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JOINT USER COMPLEX AND WHOLESALE FISH MARKET AT AREA 44, TUEN MUN

ELEVENTH QUARTERLY
ENVIRONMENTAL MONITORING &
AUDIT REPORT
(FEBRUARY 2011 – APRIL 2011)

Prepared By:

ALLIED ENVIRONMENTAL CONSULTANTS LTD.

COMMERCIAL-IN-CONFIDENCE

Allied Environmental Consultants Limited

Acousticians & Environmental Engineers





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EXECUTIVE SUMMARY

Allied Environmental Consultants Limited (AEC) has been appointed to conduct an environmental monitoring and audit (EM&A) program for the Joint User Complex and Wholesale Fish Market (WFM) at Area 44, Tuen Mun.

The construction works were commenced on 31st July 2008 while major construction works of the Project were substantially completed in September 2010 and handover works were completed in November 2010, thus the EM&A programme for construction phase was terminated effective from 23rd December 2010.

The operation of the WFM was commenced on 23rd December 2010. This report is the eleventh quarterly EM&A report, which detailed the environmental monitoring and audit results recorded for operational phase during the period from 1st February 2011 to 30th April 2011.

Impact environmental monitoring for the Joint User Complex and Wholesale Fish Market at Area 44, Tuen Mun has been carried out at Yuet Wu Villa. Odour patrol and noise monitoring were conducted within the period of 0300-0630 hours. The odour intensity ratings in the reporting period were 1-No Odour. The minimum and maximum average noise level measured at Yuet Wu Villa was 49.4dB(A) L_{eq(5min)} and 64.0dB(A) L_{eq(5min)} respectively.

Based on the monitoring results, the odour patrol complied with the environmental requirements in EM&A Manual. The measured monitoring results were higher than the predicted noise levels due to the increment of noise level from ambient background noise levels. In addition, the measured noise level exceeded the limit level on 17th February 2011 and 24th March 2011. This is due to pass-by of bus during the measurement period, which is not project related.

In the reporting period, no non-compliance, complaint, inspection notice, notification of summons or prosecution was received.

There was no major change in the operation of WFM.

The odour patrol frequency was reviewed in March 2011 in accordance with EM&A Manual, Section 9.2.2. The odour monitoring shall be prolonged, which the weekly odour patrol frequency shall persist as stated in EM&A Manual.

1. PROJECT BACKGROUND

A Joint User Complex and Wholesale Fish Market (WFM Complex) at Area 44 in Tuen Mun is designed and built by Architectural Services Department on behalf of Agriculture, Fisheries and Conservation Department, Marine Department, Home Affairs Department, and Food and Environmental Hygiene Department of the Hong Kong SAR. The WFM Complex is to provide a permanent site for the relocation of the existing temporary wholesale fish market at Tuen Mun Area 27 and to accommodate a community hall, a dragon boat racing spectator stand, and other community facilities for public use. The development is a 3-storey complex to accommodate a wholesale fish market, a public toilet, a refuse collection point and a marine refuse collection point at the ground floor, a community hall on the first floor, and a dragon boat race spectator stand with landscaped deck on roof level. The Wholesale Fish Market is categorized as a designated project under the Environmental Impact Assessment Ordinance (EIAO) and therefore a detailed Environmental Impact Assessment (EIA-085/2002) has been conducted in year 2002 and an Environmental Permit (EP-296/2007) was issued by Environmental Protection Department in December 2007. The construction works were commenced on 31st July 2008. Major construction works of the Project were substantially completed in September 2010 and handover works were completed in November 2010. The EM&A programme of construction phase was terminated and the EM&A programme of operational phase was commenced effective from 23rd December 2010.

The subject site is located at Castle Peak Bay of Tuen Mun given in Figure 1. The subject site is bounded to the north by a future local open space presently used as a temporary car park, to the east by Castle Peak Bay typhoon shelter, to the south by a future lorry park and to the west by Wu Shan Road. Yuet Wu Villa being the nearest residential establishment is located at around 85m from the site boundary. Key personnel and contact particulars are summarized in Table 1.

