2022 | 13:00 | 0.4                    | 135               | 27/01/2022 | 13:00 | 1.3                    | 45                | 28/01/2022 | 13:00 | 0.9                    | 112.5             |
| 25/01/2022 | 14:00 | 0.9                    | 45                | 26/01/2022 | 14:00 | 1.3                    | 90                | 27/01/2022 | 14:00 | 0.4                    | 135               | 28/01/2022 | 14:00 | 0.4                    | 22.5              |
| 25/01/2022 | 15:00 | 0.9                    | 90                | 26/01/2022 | 15:00 | 1.3                    | 90                | 27/01/2022 | 15:00 | 1.3                    | 112.5             | 28/01/2022 | 15:00 | 0.9                    | 90                |
| 25/01/2022 | 16:00 | 0.9                    | 112.5             | 26/01/2022 | 16:00 | 1.3                    | 112.5             | 27/01/2022 | 16:00 | 0.9                    | 135               | 28/01/2022 | 16:00 | 0.4                    | 0                 |
| 25/01/2022 | 17:00 | 0.4                    | 112.5             | 26/01/2022 | 17:00 | 0.4                    | 112.5             | 27/01/2022 | 17:00 | 1.3                    | 112.5             | 28/01/2022 | 17:00 | 0.4                    | 315               |
| 25/01/2022 | 18:00 | 0.9                    | 112.5             | 26/01/2022 | 18:00 | 0.4                    | 112.5             | 27/01/2022 | 18:00 | 0.4                    | 90                | 28/01/2022 | 18:00 | 0.9                    | 112.5             |
| 25/01/2022 | 19:00 | 0.4                    | 90                | 26/01/2022 | 19:00 | 0                      | 180               | 27/01/2022 | 19:00 | 0.4                    | 112.5             | 28/01/2022 | 19:00 | 0.9                    | 112.5             |
| 25/01/2022 | 20:00 | 0.9                    | 45                | 26/01/2022 | 20:00 | 0.4                    | 180               | 27/01/2022 | 20:00 | 1.3                    | 112.5             | 28/01/2022 | 20:00 | 0.9                    | 112.5             |
| 25/01/2022 | 21:00 | 0.9                    | 22.5              | 26/01/2022 | 21:00 | 0.9                    | 112.5             | 27/01/2022 | 21:00 | 1.8                    | 112.5             | 28/01/2022 | 21:00 | 0.4                    | 247.5             |
| 25/01/2022 | 22:00 | 1.3                    | 45                | 26/01/2022 | 22:00 | 0                      | 112.5             | 27/01/2022 | 22:00 | 0.9                    | 112.5             | 28/01/2022 | 22:00 | 0.9                    | 112.5             |
| 25/01/2022 | 23:00 | 0.4                    | 45                | 26/01/2022 | 23:00 | 0.4                    | 112.5             | 27/01/2022 | 23:00 | 0.9                    | 112.5             | 28/01/2022 | 23:00 | 0.4                    | 112.5             |

| Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date Date  | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date       | Time  | Wind<br>Speed<br>(m/s) | Wind<br>Direction | Date | Time | Wind<br>Speed<br>(m/s) | Wind<br>Direction |
|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------------|-------|------------------------|-------------------|------|------|------------------------|-------------------|
| 29/01/2022 | 0:00  | 0.4                    | 90                | 30/01/2022 | 0:00  | 0.4                    | 247.5             | 31/01/2022 | 0:00  | 1.3                    | 45                |      |      |                        |                   |
| 29/01/2022 | 1:00  | 0.4                    | 112.5             | 30/01/2022 | 1:00  | 0.4                    | 315               | 31/01/2022 | 1:00  | 1.8                    | 45                |      |      |                        |                   |
| 29/01/2022 | 2:00  | 0.4                    | 90                | 30/01/2022 | 2:00  | 1.8                    | 45                | 31/01/2022 | 2:00  | 1.3                    | 135               |      |      |                        |                   |
| 29/01/2022 | 3:00  | 0.9                    | 22.5              | 30/01/2022 | 3:00  | 1.3                    | 112.5             | 31/01/2022 | 3:00  | 1.8                    | 67.5              |      |      |                        |                   |
| 29/01/2022 | 4:00  | 0.4                    | 22.5              | 30/01/2022 | 4:00  | 1.3                    | 0                 | 31/01/2022 | 4:00  | 1.3                    | 45                |      |      |                        |                   |
| 29/01/2022 | 5:00  | 0.4                    | 90                | 30/01/2022 | 5:00  | 1.8                    | 45                | 31/01/2022 | 5:00  | 1.8                    | 90                |      |      |                        |                   |
| 29/01/2022 | 6:00  | 0.4                    | 112.5             | 30/01/2022 | 6:00  | 0.9                    | 0                 | 31/01/2022 | 6:00  | 1.3                    | 45                |      |      |                        |                   |
| 29/01/2022 | 7:00  | 0.9                    | 0                 | 30/01/2022 | 7:00  | 0.9                    | 180               | 31/01/2022 | 7:00  | 2.2                    | 45                |      |      |                        |                   |
| 29/01/2022 | 8:00  | 0.4                    | 135               | 30/01/2022 | 8:00  | 0.9                    | 0                 | 31/01/2022 | 8:00  | 1.3                    | 90                |      |      |                        |                   |
| 29/01/2022 | 9:00  | 0.9                    | 22.5              | 30/01/2022 | 9:00  | 1.3                    | 0                 | 31/01/2022 | 9:00  | 1.3                    | 45                |      |      |                        |                   |
| 29/01/2022 | 10:00 | 0.4                    | 135               | 30/01/2022 | 10:00 | 0.9                    | 225               | 31/01/2022 | 10:00 | 1.8                    | 22.5              |      |      |                        |                   |
| 29/01/2022 | 11:00 | 0.9                    | 135               | 30/01/2022 | 11:00 | 0.9                    | 45                | 31/01/2022 | 11:00 | 2.2                    | 90                |      |      |                        |                   |
| 29/01/2022 | 12:00 | 1.3                    | 112.5             | 30/01/2022 | 12:00 | 1.3                    | 225               | 31/01/2022 | 12:00 | 0.9                    | 315               |      |      |                        |                   |
| 29/01/2022 | 13:00 | 1.3                    | 135               | 30/01/2022 | 13:00 | 0.9                    | 112.5             | 31/01/2022 | 13:00 | 1.3                    | 67.5              |      |      |                        |                   |
| 29/01/2022 | 14:00 | 1.3                    | 90                | 30/01/2022 | 14:00 | 0.9                    | 0                 | 31/01/2022 | 14:00 | 1.3                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 15:00 | 0.9                    | 112.5             | 30/01/2022 | 15:00 | 0.4                    | 112.5             | 31/01/2022 | 15:00 | 1.3                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 16:00 | 1.3                    | 90                | 30/01/2022 | 16:00 | 1.3                    | 90                | 31/01/2022 | 16:00 | 1.3                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 17:00 | 0.9                    | 135               | 30/01/2022 | 17:00 | 1.3                    | 0                 | 31/01/2022 | 17:00 | 0.9                    | 202.5             |      |      |                        |                   |
| 29/01/2022 | 18:00 | 0.4                    | 247.5             | 30/01/2022 | 18:00 | 0.4                    | 22.5              | 31/01/2022 | 18:00 | 0.9                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 19:00 | 0.4                    | 247.5             | 30/01/2022 | 19:00 | 0.4                    | 157.5             | 31/01/2022 | 19:00 | 0.4                    | 45                |      |      |                        |                   |
| 29/01/2022 | 20:00 | 0.9                    | 270               | 30/01/2022 | 20:00 | 0.4                    | 225               | 31/01/2022 | 20:00 | 0.4                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 21:00 | 0.4                    | 270               | 30/01/2022 | 21:00 | 0.4                    | 225               | 31/01/2022 | 21:00 | 1.3                    | 90                |      |      |                        |                   |
| 29/01/2022 | 22:00 | 1.3                    | 270               | 30/01/2022 | 22:00 | 1.3                    | 337.5             | 31/01/2022 | 22:00 | 0.4                    | 112.5             |      |      |                        |                   |
| 29/01/2022 | 23:00 | 0.4                    | 225               | 30/01/2022 | 23:00 | 1.3                    | 337.5             | 31/01/2022 | 23:00 | 0.4                    | 67.5              |      |      |                        |                   |

| Appendix G – 24-hr TSP monitoring results and graphical presentation |
|--|
|--|

Location: AM2(A) – Ng Wah Catholic Secondary School

| Start Date | Weather | Air<br>Temp.           | Atmospheric<br>Pressure | Filter we | eight (g) | Particulate | Elapse  | Time    | Sampling<br>Time | Flow<br>(cf |       | Av.<br>Flow | Total vol. | Conc.         |
|------------|---------|------------------------|-------------------------|-----------|-----------|-------------|---------|---------|------------------|-------------|-------|-------------|------------|---------------|
|            |         | $(^{\circ}\mathbb{C})$ | (hPa)                   | Initial   | Final     | weight (g)  | Initial | Final   | (min)            | Initial     | Final | (m³/min)    | $(m^3)$    | $(\mu g/m^3)$ |
| 5/1/2022   | Sunny   | 23.5                   | 1017.3                  | 15.0042   | 15.1687   | 0.1645      | 6486.98 | 6510.98 | 1440             | 50          | 50    | 1.41        | 2025       | 81            |
| 11/1/2022  | Sunny   | 19.4                   | 1020.2                  | 15.2473   | 15.3636   | 0.1163      | 6511.47 | 6535.48 | 1441             | 50          | 50    | 1.42        | 2043       | 57            |
| 17/1/2022  | Cloudy  | 18.7                   | 1020.7                  | 15.6259   | 15.7796   | 0.1537      | 6535.85 | 6559.86 | 1441             | 50          | 50    | 1.40        | 2024       | 76            |
| 22/1/2022  | Sunny   | 17.9                   | 1014.3                  | 15.1074   | 15.2086   | 0.1012      | 6560.36 | 6584.36 | 1440             | 50          | 50    | 1.40        | 2019       | 50            |
| 26/1/2022  | Sunny   | 20.4                   | 1017.1                  | 15.6297   | 15.7503   | 0.1206      | 6585.09 | 6609.1  | 1441             | 50          | 50    | 1.40        | 2014       | 60            |
| 31/1/2022  | Sunny   | 15.3                   | 1019.2                  | 15.2332   | 15.2907   | 0.0575      | 6609.97 | 6633.97 | 1440             | 50          | 50    | 1.41        | 2033       | 28            |
|            |         |                        |                         |           | •         |             | •       |         |                  |             |       | Maxim       | num        | 81            |
|            |         |                        |                         |           |           |             |         |         |                  |             |       |             |            | • 0           |

Maximum81Minimum28Average59Action Level175Limit Level260

Location: AM3 – Sky Tower

| $(\mu g/m^3)$            | Total<br>vol.        | Av.<br>Flow                  |                      | Flow (cf             | Sampling<br>Time             | e Time                                   | Elapse                                   | Particulate                          | eight (g)                                | Filter we                                | Atmospheric<br>Pressure              | Air<br>Temp.                 | Weather                           | Start Date                                       |
|--------------------------|----------------------|------------------------------|----------------------|----------------------|------------------------------|--|--|--------------------------------------|--|--|--------------------------------------|------------------------------|-----------------------------------|--|
|                          | $(m^3)$              | (m³/min)                     | Final                | Initial              | (min)                        | Final                                    | Initial                                  | weight (g)                           | Final                                    | Initial                                  | (hPa)                                | $(^{\circ}\mathbb{C})$       |                                   |  |
| 65                       | 1877                 | 1.30                         | 46                   | 46                   | 1441                         | 3980.79                                  | 3956.77                                  | 0.1216                               | 15.2101                                  | 15.0885                                  | 1017.3                               | 23.5                         | Sunny                             | 5/1/2022   |
| 75                       | 1977                 | 1.37                         | 48                   | 48                   | 1441                         | 4005.89                                  | 3981.87                                  | 0.1475                               | 15.6548                                  | 15.5073                                  | 1020.2                               | 19.4                         | Sunny                             | 11/1/2022  |
| 92                       | 1967                 | 1.36                         | 48                   | 48                   | 1441                         | 4031.24                                  | 4007.22                                  | 0.1805                               | 18.0038                                  | 17.8233                                  | 1020.7                               | 18.7                         | Cloudy                            | 17/1/2022  |
| 47                       | 2050                 | 1.42                         | 50                   | 50                   | 1442                         | 4056.15                                  | 4032.12                                  | 0.0964                               | 15.2513                                  | 15.1549                                  | 1014.3                               | 17.9                         | Sunny                             | 22/1/2022  |
| 60                       | 2043                 | 1.42                         | 50                   | 50                   | 1441                         | 4081.57                                  | 4057.55                                  | 0.1221                               | 18.1855                                  | 18.0634                                  | 1017.1                               | 20.4                         | Sunny                             | 26/1/2022  |
| 33                       | 2064                 | 1.43                         | 50                   | 50                   | 1441                         | 4106.95                                  | 4082.93                                  | 0.0681                               | 15.2584                                  | 15.1903                                  | 1019.2                               | 15.3                         | Sunny                             | 31/1/2022  |
| 977<br>967<br>950<br>943 | 19<br>19<br>20<br>20 | 1.37<br>1.36<br>1.42<br>1.42 | 48<br>48<br>50<br>50 | 48<br>48<br>50<br>50 | 1441<br>1441<br>1442<br>1441 | 4005.89<br>4031.24<br>4056.15<br>4081.57 | 3981.87<br>4007.22<br>4032.12<br>4057.55 | 0.1475<br>0.1805<br>0.0964<br>0.1221 | 15.6548<br>18.0038<br>15.2513<br>18.1855 | 15.5073<br>17.8233<br>15.1549<br>18.0634 | 1020.2<br>1020.7<br>1014.3<br>1017.1 | 19.4<br>18.7<br>17.9<br>20.4 | Sunny<br>Cloudy<br>Sunny<br>Sunny | 11/1/2022<br>17/1/2022<br>22/1/2022<br>26/1/2022 |

