Leighton-China States Joint Venture

Contract SCL1123 – Exhibition Station & Western Approach Tunnel

Monthly EM&A Report No. 9

for

FEP-13/364/2009/H & FEP-03/376/2009

[Period from 1 to 30 September 2021]

(October 2021)

Verified by: Claudine LEE

Position: Independent Environmental Checker

Date: <u>12 October 2021</u>

Leighton-China State Joint Venture

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Verified by:	FUNG Yiu Wah	V

Position: Environmental Team Leader

Date:

12 October 2021



Leighton – China State J.V.

Shatin to Central Link -Hung Hom to Admiralty Section

Works Contract 1123 -CEDD Entrusted Work for Road P2 & other roads and Slip Road 3

Monthly EM&A Report for September 2021

[October 2021]

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Date: 11 October 2021

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EXECUTIVE SUMMARY

Shatin to Central Link Contract 1123 – CEDD Entrusted Work for Road P2 & other roads and Slip Road 3 (hereafter called "the Project") covers part of the construction of CEDD entrusted work under the granted Further Environmental Permit: FEP–03/376/2009 and FEP–13/364/2009 respectively.

The Project comprises the construction of Road P2 and other roads which are classified as primary/district distributor roads and Slip Road 3.

The EM&A programme commenced on 25 January 2021. The impact EM&A for the Project includes air quality and noise monitoring.

This report documents the findings of EM&A works conducted in the period between 1 and 30 September 2021. As informed by the Contractor, major activities in the reporting period were:

Location	Site Activities
Road P2 – West (Slip Road 3)	Drainage and Road works
Road P2 – East (Hung Hing Road)	Drainage worksRoad Pavement
Road P2 – Permanent PTI (Public Transport Interchange)	 Drainage works Road works (concrete pavement and asphalt)

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Level of air quality was recorded in the reporting month.

Breaches of Action and Limit Levels for Noise

Regular Noise Monitoring

No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.

No exceedance of Limit Level of noise was recorded in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

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

Reporting Changes

There was no reporting change in the reporting month.

Future Key Issues

Key issues to be considered in the next three months included:

Location	Site Activities		
Road P2 –	Underground Utilities		
West (Slip Road 3)	Road works (TTM)		
Road P2 –	Drainage works		
East (Hung Hing Road)	Underground Utilities		
	Road works (TTM)		
Road P2 – PTI	Drainage & UU works		
(Public Transport	Road works (TTM)		
Interchange)	Footpath pavement		

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

1 INTRODUCTION

Leighton – China State Joint Venture (JV) was commissioned by MTR as the Civil Contractor for CEDD Entrusted Works under Contract 1123. AECOM Asia Company Limited (AECOM) was appointed by JV as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during construction phase of the Project.

1.1 Purpose of the Report

1.1.1 This is the ninth monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project during the reporting period between 1 and 30 September 2021.

1.2 Report Structure

- 1.2.1 This monthly EM&A Report is organized as follows:
 - Section 1: Introduction
 - Section 2: Project Information
 - Section 3: Environmental Monitoring Requirement
 - Section 4: Implementation Status of Environmental Mitigation Measures
 - Section 5: Monitoring Results
 - Section 6: Environmental Site Inspection and Audit
 - Section 7: Environmental Non-conformance
 - Section 8: Future Key Issues
 - Section 9: Conclusions and Recommendations

2 **PROJECT INFORMATION**

2.1 Background

- 2.1.1 Road P2 and other roads which are classified as primary/district distributor roads identified as DP2 which covered in the Environmental Permit No. EP-376/2009 in the approved Wan Chai Development Phase II (WDII) and Central Wan Chai Bypass (CWB) comprising (i) a dual 2-lane primary distributor road, Road P2; and (ii) other new primary and district distributor roads connecting to the slip roads of the Central-Wan Chai Bypass.
- 2.1.2 Slip road 3 identified as part of DP1 which covered in the Environmental Permit No. EP-364/2009/H in the approved Wan Chai Development Phase II (WDII) and Central Wan Chai Bypass (CWB) comprising (i) slip roads to connect the CWB to the local road system in the Wan Chai North and Causeway Bay area; and (ii) associated road lighting, road signing, traffic control and surveillance system (iii) other associated works.
- 2.1.3 The Environmental Impact Assessment Report for Central - Wan Chai Bypass and Island Eastern Corridor Link (CWB&IECL) EIA Report (Register No. AEIAR-041/2001) and the Wan Chai Development Phase II and Central-Wan Chai Bypass (WDII&CWB) EIA Report (Register No. AEIAR-125/2008) which were approved on 31 August 2001 and 11 December 2008 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permits (EPs) were granted on 13 November 2009 and 22 April 2020 respectively, which covers Road P2 and other roads which are classified as primary/district distributor roads [DP2] and Central – Wan Chai Bypass (CWB) including its Road Tunnel and Slip Roads [DP1] (EP No.: EP-376/2009 and EP-364/2009/H), for the construction and operation. Further Environmental Permits (FEP No. FEP-03/376/2009 and FEP-13/364/2009/H) were both subsequently granted from the Director of Environmental Protection (DEP) on 2 June 2020, which cover the construction works for DP2 and a part of DP1 respectively.
- 2.1.4 The site layout plan of the Project is shown in **Figure 1.1**.

2.2 Site Description

- 2.2.1 The major construction activities under CEDD Entrusted Works of Contract 1123 include:
 - (a) Site preparation;
 - (b) Construct for dual 2-lane primary distributor road, Road P2;
 - (c) Construct for other new primary and district distributor roads connecting to the slip roads of the Central-Wan Chai Bypass;
 - (d) Construct for slip roads to connect the CWB to the local road system in the Wan Chai North and Causeway Bay area;
 - (e) Construct for associated road lighting, road signing, traffic control and surveillance system; and
 - (f) Construct for other associated works;

2.3 Construction Programme and Activities

Location	Site Activities		
Road P2 – West (Slip Road 3)	Drainage and Road works		
Road P2 – East (Hung Hing Road)	Drainage worksRoad Pavement		
Road P2 – Permanent PTI (Public Transport Interchange)	 Drainage works Road works (concrete pavement and asphalt) 		

2.3.2 The construction programme is presented in **Appendix A**.

2.4 Project Organisation

2.4.1 The project organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarised in **Table 2.1**.

Table 2.1	Contact Information	of Kev Personnel
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Party	Role	Position	Name	Telephone	Fax
MID	Residential	Senior Construction Manager – SCL Civil	Mr. Mike Bezzano	3959 2128	3959 2200
	Engineer (ER)	SCL Project Environmental Team Leader	Ms. Lisa Poon	3127 6295	3127 6422
Meinhardt	Independent Environmental Checker	Independent Environmental Checker	Ms. Claudine Lee	2859 5409	2540 1580
11/	JV Contractor	Project Director	Mr. Brian Shepstone	3973 0838	31051126
JV		Environmental Engineer	Mr. Andy Leung	3973 1498	31031120
AECOM	Contractor's Environmental Team (ET)	ET Leader	Mr. Y W Fung	3922 9366	2317 7609

2.5 Status of Environmental Licences, Notification and Permits

2.5.1 Relevant environmental licenses, permits and/or notifications on environmental protection for this Project and valid in the reporting month are summarized in **Table 2.2**.

 Table 2.2
 Status of Environmental Licenses, Notifications and Permits

Permit / License No.	Valid I	Period	Status Domarka		
/ Notification/ Reference No.	From	То	Status	Remarks	
Environmental Permit					
FEP-03/376/2009	2 Jun 2020	End of Contract	Valid		
FEP-13/364/2009/H	2 Jun 2020	End of Contract	Valid		
Construction Noise Pe	ermit				
-	-	-	-	-	
Wastewater Discharge License ¹					
-	-	-	-	-	
Chemical Waste Producer Registration					
5213-135-L2881-01	02 Apr 2015	End of Contract	Valid	For whole site at Wan Chai Area	
Marine Dumping Perm	nit				
-	-	-	-	-	
Billing Account for Construction Waste Disposal					
7021736	16 Feb 2015	End of Contract	Valid	For Disposal of C&D Waste	
Notification Under Air Pollution Control (Construction Dust) Regulation					
385128 Bomarki	1 Mar 2015	End of Contract	Valid	For whole site at Wan Chai Area	

Remark:

1. The Contractor was reminded to keep tracking on the site conditions and review its application for wastewater discharge license.

3 ENVIRONMENTAL MONITORING REQUIREMENT

3.1 Construction Dust Monitoring

Monitoring Requirements

3.1.1 In accordance with the approved EM&A Manuals, 24-hour and 1-hour Total Suspended Particulates (TSP) levels at the designated air quality monitoring station is required. Impact 24-hour monitoring should be carried out for at least once every 6 days and 1-hour TSP monitoring should be done at least 3 times every 6 days while the highest dust impact is expected. The Action and Limit level of the air quality monitoring is provided in **Appendix D**.

Monitoring Equipment

- 3.1.2 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at the designated monitoring stations. The HVS meets all the requirements of the EM&A Manual.
- 3.1.3 A portable direct reading dust meter was used to carry out the 1-hour TSP monitoring.
- 3.1.4 Brand and model of the equipment is given in **Table 3.1**.

Table 3.1 Air Quality Monitoring Equipment

Equipment	Brand and Model
High Volume Sampler (24-hour TSP)	Andersen Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model No. GS 2310 (S/N:10273)) (Model No. GS 2310 (S/N:3384))
Calibration Kit (24-hour TSP)	TISCH Environmental Orifice (Model TE-5025A (S/N: 843))
Portable direct reading dust meter (1-hour TSP)	Sibata Digital Dust Monitor (Model No. LD-3)

Monitoring Locations

3.1.5 The monitoring station for construction dust monitoring pertinent to the Project has been identified based on the approved EM&A Manual for SCL (HUH-ADM) of the Project. The location of the construction dust monitoring stations are summarised in **Table 3.2** and shown in **Figure 3.1**.

Table 3.2	Locations of Construction Dust Monitoring Station
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Station ID	Dust Monitoring Station
CMA5b ¹	Pedestrian Plaza
CMA6a ¹	WDII PRE Site Office

Remark:

1. According to the updated site layout of CEDD Entrusted Works and Updated EM&A Manual for EP-376/2009 and EP-364/2009, Pedestrian Plaza (CMA5b) and WDII PRE Site Office (CMA6A) were selected as the most affected sensitive receiver during the construction phase.

Monitoring Methodology

- 3.1.6 24-hour TSP Monitoring
 - (a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS as far as practicable: -
 - (i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
 - (ii) Two samplers should not be placed less than 2m apart from each others;

- (iii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
- (iv) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.
- (v) A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
- (vi) No furnace or incinerator flues nearby.
- (vii) Airflow around the sampler was unrestricted.
- (viii) The sampler was located more than 20 meters from any dripline.
- (ix) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
- (x) Permission was obtained to set up the samplers and access to the monitoring station.
- (xi) A secured supply of electricity was obtained to operate the sampler.
- (b) Preparation of Filter Papers
 - (i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
 - (ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.
 - (iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.
- (c) Field Monitoring
 - (i) The power supply was checked to ensure the HVS works properly.
 - (ii) The filter holder and the area surrounding the filter were cleaned.
 - (iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
 - (iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
 - (v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
 - (vi) Then the shelter lid was closed and was secured with the aluminium strip.
 - (vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
 - (viii) A new flow rate record sheet was set into the flow recorder.
 - (ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.3 m³/min, and complied with the range specified in the EM&A Manual (i.e. 0.6-1.7 m³/min).
 - (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
 - (xi) The initial elapsed time was recorded.
 - (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
 - (xiii) The final elapsed time was recorded.
 - (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
 - (xv) It was then placed in a clean envelope and sealed.
 - (xvi) All monitoring information was recorded on a standard data sheet.
 - (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.
- (d) Maintenance and Calibration
 - (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.

- (ii) HVSs were calibrated using TE-5025A Calibration Kit upon installation and thereafter at bi-monthly intervals.
- (iii) Calibration certificate of the TE-5025A Calibration Kit and the HVSs are provided in **Appendix E**.

3.1.7 1-hour TSP Monitoring

(a) Measuring Procedures

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

- (i) Turn the power on.
- (ii) Close the air collecting opening cover.
- (iii) Push the "TIME SETTING" switch to [BG]
- (iv) Push "START/STOP" switch to perform background measurement for 6 seconds.
- (v) Turn the knob at SENSI ADJ position to insert the light scattering plate.
- (vi) Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- (vii) Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- (viii) Pull out the knob and return it to MEASURE position.
- (ix) Push the "TIME SETTING" switch the time set in the display to 3 hours.
- (x) Lower down the air collection opening cover.
- (xi) Push "START/STOP" switch to start measurement.
- (b) Maintenance and Calibration
 - The 1-hour TSP meter was calibrated at 1-year intervals against a continuous particulate TEOM Monitor, Series 1400ab. Calibration certificates of the Laser Dust Monitors are provided in Appendix E.

Monitoring Schedule for the Reporting Month

3.1.8 The schedule for environmental monitoring in September 2021 is provided in Appendix F.

3.2 Construction Noise Monitoring

Monitoring Requirements

3.2.1 In accordance with the EM&A Manual, impact noise monitoring should be conducted for at least once a week during the construction phase of the Project. **Table 3.3** summarises the monitoring parameters, frequency and duration of impact noise monitoring. The Action and Limit level of the noise monitoring is provided in **Appendix D**.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Parameter and Duration	Frequency
30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. Leq, L ₁₀ and L ₉₀ would be recorded.	At least once per week

Monitoring Equipment

3.2.2 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in **Table 3.4**.