Table 1 Contact Details of Key Personnel

Role	Department / Company	Names	Contact Number	Fax Number
Lead User Agriculture, Fisheries, and		Mr. K.H. Chan	2150 7092	2314 2866
Department	Conservation Department	Ms. Louise Li	2150 7104	
Environmental	Architecture Services	Mr. S.W. Chow	2867 3716	2523 9622
Permit Holder	Department	Ms. Rio Kwok	2867 3706	
Environmental	Allied Environmental	Ms. Grace Kwok	2815 7028	2815 5399
Team Leader	Consultants Ltd.			
Independent	Cinotech Consultants Ltd.	Dr. Priscilla Choy	2151 2089	3107 1388
Environmental				
Checker				

Issue 1 ______AEC

2. SENSITIVE RECEIVERS

Air Sensitive Receivers (ASRs) within 500m include Yuet Wu Villa, lawn bowling field, tennis court, which are less than 100m away from the subject site. Tuen Mun Wu Hong Clinic is located to the west at about 100m to the site boundary. Two secondary schools, Ka Chi Secondary School and South Tuen Mun Government Secondary School, are approximately 300m to the south of the site boundary.

Noise Sensitive Receivers (NSRs) within 300m are Yuet Wu Villa, Siu Hei Court, Yan Chai Hospital Low Chan Chor Si Primary School and Wu King Estate. The nearest NSR will be Block 15 of Yuet Wu Villa.

3. SUMMARY OF EM&A REQUIREMENT

For regular impact monitoring, odour patrol shall be carried out on a regular basis during the first year of operation. Odour patrol shall be carried out once a week during the first three months of operation of the WFM. The odour patrol frequency shall be reviewed afterwards.

According to the approved EM&A Manual, the Action and Limit Levels for operational phase odour patrol are summarized in Table 2.

<u>Table 2</u>	Action and	Limit	<u>Levels</u>	for	0	<u>perational</u>	Pha	se Oa	lour	<u>Patrol</u>	!

Parameter	Action Level	Limit Level
Perceived odour	Higher than or equal to	Level 5
intensity	Level 3	
Incidence of odour	Any incidence of	Two or more odour complaints received within one month
complaints	odour complaint	
	received	

Should non-compliance of the above Action and Limit levels occurs, the Fish Marketing Organization (FMO) shall undertake corresponding in accordance with the Event/Action Plan given in the EM&A Manual.

For noise monitoring, the operational noise level shall be measured weekly in terms of the A-weighted equivalent continuous sound pressure level (Leq). $L_{eq(5min)}$ shall be used as monitoring parameter for the period from 0300 to 0630 hours. Each set of measurement shall include at least 3 consecutive $L_{eq(5min)}$ results. As supplementary information for data auditing, statistical results such as $L_{10(5min)}$ and $L_{90(5min)}$ shall also be contained for reference.

Additional noise monitoring shall not be given for marine traffic noise. With consideration given to the selected access route, which represent the worst-scenarios in terms of distance to nearby receivers, the highest marine traffic noise levels at nearby sensitive receivers are found to be below the prevailing background noise level they are currently exposed to. The operation of the proposed WFM is not expected to generate additional marine traffic noise within the typhoon shelter and will not cause any deterioration to the existing noise climate in the vicinity of the typhoon shelter.

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From baseline monitoring results, the Action and Limit Levels for operational phase noise monitoring are summarized in Table 3.

Table 3 Action and Limit Levels for Operational Phase Noise Monitoring

Time Period	Action Level	Limit Level
All days during the night-time (2300-0700	When one documented compliant is	58dB(A)
hours)	received	

Should non-compliance of the above Action and Limit levels occurs, the Fish Marketing Organization (FMO) shall undertake corresponding in accordance with the Event Action Plan given in the EM&A Manual.

4. MONITORING METHODOLOGY

Odour patrol and noise monitoring were conducted around Yuet Wu Villa and at Block 15, Yuet Wu Villa. Appendix A displayed the detail schedule of the odour patrol and noise monitoring. The location plan of odour patrol and sniffing locations are shown in Figure 2. Noise monitoring was conducted at 1.2m above ground level in front of the residential block and at the junction of Wu Sau Street and Wu On Street as given in Figure 3.

5. RESULTS

Results of operational phase odour patrol and noise monitoring are summarized in Appendix B and Appendix C respectively. In the reporting period, the odour intensity ratings were 1-No Odour. The minimum and maximum average noise level measured at Yuet Wu Villa was 49.4dB(A) $L_{eq(5min)}$ and 64.0dB(A) $L_{eq(5min)}$ respectively. The measured monitoring results were higher than the predicted noise levels due to the increment of noise level from ambient background noise levels. In addition the measured noise level exceeded the limit level on 17^{th} February 2011 and 24^{th} March 2011. This is due to pass-by of bus during the measurement period, which is not project related. The noise exceedance reports are given in Appendix D.