 Maximum
 92

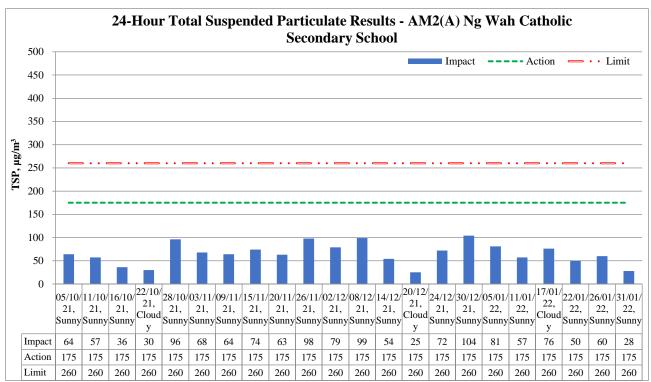
 Minimum
 33

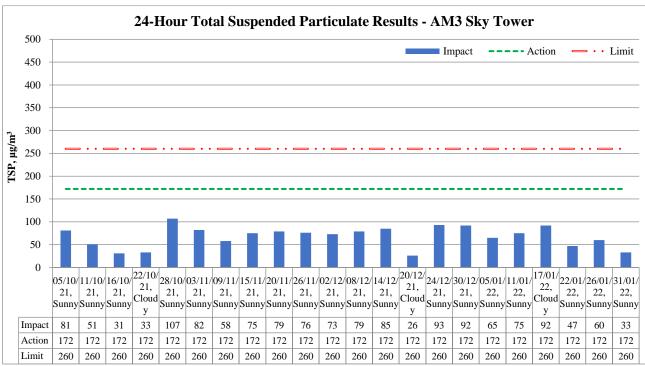
 Average
 62

 Action Level
 172

 Limit Level
 260

## 24-hour average TSP





|  |      | Reportin | g Period |          |
|--|------|----------|----------|----------|
| Major Construction Activities                          | Oct  | Nov      | Dec      | Jan      |
|  | 2021 | 2021     | 2021     | 2022     |
| Construction of box culvert                            | ✓    | ✓        | ✓        |          |
| Bored pile works for landscape elevated walkway        | ✓    | ✓        | ✓        | ✓        |
| Demolition of existing structure and cottage           | ✓    |          |          |          |
| Construction of project signboard                      | ✓    |          |          |          |
| Pre-drilling works and trial pit excavation            | ✓    | ✓        | ✓        |          |
| Drainage works   | ✓    |          |          |          |
| Temporary road diversion at Sa Po Road                 |      | ✓        | ✓        |          |
| Demolition of existing structure at SB-01              |      | ✓        |          |          |
| Pre-drilling work for S14 and KS10                     |      | ✓        |          |          |
| Drainage works for Pedestrian Street No.1 & No.2       |      | ✓        | ✓        |          |
| Drainage works for Crowd Dispersal Route               |      | ✓        | ✓        |          |
| Instrumentation installation at SB-01                  |      |          | ✓        | ✓        |
| Pre-drilling work for S14                              |      |          | ✓        | ✓        |
| Removal existing piles at Road D1                      |      |          | ✓        | ✓        |
| Rising main construction                               |      |          | ✓        | ✓        |
| Trial pit excavation                                   |      |          |          | ✓        |
| Advance works for traffic diversion at Sa Po Road      |      |          |          | <b>√</b> |
| Drainage works for Pedestrian Street No.1, No,2 & No.3 |      |          |          | ✓        |
| Construction of Crowd Dispersal Route                  |      |          |          | <b>√</b> |

|   | Reporting Period |             |             |             |  |
|---|------------------|-------------|-------------|-------------|--|
| Factors might affect the monitoring results   | Oct<br>2021      | Nov<br>2021 | Dec<br>2021 | Jan<br>2022 |  |
| Non-project related construction activities in the adjacent construction sites were observed. | ✓                | ✓           | ✓           | ✓           |  |

| Appendix H – 1-hr TSP monitoring results and gra | aphical presentation |
|--|----------------------|
|  |                      |
|  |                      |
|  |                      |
|  |                      |
|  |                      |
|  |                      |

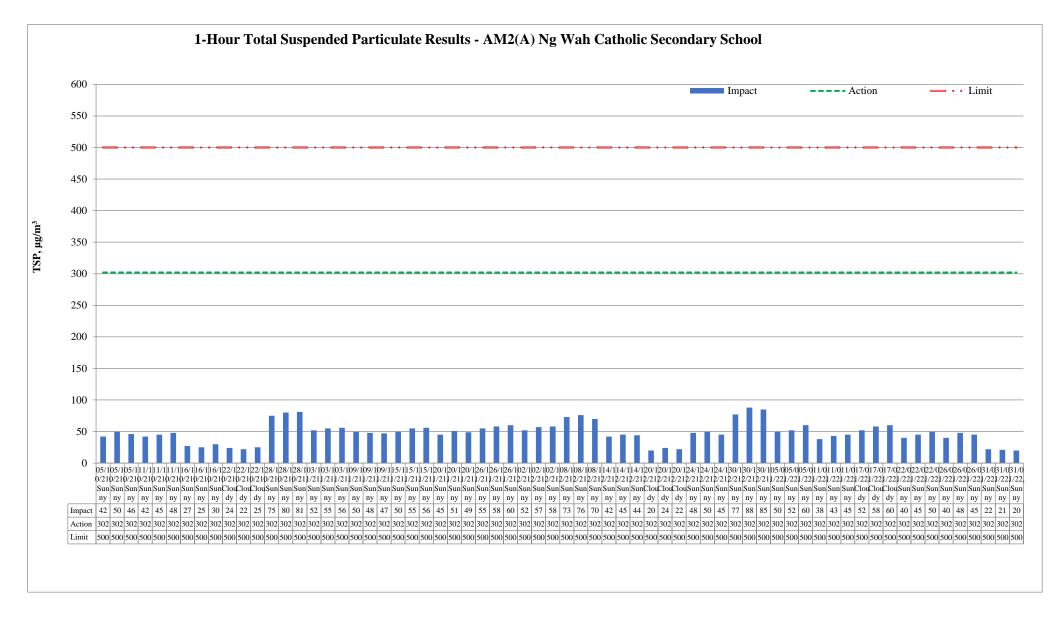
Location:
AM2(A) Ng Wah Catholic
Secondary School

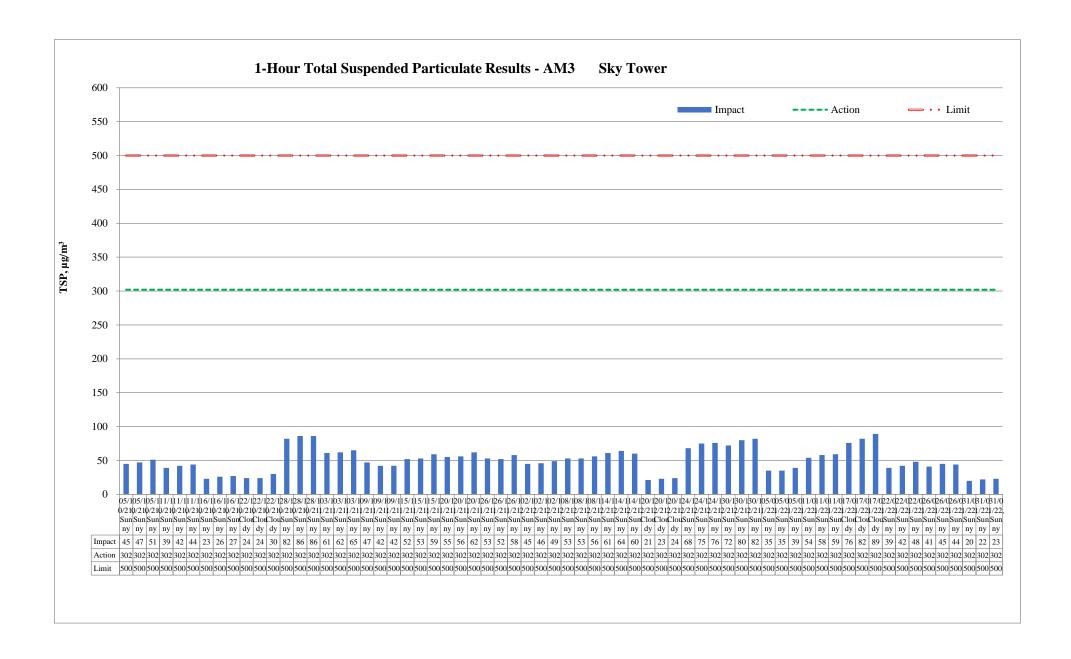
| Date       |            | sure<br>eric | ment<br>od | 1-hr TSP concentration,<br>μg/m <sup>3</sup> | Weather |
|------------|------------|--------------|------------|--|---------|
|            | 9:00       | -            | 10:00      | 50   |         |
| 05/01/2022 | 10:00      | -            | 11:00      | 52   | Sunny   |
|            | 11:00      | -            | 12:00      | 60   |         |
|            | 13:00      | -            | 14:00      | 38   |         |
| 11/01/2022 | 14:00      | -            | 15:00      | 43   | Sunny   |
|            | 15:00      | -            | 16:00      | 45   |         |
|            | 13:00      | -            | 14:00      | 52   |         |
| 17/01/2022 | 14:00      | -            | 15:00      | 58   | Cloudy  |
|            | 15:00      | -            | 16:00      | 60   |         |
|            | 9:00       | -            | 10:00      | 40   |         |
| 22/01/2022 | 10:00      | -            | 11:00      | 45   | Sunny   |
|            | 11:00      | -            | 12:00      | 50   |         |
|            | 9:00       | -            | 10:00      | 40   |         |
| 26/01/2022 | 10:00      | -            | 11:00      | 48   | Sunny   |
|            | 11:00      | -            | 12:00      | 45   |         |
|            | 13:00      | -            | 14:00      | 22   |         |
| 31/01/2022 | 14:00      | -            | 15:00      | 21   | Sunny   |
|            | 15:00      | -            | 16:00      | 20   |         |
| N          | laximum    |              |            | 60   |         |
| Minimum    |            | 20           |            |  |         |
| Average    |            | 44           |            |  |         |
| Ac         | tion Level | 1            |            | 302  |         |
| Li         | mit Level  |              |            | 500  |         |