Table 3.4 Noise Monitoring Equipment for Regular Noise Monitoring

Equipment	Brand and Model
Integrated Sound Level Meter	Model No. B&K 2250 (S/N: 3001291) Model No. B&K 2270 (S/N: 2644597)
Acoustic Calibrator	Model No. B&K 4231 (S/N: 3014024) Model No. NC-74 (S/N: 34246490)

Monitoring Locations

3.2.3 The monitoring station for construction noise monitoring pertinent to the Project has been identified based on the approved EM&A Manual for SCL (HUH-ADM) of the Project. Location of the noise monitoring station is summarised in **Table 3.5** and shown in **Figure 3.1**.

 Table 3.5
 Noise Monitoring Station during Construction Phase

Identification No.	District	Alternative Noise Monitoring Location	
M1a ¹	Wan Chai	Footbridge for Ex-Harbour Road Sports Centre	

Remark:

 According to the updated site layout of CEDD Entrusted Works and Updated EM&A Manual for EP-376/2009 and EP-364/2009, Footbridge for Ex-Harbour Road Sports Centre (M1a) was selected as the most affected sensitive receiver during the construction phase.

Monitoring Methodology

- 3.2.4 Monitoring Procedure
 - (a) Façade measurements were made at M1a.
 - (b) The battery condition was checked to ensure the correct functioning of the meter.
 - (c) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - (i) frequency weighting: A
 - (ii) time weighting: Fast

- (iii) time measurement: L_{eq(30-minutes)} during non-restricted hours i.e. 0700 1900 on normal weekdays.
- (d) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94 dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- (e) During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- (f) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
- (g) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.
- 3.2.5 Maintenance and Calibration
 - (a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
 - (b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
 - (c) Calibration certificates of the sound level meters and acoustic calibrators are provided in **Appendix E**.

Monitoring Schedule for the Reporting Month

3.2.6 The schedule for environmental monitoring in September 2021 is provided in Appendix F.

4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

4.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix C.** Status of required submissions under the EP during the reporting period is summarised in **Table 4.1**.

Table 4.1 Status of Required Submission under Further Environmental Permit

EP Condition	Submission	Submission Date	
Condition 3.3 (FEP-13//364/2009/H & FEP-03/376/2009)	Monthly EM&A Report for August 2021	14 September 2021	

5 MONITORING RESULTS

5.1 Construction Dust Monitoring

5.1.1 The monitoring results for 24-hour TSP and 1-hour TSP are summarised in **Table 5.1** and **Table 5.2** respectively. Detailed air quality monitoring results and wind monitoring data extracted from the nearest Automatic Weather Station are presented in **Appendix G**.

Table 5.1 Summary of 24-mour For Momilloring Result in the Reporting Period	Table 5.1	Summary of 24-hour TSP Monitoring Result in the Reporting Period
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ID	Average (μg/m³)	Range (µg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
CMA5b	45.8	24.5 – 58.9	209.9	260
CMA6a	30.4	10.3 – 42.2	207.1	260

Table 5.2	Summary of 1-hour TSP Monitoring Result in the Reporting Period
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ID	Average (μg/m³)	Range (µg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
CMA5b	66.2	63.4 - 68.2	339.7	500
CMA6a	62.1	57.0 - 64.3	333	500

- 5.1.2 No Action and Limit Level exceedance were recorded for 1-hour TSP monitoring at the monitoring locations in the reporting month.
- 5.1.3 No Action and Limit Level exceedance were recorded for 24-hour TSP monitoring at the monitoring locations in the reporting month.
- 5.1.4 The event and action plan is annexed in **Appendix I**.
- 5.1.5 Major dust sources during the monitoring included construction dust, nearby traffic emission and other nearby construction sites.

5.2 Regular Construction Noise Monitoring

5.2.1 The monitoring results for noise are summarized in **Table 5.3** and the monitoring data is provided in **Appendix H**.

Table 5.3 Summary of Construction Noise Monitoring Results in the Reporting Period

ID	Range, dB(A), L _{eq (30 mins)}	Limit Level, dB(A), L _{eg (30 mins)}
M1a ^(*)	<baseline< td=""><td>75</td></baseline<>	75

(*) Baseline correction will be made to the measured L_{eq} when the measured noise level exceeded the corresponding baseline noise level and presented in the table.

- 5.2.2 No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.
- 5.2.3 No Limit Level exceedance of noise was recorded at the monitoring station in the reporting month.
- 5.2.4 The event and action plan is annexed in **Appendix I**.
- 5.2.5 Major noise sources during the monitoring included construction noise from the Project site, nearby traffic noise and the community.

5.3 Waste Management

- 5.3.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.
- 5.3.2 As advised by the Contractor, 112 m³ of inert C&D material was generated and disposed of as public fill in the reporting month. No inert C&D materials were reused in other projects or in the Contract in the reporting month. No fill material was imported in the reporting month. 11 m³ of general refuse was generated in the reporting month. No metal, paper/cardboard packaging material, plastic was collected by recycling contractor in the reporting month. No chemical waste was collected by licensed contractor in the reporting period. No Type 1 and Type 2 of Marine sediment were disposed of at Confined Marine Disposal Facility to the East of Sha Chau. The waste flow table is annexed in **Appendix K**.
- 5.3.3 The Contractor is advised to properly maintain on site C&D materials and wastes collection, sorting and recording system and maximize reuse / recycle of C&D materials and wastes. The Contractor is reminded to properly maintain the site tidiness and dispose of the wastes accumulated on site regularly and properly.
- 5.3.4 The Contractor is reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes

5.4 Landscape and Visual

5.4.1 Weekly inspection of the implementation of landscape and visual mitigation measures was conducted. A summary of the site inspection is provided in **Appendix C**. The observations and recommendations made during the site inspections are presented in **Table 6.1**.

6 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 6.1.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix C**.
- 6.1.2 In the reporting month, 5 site inspection were carried out on 2, 9, 17, 23 and 30 September 2021. Joint inspections with the IEC, ER, the Contractor and the ET were conducted on 17 September 2021. No non-compliance was recorded during the site inspection. Details of observations recorded during the site inspections are presented in **Table 6.1**.

Table 6.1 Observations and Recommendations of Site Audit										
Parameters	Date	Observations and Recommendations	Follow-up							
Air Quality	23 Sep 2021	 <u>Reminder</u> The Contractor was reminded to provide a cover or frequent watering for the open stockpile at Road P2. 	This item was rectified on 30 Sep 2021.							
Noise	Nil	Nil	Nil							
Water Quality	Nil	Nil	Nil							
Waste/ Chemical Management	Nil	Nil	Nil							
Landscape & Visual	Nil	Nil	Nil							
Permits/ Licenses	Nil	Nil	Nil							

Table 6.1	Observations and Recommendations of Site Audit

- 6.1.3 No follow up action was requested by Contractor's ET during the site inspection on 2, 9, 17 and 30 September 2021. .
- 6.1.4 All of follow-up actions requested by Contractor's ET and IEC during the site inspection were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted during the reporting period.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 Summary of Monitoring Exceedances

- 7.1.1 All 24-hour TSP result was below the Action and Limit level at all monitoring locations in the reporting month.
- 7.1.2 All 1-hour TSP result was below the Action and Limit level at all monitoring locations in the reporting month
- 7.1.3 No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.
- 7.1.4 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.

7.2 Summary of Environmental Non-Compliance

7.2.1 No environmental non-compliance was recorded in the reporting month.

7.3 Summary of Environmental Complaints

7.3.1 No environmental related complaint was received in the reporting month. Cumulative statistics on environmental complaints is provided in **Appendix J**.

7.4 Summary of Environmental Summon and Successful Prosecutions

7.4.1 No environmental related prosecution or notification of summons was received in the reporting month. Cumulative statistics on notification of summons and successful prosecutions is provided in **Appendix J**.

8 FUTURE KEY ISSUES

8.1 Construction Programme for the Next Three Month

8.1.1	The major construction works between October and September 2021 will be:
-------	--

Location	Site Activities
Road P2 –	Underground Utilities
West (Slip Road 3)	Road works (TTM)
Road P2 –	Drainage works
East (Hung Hing Road)	Underground Utilities
	Road works (TTM)
Road P2 – PTI	Drainage & UU works
(Public Transport	Road works (TTM)
Interchange)	Footpath pavement

8.2 Key Issues for the Coming Month

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

8.3 Monitoring Schedule for the Next Three Month

8.3.1 The tentative schedules for environmental monitoring in between October and December 2021 are provided in **Appendix F**.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

- 9.1.1 24-hour TSP, 1-hour TSP and noise monitoring were carried out in the reporting month.
- 9.1.2 No Action and Limit Level exceedance was recorded for 24-hour TSP monitoring at the monitoring locations in the reporting month.
- 9.1.3 No Action and Limit Level exceedance was recorded for 1-hour TSP monitoring at the monitoring locations in the reporting month
- 9.1.4 No Action Level exceedance was recorded since no noise related complaint was received in the reporting month.
- 9.1.5 No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting month.
- 9.1.6 5 nos. of environmental site inspections were carried out in September 2021. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site audit.
- 9.1.7 No environmental complaint was received in the reporting month.
- 9.1.8 No notification of summons and successful prosecution were received in the reporting month.
- 9.1.9 Referring to the Contractor's information, no notification of summons and successful prosecution was received in the reporting month.

9.2 Recommendations

9.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided: -

Air Quality Impact

• The Contractor was reminded to provide a cover or frequent watering for the open stockpile to prevent duct emission.

Construction Noise Impact

• No specific observation was identified in the reporting month.

Water Quality Impact

• No specific observation was identified in the reporting month.

