

Contract No. HY/2014/05 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Remaining Ancillary Buildings and Facilities
Notifications of Environmental Quality Limits Exceedances Notification No.: 20171128_Air_24hr_v1

Date of Investigation Report: 13 December 2017

Date of Environmental Quality Limit Exceedance: 28 November 2017 and the results were issued on 6 December 2017

Monitoring Location: AMS3B – Site Boundary of Site Office Area at Work Area WA2 (The air quality monitoring station for the Contract is covered by Contract No. HY/2013/01 HZMB HKBCF – Passenger Clearance Building)

Monitoring Date: 28 November 2017 **Start Time:** 08:00

Action & Limit Level (AL & LL) / Measured Level:

PARAMETER	STATION	AL ($\mu\text{g}/\text{m}^3$)	LL ($\mu\text{g}/\text{m}^3$)	MEASURED LEVEL, $\mu\text{g}/\text{m}^3$
24-hr TSP	AMS3B – Site Boundary of Site Office Area at Works Area WA2	167	260	168

Notes: ***Bold Italic*** means AL exceedance
Bold Italic with underline means LL exceedance

Possible reason for Action / Limit Level Non-compliance:

On 28 November 2017, one AL exceedance of 24-hr TSP at AMS3B was recorded.

Based on the information from the Contractor, the construction works undertaken on 28 and 29 November 2017 are shown as below:

- ABWF & MEP works (Internal) of Buildings 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053, 058
- ABWF works (external) of Buildings 021, 022, 023, 025, 032, 044, 045, 050H1, 050H2, 050A1, 050A2, 053, 058
- ABWF works (roof) of Buildings 021, 022, 023, 032, 044, 050H1, 050H2, 050A1, 050A2, 053
- Utilities and Drainage installation of Buildings 023, 025, 032, 045, 050H1, 050H2, 050A1
- Construction of Planter Box and Ramp of Building 023

The Contractor confirmed that the mitigation measures according to Water Spraying Plan in November 2017 (Appendix A) are implemented to avoid dust emission. Photos of haul road condition and dust suppression are included in Appendix A. The Contractor has provided the guideline to remind the site vehicles travel within speed limit of 8km/hr. According to site inspection which conducted on 6, 15, 20 and 27 November 2017, no dusty activities and dry condition in haul road were observed.

The Air Quality Health Index (AQHI) of Tung Chung station with the wind data from the on-site wind station are shown in Appendix B. The hourly AQHI of Tung Chung station ranged 3 to 8 (Low to Very High) on 28 and 29 November 2017 during monitoring period. According to the wind data at on-site wind station, no prevailing wind direction was found in the monitoring period. The RABF site of HKBCF is far away from AMS3B (more than 1km). No potential dust source was observed near the monitoring station at AMS3B during the monitoring period.

Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

The Water Spraying Plan including the information of watering schedule, routing of trucks of for watering and the location of water filling, was prepared and submitted to RE and ENPO. The Contractor was also reminded to implement all necessary mitigation as specified in EIA (Section 5.5.6.3), EM&A Manual (EM&A Log Ref: A3), EMP, Method Statements, General and Particular Specifications of this Project to minimize the potential dust impact during construction activities.

Prepared by: Ruby Law Title: Environmental Team Representative

Signature:  Date: 13 December 2017

Checked by: Keith Chau Title: Environmental Team Leader

Signature:  Date: 13 December 2017

Copied to : Contractor, Engineer Representative and IEC/ENPO



**Contract No. HY/2014/05
Hong Kong – Zhuhai – Macao – Bridge
Boundary Crossing Facility – Remaining Ancillary Buildings and Facilities**