Location:
AM3 Sky Tower

| Date       |            | sure<br>erio | ment<br>od | 1-hr TSP concentration,<br>μg/m <sup>3</sup> | Weather |
|------------|------------|--------------|------------|--|---------|
|            | 13:00      | -            | 14:00      | 35   |         |
| 05/01/2022 | 14:00      | -            | 15:00      | 35   | Sunny   |
|            | 15:00      | -            | 16:00      | 39   |         |
|            | 9:00       | -            | 10:00      | 54   |         |
| 11/01/2022 | 10:00      | -            | 11:00      | 58   | Sunny   |
|            | 11:00      | -            | 12:00      | 59   |         |
|            | 9:00       | -            | 10:00      | 76   |         |
| 17/01/2022 | 10:00      | -            | 11:00      | 82   | Cloudy  |
|            | 11:00      | -            | 12:00      | 89   |         |
|            | 13:00      | -            | 14:00      | 39   |         |
| 22/01/2022 | 14:00      | -            | 15:00      | 42   | Sunny   |
|            | 15:00      | -            | 16:00      | 48   |         |
|            | 13:00      | -            | 14:00      | 41   |         |
| 26/01/2022 | 14:00      | -            | 15:00      | 45   | Sunny   |
|            | 15:00      | -            | 16:00      | 44   |         |
|            | 9:00       | -            | 10:00      | 20   |         |
| 31/01/2022 | 10:00      | -            | 11:00      | 22   | Sunny   |
|            | 11:00      | -            | 12:00      | 23   |         |
| N          | laximum    |              |            | 89   |         |
| Minimum    |            | 20           |            |  |         |
| 1          | Average    |              | 47         |  |         |
| Ac         | tion Level | 1            |            | 301  |         |
| Li         | mit Level  |              | <u>-</u>   | 500  |         |

## 1-hour average TSP





| Maior Comptensation Auticities                         |          | Reportin | g Period |          |
|--|----------|----------|----------|----------|
| Major Construction Activities                          | Oct 2021 | Nov 2021 | Dec 2021 | Jan 2022 |
| Construction of box culvert                            | ✓        | ✓        | ✓        |          |
| Bored pile works for landscape elevated walkway        | ✓        | ✓        | ✓        | ✓        |
| Demolition of existing structure and cottage           | ✓        |          |          |          |
| Construction of project signboard                      | ✓        |          |          |          |
| Pre-drilling works and trial pit excavation            | ✓        | ✓        | ✓        |          |
| Drainage works   | ✓        |          |          |          |
| Temporary road diversion at Sa Po Road                 |          | ✓        | ✓        |          |
| Demolition of existing structure at SB-01              |          | ✓        |          |          |
| Pre-drilling work for S14 and KS10                     |          | ✓        |          |          |
| Drainage works for Pedestrian Street No.1 & No.2       |          | ✓        | ✓        |          |
| Drainage works for Crowd Dispersal Route               |          | ✓        | ✓        |          |
| Instrumentation installation at SB-01                  |          |          | ✓        | <b>✓</b> |
| Pre-drilling work for S14                              |          |          | ✓        | <b>✓</b> |
| Removal existing piles at Road D1                      |          |          | ✓        | <b>✓</b> |
| Rising main construction                               |          |          | ✓        | <b>✓</b> |
| Trial pit excavation                                   |          |          |          | <b>✓</b> |
| Advance works for traffic diversion at Sa Po Road      |          |          |          | <b>√</b> |
| Drainage works for Pedestrian Street No.1, No,2 & No.3 |          |          |          | <u>√</u> |
| Construction of Crowd Dispersal Route                  |          |          |          | ✓        |

|   | Reporting Period |          |          |          |
|---|------------------|----------|----------|----------|
| Factors might affect the monitoring results   | Oct 2021         | Nov 2021 | Dec 2021 | Jan 2022 |
| Non-project related construction activities in the adjacent construction sites were observed. | ✓                | ✓        | ✓        | ✓        |

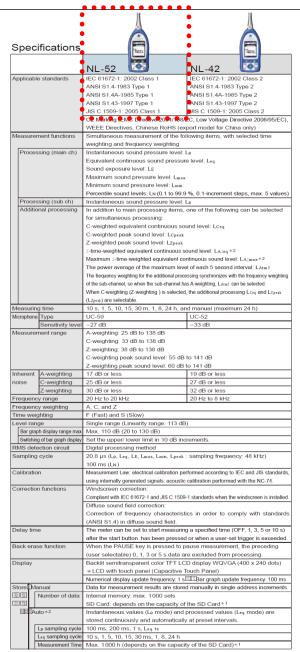
## Appendix I – Event and Action Plan for air quality

| T- 4  |   | Ac  | tion  |   |
|---|---|---|---|---|
| Event   | ET  | IEC   | Supervisor / ER   | Contractor  |
| Action Level being exceeded by one sampling                     | <ol> <li>Identify source and investigate the causes of exceedance;</li> <li>Inform Contractor, IEC and Supervisor /ER;</li> <li>Repeat measurement to confirm finding.</li> </ol>   | <ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>  | 1. Notify Contractor.   | <ol> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>   |
| Action Level being exceeded by two or more consecutive sampling | 1. Identify source and investigate the causes of exceedance;  2. Inform Contractor, IEC and Supervisor /ER;  3. Increase monitoring frequency to daily;  4. Discuss with IEC and Contractor on remedial actions required;  5. Assess the effectiveness of Contractor's remedial actions;  6. If exceedance continues, arrange meeting with IEC and Supervisor /ER;  7. If exceedance stops, cease | remedial measures; 4. Advise the Supervisor /ER on the effectiveness of the proposed remedial   | <ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise implementation of remedial measures;</li> <li>Conduct meeting with ET and IEC if exceedance continues.</li> </ol> | <ol> <li>Discuss with ET and IEC on proper remedial actions;</li> <li>Submit proposals for remedial actions to Supervisor /ER and IEC within three working day of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol> |
| Limit Level being exceeded by one sampling                      | additional monitoring.  1. Identify source and investigate the causes of exceedance;  2. Inform Contractor, IEC, Supervisor /ER, and EPD;  3. Repeat measurement to confirm finding;  4. Assess effectiveness of  | <ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss possible remedial measures with ET and Contractor;</li> <li>Advise the Supervisor /ER</li> </ol> | Confirm receipt of notification of exceedance in writing;     Notify Contractor;     In consolidation with the IEC, agree with the Contractor on the remedial measures to be  | 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   |

| T. 4   |  | Act   | ion  |  |
|--|--|---|--|--|
| Event  | ET   | 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. | <ul> <li>implemented;</li> <li>4. Supervise implementation of remedial measures;</li> <li>5. Conduct meeting with ET and IEC if exceedance continues.</li> </ul>   | within three working days of notification; 4. Implement the agreed proposals.  |
| Limit Level being exceeded by two or more consecutive sampling | <ol> <li>Notify IEC, Supervisor /ER, Contractor and EPD;</li> <li>Repeat measurement to confirm findings;</li> <li>Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance;</li> <li>Increase monitoring frequency to daily;</li> <li>Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results;</li> <li>If exceedance stop, cease</li> </ol> | submitted by ET; 2. Check Contractor's working method;  | <ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise implementation of remedial measures;</li> <li>If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.</li> </ol> | <ol> <li>Take immediate action to avoid further exceedance;</li> <li>Discuss with ET and IEC on proper remedial actions;</li> <li>Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Submit further remedial actions if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.</li> </ol> |

 $\label{eq:continuous} \begin{tabular}{ll} Appendix J-Calibration certificates, catalogue of noise monitoring \\ equipment \end{tabular}$ 

### Catalogue of Sound Level Meter



| Data r                      | ecall                     | Allows viewing of stored data   |  |  |  |
|-----------------------------|---------------------------|---|--|--|--|
| Setup                       | memory                    | Up to five setup configurations can be saved in internal memory, for later recall             |  |  |  |
|                             |                           | Start up via file settings previously stored on SD card possible                              |  |  |  |
| Wavefe                      | orm recording *3          | Start up the me column provinces y stored on the start possible                               |  |  |  |
| _                           | format                    | Uncompressed waveform WAVE file   |  |  |  |
|                             | mpling frequency          | Select 48 kHz, 24 kHz or 12 kHz   |  |  |  |
| _                           | ta length                 | Select 24 bit or 16 bit   |  |  |  |
|                             | DC output                 | Output DC signals using a frequency weighting characteristic selected by processing           |  |  |  |
| Outputs                     | Output voltage            | 2.5 V. 25 mV / dB at bar graph display full scale   |  |  |  |
|                             | AC output                 | Output AC signals using a frequency weighting characteristic selected by                      |  |  |  |
|                             | AC output                 | processing or by A, C, Z-weighting.   |  |  |  |
|                             | Output voltage            | 1 V (rms values) at bar graph display full scale  |  |  |  |
|                             | Comparator                | Turns on when the open-collector output exceeds the set value                                 |  |  |  |
|                             | output*2                  | (max. applied voltage 24 V. max. current 60 mA, allowable dissipation 300 mW).                |  |  |  |
| LIOP[]                      |                           |   |  |  |  |
| USBEE                       |                           | Allows USB to be connected to a computer and recognized as a removable                        |  |  |  |
| 22 25 25                    |                           | Allows USB to be controlled via communication commands  |  |  |  |
|                             | 32C communication         | Allows for RS-232C communication via use of a dedicated cable                                 |  |  |  |
| _                           | continuous output*2       |   |  |  |  |
|                             | oe of Instantaneous value |   |  |  |  |
| dat                         | 1 10000000 14140          | Leq, Lmax, Lmin, Lpeak  |  |  |  |
| Ou                          | tput interval             | 100 ms  |  |  |  |
| Print o                     | out                       | Printing of measurement results on dedicated printer DPU-414                                  |  |  |  |
| Powe                        | r requirements            | Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply |  |  |  |
| Ba                          | ttery life (23 ℃)         | Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h                                 |  |  |  |
|                             |                           | At the maximum * Depends on the setting   |  |  |  |
| AC                          | adapter                   | NC-98C (NC-34 for previous models cannot be used)   |  |  |  |
| Ext                         | emal power voltage        | 5 to 7 V (rated voltage: 6 V)   |  |  |  |
| Cu                          | rrent consumption         | Approximately 90 mA (normal operation, rated voltage)   |  |  |  |
| Ambie                       | nt Temperature            | −10 to +50 °C   |  |  |  |
| condit                      | ions Humidity             | 10 to 90 % RH (non-condensing)  |  |  |  |
| Dustproof / water-resistant |                           | IP code: IP54 (except for microphone)   |  |  |  |
| performance *4              |                           | See precautions regarding waterproofing   |  |  |  |
| Dimensions, weight          |                           | Approx. 250 (H) x 76 (W) x 33 mm(D), approx. 400 g (with batteries)                           |  |  |  |
|                             | ied accessories           | Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1,                |  |  |  |
|                             |                           | Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB×1 (NX-42EX                    |  |  |  |
|                             |                           | preinstalled model only)  |  |  |  |

| Product name   | Product number   |  |  |
|--|------------------|--|--|
| Extended function program (Inst.on 512 MB SD card)   | NX-42EX          |  |  |
| Waveform recording program*2 (Inst.on 2 GB SD card)  | NX-42WR          |  |  |
| Octave, 1/3 octave real-time analysis program*2 (Inst.on 512 MB SD card)   | NX-42RT          |  |  |
| FFT analysis program *2 (Inst.on 512 MB SD card)   | NX-42FT          |  |  |
| Data management software for environmental measurement   | AS-60            |  |  |
| Data management software for environmental measurement (Includes the octave and 1/3 octave data management software) | AS-60RT          |  |  |
| Data management software for environmental measurement<br>(Includes the vibration level data management software)    | AS-60∨M          |  |  |
| Waveform analysis software   | CAT-WAVE         |  |  |
| SD Card 512 MB   | SD-512M          |  |  |
| SD Card 2 GB   | SD-2G            |  |  |
| AC adapter (100 ∨ to 240 ∨)  | NC-98C           |  |  |
| Battery pack   | BP-21            |  |  |
| Microphone extension cables  | EC-04 (from 2 m) |  |  |
| BNC-Pin output code  | CC-24            |  |  |
| Comparator output cable  | CC-42C           |  |  |
| Printer  | DPU-414          |  |  |
| Printer cable  | CC-42P           |  |  |
| RS 232C serial I/O cable   | CC-42R           |  |  |
| USB cable  | _                |  |  |
| Sound calibrator   | NC-74            |  |  |
| All-weather windscreen   | WS-15            |  |  |
| Windscreen mounting adapter  | WS-15006         |  |  |
| Rain-protection windscreen   | WS-16            |  |  |
| Sound level meter tripod   | ST-80            |  |  |
| All-weather windscreen tripod  | ST-81            |  |  |

\*4 Protection against harmful dust and water splashing from any direction.

Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed. To maintain the water and dust proof rating, internal packing replacement is required every two years (at



RION CO., LTD. 3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan

Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.

This product is certified to an International Protection rating of IP54 (dust protected and resistant to splashing water).
This leaffet is printed with environmentally friendly vegetable-based ink on recycled paper.

1011-4 E 212.P.D

### Calibration Certificate of Sound Level Meter



中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心) CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

## 校准证书 CALIBRATION CERTIFICATE

证书编号: 2HB21001383-0001 Certificate No.