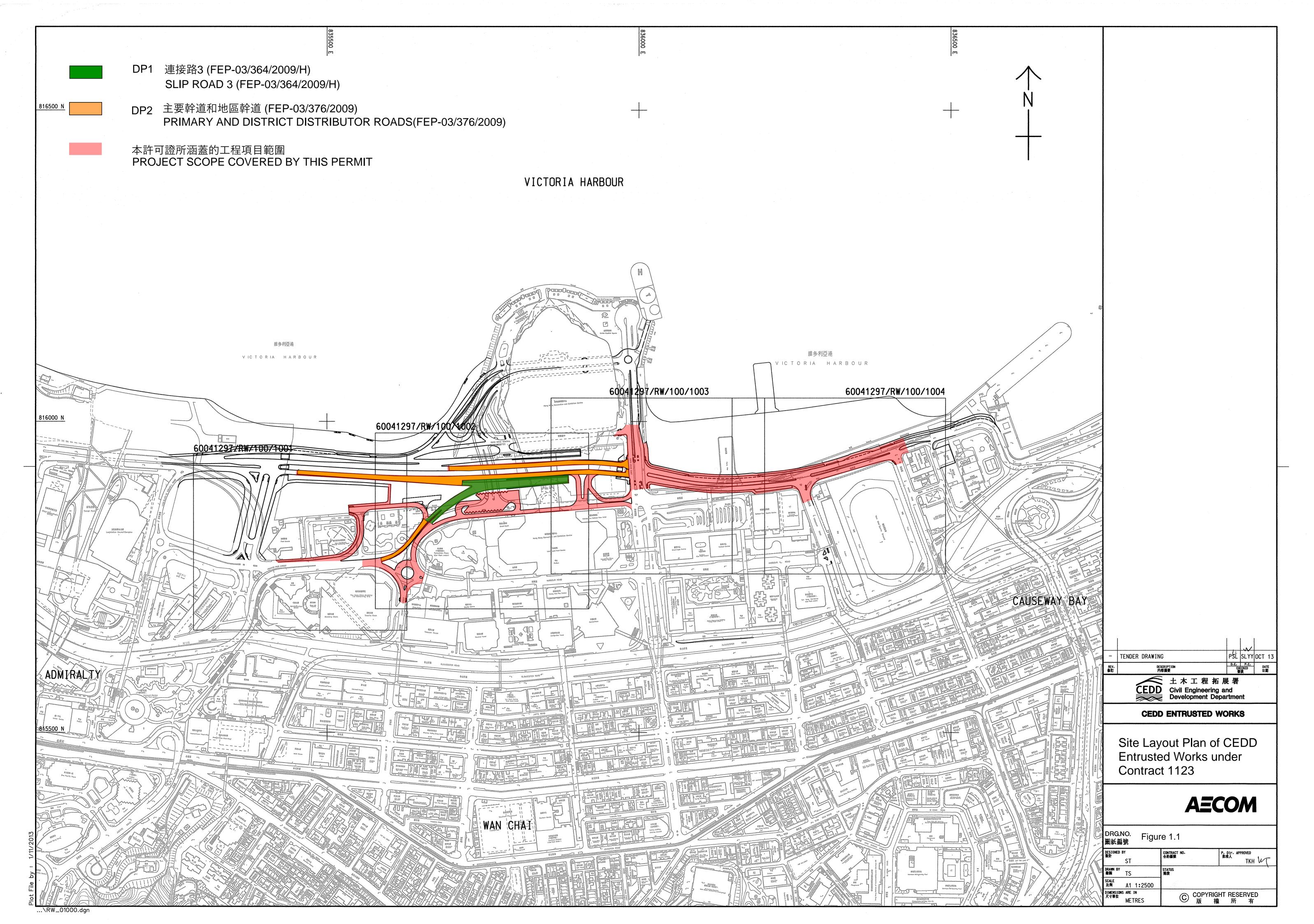
Chemical and Waste Management

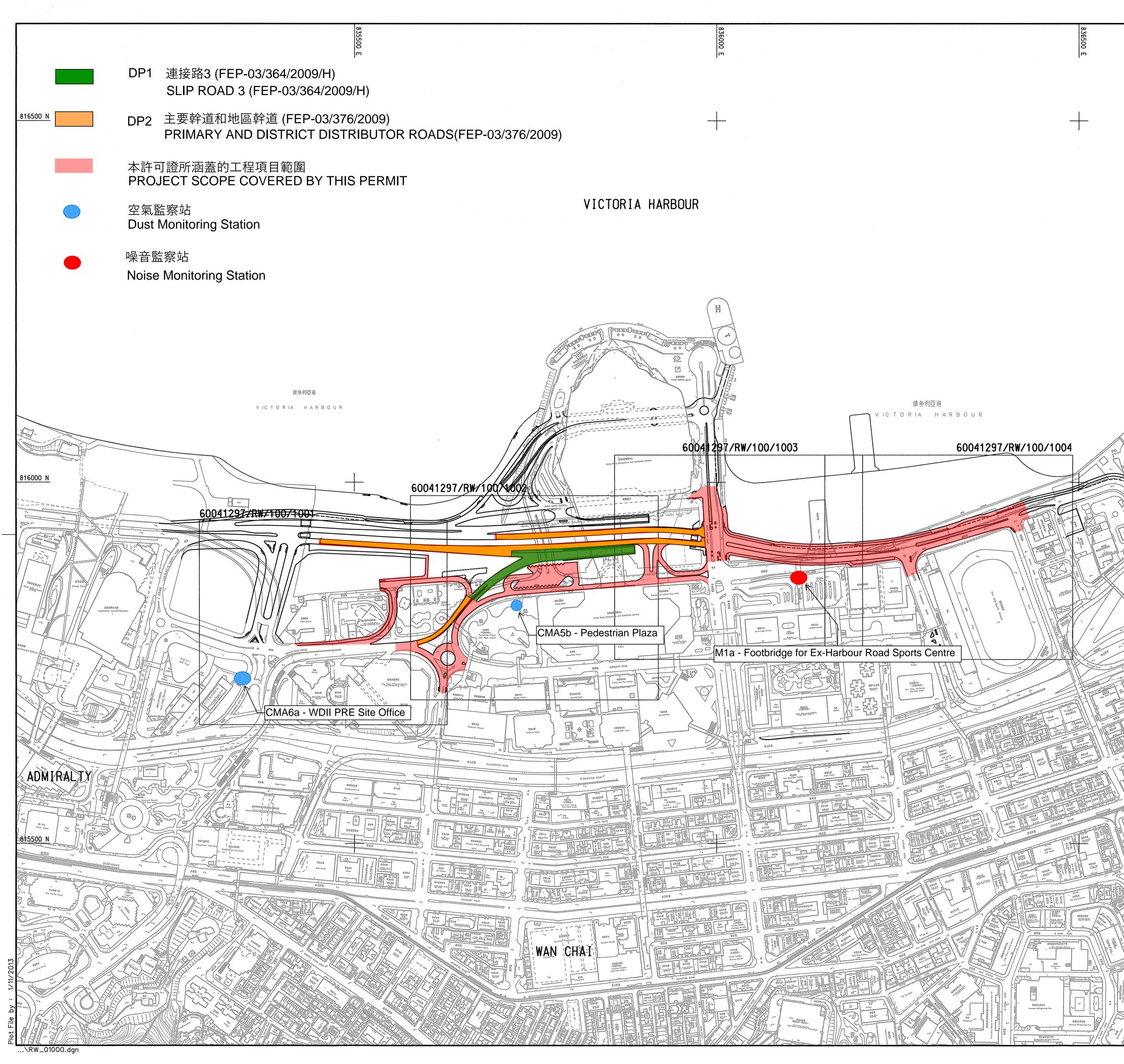
• No specific observation was identified in the reporting month.

Landscape & Visual Impact

- No specific observation was identified in the reporting month. Permits/licenses
- No specific observation was identified in the reporting month.

FIGURES





CAUSE WAY BAY	CEDD	D.E. P.E. 改書 DATE 改書 日期
		and Noise Monitoring for CEDD Entrusted
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APPENDIX A

Construction Programme

	isk Name	Duration	Start	Finish Dec	Jan	an Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct No
C	EDD Entrusted works- Road P2- Slip Road 3	785 d?	Jan 7 '20	Aug 3 '22		
	SR3- TTM 1	457 d	Jan 7 '20	Jul 13 '21		
	SR3- TTM 1.2 -Coach Park Area:	36 d	Jun 1 '21	Jul 13 '21		
	Construct the gullies and drain -Assumed(after Area B backfill and		Jun 1 '21	Jun 28 '21		Construct the gullies and drain -Assumed(after Area B backfill and E37/E28 Completion)
	Backfill and reinstate temp pavement		Jun 29 '21	Jul 13 '21		Backfill and reinstate temp pavement
	SR3- TTM 2a	_	May 28 '20	May 10 '21		
	Interface with WDII		Aug 22 '20	Feb 16 '21		
	Handover P6B & P6C and P6E		Feb 16 '21	Feb 16 '21		Handover P6B & P6C and P6E
	SR3 TTM 2a.2 – Slip Road 3 and Coach parking area		May 30 '20	May 10 '21		
	Construct watermain F19 tee and fire hydrant		Jan 25 '21	Feb 6 '21		Construct watermain F19 tee and fire hydrant
	Construct part of irrigation main and pipe sleeve for WP7-2		Feb 8 '21	Feb 13 '21	-	Construct part of irrigation main and pipe sleeve for WP7-2
	Construct kerbline and footpath pavement		Feb 15 '21	Apr 10 '21		Construct kerbline and footpath pavement
	Remove & Re-construct asphalt pavement for Slip Road 3 and		Apr 12 '21	May 10 '21		Remove & Re-construct asphalt pavement for Slip Road 3 and Convention Avenue W/B
	SR3 TTM 2a.3 – Reboundout-Planter No. 3		Dec 24 '20	Feb 20 '21		
	Construction the permanent traffic island at southside		Jan 25 '21	Feb 20 '21		Construction the permanent traffic island at southside
	SR3 TTM 2b.2 –Permanent Slip Road 3 construction (2nd portion)		Jan 22 '21	Jun 18 '21	-	
	· · · · ·		Jan 22 '21	Mar 4 '21		Construct drainage
	Construct drainage Construct watermain F17		Mar 5 '21	Apr 1 '21		Construct watermain F17
	Construct watermain F17		Apr 2 '21	Apr 29 '21		Construct gantry foundation
	Construct road kerb & central divider		Apr 2 21 Apr 30 '21	May 21 '21		Construct road kerb & central divider
	Construct asphalt pavement		May 22 '21	Jun 4 '21		Construct asphalt pavement
	Construct temp street light		Jun 5 '21	Jun 18 '21		Construct temp street light
	SR3 TTM 2b.3 -Temp Road (Temp LungKing Street)		Jun 19 '21	Jul 17 '21		
	Construct temp. road		Jun 19 '21	Jul 3 '21		Construct temp. road
	Construct temp street light	12 d		Jul 17 '21		Construct temp street light
	SR3- TTM 3		Feb 20 '21	Dec 30 '21		
	Interface with WDII		Aug 12 '21	Aug 12 '21		♦ Interface with WDII
	Handover P6		•	-		Handover P6
			Aug 12 '21	Aug 12 '21		
	SR3 TTM 3.1: Divert CEB to Permanent Slip Road 3		Apr 9 '21	Jul 21 '21		Preparation woks for divert CWB traffic to Slip Road 3
	Preparation woks for divert CWB traffic to Slip Road 3		Apr 9 '21	Jul 5 '21		Divert CWB traffic to Slip Road 3
	Divert CWB traffic to Slip Road 3		Jul 19 '21	Jul 21 '21	_	
	SR3 TTM 3.2: Close Detoured Slip Road 3		Jul 22 '21	Jul 24 '21		Close Detoured Slip Road 3
	Close Detoured Slip Road 3		Jul 22 '21	Jul 24 '21		
	SR3 TTM 3.3: Temp lungKing Road		Jul 26 '21	Jul 28 '21		
	Divert Traffic to Temp. Lung King Road		Jul 26 '21	Jul 28 '21		Divert Traffic to Temp. Lung King Road
	SR3 TTM 3.4 -Reboundout		Jul 22 '21	Nov 25 '21	_	
	De-commission of traffic light system and change to free flow road		Jul 22 '21	Jul 28 '21		De-commission of traffic light system and change to free flow road junction
	Construct drainage		Jul 29 '21	Sep 22 '21		Construct drainage
	Construct irrigation main		Sep 23 '21	Oct 7 '21	_	Construct irrigation main
	Construct permanent planters		Oct 8 '21	Nov 11 '21		Construct permanent planters
	construction of Rest of the Traffic Island at Harbour Road		Nov 12 '21	Nov 25 '21		construction of Rest of the Traffic Island at Harbour Road
	SR3 TTM 3.5 -LungKing Street		Feb 20 '21	Dec 30 '21	_	A Land W22 Access
	Land W22 Access		Feb 20 '21	Feb 20 '21	_	Land W22 Access
	Land W21 Access		Feb 20 '21	Feb 20 '21	_	Land W21 Access Temp Road Diversion of existing MVB(CWB) EVA
	Temp Road Diversion of existing MVB(CWB) EVA		Mar 26 '21	Apr 22 '21		
	Construct Part (bay 1-4) retaining wall and drainage/lighting duct		Apr 23 '21	Oct 18 '21		Construct Part (bay 1-4) retaining wall and drainage/lighting duct
	Construct remaining retaining wall		Jul 29 '21	Sep 22 '21		Construct remaining retaining wall Construct remaining drainage
	Construct remaining drainage		Sep 23 '21	Nov 18 '21		Construct site formation and road kerb
	Construct site formation and road kerb		Nov 19 '21 Dec 10 '21	Dec 9 '21 Dec 30 '21		Construct site formation and road kerb
	Construct asphalt road pavement and footpath					
	SR3- TTM 4 1 Dehoundout		Nov 26 '21	Mar 11 '22		
	SR3 TTM 4.1 -Reboundout		Nov 26 '21	Dec 2 '21		Divert the Traffic to outmost lanes
	Divert the Traffic to outmost lanes		Nov 26 '21	Dec 2 '21	_	
	SR3 TTM 4.2 - Lung King Street/Fenwick Pier Street		Dec 31 '21	Mar 11 '22	_	Construct drainage & gully
	Construct drainage & gully		Dec 31 '21	Feb 11 '22		
	Construct Footpath		Feb 12 '22	Mar 11 '22		Construct Footpath
	SR3- TTM 5		Jul 22 '21	Dec 13 '21	_	
	Interface with WDII		Nov 12 '21	Nov 12 '21		Interface with WDII
	Handover Land- P5		Nov 12 '21	Nov 12 '21		♦ Handover Land- P5
	SR3 TTM 5.1 -Temp Road Diversion for Lung Wo Road		Jul 22 '21	Sep 15 '21		
	Temp Road Construction TTM Diversion		Jul 22 '21	Aug 18 '21	_	Temp Road Construction
		h NC	Aug 19 '21	Sep 15 '21		TTM Diversion

CONTRACT NO.SCL1123

Shatin to Central Link Contract 1123- Exhibition Station and Western Approach Tunnel

CEDD Entrusted Works

Page 1

00	Task Name	Duration	Start	Finish	Dec	2021 Jan	Ech	Mar Apr May	lue	Jul	Aug	Son	Oct New	Dec	2022 Jan	Feb	Mar	
88	SR3 TTM 5.2 - Re-alignment Lung Wo Road(W/B)	60 d	Sep 16 '21	Nov 25 '21		Jg[]	гер	ινιαι Αμι Μαγ	Jun	JUI	Aug	зер		Dec	Jall	гер	IVIDI	+
89	Reconstruct drainage and Gullies	36 d	Sep 16 '21	Oct 28 '21									Recon	struct drai	nage and	Gullies		
90	Reconstruct Road kerb and Pavement	24 d	Oct 29 '21	Nov 25 '21										•	ruct Road			er
91	Removal of De-toured Slip Road 3		Oct 29 '21	Nov 25 '21										Removal	l of De-to	ured Slip	א Road 3	_
92	SR5 TTM 5.3 -Reconstruct kerbline and Pavement between Lung		Sep 16 '21	Dec 13 '21														
93	 Reconstruct kerbline and Pavement between Lung Wo road (w/b) & 		Sep 16 '21	Dec 13 '21										-Re	econstruc	t kerblin	ie and Pa	V
94	SR3- TTM 6		Feb 22 '21	Aug 3 '22														_
95	SR3 TTM 6.1 - Lung Wo Road North		Nov 26 '21	Aug 3 '22	-													_
96	Divert traffic to South side of Lung Wo Road		Nov 26 '21	Dec 2 '21										Divert	traffic to	South si	de of Lur	g
97 98	Drainage and raod works at North side	108 d		Apr 8 '22	-		_		_					-		+		-
98 99	Removal of Temp Road Reinstatement of Planter Area	24 d	Apr 9 '22 May 7 '22	May 6 '22 Aug 3 '22	-													-
100	SR3 TTM 6.2 - Abandoned Lung King Street		Feb 22 '21	Feb 8 '22														-
101	Removal and abondoned Lung King Street		Dec 14 '21	Feb 8 '22											<u> </u>	Rem	noval and	Ē
102			Feb 22 '21	Feb 22 '21														-
	Removal of Temp Slip Road		Sep 21 '20	Mar 30 '21											-			-
128	Removal of Temp Slip Road		Jan 16 '21	Feb 1 '21			Remov	val of Temp Slip Road									-	-
129	Trimming D-wall Panels(L92-L101& L34-L37)	20 d		Feb 24 '21				Trimming D-wall Panels(L	92-L101& L	34-L37)				_	1		-	+
130	Continue rest Drainage and sewage construction	24 d	Feb 25 '21	Mar 24 '21				Continue rest Dra	inage and	sewage	constructi	on					-	1
131	No fine Concrete Backfill	5 d	Mar 25 '21	Mar 30 '21				No fine Concre	e Backfill									1
132	B400 (EVA)	54 d	Feb 25 '21	Apr 28 '21	·													
133	Complete Remaining Drainage		Feb 25 '21	Mar 24 '21	-			Complete Remai	-	-								
134	Site Formation/Road Kerb/Pedestrian Crossing		Mar 25 '21	Apr 14 '21				Site Forma				rossing						_
135	Road works and EVA ready		Apr 15 '21	Apr 28 '21				Road v	orks and E	VA read	/			_		_		_
	B300	104 d		Jun 2 '21					(000)/0									_
137	Close Area C1 opening (DRD)/Backfill		Feb 1 '21	Mar 13 '21				Close Area C1 openi Break D-w			Complet	o Romai	ning dringgo					_
138 139	Break D-wall (L90-91& L32-33)Complete Remaining drinage		Mar 15 '21	Apr 15 '21				Comple	-		Complet	e Keman	ning unnage					_
139 140	Complete Remaining UU Site Formation/Road Kerb/Pedestrian Crossing		Apr 16 '21 Apr 28 '21	Apr 27 '21 May 19 '21					Site Format		d Kerb/Pe	destrian	Crossing	_				-
140 141	Final Road works and Road marking		May 20 '21	Jun 2 '21					Final Ro									-
142	CEDD Entrusted works-Road P2- Hung Hing Road		Jul 29 '20	May 25 '22									-0					+
143			Jul 29 '20															_
143	TTM1-Divert Convention Avenue and Hung Hing Road		Jui 29 20 Nov 4 '20	May 29 '21 May 29 '21														-
150	TTM1-Road works at Convention Avenue and Hung Hing Road Underground Drinage and Utilities		Nov 25 '20	Mar 12 '21				Underground Drinag	e and Utilit	ies				_	+			_
150 151	Permanent Road Formation		Feb 20 '21	Apr 2 '21				Permanent Ro										-
152	Permanent Road pavement and Footpath	24 d		Apr 30 '21					nent Road		nt and Fo	otpath			1			+
153	Interface transition pavement works		May 3 '21	May 29 '21					Interface	transiti	on pavem	ent work	s		+			-
	TTM2-Divert East direction to permanent alignment		, Mar 31 '21	Nov 2 '21														-
154	This biver Last an ection to permanent angiment			Jun 26 '21	-					Constuct	Temp roa	ad					_	-
	Constuct Temp road	24 d	May 31 '21	JUII ZO ZI	•													T
155			May 31 '21 Mar 31 '21	Jun 26 '21						Apply TT	M and Ap	proval						_
155 156	Constuct Temp road	75 d	-								M and Ap lement TT				<u> </u>			_
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- CONTRACT NO.SCL1123 Shatin to Central Link
- Contract 1123- Exhibition Station and Western Approach Tunnel