6. IMPLEMENTATION OF MITIGATION MEASURES

In the operational phase, the solid and liquid waste management is not applicable. The relevant parties have implemented odour and noise mitigation measures which shall include, but not limited to the following:

- The WFM Complex (including the parking area) shall be enclosed to reduce the odour nuisance to the nearby residents;
- Contract specifications on the sound power level of mechanical ventilation system shall be followed;
- Off-route lorries shall not pass along the Wu Shan Road outside Yuet Wu Villa;
- Lorries queuing and vessel's horning shall be controlled by WFM management and AFCD.

Issue 1 ______AEC

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All environmental mitigation measures for operational stages stated in approved EIA Report, EM&A Manual and Environmental Permit was carried out throughout the whole operational period as shown in Appendix E. The environmental mitigation measures undertaken were considered adequate. There was no major change in the operation of WFM and no additional environmental mitigation measures shall be given. In the coming month, the odour patrol frequency shall be reviewed.

7. NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

In the reporting period, no non-compliance, complaint, inspection notice, notification of summons or prosecution was received.

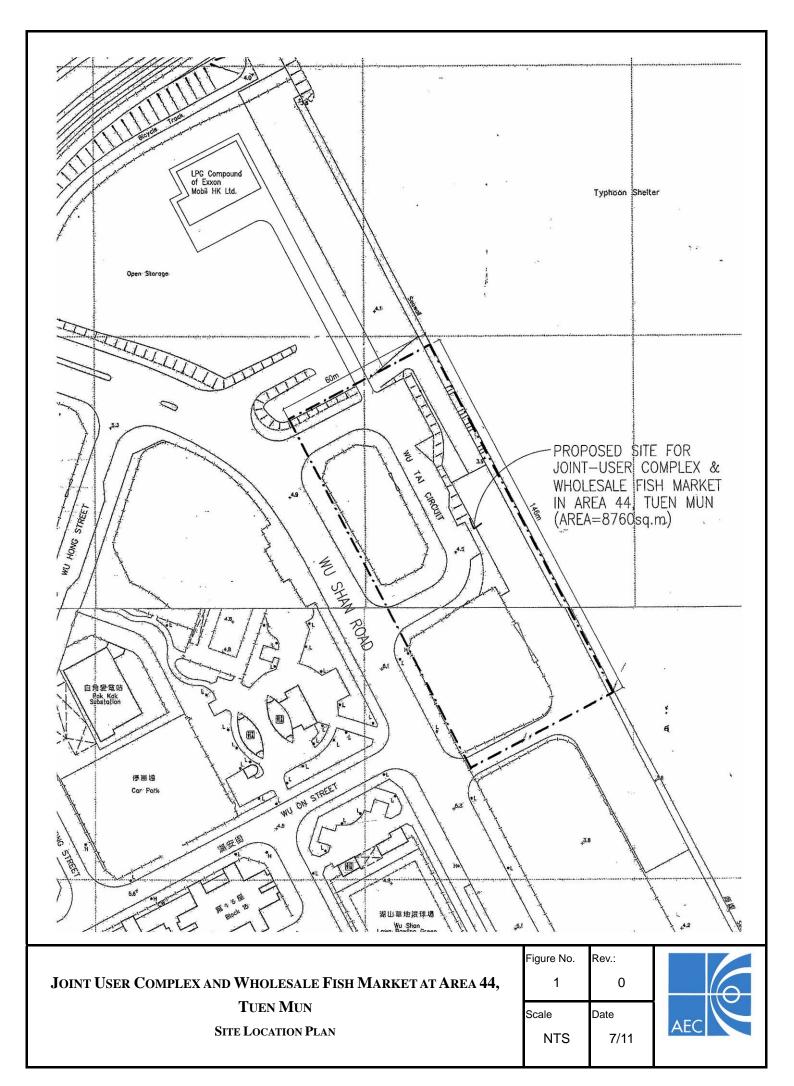
8. CONCLUSIONS

Environmental monitoring has been carried out for the Joint User Complex and Wholesale Fish Market at Area 44, Tuen Mun. Odour patrol and noise monitoring were conducted Yuet Wu Villa during the period from 1st February 2011 to 30th April 2011.