广州总部地址:广州市增域区朱村街朱村大道西78号

家服电话: 020-87237633 传真: 020-87236189

投訴电話: 020-87236896

网拉: www.ceprei-cal.com

部件: cal@ceprei.com



AAST-SLM-10 Cal Carl 2021/7/19



| 委托单位:<br>Client      | C          | astco Testing Centre Limi                     | ted             |
|----------------------|------------|---|-----------------|
| 义器名称:<br>Description |            | Sound Level Meter                             |                 |
| 型号规格:                |            | NL-52   |                 |
| Model/Type<br>同造商:   |            | RION  |                 |
| Manufacturer<br>汎身号: |            | 00976203                                      |                 |
| Serial No.<br>管理号:   |            | AAST-SLM-10                                   |                 |
| Asset No.<br>接收日期:   | 2021-07-08 | 校准日期:   | 2021-07-19      |
| Rec. Date<br>签发日期:   | 2021-07-19 | Cal. Date<br>建议校准周期:                          | 12个月(12 months) |
| App. Date<br>结论:     | 所校准项       | Reference Cal. Perio<br>目合格(Passed at Calibra |                 |
| Conclusion           |            |   |                 |
|                      |            |   |                 |
| 校准:<br>Calibrated by | 蘇卓辉        | 核验:<br>Inspected by                           | 3k 38           |
| 签发:<br>Approved by   | 無斗料        | 印章:<br>Stamp                                  | 10 100          |

CEPREI Calibration and Testing Centre

Complaint Tel: 020-87236896

Website: www.ceprei-cal.com

Email: cal@ceprei.com

Service Tel: 020-87237633 Fax: 020-87236189

HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Gnangzhou,China

第1页共8页

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# 11 00 A A Completion of No. 1. 2000 2000 183-0001

## 说 明 DIRECTIONS

本机构质量管理体系符合ISO/IEC 17025;2017标准的要求,获得中国合格评定国家认可委员会(CNAS)认可,认可证书号为; CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

- 2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):
- JJG 188-2017 声级计检定规程: Sound pressure level: (20~130)dB: Frequency Weighting: (20~130)dB@(10 H2~20kHz).
- \*\*E. co/RLIG/\*\*
  \*产学程内等请查量\*NAS网站中注释编号为L13344的证书符件。超出高限的内容来被认可。其结果/结论所依据的合格评定活动不在认可高周角。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity ausescential activities on which the results/concelsions are based are estated the ecopy of accreditation.).
- 3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration): 近共是海外地沿海道台 技术指标 测量器

| 名 称 (Description) | 业 书号/有效期/测線单位<br>(Certificate No./Due Date/Traceability to) | 1文本和标<br>(Specification)  | (Measuring Range)  |
|-------------------|---|---|--|
| 正弦信号发生器           | 4GC20000427-0010/2021-11-04/賽宝(广州)                          |   | fr 0.001Hz-200kHz; U<br>: 100µV-5Vrms  |
| 数字多用表             | 4GC20000358-0060/2021-09-09/賽宝(广州)                          | DCV: ±0.0035%: ACV: ±<br>0.06%: DCI: ±0.05%: ACI<br>: ±0.1%: R: ±0.01%: f:<br>±0.001% | DCV:(0~1000)V; ACV<br>:(0.001~750)V@(3Hz~<br>300kHz); DCI:(0~3)A<br>; ACI:(0~3)A@(3Hz~<br>5kHz); R:(0~100)MΩ<br>; f:3Hz~300kHz |
| 步进衰减器             | 4GC21000155-0024/2022-04-29/賽宝(广州)                          | ±3dB  | (0~110) dB/10dB step<br>@(DC~1GHz)   |
| PULSE分析系统         | GFJGJL1001210202725/2022-03-03/航空<br>304府                   | 频率: U <sub>rel</sub> =0.001%,k=2;电压:<br>U <sub>rel</sub> =0.04%,k=2                   | 頻率:0.001Hz~51.2kHz,<br>电压:(1-10 <sup>-5</sup> -30)V  |
| 标准传声器             | LSsx2021-13180/2022-04-24/中国计量院                             | U=(0.05-0.20)dB (k=2)   | 20Hz-20kHz   |
| 前置放大器             | LSsx2021-11346/2022-03-07/中国计量院                             | U=0.3dB (k=2)   | (10~20000) Hz  |
| 功率放大器             | 4GC20000457-0065/2021-11-17/賽宝(广州)                          | 類率响应: ±1dB, 失真度: ≤0.2%  | 20Hz-20kHz   |
| 多功能声学校准器          | 4EC20000091-0005/2021-11-05/賽宝(广州)                          | 1級  | 31.5Hz-16kHz   |

- 4. 校准地点(The calibration place):
- 广州市增城区朱村街朱村大道西78号9栋110室
- 5. 环境条件(Environmental conditions):

温度(Temperature): 23.4℃ 相对湿度(Relative Humidity): 55.8%

6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。

The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

7. 证书中"P"、"合格"代表"溺量结果在允许范围内","F"、"不合格"代表"测量结果不在允许范围内","N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。
"P" and "Pass" in this certificate stand for "Low Limit⊆the measured value ≤High Limit", "F" and "Fail" stand for "the

"P" and "Pass" in this certificate stand for "Low Limit's the measured value "High Limit", "P" and "Fail" stand for "the measured value "Low Limit or the measured value" by "NA" stands for "Not Applicable or The technical specification has not been confirmed etc". The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

8. 建议校准周期是本实验室依据本证书报告的技术依据和仅器设备常规使用条件给出的建议,供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

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### Calibration Certificate of Sound Level Meter



证书编号(Certificate No.): 2HB21001383-0001

频率(Frequency)=1000Hz

1 外观与工作正常性检查 (Appearance and Function Check) 无影响证书中测量结果准确度的因素和缺陷。

2 指示直缀课整 (Indication SPI Calibration)

There are no factor and defect that affect the measurement result accuracy of the certificate.

| w. THALL size as me franciscone | at the state of th |                     |                    |
|---------------------------------|--|---------------------|--------------------|
| 传声器型号                           | 传声器编号  | 放大器型号               | 放大器编号              |
| (Microphone Type)               | (Microphone SN.)   | (Preamplifier Type) | (Preamplifier SN.) |
| UC-59                           | 15764  | NH-25               | 76321              |
|                                 |  |                     |                    |

| 声校准器型号            | 标准声压级           | 校准前示值                | 校准后示值               | U     |
|-------------------|-----------------|----------------------|---------------------|-------|
| (Calibrator Type) | (Reference SPL) | (Before Calibration) | (After Calibration) | (k=2) |
|                   | (dB)            | (dB)                 | (dB)                | (dB)  |
| 4226              | 94.0            | 94.1                 | 94.1                | 0.2   |

3 级线性 (Level Linearity)

3.1 参考级量程 (Reference Range) 頻率(Frequency): 8000Hz

起始点指示声级(Sound Level Indication of Start Point): 90.0 dB 起始点以上间隔10dB点的最大误差(Maximum Error for each 10dB above Start Point): -0.2 dB

U (k=2) 0.6 dB

上環以下5dB间隔1dB点的最大误差(Maximum Error for each 1dB below Upper Limit 5dB): -0.2 dB

U (k-2) 0.6 dB

起始点以下间隔10dB点的最大误差(Maximum Error for each 10dB below Start Point): -0.2 dB U (k=2) 0.6 dB

下限以上5dB间隔1dB点的最大误差(Maximum Error for each 1dB above Lower Limit 5dB): -0.2 dB

U (k=2) 0.6 dB

3.2 其它级量程 (Other Range) 频率(Frequency): 1000Hz

超始直指示声级(Sound Level Indication of Start Point): 90.0 dB

起始点以上间隔10dB点的最大误差(Maximum Error for each 10dB above Start Point): -0.1 dB U (k=2) 0.4 dB

上限以下5dB间隔1dB点的最大误差(Maximum Error for each 1dB below Upper Limit 5dB): -0.1 dB

最以下5dB间隔1dB层的最大快速(Maximum Error for each 1db below Opper Linin 3db). □ 0.1 db U (k=2) 0.4 dE

起始点以下间隔10dB点的最大误差(Maximum Error for each 10dB below Start Point): -0.1 dB

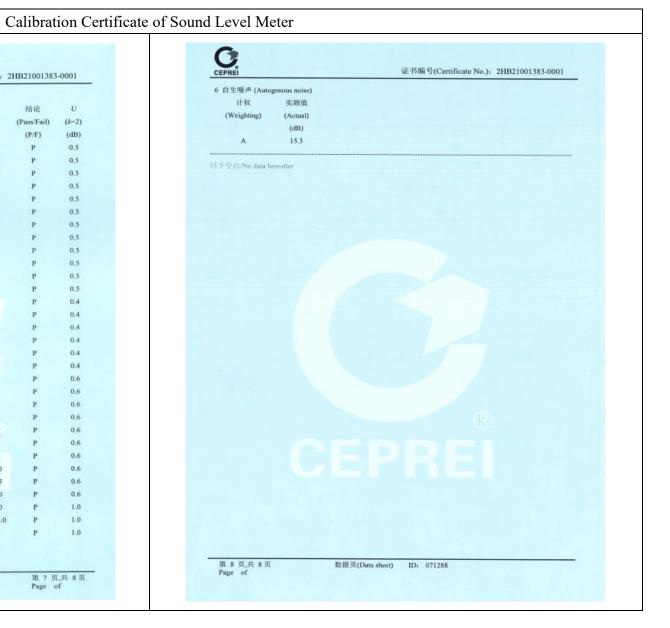
下限以上5dB间隔1dB点的最大误差(Maximum Error for each 1dB above Lower Limit 5dB): -0.1 dB

U (k=2) 0.4 dB

数据页(Data sheet) ID: 071288 第 5 页,共 8 页

| A计权特性(A-V   | eighting Cha | racteristic)        |         |              |             |       |
|-------------|--------------|---------------------|---------|--------------|-------------|-------|
| 頻率          | 实测值          | 理论值                 | 误差      | 允许误差         | 结论          | U     |
| (Frequency) | (Actual)     | (Theoretical value) | (Error) | (Limit)      | (Pass/Fail) | (k-2) |
| (Hz)        | (dB)         | (dB)                | (dB)    | (dB)         | (P/F)       | (dB)  |
| 20          | -49.2        | -50.5               | 1.3     | ±2.0         | P           | 0.5   |
| 25          | -44.2        | -44.7               | 0.5     | +2.0 ~ -1.5  | P           | 0.5   |
| 31.5        | -39.4        | -39.4               | 0.0     | ±1.5         | P           | 0.5   |
| 40          | -34.4        | -34.6               | 0.2     | ±1.0         | P           | 0.5   |
| 50          | -30.3        | -30.2               | -0.1    | ±1.0         | P           | 0.5   |
| 63          | -26.0        | -26.2               | 0.2     | ±1.0         | P           | 0.5   |
| 80          | -22.4        | -22.5               | 0.1     | ±1.0         | P           | 0.5   |
| 100         | -19.1        | -19.1               | 0.0     | ±1.0         | P           | 0.5   |
| 125         | -16.0        | -16.1               | 0.1     | ±1.0         | P           | 0.5   |
| 160         | -13.2        | -13.4               | 0.2     | ±1.0         | P           | 0.5   |
| 200         | +10.8        | -10,9               | 0.1     | ±1.0         | P           | 0.5   |
| 250         | -8.6         | -8.6                | 0.0     | ±1.0         | P           | 0.5   |
| 315         | -6.6         | -6.6                | 0.0     | ±1.0         | P           | 0.4   |
| 400         | -4.7         | -4.8                | 0.1     | ±1.0         | P           | 0.4   |
| 500         | -3.3         | -3.2                | -0.1    | ±1.0         | P           | 0.4   |
| 630         | -1.9         | -1.9                | 0.0     | ±1.0         | P           | 0.4   |
| 800         | -0.8         | -0.8                | 0.0     | ±1.0         | P           | 0.4   |
| 1000(Ref.)  | 0.0          | 0.0                 | 0.0     | ±0.7         | P           | 0.4   |
| 1250        | 0.5          | 0.6                 | -0.1    | ±1.0         | P           | 0.6   |
| 1600        | 0.9          | 1.0                 | -0.1    | ±1.0         | P           | 0.6   |
| 2000        | 1.1          | 1.2                 | -0.1    | ±1.0         | P           | 0.6   |
| 2500        | 1.0          | 1.3                 | -0.3    | ±1.0         | P           | 0.6   |
| 3150        | 0.9          | 1.2                 | -0.3    | ±1.0         | P           | 0.6   |
| 4000        | 1.2          | 1.0                 | 0.2     | ±1.0         | P           | 0.6   |
| 5000        | 0.3          | 0.5                 | -0.2    | ±1.5         | P           | 0.6   |
| 6300        | -0.3         | -0.1                | -0.2    | +1.5 ~ -2.0  | P           | 0.6   |
| 8000        | -0.6         | +1.1                | 0.5     | +1.5 ~ -2.5  | P           | 0.6   |
| 10000       | -2.4         | -2.5                | 0.1     | +2.0 ~ -3.0  | P           | 0.6   |
| 12500       | -4.3         | -4.3                | 0.0     | +2.0 ~ -5.0  | P           | 1.0   |
| 16000       | -8.5         | -6.6                | -1.9    | +2.5 ~ -16.0 | P           | 1.0   |
| 20000       | -18.5        | -9.3                | -9.2    | +3.0 ~ -∞    | P           | 1.0   |
|             |              |                     |         |              |             |       |
|             |              |                     |         |              |             |       |