CEDD Entrusted Works

Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
nt								
ement be	etween L	ung Wo r	oad (w/b) & CWB	Tunnel(V	V/B)-Nigh	t works	
g Wo Roa	d							
Drain	age and		ks at Nor	th side				
	Remo	val of Tei	mp Road	Reinsta	toment	of Planter	Area	
				itemste			Alca	
abondon	ed Lung I	King Stree	et					
	<u> </u>							
ge and U	tilities							
n/Road K	(erb							
nent Road			ns nt works					
		pavenie						
pply TTN								
Imp	lement T		nt Foot p	ath and C	entral Isl	and Cons	truction	
								Conventio

Page	2
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ID	Task Name	Duration	Start	Finish		2021								2022										
					Dec	Jan	Feb Ma						Dec	Jan	Feb	Mar A	pr M	lay Ju	un 🗌	Jul	Aug	Sep	Oct	Nov De
181	Road Kerb and Footpath Pavement -South of Convention Avenue	48 d	Feb 3 '21	Mar 30 '21				Road Kerb and Footpath	Pavemen	t -South	of Conventi	on Avenue												
182	Middle Part- Remaining Drainage work	28 d	Jan 16 '21	Feb 17 '21			Middle	Part- Remaining Drainage wo	ĸ															
183	Middle Part- Irrigation works and Road Kerb	28 d	Feb 18 '21	Mar 22 '21				Middle Part- Irrigation wor	s and Ro	ad Kerb														
184	TTM2- Divert West direction to South	151 d	Jan 2 '21	Jun 28 '21																				
185	Apply TTM2 and Approval	75 d	Jan 2 '21	Mar 31 '21				Apply TTM2 and Approv	l															
186	Implement TTM2	12 d	Mar 31 '21	Apr 13 '21				Implement TTM2																
187	Remaining Drainage Works-Middle part	28 d	Apr 14 '21	May 17 '21				Remaining	Drainage	Works-N	/liddle part													
188	Irrigation and landscape works -Middle part	28 d	May 18 '21	Jun 18 '21					rigation a	nd lands	cape works	-Middle part												
189	Road Kerb-North of Comvention Anenue	18 d	Jun 8 '21	Jun 28 '21					Road Ke	rb-North	of Comven	tion Anenue												
190	TTM3- to Final Alignment	129 d	Apr 1 '21	Aug 31 '21																				
191	Apply TTM2 and Approval	75 d	Apr 1 '21	Jun 29 '21					Apply T	「M2 and	Approval													
192	Permanent TTM at PTI approval (no drawing now)	75 d	Apr 1 '21	Jun 29 '21					Perman	ent TTM	at PTI appro	oval (no drawii	ng now)											
193	Area C2-Road works Completed	0 d	Jun 29 '21	Jun 29 '21					Area C	-Road w	orks Comple	eted												
194	works at Expro East completed	0 d	Jun 29 '21	Jun 29 '21					works a	at Expro I	East comple	ted												
195	Implement TTM3- to Final Alignment	6 d	Jun 29 '21	Jul 6 '21					Imple	ment TTI	M3- to Final	Alignment												
196	Road Kerb and Footpath Pavement/road lighting -North of Convention	24 d	Jul 7 '21	Aug 3 '21						Road I	Kerb and Fo	otpath Pavem	ent/road	ighting -N	lorth of Co	nvention Av	enue							
197	Road Lighting /rails and Final touch up	24 d	Aug 4 '21	Aug 31 '21							Road Ligh	ting /rails and	Final tou	h up		Î								

	ιr	Iti	са	l

Critical Split

Task

Milestone •

Summary

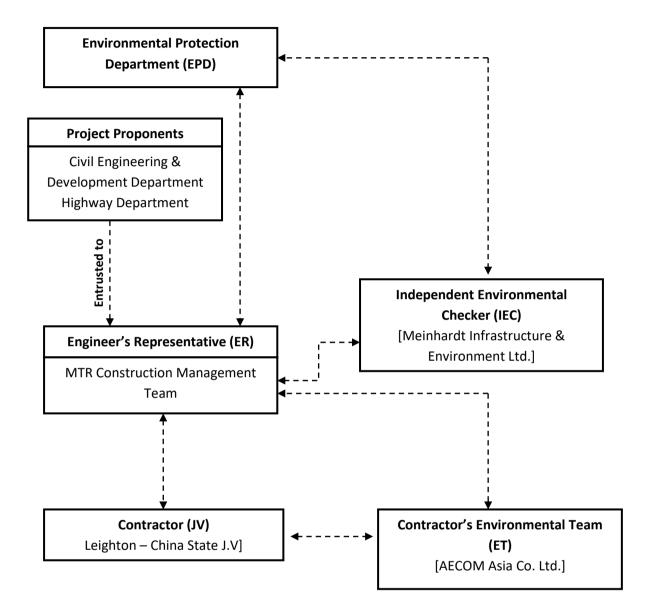
CEDD Entrusted Works

Critical

APPENDIX B

Project Organization Structure

Appendix B Project Organisation Structure



APPENDIX C

Implementation Schedule of Environmental Mitigation Measures Leighton – China State J.V.

Appendix C – Environmental Mitigation Implementation Schedule

EIA Ref.	Recommended Mitigation Measures	Who to implement the measures?	Location of the measure
Construct	ion Dust Impact		
Construct	ion Phase		
S3.6.5	Four times a day watering of the work site with active operations	Contractor	Works areas
S3.8.1	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 minimise cumulative dust impacts.	Contractor	Works areas
	 Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition; 		
	Watering during excavation and material handling;		
	 Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and 		
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		
/	 Dust suppression measures (con't) De-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement The portion of any road where along the site boundary should be kept clear of dusty materials. Use of frequent watering for any dusty construction process (e.g. breaking works) to reduce dust emissions. 	Contractor	Works areas
/	 Emission from Vehicles and Plants All vehicles shall be shut down in intermittent use. Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke. All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD) 	Contractor	Works areas
Airborne I	Noise Impact		
Construct	ion Phase		
S4.9.4	 Good Site Practice: Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program. Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program. Mobile plant, if any, shall be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum. Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from onsite construction activities. 	Contractor	Works areas

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	When to implement the measures?	Implementation Status
1		
	Construction phase	V
	Construction phase	
		V
		@
		V
		V
_	Construction phase	
		V V
		V V
	Construction phase	
		V
		V
		V
	Construction phase	V
		V
		V
		V
		V
		V

Leighton – China State J.V.

Appendix C – Environmental Mitigation Implementation Schedule

EIA Ref.	Recommended Mitigation Measures	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
For DP1 –	CWB (Within the Project Boundary)				
S4.8.3 – S4.8.5	Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: Slip road 8 tunnel Construction of diaphragm wall and substructures of the tunnel approach ramp Excavation Construction of slabs Backfill Demolition and construction of substructures for the IEC Demolition works of existing piers and crossheads of the marine section of the existing IEC Use of PME grouping for the following tasks: At-grade roadwork 	Contractor	Works areas	Construction phase	N/A V V V/A N/A N/A V N/A
	Substructure for IECL connection				IN/A
54.8.3 – 54.8.4	WDII Major Roads (Road P2) Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks: • Temporary road diversion • Resurfacing • At-grade roadwork				V V V
Water Qua	ality Impact				· · ·
Construct	ion Phase				
55.8	 Construction Runoff and Drainage: Use of sediment traps, wheel washing facilities for vehicles leaving the site, and adequate maintenance of drainage systems to prevent flooding and overflow; Permanent drainage channels shall incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC 	Contractor	Works areas	Construction phase	V V
	 PN 1/94; A sediment tank constructed from preformed individual cells of approximately 6 - 8 m³ capacity can be used for settling ground water prior to disposal; Oil interceptors shall be provided in the drainage system for the tunnels and regularly cleaned to prevent the 				V V
	 release of oils and grease into the storm water drainage system after accidental spillages. The interceptor shall have a bypass to prevent flushing during periods of heavy rain; Precautions and actions to be taken when a rainstorm is imminent or forecast, and during or after rainstorms. 				V
	 Particular attention shall be paid to the control of any silty surface runoff during storm events; On-site drainage system shall be installed prior to the commencement of other construction activities. Sediment traps shall be installed in order to minimize the sediment loading of the effluent prior to discharge; 				V V
	 All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge shall be adequately designed for the controlled release of storm flows. All sediment control measures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage shall be reinstated to its original condition when the construction work is finished or the temporary diversion is no longer required; All fuel tanks and store areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity; 				V

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AECOM

Appendix C – Environmental Mitigation Implementation Schedule

EIA Ref.	Recommended Mitigation Measures	Who to implement the measures?	Location of the measure	
	Minimum distances of 100 m shall be maintained between the storm water discharges and the existing or planned WSD flushing water intakes during construction phase			
S5.8	Sewage from Construction Work Force: Construction work force sewage discharges on site shall be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage shall be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Contractor	Works areas	
S5.8	<i>Floating Debris and Refuse:</i> Collection and removal of floating refuse shall be performed at regular intervals on a daily basis. The contractor shall be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.	Contractor	Works areas and adjacent water	
S5.8	Storm Water Discharges: Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.	Contractor	Works areas and adjacent water	
Waste Ma	nagement Implications	1		
Construct	tion Phase			
S6.7.7	 Good Site Practices: Recommendations for good site practices during the construction activities include: Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; Training of site personnel in proper waste management and chemical 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; Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). 	Contractor	Works areas	
S6.7.8	 Waste Reduction Measures: Recommendations to achieve waste reduction include: Sort C&D waste from demolition of the existing waterfront structures to recover recyclable portions such as metals. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. 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 shall be recycled. Use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&D material. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for reuse and / or recycling to minimise the quantity of waste to be disposed of to landfill. Proper storage and site practices to minimise the potential for damage or contamination of construction materials. Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	Contractor	Works areas	

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When to implement the measures?	Implementation Status
	V
Construction phase	V
Construction phase	V
 Construction phase	V
During planning and design stage, and construction stage	V
	V V V
	V V
During planning and design stage, and construction stage	V
Slage	V
	V
	V V
	V
	V
	V

Appendix C – Environmental Mitigation Implementation Schedule

IA Ref.	Recommended Mitigation Measures	Who to implement the measures?	Location of the measure	When to implement the measures?	Implementation Status
6.7.10	General Refuse: General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A licensed	Contractor	Works areas	Construction phase	V
	 waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material. A collection area shall be provided where wastes can be stored and loaded prior to removal from site. An 				V
0744	enclosed and covered area is recommended to reduce the occurrence of 'wind blow' light material.	Quality			
6.7.11	<i>Chemical Wastes:</i> After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals shall be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Contractor	Works areas	Construction phase	V
6.7.12 –	Construction and Demolition Material:	Contractor	Works areas	Construction phase	
6.7.13	 C&D material shall be sorted on-site into inert C&D material (that is, public fill) and C&D waste. All the suitable inert C&D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&D waste, such as wood, glass, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to landfill. A suitable area shall be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials. In order to monitor the disposal of public fill and C&D waste at public fill reception facilities and landfills, 				V
	 In order to monitor the disposal of public fin and C&D waste at public fin reception facilities and fardinis, respectively, and to control fly tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team undertaking the environmental monitoring and audit work. An Independent Environment Checker shall be responsible for auditing the results of the system. 				
6.7.14	Bentonite Slurry: The disposal of residual used bentonite slurry shall follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage" and listed as follows:	Contractor	Works areas	Construction phase	
	• If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis.				N/A N/A
	• If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the Technical Memorandum of Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters.				
	If the used bentonite slurry is intended to be disposed to public fill reception facilities, it will be mixed with dry soil on site before disposal.				N/A
/	Accidental spillage To prevent accidental spillage of chemicals, the following is recommended:	Contractor	Works areas	Construction phase	
	 Proper storage and handling facilities will be provided. All the tanks, containers, storage area will be bunded and the locations will be locked as far as possible from the sensitive watercourse and stormwater drains. 				V V
	 The contractor will register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities will be stored with suitable labels and warnings. Disposal of chemical wastes will be conducted in compliance with the requirements as stated in the Waste 				V
	disposal (Chemical Waste) (General) Regulation.				V
and Cont	amination Impact				
0.7.1.1	As no potential contaminative land uses were identified within the Study Area, adverse land contamination impacts associated with the construction and operation of the Project is not expected. As such, environmental protection and mitigation measures are considered not necessary and will not be covered in this EM&A Manual.	-	-	-	N/A

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Leighton – China State J.V.