Watering Plan for November 2017

Water Truck License Plate Number: PJ9039, SE4312

Capacity of a Water Truck: 15000L

Volume of water/ distance needed to water spraying: = 7.3 L/m

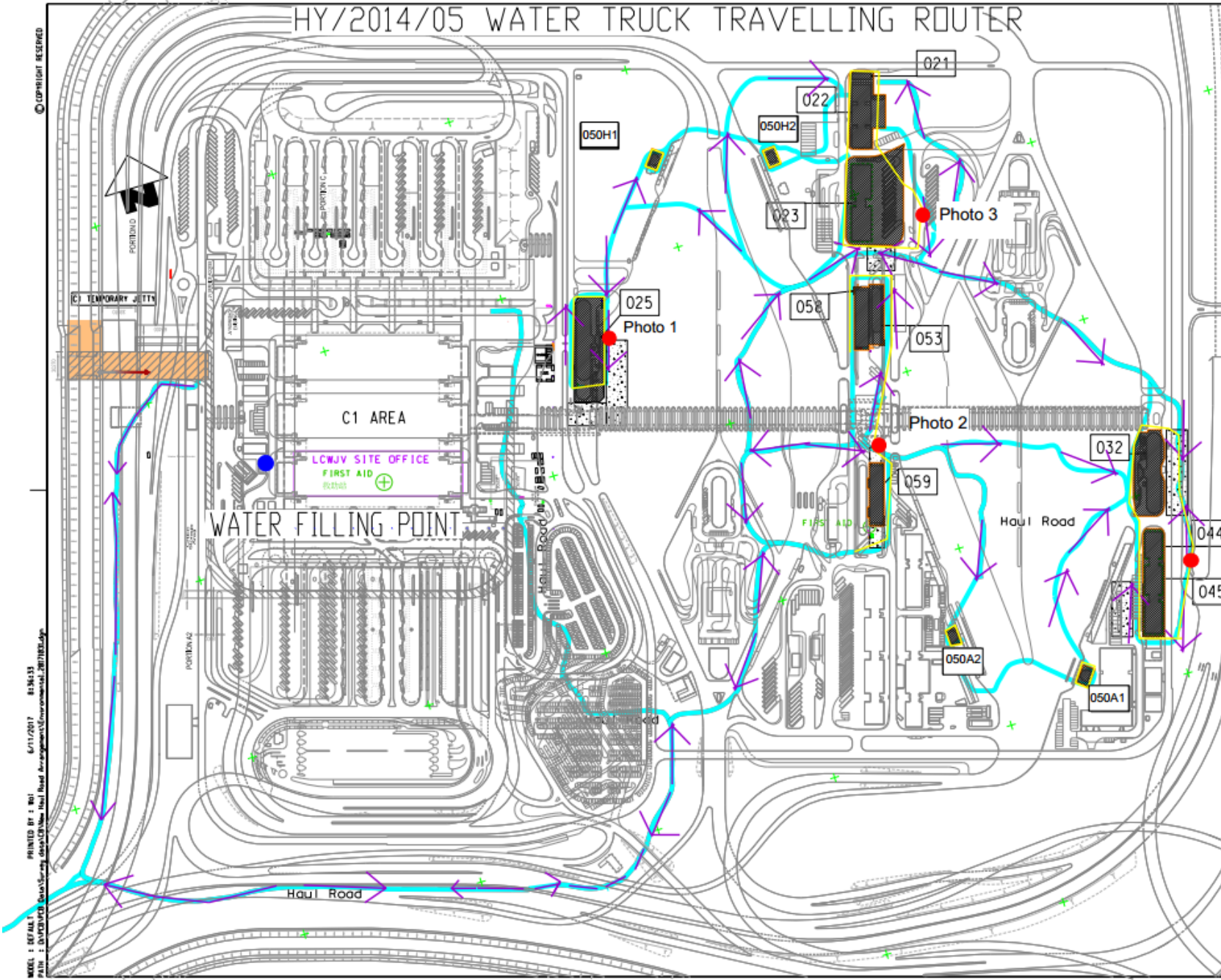
Water Truck could spray 15000L in one 59 minutes trip.

Planned Schedule of Watering Spraying by Water Truck

Cycle	Truck No.	Time of water spraying
1	PJ9039	08:00 – 09:15
2	SE4312	09:15 – 10:30
3	PJ9039	10:30 – 11:45
4	SE4312	13:00 – 14:15
5	PJ9039	14:15 – 15:30
6	SE4312	15:30 – 16:45
7	PJ9039	16:45 – 18:00
8	SE4312	18:00 – 19:00

HY/2014/05 WATER TRUCK TRAVELLING ROUTER

- LEGEND**
- WATER FILLING POINT
 - WORKING SPACE
 - TRAVEL ROUTE
 - ROAD WITH WATER SPRAYING BY HY/2014/05
 - HAUL ROAD OF HBCF
 - Metering Photo taken location



No.	Date	Rev.	Description	Drawn	Appr'd

Client: 香港公路局
HIGHWAYS DEPARTMENT
香港公路局
Kong Kong Highways Department

Contractor: 俊和
Leighton - Chun Wo
Joint Venture

Project Title: CONTRACT NO. HY/2014/05
HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- REMAINING ANCILLARY BUILDINGS AND FACILITIES

Design Title: ---

Design By	Approved By
Check By	Drawn By
Scale @	Date
Drawing No.	

MODEL & DEFAULT: PRINTED BY: 6/11/2017 8:36:33
 PATH: E:\WORK\2014\05\HY/2014/05\Haul Road Arrangement\Environmental\20170524.dwg

Water spraying record during TSP 24-hr monitoring on 28 and 29 November 2017

Photo 1



Photo 2



Photo 3



Photo 4



Appendix B

Date	Hour	AQHI at Tung Chung Station	Average Wind Speed (m/s) #	Average Wind Direction #
2017/11/28	8	3	0	---
2017/11/28	9	3	0	---
2017/11/28	10	3	0	---
2017/11/28	11	4	0	---
2017/11/28	12	4	0	E
2017/11/28	13	4	0	---
2017/11/28	14	5	0	---
2017/11/28	15	5	0	---
2017/11/28	16	7	0	WNW
2017/11/28	17	5 [^]	0	---
2017/11/28	18	6 [^]	0	---
2017/11/28	19	8	0	---
2017/11/28	20	7	0	E
2017/11/28	21	6	0	---
2017/11/28	22	6	0	---
2017/11/28	23	6	0	---
2017/11/29	0	5	0	---
2017/11/29	1	5	0	---
2017/11/29	2	4	0	---
2017/11/29	3	4	0	---
2017/11/29	4	4	0	---
2017/11/29	5	3 [^]	0	---
2017/11/29	6	3 [^]	0	SSE
2017/11/29	7	3	0	SSE
2017/11/29	8	3	0.4	ENE

Remark:

[^] The data collection for calculation of AQHI was affected due to station or equipment maintenance, the data of a most similar station was adopted.

#- The related wind data is obtained from the on-site wind station.

N.A. - Not available.