#### 证书编号(Certificate No.): 2HB21001383-0001 5 C计权特性(C-Weighting Characteristic) 结论 U頻率 实测值 理论值 误差 允许误差 (Limit) (Pass/Fail) (k-2)(Frequency) (Actual) (Theoretical value) (Error) (dB) (dB) (dB) (dB) (P/F) (Hz) -0.4 ±2.0 0.5 20 -6.6 -6.2 -4.4 -0.1 +2.0 ~ -1.5 0.5 25 -4.5 0.1 ±1.5 0.5 31.5 -2.9 -3.0 0.5 40 -1.9 -2.0 0.1 ±1.0 50 -1.3 -1.3 0.0 ±1.0 0.5 0.1 ±1.0 0.5 63 -0.7-0.80.5 -0.5 0.0 $\pm 1.0$ 80 -0.5 0.1 ±1.0 0.5 100 -0.2 -0.3-0.2 0.1 ±1.0 0.5 125 -0.10.0 ±1.0 0.5 160 -0.1-0.10.5 200 0.0 0.0 0.0 $\pm 1.0$ 0.5 250 0.0 0.0 0.0 ±1.0 0.0 0.0 ±1.0 0.4 315 0.0 0.4 0.0 0.1 #1.0 400 0.1 0.0 ±1.0 0.4 0.0 0.0 500 0.0 $\pm 1.0$ 0.4 630 0.0 0.0 0.0 0.0 ±1.0 0.4 800 0.0 0.0 0.4 1000(Ref.) 0.0 0.0 $\pm 0.7$ 0.6 1250 -0.1 0.0 -0.1 ±1.0 -0.1 $\pm 1.0$ 0.6 1600 -0.2 -0.10.6 -0.1 ±1.0 -0.3 -0.2 2000 -0.3 ±1.0 0.6 -0.6 -0.32500 -0.8 -0.5 -0.3 ±1.0 0.6 3150 0.6 -0.8 0.2 ±1.0 4000 -0.6 0.6 5000 -1.6 -1.3 -0.3 ±1.5 -0.1 0.6 6300 -2.1 -2.0+1.5 ~ -2.0 -3.0 0.5 +1.5 ~ -2.5 0.6 8000 -2.5 0.6 0.1 +2.0 - -3.0 -4.3 -4.4 10000 -6.2 -0.1 +2.0 - -5.0 1.0 12500 -6.3 -10.5 -8.5 -2.0 +2.5 - -16.0 1.0 16000 -9.2 +3.0 ~ +00 1.0 -20.4 -11.2 20000 第7页,共8页 数据页(Data sheet) ID: 071288 Page of



## DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会( CNAS) 认可, 认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

- 2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):
- \* JJG 188-2017 声级计检定规程: Sound pressure level: (20~130)dB; Frequency Weighting: (20~130)dB@(10 Hz~20kHz).
- tite \_constail。 详细内容请查看CNAS网站中往册稿号为L1334的证书所件,超出范围的内容未被认可,其结果/结论所依据的合格评定活动不在认可 范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based one suttled the scope of accreditation.)
- 3 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

| 名 称           | 正书号/有效期/溯源单位                               | 技术指标  | 測量范围   |
|---------------|--|---|--|
| (Description) | (Certificate No./Due Date/Traceability to) | (Specification)   | (Measuring Range)  |
| 数字多用表         | 4GC20000467-0001/2021-11-26賽宝(广州)          | DCV: ±0.0035%; ACV: ±<br>0.06%; DCI: ±0.05%; ACI<br>: ±0.1%; R: ±0.01%; f:<br>±0.001% | DCV:(0~1000)V; ACV<br>:(0.001~750)V@(3Hz~<br>300kHz); DCI:(0~3)A<br>; ACI:(0~3)A@(3Hz~<br>5kHz); R:(0~100)MΩ<br>; f:3Hz~300kHz |
| 正弦信号发生器       | 4GC20000427-0010/2021-11-04/賽宝(广州)         | f: ±1mHz; 失真度<br>Distortion: <-70dB   | f: 0.001Hz~200kHz; δ<br>: 100μV~5Vrms  |
| 标准传声器         | LSsx2021-13180/2022-04-24/中国计量院            | U=(0.05~0.20)dB (k=2)   | 20Hz~20kHz   |
| 前置放大器         | LSsx2021-13000/2022-04-19/中国计量院            | U=0.3dB (k=2)   | (10~50000) Hz  |
| PULSE分析系统     | 4GC21000026-0375/2022-01-21/賽宝(广州)         | 頻率:U <sub>rel</sub> =0.001%,k=2;电压:<br>U <sub>rel</sub> =0.04%,k=2                    | 頻率:0.001Hz~51.2kHz,<br>电压:(1×10 <sup>-5</sup> ~30)V  |
| 声级校准器         | LSsx2021-11345/2022-03-07/中国计量院            | 1级  | 94dB,114dB@ (1000Hz  |
| 功率放大器         | 4GC20000457-0065A/2021-11-17/賽宝(广州)        | 频率响应: ±1dB, 失真度<br>: ≤0.2%  | 20Hz~20kHz   |
| 步进衰减器         | 4GC21000155-0024/2022-04-29/赛宝(广州)         |   | (0~110) dB/10dB step<br>@(DC~1GHz)   |
| 声校准器          | 4GC20000502-0050/2021-12-21/賽宝(广州)         | 1级 First Level  | 31.5Hz~16kHz   |

校准地点(The calibration place): 广州市增城区朱村街朱村大道西78号9栋110室

5. 环境条件(Environmental conditions):

温度(Temperature): 23.9℃ 相对湿度(Relative Humidity): 55.8%

6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标 准不确定度乘以包含概率约为95%时对应的包含因子k得到。

The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围内", "N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应 结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。

"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value < Low Limit or the measured value > High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc". The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

> 第 3 页,共 8 页 Page of

Sound Calibrator NC-75





Compact and lightweight sound calibrator allows highly reliable and accurate measurement anywhere

# Sound Calibrator **NC-75**



- Integrated newly developed reference microphone enables feedback control that completely eliminates the need for atmospheric pressure and coupler volume correction, resulting in highly accurate and reliable calibration.
- Effective coupler sound insulation (30 dB or higher¹) permits calibration also in relatively noisy environments.

  \*A-weighed sound level insulation performance measured with pink noise
- Each product comes standard with a JCSS Calibration Certificate, demonstrating high quality.
- Conforming with IEC 60942: 2017 class 1 and JIS C 1515: 2020
- Supports calibration of RION sound level meters compliant with IEC 61672-1: 2013, JIS C 1509-1: 2017 and JIS C 1516: 2014.
- Supports calibration of RION microphones and microphones of other manufacturers meeting the size specifications of IEC 61094-4.
- Supports 1-inch, 1/2-inch, and 1/4-inch microphones (1/4 inch with optional adapter)

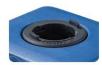




How to use the adapter

#### ■ 1-inch microphones

To use the sound calibrator with 1-inch diameter microphones, remove the 1/2-inch microphone adapter.



#### 1/2-inch microphones

To use the sound calibrator with 1/2-inch diameter microphones, the supplied 1/2-inch microphone adapter must be in place.



#### ■ 1/4-inch microphones

To use the sound calibrator with 1/4-inch diameter microphones, use the supplied 1/2-inch microphone adapter together with the optional 1/4-inch adapter.



Jsage example

| Applicable standards           | IEC 60942: 2017 class1, ANSI/ASA S1.40-2006 class1,<br>JIS C 1515: 2020 class 1, CE marking, WEEE directive,<br>Chinese RoHS  |
|--------------------------------|---|
| Supported<br>microphones       | Microphones made by RION and microphones made by other<br>manufacturers that meet the IEC 61094-4 size specifications<br>1-inch microphones (with supplied adapter)<br>1/4-inch microphones (with optional adapter) |
| Nominal sound pressure level   | 94 dB   |
| Sound pressure level tolerance | Max. ±0.20 dB   |
| Nominal frequency              | 1 000 Hz  |
| Frequency tolerance            | Max. ±0.1%  |
| THD + noise                    | Max. 1.0 % (22.4 Hz to 22.4 kHz)  |
| Dimensions and weight          | Approx. 42 mm (H) x 77 mm (W) x 70 mm (D), approx. 200 g  |
| Power supply                   | IEC LR6 (size AA) alkaline battery x 2<br>IEC LR6 (size AA) nickel-hydride rechargeable battery<br>("eneloop pro" supported) x 2  |
| Battery life                   | 50 hours or more (using two alkaline batteries, continuous use)   |
|                                | 50 hours or more (using two nickel-hydride rechargeable<br>batteries [eneloop pro], continuous use)   |
| Supplied accessories           | Soft case x 1, 1/2-inch microphone adapter x 1, IEC LR6<br>(size AA) alkaline battery x 2, hand strap x 1, JCSS<br>Calibration Certificate x 1  |

Securely carry the unit with the supplied hand strap

alibration can be performed with the



JCSS BION CO. accreditation to the Asia (ILAC). The Asia



RION CO., LTD.
https://rion-sv.com/
3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan

Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.

This leaflet is printed with environmentally friendly LIV ink

1709-6 2003.P.E

# CALIBRATION CERTIFICATE

证书编号: 2HB21001749-0002 Certificate No.





| 委托单位: _<br>Client      | Castco Testing Centre Limited                                 |                      |                 |  |  |
|------------------------|---|----------------------|-----------------|--|--|
| 仪器名称: _<br>Description | Sound Level Calibrator  |                      |                 |  |  |
| 型号规格: _<br>Model/Type  |   | NC-75                |                 |  |  |
| 制造商:<br>               |   | RION                 | 1-1-1-1         |  |  |
| 机身号: _<br>Serial No.   | 34280310  |                      |                 |  |  |
| 管理号: _<br>Asset No.    |   | AAST-SLC-07          |                 |  |  |
| 接收日期: _                | 2021-08-05  | 校准日期:                | 2021-08-17      |  |  |
| Rec. Date<br>签发日期:  _  | 2021-08-18  | Cal. Date<br>建议校准周期: | 12个月(12 months) |  |  |
| App. Date              | Reference Cal. Period<br>所校准項目合格(Passed at Calibration Items) |                      |                 |  |  |

Calibrated by

Conclusion

印章:

Stamp

Website: www.ceprei-cal.com



签发: Approved by

阅址: www.ceprei-cal.com

赛宝计量检测中心 广州总部地址:广州市增城区朱村街朱村大道西78号 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896 邮件: cal@ceprei.com

CEPREI Calibration and Testing Centre HQ Addr: No.78, Zhucun Avenue West, Zengcheng District, Guangzhou, China Service Tel: 020-87237633 Fax: 020-87236189 Complaint Tel: 020-87236896 Email: cal@ceprei.com

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## DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会( CNAS) 认可, 认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):

- JJG 176-2005 声校准器检定规程: Sound Pressure Level: 94dB、104dB、114dB、124dB(63Hz~8kHz): 94dB . 104dB. 114dB,(31.5Hz~16kHz); Frequency: 31.5Hz~16kHz; Harmonic Distortion: 0~10%, (20Hz~20
- · 详细内容请查看CNAS网站中注册编号为L13344的证书附件,超出范围的内容未被认可,其结果结论所依据的合格评定话动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.).