Appendix C – Environmental Mitigation Implementation Schedule

EIA Ref.	A Ref. Recommended Mitigation Measures		Location of the measure	
Landscape	e and Visual			
Construct	ion Phase			
For DP1 -	CWB (Within the Project Boundary) and DP2 - WDII Major Roads (Road P2)			
Table 10.5	CM1 - Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Contractor	Works areas	
	CM2 - Existing trees to be retained on site shall be carefully protected during construction.			
	CM3 - Trees unavoidably affected by the works shall be transplanted where practical.			
	CM4 - Compensatory tree planting shall be provided to compensate for felled trees.			
	CM5 - Control of night-time lighting.			
	CM6 - Erection of decorative screen hoarding compatible with the surrounding setting.			

Legend: V = implemented;

= not implemented; Х

@ = partially implemented;

N/A = not applicable

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When to implement the measures?	Implementation Status
Construction phase	V
	N/A
	N/A
	N/A
	V
	N/A

APPENDIX D

Summary of Action and Limit Levels

Appendix D – Summary of Action and Limit Levels

Table 1 Action and Limit Levels for 24-hou	' TSP
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ID	Location	Action Level	Limit Level
CMA5b	Pedestrian Plaza	209.9 μg/m³	260 μg/m³
CMA6a	WDII PRE Site Office	207.1 μg/m ³	260 μg/m³

Table 2 Action and Limit Levels for 1-hour TSP

ID	Location	Action Level	Limit Level
CMA5b	Pedestrian Plaza	339.7 μg/m³	500 μg/m³
CMA6a	WDII PRE Site Office	333 μg/m³	500 μg/m³

Table 3Action and Limit Levels for Construction Noise(0700 – 1900 hrs of normal weekdays)

ID	Location	Action Level	Limit Level
M1a	Footbridge at EX-Wanchai Harbour Road Sports Centre	When one documented complaint is received	75 dB(A)

APPENDIX E

Calibration Certificates of Equipments

TIC	36							ALIBRATION DUE DATE:
							Janu	Jary 7, 2022
Envir	onm	ent	al					
	C1	2	çate g	/			rtion	
			Calibration	Certificati	on Information	tion		
Cal. Date:	January 7,	2021	Rootsr	meter S/N:	438320	Ta:	294	°K
Operator:	Jim Tisch					Pa:	756.4	mm Hg
Calibration	Model #:	TE-5025A	Calib	prator S/N:	0843			
		Vol. Init	Vol. Final	ΔVol.	∆Time	ΔP	ΔН]
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.3970	4.2	2.00	
	2	3	4	1	0.9930	6.4	4.00	
	4	7	8	1	0.8420	8.0	5.00	-
	5	9	10	1	0.6950	12.7	8.00	-
			D	ata Tabula	tion]
				V Total				
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$	$-)(-\frac{1510}{Ta})$		Qa	√∆Н(Та/Ра)	
	(m3)	(x-axis)	(y-axi		Va	(x-axis)	(y-axis)	
	1.0032	0.7181			0.9944	0.7118	0.8817	
	1.0003 0.9982	1.0073			0.9915	0.9985	1.2469	
	0.9972	1.1330	2.245		0.9894	1.1256	1.3941	
	0.9919	1.4272	2.840		0.9832	1.4147	1.4621	
		m=	1.999	14		m=	1.25183	
	QSTD	b=	-0.013		QA	b=	-0.00854	
		r=	0.999	91		r=	0.99991	
				Calculation	ıs	1		
			/Pstd)(Tstd/Ta)		∆Vol((Pa-∆l	P)/Pa)	
	Qstd=	Vstd/∆Time			and the second se	Va/∆Time		
		//	For subseque	ent flow rat	te calculation	ns:		
	Qstd=	1/m ((\\ \ \ \ \ \ H ($\frac{Pa}{Pstd}$ $\left(\frac{Tstd}{Ta}\right)$)-ь)	Qa=	1/m ((√∆⊢	l(Та/Ра))-b)	
		Conditions	1					
Tstd:	298.15			[RECA	IBRATION	
Pstd:		mm Hg ey			US FPA reco	mmends	nual recalibratio	n nor 1008
ΔH: calibrato			n H2O)				legulations Part 5	
ΔP: rootsme	ter manome	eter reading					Reference Meth	
Ta: actual ab							ended Particulate	
Pa: actual ba b: intercept	rometric pr	essure (mm	Hg)				re, 9.2.17, page 3	
m: slope				L				
L					414			

Tisch Environmental, Inc.

145 South Miami Avenue

Village of Cleves, OH 45002

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

AECOM Asia Company Limited <u>TSP High Volume Sampler</u> <u>Field Calibration Report</u>

tation W	DII PRE Site Of	fice	Operator:	Shum Kam Yuen	
al. Date:	16 Jul 2021		Next Due Date:	16 Sep 2021	
quipment No.:	A-001-79T	•	Serial No.	3384	
	ta da statu		Ambient Condition		
Temperature,		304.0	Pressure, Pa (mmHg)	755.1	
	, Ta (K)				<u></u>

	Orifice Transfer Standard Information						
Serial No:	843	Slope, mc	1.99914	Intercept, bc	-0.1375		
Last Calibration Date:	7 Jan 2021	mc x Qstd + bc = [DH x (Pa/760) x (298/Ta)] ^{1/2}					
Next Calibration Date:	7 Jan 2022	Qstd = {[DH x (Pa/760) x (298/Ta)] ^{1/2} -bc} / mc					

		Calibration c	of TSP Sampler	a Mitali i i i i i	a da da ta c
		Orfice		HV	S Flow Recorder
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (m ³ /min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	7.1	2.63	1.38	45.0	44.41
13	6.1	2.44	1.29	40.0	39.48
10	4.5	2.09	1.12	32.0	31.58
7	3.2	1.77	0.95	24.0	23.69
5	2.4	1.53	0.83	19.0	18.75
		Set Point	Calculation	****	
		Set Point	Calculation	·····	· · · · · · · · · · · · · · · · · · ·
				······	
From the TSP Fi	eld Calibration Cur	ve, take Qstd = 1.30m ³ /min			
		ve, take Qstd = 1.30m ³ /min "Y" value according to			
		"Y" value according to		12	
			х [(Pa/760) x (298Л	Γa)] ^{1/2}	
From the Regres	sion Equation, the	"Y" value according to		[a)] ^{1/2}	40.76
From the Regres	sion Equation, the	"Y" value according to mw x Qstd + bw = IC		Га)] ^{1/2}	40.76
From the Regres	sion Equation, the	"Y" value according to mw x Qstd + bw = IC		Γa)] ^{1/2}	40.76
From the Regres	sion Equation, the	"Y" value according to mw x Qstd + bw = IC		Γa)] ^{1/2}	40.76
From the Regres	sion Equation, the	"Y" value according to mw x Qstd + bw = IC		Ta)] ^{1/2}	40.76

QC Reviewer: WS CHAN

7

Signature:

Date: 16/07/21

C:\Old data\HVS Calibration Certificate (Existing)\60436763

AECOM Asia Company Limited <u>TSP High Volume Sampler</u> <u>Field Calibration Report</u>

WDII PRE Site Of	ice	Operator:	Shum Kam Yuen	_
15 Sep 2021		Next Due Date:	15 Nov 2021	
A-001-79T		Serial No.	3384	_
		Ambient Condition		
re, Ta (K)	303.0	Pressure, Pa (mmHg)	757.2	
		Orifice Transfer Standard Information		
	15 Sep 2021 A-001-79T	A-001-79T re, Ta (K) 303.0	15 Sep 2021 Next Due Date: A-001-79T Serial No. Ambient Condition	Mbit Hit2 Gite Gited Openation Image: Constraint of the constra

		Driffice I ransfer St	tandard information		
Serial No:	843	Slope, mc	1.99914	Intercept, bc	-0.1375
Last Calibration Date:	7 Jan 2021		mc x Qstd + bc = [[DH x (Pa/760) x (298/Ta)] ^{1/2}	
Next Calibration Date:	7 Jan 2022		Qstd = {[DH x (Pa/7	760) x (298/Ta)] ^{1/2} -bc} / mc	

			of TSP Sampler		
		Orfice		HVS	S Flow Recorder
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (m ³ /min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	7.0	2.62	1.38	45.0	44.54
13	6.0	2.42	1.28	40.0	39.60
10	4.5	2.10	1.12	33.0	32.67
7	3.1	1.74	0.94	24.0	23.76
5	2.4	1.53	0.84	20.0	19.80
Slope , mw = Correlation Coe		0.9987	Intercept, bw =	-18.	8437
Slope , mw = Correlation Coe	45.8197 efficient* =		Intercept, bw =	-18.	8437
Slope , mw = Correlation Coe	45.8197 efficient* =	check and recalibrate.	Intercept, bw =	-18,4	8437
Slope , mw = Correlation Coe *If Correlation Co	45.8197 efficient* = 	check and recalibrate.	_	-18.	8437
Slope , mw = Correlation Coe *If Correlation Co From the TSP F	45.8197 efficient* = pefficient < 0.990, of ield Calibration Cur	check and recalibrate. Set Point	_	-18.	8437
Slope , mw = Correlation Coe *If Correlation Co From the TSP F	45.8197 efficient* = pefficient < 0.990, of ield Calibration Cur	check and recalibrate. Set Point rve, take Qstd = 1.30m ³ /min	Calculation		8437
Slope , mw = Correlation Coe *If Correlation Coe From the TSP F From the Regres	45.8197 efficient* = cefficient < 0.990, of field Calibration Cur assion Equation, the	check and recalibrate. Set Point rve, take Qstd = 1.30m ³ /min "Y" value according to	x [(Pa/760) x (298/		41.14

QC Reviewer: US CHIKN

Signature: _

R

Date: 15/9/21

C:\Old data\HVS Calibration Certificate (Existing)\60436763

AECOM Asia Company Limited <u>TSP High Volume Sampler</u> <u>Field Calibration Report</u>

Station	Pedestrian Plaz	а		Operator:	Choi Wi	ng Ho	
Cal. Date:	17-Aug-21			Next Due Date:	17-Oc	et-21	
Equipment No.:	A-001-70T			Serial No.	102	73	
			Ambient Co	ondition			
Temperat	ture, Ta (K)	305	Pressure, Pa	(mmHg)	-	756.6	
		(Orifice Transfer Stan	dard Information			
Seri	al No:	843	Slope, mc	1.99914		Intercept, bc	-0.01375
Last Calib	oration Date:	07-Jan-21		c x Qstd + bc = [H]	w (Do/760) w	$(209/T_{0})1^{1/2}$	
			m	c x Qsiu + bc = [H]	x (ra/700) x	(290/1a)]	

07-Jan-22

Next Calibration Date:

		Calibration o	n i or Samplei			
		Orfice		HVS	S Flow Recorder	
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (m ³ /min) X · axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis	
18	6.9	2.59	1.30	44.0	43.39	
13	5.6	2.33	1.17	38.0	37.48	
10	4.6	2.12 ~	1.06	32.0	31.56	
7	3.6	1.87	0.94	26.0	25.64	
5	2.6	1.59	0.80	19.0	18.74	
Slope , mw =	ession of Y on X 49.5988	- 0.9996	Intercept, bw =	-21.	0863	
Slope , mw = Correlation Co	49.5988 efficient* =	- 0.9996	Intercept, bw =	-21.	0863	
Slope , mw = Correlation Co	49.5988 efficient* =	sheck and recalibrate.	_	-21.	0863	
Slope , mw = Correlation Correlation C	49.5988 efficient* = oefficient < 0.990, o	sheck and recalibrate.	Intercept, bw =	-21.	0863	
Slope , mw = Correlation Cod If Correlation C	49.5988 efficient* = oefficient < 0.990, of ield Calibration Cur	check and recalibrate. Set Point	_	-21.	0863	
Slope , mw = Correlation Cod If Correlation C	49.5988 efficient* = oefficient < 0.990, of ield Calibration Cur	check and recalibrate. Set Point ve, take Qstd = 1.30m ³ /min	 t Calculation		0863	

Remarks:					
QC Reviewer: _	WS	4-AN	Signature:	27	Date: 17/08/21

EQUIPMENT CALIBRATION RECORD

Model No Equipmen Sensitivity		le Setting:	SIBATA LD-3 A.005.09 797 CPM				-
Operator:			Mike She	k (MSKM)			-
Standard I	Equimment						
	: ation Date:	ũ			ler It Secondary Scho	ol	-
Calibration	n Result						
	Adjustment Sca Adjustment Sca					797 797	СРМ
Hour	Date	Time	Ambient	Condition	Concentration (1)	Total Count (2)	Count/
	(dd/mm/yy)		Temp (°C)	R.H.(%)	(mg/m3)		Minute ③
					Y-axis		X-axis
1	30/04/21	9:30-10:30	28.0	78	0.04950	1980	33.00
2	30/04/21	10:30-11:30	28.0	78	0.05045	2030	33.83
3	30/04/21	11:30-12:30	28.0	78	0.05250	2120	35.33
Note:		12:30-13:30 data was measu was logged by L te was calculate	aser Dust I	Monitor	an a	2310	38.50
By Linear F	Regression of Y o	n X					
	Slope (K-factor)	:	0.0015				
	Correlation coef	ficient:	0.9997				
Validity of	Calibration Reco	ord:	30-Aj	or-22			
Remarks:							
						·	