3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

| 名 称           | 证书号/有效期/溯源单位                               | 技术指标   | 測量范围  |
|---------------|--|--|---|
| (Description) | (Certificate No./Due Date/Traceability to) | (Specification)  | (Measuring Range)                                   |
| 标准传声器         | LSsx2021-13180/2022-04-24/中国计量院            | U=(0.05~0.20)dB (k=2)  | 10Hz~20kHz  |
| PULSE分析系统     | 4GC21000026-0375/2022-01-21/賽宝(广州)         | 频率:U <sub>rel</sub> =0.001%,k=2;电压:<br>U <sub>rel</sub> =0.04%,k=2 | 頻率:0.001Hz-51.2kHz,<br>电压:(1×10 <sup>-5</sup> ~30)V |
| 前響放大器         | LSsx2021-13000/2022-04-19/中国计量院            | U=0.3dB (k=2)  | (10~50000) Hz                                       |

4. 校准地点(The calibration place):

广州市增城区朱村街朱村大道西78号9栋110室

5. 环境条件(Environmental conditions):

温度(Temperature): 22.9℃ 相对湿度(Relative Humidity): 59.5%

6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标 准不确定度乘以包含概率约为95%时对应的包含因子k得到。

The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围 内","N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考,使用人员应 结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。

"" and "Pass" in this certificate stand for "Low Limit; the measured value < High Limit," "F" and "Fail" stand for "the measured value < Low Limit or the measured value < High Limit, "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc". The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement

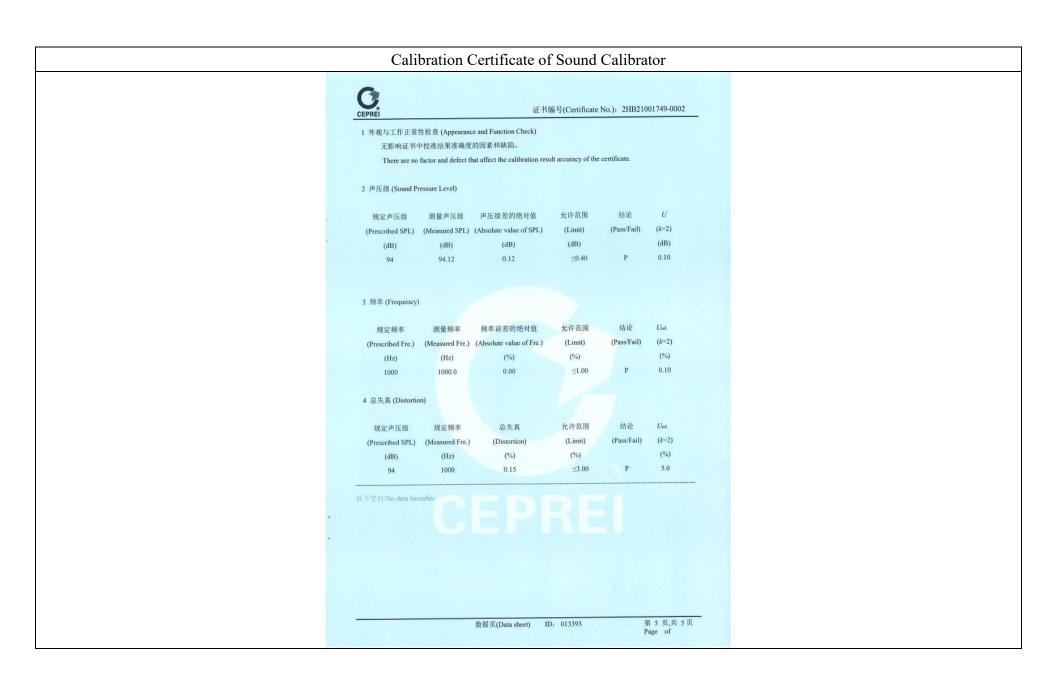
8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委 托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the

注: 1.本证书未经本机构书面授权,不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)

2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

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#### Catalogue of Air Flow Meter (TSI TA440) Calibration Certificate of Air Flow Meter **SPECIFICATIONS** Time Constant (TA430, TA440) Velocity 0 to 20 m/s (0 to 4 000 ft/min) Range (TA410) User selectable Range (TA430, TA440) 0 to 30 m/s (0 to 6,000 ft/min) ±5% of reading or ±0.025 m/s (±5 ft/min), whichever is greater Accuracy (TA410)162 **External Meter Dimensions** 8.4 cm x 17.8 cm x 4.4 cm (3.3 in. x 7.0 in. x 1.8 in.) Accuracy (TA430, TA440)<sup>162</sup> ±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater Certificate No. Meter Weight with Batteries Resolution 0.01 m/s (1 ft/min) 0.27 kg (0.6 lbs.) 委托方名称: Duct Size (TA430, TA440) Meter Probe Dimensions Dimensions 1 to 635 cm in increments of 0.1 cm (1 to 250 inches in increments of 0.1 in.) Client name Probe Length 101.6 cm (40 in.) Probe Diameter of Tip 7.0 mm (0.28 in.) 委托方地址: Prohe Diameter of Base 13.0 mm (0.51 in.) Volumetric Flow Rate (TA430, TA440) Add.of Client Actual range is a function of velocity, and duct size 计量器具名称: Articulating Section Length 19.7 cm (7.8 in.) 风速计 Name of Instrument Temperature Diameter of Articulating Knuckle 9.5 mm (0.38 in.) Range (TA410, TA430) -18 to 93°C (0 to 200°F) 型号/规格: TA440 -10 to 60°C (14 to 140°F) Range (TA440) Type/Specification Accuracy<sup>3</sup> ±0.3°C (±0.5°F) **Power Requirements** Four AA-size batteries or AC adapter Resolution 0.1°C (0.1°F) 制造单位: AIRFLOW Manufacturer Relative Humidity (TA440 only) 5 to 95% RH Range 器具编号: Accuracy<sup>4</sup>

| TA410    | TA430,<br>TA430-A             | TA440,<br>TA440-A             |
|----------|-------------------------------|-------------------------------|
| +        |                               |                               |
|          | +                             | +                             |
| +        | +                             | +                             |
|          | +                             | +                             |
|          |                               | +                             |
| Straight | Straight or -A<br>articulated | Straight or -A<br>articulated |
|          | +                             | +                             |
|          | +                             | +                             |
|          |                               | +                             |
|          | +                             | +                             |
|          | 7                             | +                             |
|          | +                             | +                             |
| +        | +                             | +                             |
|          | +                             | TA430-A                       |

Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% RH/°C (0.1% RH/°F) for change in probe temperature. Includes 1% hysteresis.

Logging Interval (TA430, TA440) 1 second to 1 hour

Wet Bulb Temperature (TA440 only)

Dew Point (TA440 only)

Operating (Electronics)

Model TA410, TA430

Model TA440

Storage

Instrument Temperature Range

Resolution

Resolution

Range

Range Resolution

Data Storage Capabilities (TA430, TA440)



Airflow Instruments, TSI Instruments Ltd.
Visit our website at www.airflowinstruments.co.uk for more information.

0.1% RH

0.1°C (0.1°F)

0.1°C (0.1°F)

5 to 60°C (40 to 140°F)

-15 to 49°C (5 to 120°F)

5 to 45°C (40 to 113°F)

-18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F)

-20 to 60°C (-4 to 140°F)

Tel: +44 149 4 459200 Germany Tel: +49 241 523030 Tel: +33 491 11 87 64

P/N 2980548 Rev D (A4) ©2014 TSI Incorporates

AAST-FLOW-03, Cal Best 2021/2/26

## 深圳市东华计量检测技术有限公司



# CALIBRATION CERTIFICATE

DH21AA002160001

Castco Testing Centre Limited

33, On Kui Street, Fanling, N.T.

Serial No.

AAST-FLOW-03/TA4401706003

接收日期: Date of Receipt

月 02 Month 23 Year

校准日期: Date of calibration

02 Month 年 Year

批准人: Approved by

签发日期: 2021 年 02 月 26 日 Date of issue Year Month Day

核验员: Checked by

校准员:

Calibrated by

张吉庆 蒋新建

(证书专用章) Stamp

该二维码非公众号 扫码查证书信息(真伪)

计量校准机构备案号: 粤校备2017B010

地址:深圳市龙华区大浪街道同胜社区浦华科技园厂房

电话: 0755-28161768/28162768/28166778 传真: 0755-21004376 邮编: 518109 网址: www.szdhjl.com 电子邮箱: szdhjl@163.com Register No: 粤校备2017B010

Add: 1st Floor, Building A1, Puhua Science and Technology Park, Tongsheng Community, Dalang Street, Longhua District, Shenzhen, Guangdong, China

Tel: 0755-28161768/28162768/28166778 Fax: 0755-21004376 Zip Code: 518109 http://www.szdhjl.com E-mail: szdhjl@163.com

DHCT第1页,共3页 page

## Calibration Certificate of Air Flow Meter



### 深圳市东华计量检测技术有限公司

Shenzhen Donghua Metrology&Testing Technology Co., Ltd.

Certificate No.

DH21AA002160001

### 证书说明

Certificate Statement

1、本校准证书包含的数据和信息仅对本次被校准的计量器具负责。

The calibration certificate contains data and information applies only to the calibrated instrument.

2、本公司仅对加盖我司的"证书专用章"的完整证书负责。

The company only Division I stamped "certificate special seal" is responsible for the full certificate.

3、未经本公司书面授权,不得部分复印证书。

The certificate shall not be photocopied without the written authorization of the company.

4、本次校准依据的技术文件:

Reference Documents for the Calibration:

JJG(建设)0001-1992 热球式风速仪计量检定规程

JJG(建设)0001-1992 Metrological Verification Regulation of Hot Ball shaped Anemmeter

5、本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

| 设备名称<br>Equipment Name | 测量范围<br>Measuring Range                | 不确定度/准确度等级<br>/最大允许误差<br>Uncertainty/AccuracyClass/<br>Maximum permissible Error | 设备编号<br>Equipment No. | 溯源机构/<br>证书编号<br>Traceability to/<br>Certificate No. | 溯源有效期<br>Traceability<br>Due Date |
|------------------------|--|--|-----------------------|--|-----------------------------------|
| 补偿式微压计                 | (-2500~2500) Pa                        | =# DE  | SM1926                | 上海市计量测试技术研究院<br>2018E21-20-<br>2637951001            | 2022-07-28                        |
| 皮托管                    | (0~30) m/s                             |  | SM326                 | 中国计量科学研究院<br>RGfv2019-0007                           | 2024-01-20                        |
| 机械式温湿度计                | 温度: (-20~80)<br>C; 湿度: (0~<br>100) %RH | MPE:温度: ±2°C, 湿<br>度:± (5~7) %   | 85926                 | 深圳市计量质量检测研究院<br>205605616                            | 2021-05-10                        |
| 空盒气压表                  | (800~1060)hPa                          | U=0.6hPa, k=2  | 15033115              | 深圳市计量质量检测研<br>究院<br>204373348                        | 2021-08-17                        |
| 标准水银温度计                | (0~50)*e C                             | U=0.03℃, k=2   | 2-204                 | 深圳市计量质量检测研究院<br>205502058                            | 2022-03-09                        |

6、校准地点: 本公司力学实验室 Operation Location

7、环境条件:

Operation Environment

温度 21.7 ℃ Temperature

相对湿度

### 深圳市东华计量检测技术有限公司

证书编号: DH21AA002160001

CertificateNo.

### 校准结果

Result of Calibration

1、外观及工作正常性检查: 正常

2、校准结果:

|     | 标准值<br>(m/s) | 示值<br>(m/s) | 示值误差<br>(m/s) | 不确定度<br>(k=2)<br>U <sub>rel</sub> |
|-----|--------------|-------------|---------------|-----------------------------------|
|     | 2.50         | 2.50        | 0.00 C        | 3%                                |
| art | 3.00         | 2.99        | -0.01         | 3%_                               |
| HO. | 5.00         | 4.98        | -0.02         | 3%                                |
|     | 10.00 HC     | 9.98        | -0.02         | 3%                                |
|     | 15.00        | 14.96       | -0.04         | 3%                                |
|     | 20.00        | 19.96       | -0.04         | HC 3%                             |
|     | 25.00        | 24.95       | -0.05         | 3%                                |
|     |              |             |               |                                   |

说明 (Explanation):

1、本次测量结果的不确定度(k=2)。

The uncertainty of the measurement result (k=2).

2、本次校准结果不确定度的评估和表述依据JJF1059.1的要求。

The uncertainty of the calibration result is evaluated and expressed according to the requirement of JJF1059.1.

3、根据客户要求和所依据技术文件的规定,建议复校时间间隔不超过12个月。

According to customers' request and technical documents, the re-check time interval should not exceed 12 months

Page of pages

| Appendix K – Noise monitoring results and | graphical presentation |
|---|------------------------|
|   |                        |

## M4(A) – Le Billionnaire

| Б.        | Temp | XX / .1 |       |      | T     |          |                     |           |           |       |
|-----------|------|---------|-------|------|-------|----------|---------------------|-----------|-----------|-------|
| Date      | (°C) | Weather | Т     | ۲ir  | ne    | Baseline | $\mathcal{L}_{Aeq}$ | $L_{A10}$ | $L_{A90}$ | Limit |
| 5/1/2022  | 23.5 | Sunny   | 13:35 | -    | 14:05 | 69.5     | 69.8                | 71.5      | 68.8      | 75    |
| 11/1/2022 | 19.4 | Sunny   | 9:15  | -    | 9:45  | 69.5     | 69.4                | 71.1      | 68.2      | 75    |
| 17/1/2022 | 18.7 | Cloudy  | 9:06  | -    | 9:36  | 69.5     | 71.2                | 72.4      | 69.7      | 75    |
| 26/1/2022 | 20.4 | Sunny   | 13:20 | -    | 13:50 | 69.5     | 70.3                | 71.8      | 69.2      | 75    |
| 31/1/2022 | 15.3 | Sunny   | 9:25  | -    | 9:55  | 69.5     | 69.5                | 71.3      | 68.6      | 75    |
| M         |      |         |       | 71.2 |       |          |                     |           |           |       |

 Maximum
 71.2

 Minimum
 69.4

 Average
 70.1

## M5(A) – Prince Ritz

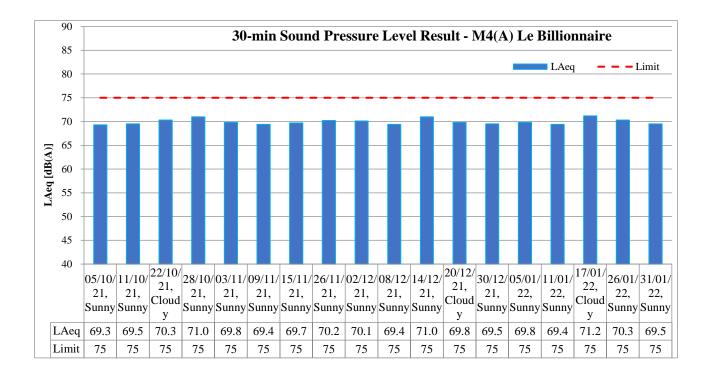
|           | Temp | Weather | Measured Noise Level at M5(A), dB(A) |    |       |          |                     |           |           |       |
|-----------|------|---------|--------------------------------------|----|-------|----------|---------------------|-----------|-----------|-------|
| Date      | (°C) |         | Γ                                    | in | ne    | Baseline | $\mathcal{L}_{Aeq}$ | $L_{A10}$ | $L_{A90}$ | Limit |
| 5/1/2022  | 23.5 | Sunny   | 14:40                                | -  | 15:10 | 72.5     | 72.8                | 74.0      | 70.7      | 75    |
| 11/1/2022 | 19.4 | Sunny   | 10:25                                | -  | 10:55 | 72.5     | 72.3                | 73.4      | 70.1      | 75    |
| 17/1/2022 | 18.7 | Cloudy  | 10:36                                | -  | 11:06 | 72.5     | 74.3                | 75.7      | 72.4      | 75    |
| 26/1/2022 | 20.4 | Sunny   | 14:20                                | -  | 14:50 | 72.5     | 73.2                | 74.1      | 71.8      | 75    |
| 31/1/2022 | 15.3 | Sunny   | 10:30                                | -  | 11:00 | 72.5     | 72.1                | 73.3      | 69.8      | 75    |

 Maximum
 74.3

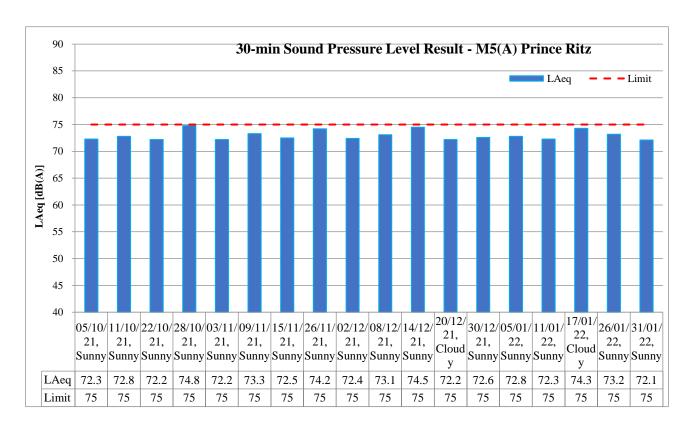
 Minimum
 72.1

 Average
 73.0

## L<sub>Aeq</sub>, 30-min graphical results of M4(A) – Le Billionnaire



## L<sub>Aeq</sub>, 30-min graphical results of M5(A) – Prince Ritz



## Appendix L – Event and Action Plan for noise

| E4                          |  | Ac   | tion  |   |  |  |  |
|-----------------------------|--|--|---|---|--|--|--|
| Event                       | ET   | IEC  | Supervisor / ER   | Contractor  |  |  |  |
| Action Level being exceeded | <ol> <li>Notify Supervisor / ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, Supervisor / ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol> | 1. Review the investigation results submitted by the ET;  2. Review the proposed remedial measures submitted by the Contractor and advise the ER accordingly;  3. Advise the Supervisor / ER on 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 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.)  1. Inform IEC, Supervisor /ER, Contractor and EPD;  2. Repeat measurement to confirm findings;  3. Increase monitoring frequency;  4. Identify source and investigate the cause of exceedance;  5. Carry out analysis of Contract's working procedure;  6. Discuss remedial measures required with the IEC, Contractor and Supervisor /ER;  7. Assess effectiveness of   | 1. Discuss the potential remedial actions with Supervisor /ER, ET and Contractor;  2. 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.)          | 1. Confirm receipt of notification of failure in writing;  2. Notify Contractor;  3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;  4. Supervise the implementation of remedial measures;  5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the | <ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification;</li> <li>Implement the agreed proposal;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.</li> <li>(The above actions should be</li> </ol> |  |  |  |

| Event |                               | Action |                                   |                             |  |  |  |  |  |  |  |  |  |
|-------|-------------------------------|--------|-----------------------------------|-----------------------------|--|--|--|--|--|--|--|--|--|
| Event | ET                            | 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 after |                             |  |  |  |  |  |  |  |  |  |
|       | 8. If exceedance stops, cease |        | the exceedance is identified.)    |                             |  |  |  |  |  |  |  |  |  |
|       | additional monitoring.        |        |                                   |                             |  |  |  |  |  |  |  |  |  |
|       | (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 |
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| Event                          |  | Act   | ion  |  |
|--------------------------------|--|---|--|--|
| Event                          | ET   | IEC   | Supervisor / ER  | Contractor   |
| Design Check                   | 1. Check final design conforms to the requirements of EP and prepare report.   | 2. Recommend remedial   | Undertake remedial design if necessary.  |  |
| Non-conformity on one occasion | <ol> <li>Identify Source.</li> <li>Inform IEC and Supervisor /ER.</li> <li>Discuss remedial actions with IEC, Supervisor /ER and Contractor.</li> <li>Monitor remedial actions until rectification has been completed.</li> </ol>  | working method.  3. Discuss with ET and Contractor on possible remedial measures.   | <ol> <li>Notify Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ol> | Amend working methods.     Rectify damage and undertake any necessary replacement. |
| Repeated<br>Non-conformity     | <ol> <li>Identify Source.</li> <li>Inform IEC and Supervisor /ER.</li> <li>Increase monitoring frequency.</li> <li>Discuss remedial actions with IEC, Supervisor /ER and Contractor.</li> <li>Monitor remedial actions until rectification has been completed.</li> <li>If non-conformity stops, cease additional monitoring.</li> </ol> | method.  3. Discuss with ET and Contractor on possible remedial measures.  4. Advise Supervisor /ER on effectiveness of proposed remedial measures. | <ol> <li>Notify Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ol> | Amend working methods.     Rectify damage and undertake any necessary replacement. |

|  |          | Reportin | Reporting Period |      |  |  |
|--|----------|----------|------------------|------|--|--|
| Major Construction Activities                          | Oct      | Nov      | Dec              | Jan  |  |  |
|  | 2021     | 2021     | 2021             | 2022 |  |  |
| Construction of box culvert                            | ✓        | ✓        | ✓                |      |  |  |
| Bored pile works for landscape elevated walkway        | ✓        | ✓        | ✓                | ✓    |  |  |
| Demolition of existing structure and cottage           | ✓        |          |                  |      |  |  |
| Construction of project signboard                      | <b>✓</b> |          |                  |      |  |  |
| Pre-drilling works and trial pit excavation            | <b>✓</b> | ✓        | ✓                |      |  |  |
| Drainage works   | ✓        |          |                  |      |  |  |
| Temporary road diversion at Sa Po Road                 |          | ✓        | ✓                |      |  |  |
| Demolition of existing structure at SB-01              |          | ✓        |                  |      |  |  |
| Pre-drilling work for S14 and KS10                     |          | ✓        |                  |      |  |  |
| Drainage works for Pedestrian Street No.1 & No.2       |          | ✓        | ✓                |      |  |  |
| Drainage works for Crowd Dispersal Route               |          | ✓        | ✓                |      |  |  |
| Instrumentation installation at SB-01                  |          |          | ✓                | ✓    |  |  |
| Pre-drilling work for S14                              |          |          | ✓                | ✓    |  |  |
| Removal existing piles at Road D1                      |          |          | ✓                | ✓    |  |  |
| Rising main construction                               |          |          | ✓                | ✓    |  |  |
| Trial pit excavation                                   |          |          |                  | ✓    |  |  |
| Advance works for traffic diversion at Sa Po Road      |          |          |                  | ✓    |  |  |
| Drainage works for Pedestrian Street No.1, No,2 & No.3 |          |          |                  | ✓    |  |  |
| Construction of Crowd Dispersal Route                  |          |          |                  | ✓    |  |  |

|   | Reporting Period |             |             |             |  |  |  |  |
|---|------------------|-------------|-------------|-------------|--|--|--|--|
| Factors might affect the monitoring results   | Oct<br>2021      | Nov<br>2021 | Dec<br>2021 | Jan<br>2022 |  |  |  |  |
| Non-project related construction activities in the adjacent construction sites were observed. | ✓                | ✓           | ✓           | ✓           |  |  |  |  |

## Appendix N – Waste Flow Table

## MONTHLY SUMMARY WASTE FLOW TABLE FOR 2022 (YEAR)

|               | A                              | ctual Quantiti           | es of Inert C&I           | ) Materials Ge                 | nerated Month              | ly                       | Actua       | al Quantities o                   | of C&D Wastes | Generated M       | onthly                           |
|---------------|--------------------------------|--------------------------|---------------------------|--------------------------------|----------------------------|--------------------------|-------------|-----------------------------------|---------------|-------------------|----------------------------------|
| Month         | Total<br>Quantity<br>Generated | Borken<br>Concrete (4)   | Reused in<br>the Contract | Reused in<br>other<br>Projects | Disposal as<br>Public Fill | Import Fill              | Metals      | Paper /<br>Cardboard<br>Packaging | Plastics (3)  | Chemical<br>Waste | Other, e.g.<br>general<br>refuse |
|               | [in '000m <sup>3</sup> ]       | [in '000m <sup>3</sup> ] | [in '000m <sup>3</sup> ]  | [in '000m <sup>3</sup> ]       | [in '000m <sup>3</sup> ]   | [in '000m <sup>3</sup> ] | [in '000kg] | [in '000kg]                       | [in '000kg]   | [in '000kg]       | [in '000m <sup>3</sup> ]         |
| JAN           | 0.836786304                    | 0.125517883              | 0                         | 0                              | 0.711268421                | 0                        | 0           | 0                                 | 0             | 0                 | 0.011366667                      |
| FEB           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| MAR           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| APR           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| MAY           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| JUNE          |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| SUB-<br>TOTAL | 0.836786304                    | 0.125517883              | 0                         | 0                              | 0.711268421                | 0                        | 0           | 0                                 | 0             | 0                 | 0.011366667                      |
| JULY          |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| AUG           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| SEPT          |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| OCT           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| NOV           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| DEC           |                                |                          |                           |                                |                            |                          |             |                                   |               |                   |                                  |
| TOTAL         | 0.836786304                    | 0.125517883              | 0                         | 0                              | 0.711268421                | 0                        | 0           | 0                                 | 0             | 0                 | 0.011366667                      |