QC Reviewer: YWFmg Signature: Date: 3-May 21

EQUIPMENT CALIBRATION RECORD

Type:			Laser Dus	st Monito	r		
Manufact	urer/Brand:		SIBATA				-
Model No	.:		LD-3				-
Equipmen	t No.:		A.005.10	а			-
Sensitivity	Adjustment Sca	le Setting:	753 CPM				_
Operator:			Mike She	k (MSKM)			-
							-
Standard I	Equimment						
Equipmen	t:		High Volu	ime Samp	ler		_
Venue:			Fanling G	overnmer	nt Secondary Scho	ol	
Model No	.:		TE-5170				-
Serial No.:			3154				
Last Calibr	ation Date:		23-Apr-22	1			
Calibration	n Result		1				
	Adjustment Sca					753	СРМ
Sensitivity	Adjustment Sca	le Setting (After	Calibratio	n):		753	СРМ
r							
Hour	Date	Time	Ambient	Condition	Concentration	Total Count (2)	Count/
	(dd/mm/yy)		Temp (°C)	R.H.(%)	(mg/m3)		Minute(3)

	(dd/mm/yy)		Temp (°C)	R.H.(%)	(mg/m3)		Minute ③
					Y-axis		X-axis
1	30/04/21	9:30-10:30	28.0	78	0.04950	1945	32.42
2	30/04/21	10:30-11:30	28.0	78	0.05045	2010	33.50
3	30/04/21	11:30-12:30	28.0	78	0.05250	2110	35.17
4	30/04/21	12:30-13:30	28.0	78	0.05520	2310	38.50
Note:	(1) Monitoring	data was measu	red by Hig	h Volume	Sampler		

1 Monitoring data was measured by High Volume Sampler

(2) Total Count was logged by Laser Dust Monitor

③ Count/minute was calculated by (Total Count/60)

By Linear Regression of Y on X	
Slope (K-factor):	0.0015
Correlation coefficient:	0.9994
Validity of Calibration Record:	30-Apr-22

Remarks:

QC Reviewer:

Yuring Signature: Y Date: 3-May-21





CERTIFICATE OF CALIBRATION

Certificate No.:	20CA1019 02-01		Page	1	of	2
Item tested						
Description:	Sound Level Mete	er (Type 1)	Microphone		Preamp	
Manufacturer:	B&K	() (- · ·)	B&K		B&K	
Type/Model No.:	2250		4950		ZC0032	
Serial/Equipment No.:	3001291		3005374		23853	
Adaptors used:	-		-		-	
Item submitted by						
Customer Name:	AECOM ASIA CO	LIMITED				
Address of Customer:	-					
Request No.:	-					
Date of receipt:	19-Oct-2020					
Date of test:	22-Oct-2020					
Reference equipment	used in the calib	ration				
Description:	Model:	Serial No.	Expiry Date:		Traceabl	e to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2021		CIGISME	0
Signal generator	DS 360	61227	24-Dec-2020		CEPREI	
Ambient conditions						
Temperature:	22 ± 1 °C					
Relative humidity:	55 ± 10 %					

Test specifications

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3. The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Feng Jung

Date: 23-Oct-2020

Company Chop:

Comments: The results 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. The results apply to the item as received.

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Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



综合試驗有限公司 SOILS & MATERIALS ENGINEERING CO., LTD. 香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong

Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

20CA1019 02-01

Page

of

2

2

1, Electrical Tests

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

A C Lin	Pass Pass	0.3	
C Lin		0.0	
Lin	1 400	0.8	
	Pass		
At reference range. Step 5 dB at 4 kHz			
[10] March M. K. Kanada and M. M. Kanada and K. Kanada and K Kanada and K. Kanada and K. Kana Kanada and K. Kanada and K. Kanad Kanada and K. Kanada and			
5			
	Pass		
9	Pass		
A	Pass		
С	Pass		
Lin	Pass		
Single Burst Fast	Pass		
Single Burst Slow	Pass	0.3	
Single 100µs rectangular pulse	Pass	0.3	
Crest factor of 3	Pass	0.3	
Single burst 5 ms at 2000 Hz	Pass	0.3	
Repeated at frequency of 100 Hz	Pass	0.3	
1 ms burst duty factor 1/10 ³ at 4kHz	Pass	0.3	
The second s			
-			
SPL			
Leq	Pass	0.4	
	At reference range , Step 5 dB at 4 kHz Reference SPL on all other ranges 2 dB below upper limit of each range 2 dB above lower limit of each range At reference range , Step 5 dB at 4 kHz A C Lin Single Burst Fast Single Burst Slow Single 100 μ s rectangular pulse Crest factor of 3 Single burst 5 ms at 2000 Hz Repeated at frequency of 100 Hz 1 ms burst duty factor 1/10 ³ at 4kHz 1 ms burst duty factor 1/10 ⁴ at 4kHz Single burst 10 ms at 4 kHz Single burst 10 ms at 4 kHz	At reference range , Step 5 dB at 4 kHzPassReference SPL on all other rangesPass2 dB below upper limit of each rangePass2 dB above lower limit of each rangePass2 dB above lower limit of each rangePassA reference range , Step 5 dB at 4 kHzPassAPassCPassLinPassSingle Burst FastPassSingle Burst SlowPassSingle Burst SlowPassCrest factor of 3PassSingle burst 5 ms at 2000 HzPassRepeated at frequency of 100 HzPass1 ms burst duty factor 1/10 ³ at 4kHzPassSingle burst 10 ms at 4 kHzPassSingle burst 10 ms at 4 kHzPassSpLPass	At reference range , Step 5 dB at 4 kHzPass0.3Reference SPL on all other rangesPass0.32 dB below upper limit of each rangePass0.32 dB above lower limit of each rangePass0.32 dB above lower limit of each rangePass0.3At reference range , Step 5 dB at 4 kHzPass0.3CPass0.3CPass0.3LinPass0.3Single Burst FastPass0.3Single Burst SlowPass0.3Single burst SlowPass0.3Single burst 5 ms at 2000 HzPass0.3Repeated at frequency of 100 HzPass0.31 ms burst duty factor 1/10 ³ at 4kHzPass0.31 ms burst duty factor 1/10 ⁴ at 4kHzPass0.3Single burst 10 ms at 4 kHzPass0.4SPLPass0.3

2, Acoustic tests

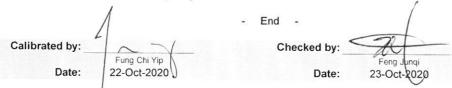
The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertanity (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.



The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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Form No.CARP152-2/Issue 1/Rev.C/01/02/2007





CERTIFICATE OF CALIBRATION

21CA0309 02			Page	1 of 2	
	(Type 1)	,	Microphone	Pream	
		,			
		,			
2644597		,	2879980	29398	
-		,	-	-	
AECOM ASIA CO	LTD				
-					
-					
09-Mar-2021					
22-Mar-2021					
used in the calibr	ation				
Model:	Serial No.		Expiry Date:	Traceable to:	
B&K 4226	2288444		23-Aug-2021	CIGISMEC	
DS 360	33873		19-May-2021	CEPREI	
22 ± 1 °C					
55 ± 10 %					
	B & K 2270 2644597 - AECOM ASIA CO - - 09-Mar-2021 22-Mar-2021 used in the calibr Model: B&K 4226	2270 2644597 - AECOM ASIA CO LTD - - 09-Mar-2021 22-Mar-2021 used in the calibration Model: Serial No. B&K 4226 2288444	B & K 2270 2644597 - AECOM ASIA CO LTD - 09-Mar-2021 22-Mar-2021 used in the calibration Model: Serial No. B&K 4226 2288444	B & K 2270 , 4950 2644597 , 2879980 	B & K B & K B & K 2270 4950 ZC0032 2644597 2879980 29398 - - - AECOM ASIA CO LTD - - - - - 09-Mar-2021 - - used in the calibration Expiry Date: Traceable to: B&K 4226 2288444 23-Aug-2021 CIGISMEC

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2. The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of <u>+</u>20%.
- The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Feng Jungi

24-Mar-2021 Company Chop:



Comments: The results 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. The results apply to the item as received.

Date:

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Form No.CARP152-1/Issue 1/Rev.C/01/02/2007



SUILS & MATERIALS ENGINEERING CO., LTD. 香港新界葵涌永基路22-24號好爸爸創科大廈

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

21CA0309 02

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Page

1, Electrical Tests

The electrical tests were perfomed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Uncertanity (dB) / Coverage Factor
Self-generated noise	А	Pass	0.3
	С	Pass	1.0 2.1
	Lin	Pass	2.0 2.2
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3
	Reference SPL on all other ranges	Pass	0.3
	2 dB below upper limit of each range	Pass	0.3
	2 dB above lower limit of each range	Pass	0.3
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3
Frequency weightings	A	Pass	0.3
	С	Pass	0.3
	Lin	Pass	0.3
Time weightings	Single Burst Fast	Pass	0.3
	Single Burst Slow	Pass	0.3
Peak response	Single 100µs rectangular pulse	Pass	0.3
R.M.S. accuracy	Crest factor of 3	Pass	0.3
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3
	Repeated at frequency of 100 Hz	Pass	0.3
Time averaging	1 ms burst duty factor 1/10 ³ at 4kHz	Pass	0.3
	1 ms burst duty factor 1/10 ⁴ at 4kHz	Pass	0.3
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4
Overload indication	SPL	Pass	0.3
	Leq	Pass	0.4

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Uncertanity (dB) / Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3
	Weighting A at 8000 Hz	Pass	0.5

3, Response to associated sound calibrator

N/A

The uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95 %. A coverage factor of 2 is assumed unless explicitly stated.

End Calibrated by: Checked by Fung Chi Yip Chan Yuk Yiu Date: 22-Mar-2021 Date: 24-Mar-2021

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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Form No.CARP152-2/Issue 1/Rev.C/01/02/2007



香港新界葵涌永基路22-24號好爸爸創科大廈 Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



CERTIFICATE OF CALIBRATION

Certificate No.:	20CA1006 03		Page:	1 of	2
Item tested					
Description:	Acoustical Calibr	ator (Class 1)			
Manufacturer:	Rion Co., Ltd.				
Type/Model No.:	NC-74				
Serial/Equipment No.:	34246490 / N.00	4.10			
Adaptors used:	-				
Item submitted by					
Curstomer:	AECOM ASIA CO	O LIMITED			
Address of Customer:	-				
Request No.:	-				
Date of receipt:	06-Oct-2020				
Date of test:	12-Oct-2020				
Reference equipment	used in the cali	bration			
Description:	Model:	Serial No.	Expiry Date:	Tracea	able to:
Lab standard microphone	B&K 4180	2412857	11-May-2021	SCL	
Preamplifier	B&K 2673	2743150	03-Jun-2021	CEPR	EI
Measuring amplifier	B&K 2610	2346941	03-Jun-2021	CEPR	EI
Signal generator	DS 360	33873	19-May-2021	CEPR	EI
Digital multi-meter	34401A	US36087050	19-May-2021	CEPR	EI
Audio analyzer	8903B	GB41300350	18-May-2021	CEPR	EI
Universal counter	53132A	MY40003662	18-May-2021	CEPR	El
Ambient conditions					
.					

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

R Feng Jungi

Date: 12-Oct-2020

Company Chop:

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

20CA1006 03

		1000000	
Page:	2	of	2
raye.	4	01	~

1. Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

			(Output level in dB re 20 µPa)
Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level	Estimated Expanded Uncertainty
1000	94.00	94.10	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz	STF = 0.017 dB
Estimated expanded uncertainty	0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

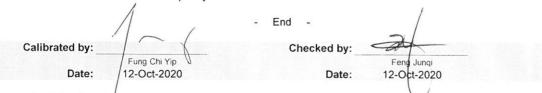
At 1000 Hz	Actual Frequency = 1002.1 Hz	
Estimated expanded uncertainty	0.1 Hz	Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz	TND = 1.6%
Estimated expanded uncertainty	0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.



The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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CERTIFICATE OF CALIBRATION

Certificate No.:	20CA1019 02-02		Page:	1 of	2					
Item tested										
Description:	Acoustical Calibra	tor (Class 1)								
Manufacturer:	B & K									
Type/Model No.:	4231									
Serial/Equipment No.:	3014024 / N004.0	4								
Adaptors used:	-									
Item submitted by	2									
Curstomer:	AECOM ASIA CC	AECOM ASIA CO LIMITED								
Address of Customer:	-									
Request No.:	-									
Date of receipt:	19-Oct-2020	19-Oct-2020								
Date of test:	22-Oct-2020									
Reference equipment	used in the calib	oration								
				-	100 Mar 1979					
Description:	Model:	Serial No.	Expiry Date:	Trace	able to:					
Lab standard microphone	Model: B&K 4180	Serial No. 2341427	Expiry Date: 11-May-2021	Trace SCL	able to:					
Lab standard microphone Preamplifier	B&K 4180 B&K 2673			C						
Lab standard microphone Preamplifier Measuring amplifier	B&K 4180 B&K 2673 B&K 2610	2341427 2743150 2346941	11-May-2021 03-Jun-2021 03-Jun-2021	SCL	EI					
Lab standard microphone Preamplifier Measuring amplifier Signal generator	B&K 4180 B&K 2673 B&K 2610 DS 360	2341427 2743150 2346941 33873	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021	SCL CEPR CEPR CEPR	:EI :EI					
Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter	B&K 4180 B&K 2673 B&K 2610 DS 360 34401A	2341427 2743150 2346941 33873 US36087050	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021	SCL CEPR CEPR CEPR CEPR	:El :El :El					
Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer	B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	2341427 2743150 2346941 33873 US36087050 GB41300350	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021 18-May-2021	SCL CEPR CEPR CEPR CEPR CEPR	2E1 2E1 2E1 2E1 2E1 2E1					
Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer	B&K 4180 B&K 2673 B&K 2610 DS 360 34401A	2341427 2743150 2346941 33873 US36087050	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021	SCL CEPR CEPR CEPR CEPR	2E1 2E1 2E1 2E1 2E1 2E1					
Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter	B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	2341427 2743150 2346941 33873 US36087050 GB41300350	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021 18-May-2021	SCL CEPR CEPR CEPR CEPR CEPR	2E1 2E1 2E1 2E1 2E1 2E1					
Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer Universal counter	B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	2341427 2743150 2346941 33873 US36087050 GB41300350	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021 18-May-2021	SCL CEPR CEPR CEPR CEPR CEPR	2E1 2E1 2E1 2E1 2E1 2E1					
Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer Universal counter Ambient conditions	B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B 53132A	2341427 2743150 2346941 33873 US36087050 GB41300350	11-May-2021 03-Jun-2021 03-Jun-2021 19-May-2021 19-May-2021 18-May-2021	SCL CEPR CEPR CEPR CEPR CEPR	2E1 2E1 2E1 2E1 2E1 2E1					

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

Feng Jungi

23-Oct-2020 Company Chop:

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument. The results apply to the item as received.

Date:

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

20CA1019 02-02

Page: 2 2

1. Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

Frequency	Output Sound Pressure	Measured Output	Estimated Expanded
Shown	Level Setting	Sound Pressure Level	Uncertainty
Hz	dB	dB	dB
1000	94.00	93.98	0.10

Sound Pressure Level Stability - Short Term Fluctuations 2.

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz	STF = 0.014 dB
Estimated expanded uncertainty	0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz	Actual Frequency = 1000.0 Hz	
Estimated expanded uncertainty	0.1 Hz	Coverage factor k = 2.2

4, **Total Noise and Distortion**

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz	TND = 0.5 %
Estimated expanded uncertainty	0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

	Λ	- End -	/
Calibrated by:	1~~~	Checked by:	alt
	Fung Chi Yip		Feng Junqi
Date:	22-Oct-2020	Date:	23-Oct-2020
	1		

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

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APPENDIX F

EM&A Monitoring Schedules

Shatin to Central Link 1123 - CEDD Entrusted Work Road P2 & other roads and Slip Road 3 Tentative Impact Monitoring Schedule for September 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Sep	2-Sep	3-Sep	4-Sep
						24-hour TSP
5-Sep	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep
	1-hour TSP			Noise	24-hour TSP	1-hour TSP
12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep
			Noise	24-hour TSP	1-hour TSP	
19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep
		24-hour TSP Noise		1-hour TSP		
26-Sep	27-Sep	28-Sep	29-Sep	30-Sep		
	24-hour TSP Noise	1-hour TSP				

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

 Noise Monitoring Station

 M1a
 Footbridge for Ex-Harbour Road Sports Centre

CMA5b Pedestrian Plaza CMA6a WDII PRE site office

Monitoring Frequency

Monitoring Frequency

24-hr TSP Once every 6 days1-hr TSP 3 times every 6 days (as required in of complaints)

Once per week

Shatin to Central Link 1123 - CEDD Entrusted Work Road P2 & other roads and Slip Road 3 Tentative Impact Monitoring Schedule for October 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Oct	2-Oct
						Air Quality
3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct
	1-hour TSP			Noise	Air Quality	1-hour TSP
10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
			Air Quality Noise		1-hour TSP	
17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct
		Air Quality	1-hour TSP	Noise		
24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct
	Air Quality Noise	1-hour TSP				Air Quality
31-Oct						

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

Pedestrian Plaza

Noise Monitoring Station

CMA5b CMA6a WDII PRE site office

Footbridge for Ex-Harbour Road Sports Centre M1a

Monitoring Frequency

Monitoring Frequency

Once per week

24-hr TSP Once every 6 days 1-hr TSP 3 times every 6 days (as required in of complaints)

Shatin to Central Link 1123 - CEDD Entrusted Work Road P2 & other roads and Slip Road 3 Tentative Impact Monitoring Schedule for November 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Nov	2-Nov	3-Nov	4-Nov	5-Nov	6-Nov
	1-hour TSP	Noise			Air Quality	1-hour TSP
7-Nov	8-Nov	9-Nov	10-Nov	11-Nov	12-Nov	13-Nov
				Air Quality Noise	1-hour TSP	
14-Nov	15-Nov	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov
			Air Quality Noise	1-hour TSP		
21-Nov	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov
		Air Quality				
28-Nov	29-Nov	30-Nov				
	Air Quality	1-hour TSP				

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

Noise Monitoring Station

CMA5b Pedestrian Plaza CMA6a WDII PRE site office

M1a Footbridge for Ex-Harbour Road Sports Centre

Monitoring Frequency

Monitoring Frequency

24-hr TSP Once every 6 days1-hr TSP 3 times every 6 days (as required in of complaints)

Monitoring Freque

Once per week

Shatin to Central Link 1123 - CEDD Entrusted Work Road P2 & other roads and Slip Road 3 **Tentative Impact Monitoring Schedule for December 2021**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
			1-Dec	2-Dec	3-Dec	4-Dec	
			Noise			Air Quality	
5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec	11-Dec	
	1-hour TSP	Noise			Air Quality	1-hour TSP	
12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec	18-Dec	
	Noise			Air Quality	1-hour TSP		
19-Dec	20-Dec	21-Dec	22-Dec	22-Dec 23-Dec		25-Dec	
		Air Quality Noise	1-hour TSP		Air Quality		
26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec		
		1-hour TSP		Air Quality Noise			

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Air Quality Monitoring Station

Noise Monitoring Station Footbridge for Ex-Harbour Road Sports Centre

CMA5b Pedestrian Plaza CMA6a WDII PRE site office

Monitoring Frequency

Monitoring Frequency

24-hr TSP Once every 6 days 1-hr TSP 3 times every 6 days (as required in of complaints)

Once per week

M1a

APPENDIX G

Air Quality Monitoring Results and their Graphical Presentations

Appendix G Air Quality Monitoring Results

24-hour TSP Monitoring Results at Station CMA5b (Pedestrain Plaza)

Start End		End Weather		Air	Atmospheric	spheric Flow Rate (m ³ /min.)		Av. flow	Total vol.	Filter Weight (g)		Particulate El		se Time	Sampling	Conc.	
Date	Time	Date	Time	Condition	Temp. (°C)	Pressure (hPa)	Initial	Final	(m³/min)	(m³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m³)
4-Sep-21	0:00	5-Sep-21	0:00	Sunny	29.8	1008.3	1.34	1.34	1.34	1928.2	2.6699	2.7172	0.0473	27335.01	27359.01	24.00	24.5
10-Sep-21	0:00	11-Sep-21	0:00	Fine	30.5	1008.3	1.34	1.34	1.34	1928.2	2.6824	2.7940	0.1116	27359.01	27383.01	24.00	57.9
16-Sep-21	0:00	17-Sep-21	0:00	Fine	29.2	1009.4	1.34	1.34	1.34	1928.2	2.6860	2.7791	0.0931	27383.01	27407.01	24.00	48.3
21-Sep-21	0:00	22-Sep-21	0:00	Sunny	29.0	1009.5	1.34	1.34	1.34	1928.2	2.6897	2.7654	0.0757	27407.01	27431.01	24.00	39.3
27-Sep-21	0:00	28-Sep-21	0:00	Sunny	29.5	1010.8	1.34	1.34	1.34	1928.2	2.6855	2.7990	0.1135	27431.01	27455.01	24.00	58.9
																Average	45.8
																Minimum	24.5
																Maximum	58.9

24-hour TSP Monitoring Results at Station CMA6a (WDII PRE site office)

5	Start	End		Weather	Air	Atmospheric	Flow Rat	e (m ³ /min.)	Av. flow	Total vol.	Filter W	eight (g)	Particulate	Elapse Time		Sampling	Conc.
Date	Time	Date	Time	Condition	Temp. (°C)	Pressure (hPa)	Initial	Final	(m³/min)	(m ³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m³)
4-Sep-21	0:00	5-Sep-21	0:00	Sunny	29.8	1008.3	1.33	1.33	1.33	1921.0	2.6794	2.6992	0.0198	10080.39	10104.39	24.00	10.3
10-Sep-21	0:00	11-Sep-21	0:00	Fine	30.5	1008.3	1.33	1.33	1.33	1921.0	2.6741	2.7346	0.0605	10104.39	10128.39	24.00	31.5
16-Sep-21	0:00	17-Sep-21	0:00	Fine	29.2	1009.4	1.33	1.33	1.33	1921.0	2.6795	2.7504	0.0709	10128.39	10152.39	24.00	36.9
21-Sep-21	0:00	22-Sep-21	0:00	Sunny	29.0	1009.5	1.33	1.33	1.33	1921.0	2.6995	2.7596	0.0601	10152.39	10176.39	24.00	31.3
27-Sep-21	0:00	28-Sep-21	0:00	Sunny	29.5	1010.8	1.33	1.33	1.33	1921.0	2.6957	2.7767	0.0810	10176.39	10200.39	24.00	42.2
					•			•	•	•	•		•			Average	30.4

Average	30.4
Minimum	10.3
Maximum	42.2

Appendix G Air Quality Monitoring Results

Date	Start Time (hh:mm)	Weather Condition	1st Hour Conc. (μg/m ³)	2nd Hour Conc. (μg/m ³)	<u>3rd Hour</u> Conc. (μg/m ³)
6-Sep-21	10:05	Sunny	65.9	67.4	66.8
11-Sep-21	14:35	Sunny	65.1	66.2	63.4
17-Sep-21	13:07	Sunny	65.3	66.3	66.0
23-Sep-21	13:35	Fine	67.6	66.2	64.3
28-Sep-21	10:35	Sunny	68.2	66.8	67.7
				Average	66.2
				Min	63.4

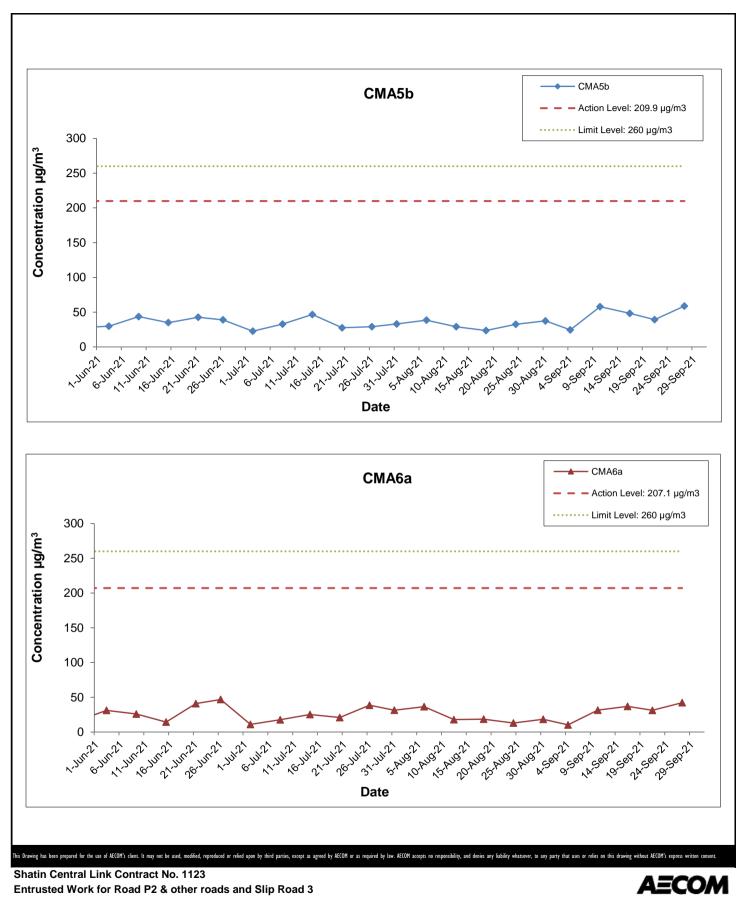
Max

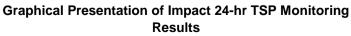
68.2

1-hour TSP Monitoring Results at Station CMA5b (Pedestrian Plaza)

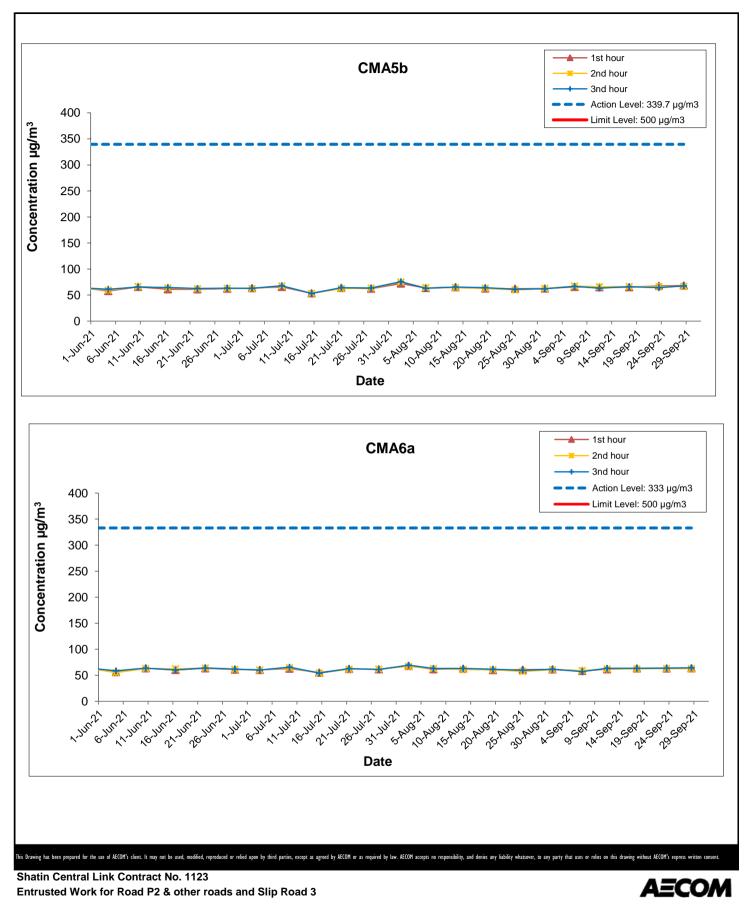
1-hour TSP Monitoring Results at Station CMA6a (WDII PRE Site Office)