**Appendix O – Environmental Mitigation Implementation Schedule** (EMIS)

**Table 1.1 Implementation Schedule for Air Quality Measures** 

| EIA Ref | Environmental Protection Measures / Mitigation   | Location / Timing               | Implementation | Implementation<br>Stages* |          |   |     | Relevant<br>Legislation and     |  |
|---------|--|---------------------------------|----------------|---------------------------|----------|---|-----|---------------------------------|--|
|         | Measures   |                                 | Agent          | Des                       | С        | 0 | Dec | Guidelines                      |  |
| S3.2    | 8 times daily watering of the work site with active dust emitting activities.  | Work site / during construction | Contractor     |                           | <b>√</b> |   |     | EIAO-TM                         |  |
| S3.2    | 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. Onsite unpaved roads should be compacted and kept free of lose materials.  - Vehicle washing facilities should be provided at every vehicle exit point. |                                 | Contractor     |                           | ✓        |   |     | EIAO-TM & Air Quality Objective |  |

| EIA Ref | Environmental Protection Measures / Mitigation  | Location / Timing | Implementation | lm  |   | entati<br>ges* | Relevant<br>Legislation and |            |  |
|---------|---|-------------------|----------------|-----|---|----------------|-----------------------------|------------|--|
|         | Measures  |                   | Agent          | Des | С | 0              | Dec                         | Guidelines |  |
|         | 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 |                   |                |     |   |                |                             |            |  |
|         | <ul> <li>an area sheltered on the top and the three sides.</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>   |                   |                |     |   |                |                             |            |  |

<sup>\*</sup> Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

**Table 1.2 Implementation Schedule for Noise Measures** 

| EIA Ref | Environmental Protection Measures / Mitigation  | Location / Timing   | Implementation | lm  |          | entat<br>ges* | Relevant<br>Legislation and |              |  |
|---------|---|---|----------------|-----|----------|---------------|-----------------------------|--------------|--|
|         | Measures  |   | Agent          | Des | С        | 0             | Dec                         | Guidelines   |  |
| \$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.  | Work Sites /<br>Construction Period                         | Contractor     |     | <b>√</b> |               |                             | EIAO-TM, NCO |  |
| S3.3    | <ul> <li>Good Site Practice: <ul> <li>Only well-maintained plant should be operated onsite and plant should be serviced regularly during the construction program.</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>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.</li> <li>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.</li> <li>Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul> </li> </ul> | Work Sites /<br>Construction Period                         | Contractor     |     | √        |               |                             | EIAO-TM, NCO |  |
| S3.3    | - Scheduling of Construction Works during School Examination Period.  | Construction site near<br>to school /<br>Examination Period | Contractor     |     | <b>√</b> |               |                             |              |  |

<sup>\*</sup> Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

**Table 1.3 Implementation Schedule for Water Quality Measures** 

| EIA Ref   | Environmental Protection Measures / Mitigation   | Location / Timing                | Implementation | lm       |          | entati<br>ges* | on  | Relevant<br>Legislation and<br>Guidelines |
|-----------|--|----------------------------------|----------------|----------|----------|----------------|-----|---|
| 217 ( 10) | Measures   |                                  | Agent          | Des      | С        | 0              | Dec |   |
| S3.4      | Operational Phase  | Project site / during design and | CEDD           | <b>√</b> |          | <b>√</b>       |     | EIAO-TM, WPCO,<br>ProPECC PN 5/93         |
|           | A surface water drainage system should be provided to  | operational stages               |                |          |          |                |     |   |
|           | collect road runoff. It is recommended that the road   |                                  |                |          |          |                |     |   |
|           | drainage should be provided with adequately designed silt  |                                  |                |          |          |                |     |   |
|           | trap and oil interceptors, as necessary. The design of the operational stage mitigation measures for the road works  |                                  |                |          |          |                |     |   |
|           | shall take into account the guidelines published in ProPECC  |                                  |                |          |          |                |     |   |
|           | PN 5/93 "Drainage Plans subject to Comment by the EPD".  |                                  |                |          |          |                |     |   |
| S3.4      | Construction Phase   | Work Sites / during construction | Contractor     |          | <b>√</b> |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94         |
|           | 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. |                                  |                |          |          |                |     |   |
| 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   | Work Sites / during construction | Contractor     |          | <b>✓</b> |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94         |
|           | 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.  |                                  |                |          |          |                |     |   |

| EIA Ref | Environmental Protection Measures / Mitigation   | Location / Timing                | Implementation | lm  | plem<br>Sta | entati<br>ges* | ion | Relevant<br>Legislation and       |
|---------|--|----------------------------------|----------------|-----|-------------|----------------|-----|-----------------------------------|
|         | Measures   |                                  | Agent          | Des | С           | 0              | Dec | Guidelines                        |
| S3.4    | 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. | Work Sites / during construction | Contractor     |     | √           |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| S3.4    | Sediment tanks of sufficient capacity, constructed from pre-<br>formed individual cells of approximately 6 to 8 m³ capacity,<br>are recommended as a general mitigation measure which<br>can be used for settling surface runoff prior to disposal. The<br>system capacity is flexible and able to handle multiple inputs<br>from a variety of sources and particularly suited to<br>applications where the influent is pumped.  | Work Sites / during construction | Contractor     |     | √           |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| S3.4    | Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m <sup>3</sup> 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.   | Work Sites / during construction | Contractor     |     | √           |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| S3.4    | 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.   | Work Sites / during construction | Contractor     |     | √           |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| 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.   | Work Sites / during construction | Contractor     |     | <b>√</b>    |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |

| EIA Ref | Environmental Protection Measures / Mitigation   | Location / Timing                | Implementation | lm  |   | entati<br>ges* | ion | Relevant<br>Legislation and       |
|---------|--|----------------------------------|----------------|-----|---|----------------|-----|-----------------------------------|
|         | Measures   |                                  | Agent          | Des | С | 0              | Dec | Guidelines                        |
| S3.4    | 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.   | Work Sites / during construction | Contractor     |     | √ |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| S3.4    | 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. | Work Sites / during construction | Contractor     |     | ✓ |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| S3.4    | 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.  | Work Sites / during construction | Contractor     |     | ✓ |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |
| 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.   | Work Sites / during construction | Contractor     |     | √ |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94 |

| EIA Ref | Environmental Protection Measures / Mitigation  | Location / Timing                | Implementation | Im  | plem<br>Sta | entati<br>ges* | ion | Relevant<br>Legislation and<br>Guidelines |
|---------|---|----------------------------------|----------------|-----|-------------|----------------|-----|---|
|         | Measures  |                                  | Agent          | Des | С           | 0              | Dec |   |
| 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.   | Work Sites / during construction | Contractor     |     | √           |                |     | EIAO-TM, WPCO,<br>ProPECC PN 1/94,<br>WDO |
| S3.4    | 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. | Work Sites / during construction | Contractor     |     | 1           |                |     | EIAO-TM, WPCO                             |
| 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.   | Work Sites / during construction | Contractor     |     | ✓           |                |     | EIAO-TM, WPCO,<br>TM-DSS                  |
| S3.4    | 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.   | Work Sites / during construction | Contractor     |     | <b>√</b>    |                |     | EIAO-TM, WPCO,<br>WDO                     |

<sup>\*</sup> Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

**Table 1.4 Implementation Schedule for Waste Management Measures** 

| EIA Ref | Environmental Protection Measures / Mitigation Measures  | Location / Timing                | Implementation<br>Agent | Implementation<br>Stages* |   |   |     | Relevant<br>Legislation and |
|---------|--|----------------------------------|-------------------------|---------------------------|---|---|-----|-----------------------------|
|         |  |                                  |                         | Des                       | С | 0 | Dec | Guidelines                  |
| \$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:  - 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) | Work Sites / during construction | Contractor              |                           |   |   |     | EIAO-TM, WDO                |
| 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:  - 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   | Work Sites / during construction | Contractor              |                           |   |   |     | EIAO-TM, WDO                |

| EIA Ref | Environmental Protection Measures / Mitigation   | Location / Timing                | Implementation                                   | lm  | plem<br>Sta | entati<br>ges* | on  | Relevant<br>Legislation and<br>Guidelines |
|---------|--|----------------------------------|--|-----|-------------|----------------|-----|---|
|         | Measures   |                                  | Agent  | Des | С           | 0              | Dec |   |
|         | 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.  - 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:  - 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.  - 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.  - Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.  - 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, | Work sites / during construction | Contractor and Independent Environmental Checker |     |             |                |     | ETWB TCW No. 33/2002, 31/2004, 19/2005    |

| EIA Ref | Environmental Protection Measures / Mitigation<br>Measures  | Location / Timing   | Implementation | lm  |   | entati<br>ges* | ion | Relevant Legislation and Guidelines |
|---------|---|---------------------|----------------|-----|---|----------------|-----|-------------------------------------|
|         |   |                     | Agent          | Des | С | 0              | Dec |                                     |
|         | 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.          |                     |                |     |   |                |     |                                     |
|         | - The height from which excavated materials are   |                     |                |     |   |                |     |                                     |
|         | dropped should be controlled to a minimum practical   |                     |                |     |   |                |     |                                     |
|         | height to limit fugitive dust generation 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   |                     |                |     |   |                |     |                                     |
|         | 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.   |                     |                |     |   |                |     |                                     |
| S3.5    | Chemical Waste  | Work Sites / during | Contractor     |     |   |                |     | Waste Disposal                      |
|         |   | construction        |                |     |   |                |     | (Chemical Waste)                    |
|         | After use, chemical wastes (for example, cleaning fluids,   |                     |                |     |   |                |     | (General)                           |
|         | solvents, lubrication oil and fuel) should be handled   |                     |                |     |   |                |     | Regulation                          |
|         | according to the Code of Practice on the Packaging,   |                     |                |     |   |                |     | Code of Practice on                 |
|         | Labelling and Storage of Chemical Wastes. Spent chemicals   |                     |                |     |   |                |     | the Packaging,                      |
|         | should be collected by a licensed collector for disposal at the                                     |                     |                |     |   |                |     | Labelling and                       |

| EIA Ref | Environmental Protection Measures / Mitigation  | Location / Timing                | Implementation | Implementation<br>Stages* |   |   |     | Relevant<br>Legislation and          |
|---------|---|----------------------------------|----------------|---------------------------|---|---|-----|--------------------------------------|
|         | Measures  | <b>3</b>                         | Agent          | Des                       | С | 0 | Dec | Guidelines                           |
|         | CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.   |                                  |                |                           |   |   |     | Storage of Chemical Wastes           |
| S3.5    | General Refuse  | Work Sites / during construction | Contractor     |                           |   |   |     | Waste Disposal<br>Ordinance          |
|         | 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. |                                  |                |                           |   |   |     | Water Pollution<br>Control Ordinance |

<sup>\*</sup> Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table 1.5 Implementation Schedule for Landscape and Visual Impacts

| EIA Ref  | Environmental Protection Measures / Mitigation<br>Measures  | Location / Timing  | Implementation<br>Agent | lm  | plem<br>Sta | entat<br>ges* | ion | Relevant<br>Legislation and<br>Guidelines |
|----------|---|--|-------------------------|-----|-------------|---------------|-----|---|
|          |   | <b>3</b>   |                         | Des | С           | 0             | Dec |   |
|          |   | Works area / During<br>Construction Phase                    | Contractor              | ✓   | 1           |               |     | EIAO-TM                                   |
| \$3.8.13 | Operation Phase     Compensatory tree planting should be incorporated into the proposed projects where trees are affected.     Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities.     Sensitive streetscape design should be incorporated along all new roads to reflect the new urban development in Kai Tak.               | Project area / During<br>Design stage and<br>Operation Phase | CEDD                    | √   |             | √             |     | EIAO-TM                                   |
|          | <ul> <li>Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips and central dividers to enhance the townscape quality, where space is available.</li> <li>Aesthetically pleasing design as regard to the form, material and finishes should be incorporated to all buildings, engineering structures and associated infrastructure facilities.</li> </ul> |  |                         |     |             |               |     |   |

<sup>\*</sup> Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

**Appendix P – Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution** 

**Reporting Month: January 2022** 

| Contract No. | Record of Complaint<br>(Yes/No) | Record of Warning<br>(Yes/No) | Notification of Summons and Successful Prosecutions (Yes/No) |
|--------------|---------------------------------|-------------------------------|--|
| ED/2018/05   | No                              | No                            | No   |

Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions up to reporting month

| Contract No. | Record of Complaint | Record of Warning | Notification of<br>Summons and<br>Successful<br>Prosecutions |
|--------------|---------------------|-------------------|--|
| ED/2018/05   | 1                   | 0                 | 0  |

| Complaint Log for 1 | ED/2018/05           |                          |   |                            |
|---------------------|----------------------|--------------------------|---|----------------------------|
| Complaint Ref. No.  | Date of<br>Complaint | Description of Complaint | Investigation / Recommendations / Actions | Close-Out Date /<br>Status |
|                     |                      |                          |   |                            |
|                     |                      |                          |   |                            |
|                     |                      |                          |   |                            |
|                     |                      |                          |   |                            |
|                     |                      |                          |   |                            |
|                     |                      |                          |   |                            |