	Start		1st Hour	2nd Hour	3rd Hour
	Time	Weather	Conc.	Conc.	Conc.
Date	(hh:mm)	Condition	(µg/m³)	(µg/m ³)	(µg/m ³)
6-Sep-21	10:40	Sunny	58.7	59.2	57.0
11-Sep-21	14:50	Sunny	61.8	62.2	63.4
17-Sep-21	10:30	Sunny	63.1	62.2	63.5
23-Sep-21	13:50	Fine	63.1	62.9	63.7
28-Sep-21	10:45	Sunny	63.5	62.7	64.3
				Average	62.1
				Min	57.0
				Max	64.3

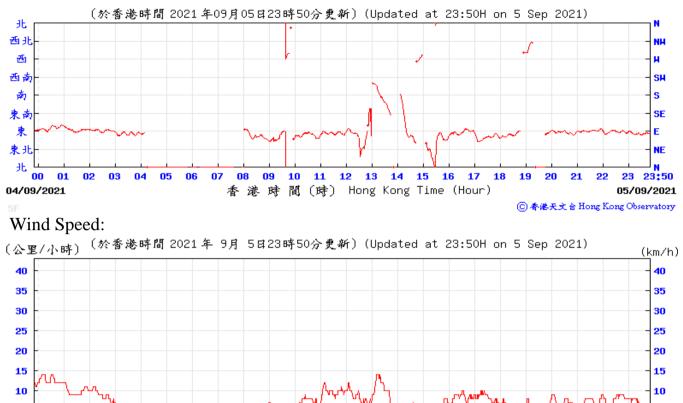




Appendix G



Graphical Presentation of Impact 1-hr TSP Monitoring Results

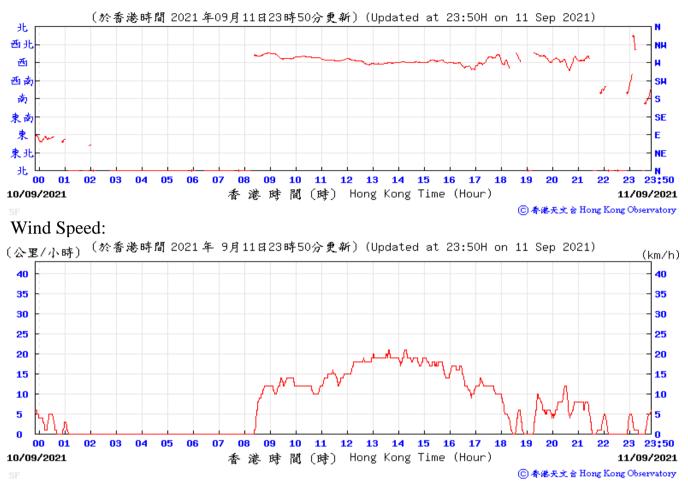


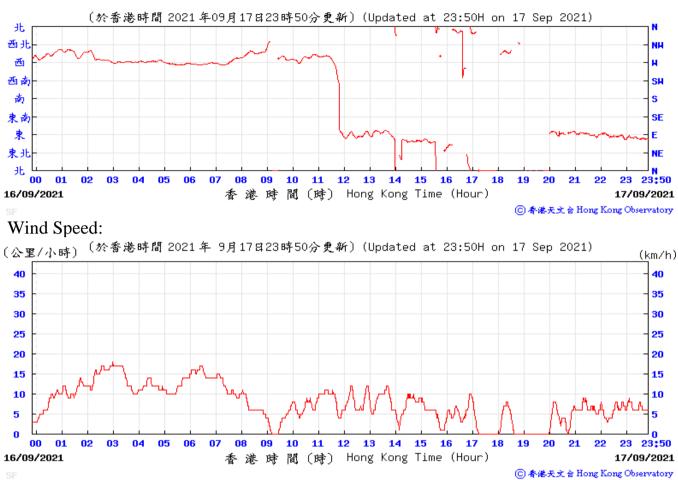
Wind Direction:

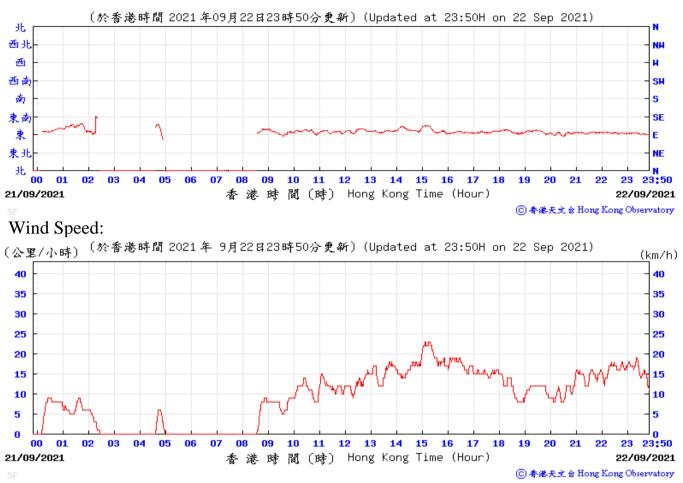
٨ŋ, ___0 23:50 香港時間(時) Hong Kong Time (Hour) 04/09/2021 05/09/2021

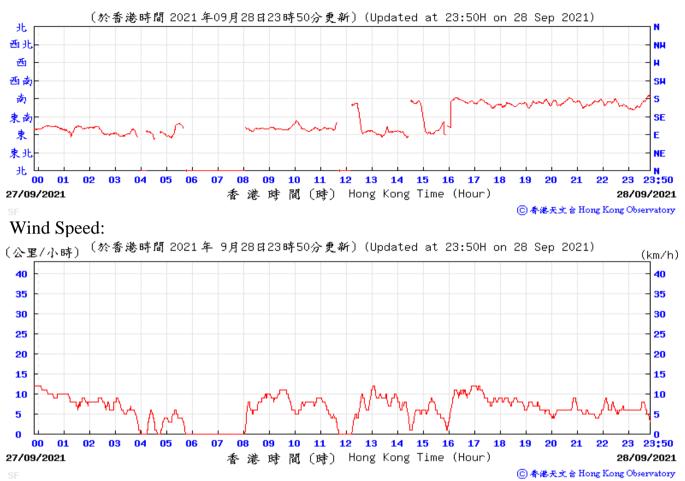
⑥ 春港天文 含 Hong Kong Observatory

SF









APPENDIX H

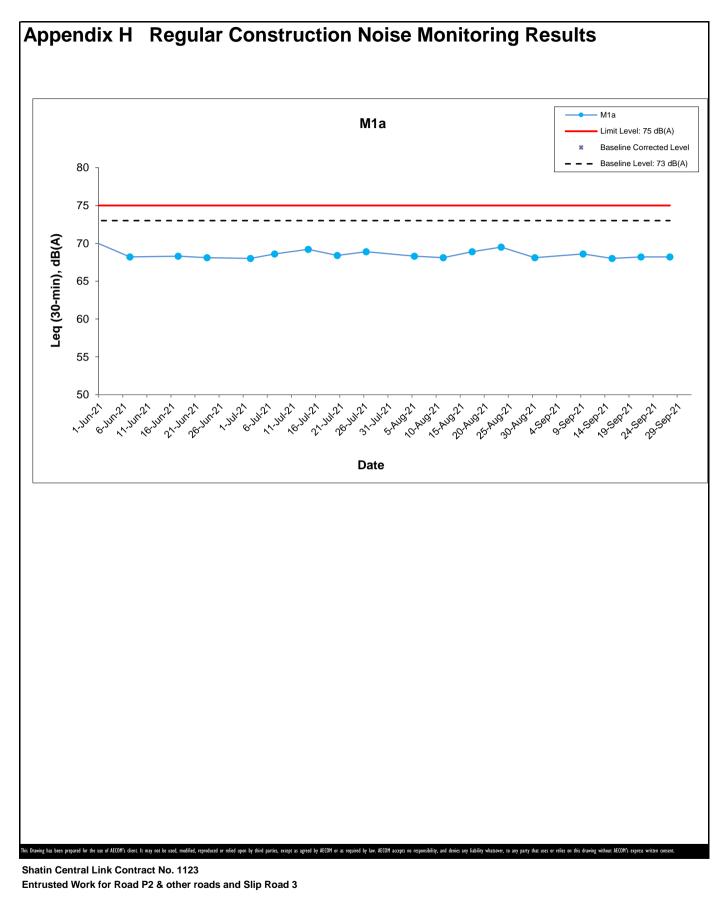
Noise Monitoring Results and their Graphical Presentations

Appendix H Regular Construction Noise Monitoring Results

Date	Weather	Noise Level for 30-min, dB(A) ⁺			Baseline Corrected	Baseline Noise	Limit Level,	Exceedance	
Duit	Condition			Level, dB(A)	Level, dB(A)	dB(A)	(Y/N)		
9-Sep-21	Sunny	14:40	66.5	69.8	68.6	<baseline< td=""><td>73.0</td><td>75</td><td>N</td></baseline<>	73.0	75	N
15-Sep-21	Sunny	11:20	66.0	69.2	68.0	<baseline< td=""><td>73.0</td><td>75</td><td>N</td></baseline<>	73.0	75	N
21-Sep-21	Sunny	14:00	65.9	70.0	68.2	<baseline< td=""><td>73.0</td><td>75</td><td>N</td></baseline<>	73.0	75	N
27-Sep-21	Sunny	14:00	66.0	69.6	68.2	<baseline< td=""><td>73.0</td><td>75</td><td>N</td></baseline<>	73.0	75	N

Daytime Noise Monitoring Results at Station M1a (Footbridge for Ex-Harbour Road Sport Centre)

⁺ - Façade measurement



Graphical Presentation of Impact Noise Monitoring Results **APPENDIX I**

Event Action Plan

Appendix I Event Action Plan

Event / Action Plan for Construction Dust Monitoring

EVENT		AC	ΓΙΟΝ		
EVENI	ET	IEC	ER	Contractor	
ACTION LEVEL	•		•	·	
Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding; Increase monitoring frequency to daily. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	 Identify source(s), investigate the causes of exceedance and propose remedial measures; Implement remedial measures; Amend working methods agreed with the ER as appropriate. 	
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and ER; If exceedance stops, cease additional monitoring. 	 Checking monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Submit proposals for remedial to ER within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 	

EVENT	ACTION									
EVENT	ET	IEC	ER	Contractor						
LIMIT LEVEL										
Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Checking monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 						
Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 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; Supervise the implementation of remedial measures. 	 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; Ensure remedial measures properly implemented; If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated. 						

Appendix I Event Action Plan

Appendix I Event Action Plan

Event and Action Plan for Construction Noise Monitoring

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

APPENDIX J

Cumulative Statistics of Exceedances, Complaints, Notification of Summons and Successful Prosecutions

Leighton – China State J.V.

Appendix J

Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

	Date Received	Subject	Status	Total no. received in this month	Total no. received since project commencement
Environmental complaints	-	-	-	0	0
Notification of summons	-	-	-	0	0
Successful Prosecutions	-	-	-	0	0

APPENDIX K

Waste Flow Table

MONTHLY SUMMARY WASTE FLOW TABLE

Contract No.:MTR SCL 1123 - Exhibition Station and Western Approach Tunnel (Road P2 Works) Reporting Month: September 2021

	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				Actual Quantities of Marine Dumping Monthly		
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. general refuse	Type 1	Type 2
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)	(in '000m ³)	(in '000m ³)
Jan	0.958	0.000	0.000	0.000	0.958	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.598	0.000	0.000	0.000	0.598	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.700	0.000	0.000	0.000	0.700	0.097	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.741	0.000	0.000	0.000	0.741	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.176	0.000	0.000	0.000	0.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.070	0.000	0.000	0.000	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	3.243	0.000	0.000	0.000	3.243	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.000
July	0.315	0.000	0.000	0.000	0.315	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
August	0.525	0.000	0.000	0.000	0.525	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
September	0.112	0.000	0.000	0.000	0.112	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000
October													
November													
December													
Total	4.195	0.000	0.000	0.000	4.195	0.148	0.000	0.000	0.000	0.000	0.012	0.000	0.000

Monthly Summary Waste Flow Table for 2021

Comments:

1) Assumption: The densities of Rock, Soil, Mixed Rock and Soil, and Regular Spoil are 2.0 ton/m³; the density of general refuse is 1.0 ton/m³; the density of waste oil is 1.0 kg/L.

2) The cut-off date of waste amount in September is 30/9/2021 for Public Fill Facilities and Landfill.

3) The amounts of waste in September is 22.34 ton for Landfill and 224.11 tons for Public Fill.

4) The amount of import fill in September is 0 ton, for cut-off date as 30/9/2021.

- 5) The amount of metal waste generated in July is 0 kg, for cut-off date as 30/9/2021.
- 6) The amount of paper waste generated in July is 0 kg, for cut-off date as 30/9/2021.
- 7) The amount of plastic waste generated in July is 0 kg, for cut-off date as 30/9/2021.