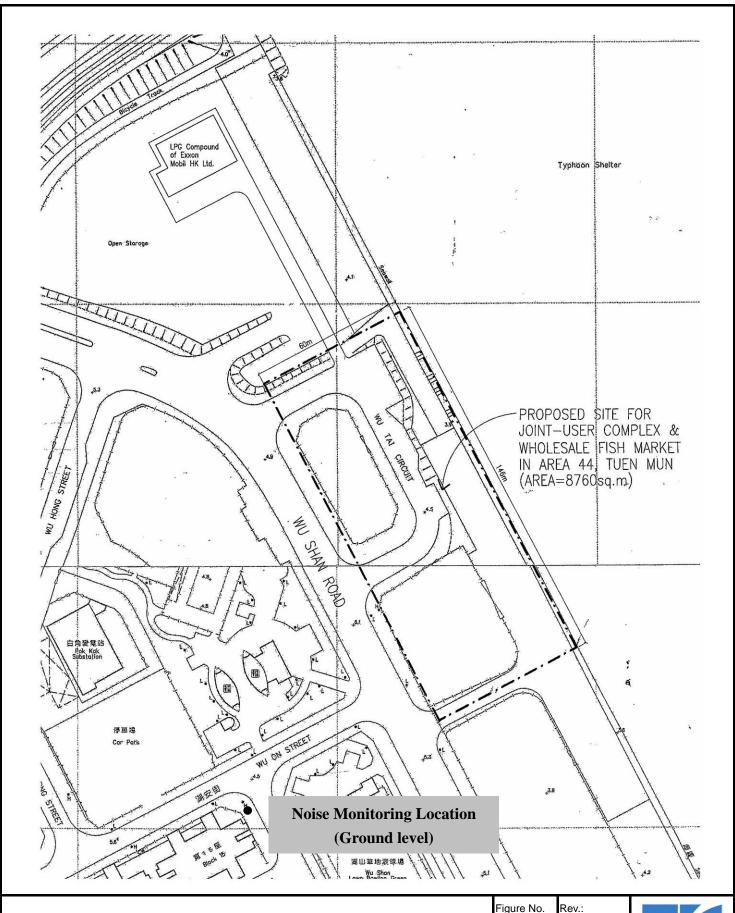
In the reporting period, the odour intensity ratings were 1-No Odour. The minimum and maximum average noise level measured at Yuet Wu Villa was 49.4dB(A) $L_{eq(5min)}$ and 64.0dB(A) $L_{eq(5min)}$ respectively. The measured monitoring results were higher than the predicted noise levels due to the increment of noise level from ambient background noise levels. In addition the measured noise level exceeded the limit level on 17^{th} February 2011 and 24^{th} March 2011. This is due to pass-by of bus during the measurement period, which is not project related.

In the reporting period, no non-compliance, complaint, inspection notice, notification of summons or prosecution was received.

The odour patrol frequency was reviewed in March 2011 in accordance with EM&A Manual, Section 9.2.2. The odour monitoring shall be prolonged, which the weekly odour patrol frequency shall persist as stated in EM&A Manual.







JOINT USER COMPLEX AND WHOLESALE FISH MARKET AT AREA 44, TUEN MUN

LOCATION OF NOISE MONITORING STATION

Figure No.	Rev.:
3	0
Scale	Date
NTS	7/11



Detail Schedule of Odour Patrol and Noise Monitoring

Schedule for odour patrol and noise monitoring of Tuen Mun Wholesale Fish Market

Monitoring schedule for the reporting period

Date	Start Time
2 nd February 2011	05:36
11 th February 2011	05:41
17 th February 2011	06:09
23 rd February 2011	05:40
5 th March 2011	05:15
8 th March 2011	05:40
14 th March 2011	05:40
24 th March 2011	05:55
2 nd April 2011	05:05
3 rd April 2011	05:08
11 th April 2011	04:15
22 nd April 2011	04:15
26 th April 2011	04:45

Tentative monitoring schedule in the coming period

Date	Start Time
2 nd May 2011	To be confirmed
14 th May 2011	To be confirmed
20 th May 2011	To be confirmed
22 nd May 2011	To be confirmed



Impact Monitoring for Fish Market Project in Tuen Mun

Operational Phase Odour Patrol
Quarter: February 2011 - April 2011

Date an	d Time	Location	Temperature (°C)	Wind Speed (m/s)	Wind Direction	Relative Humidity (%)	Personnel	Sniffing Location	Odour Intensity Rating (*)
	5:44		12.3	1.2	NE	60.1		L1	1
	5:36	1	13	1.8	N	59.3	Cheng	Location	1
0 F 1 11	6:05	Yuet Wu	12.2	1.3	N	59.3	Kam Wing	L3	1
2-Feb-11	5:44	Villa	12.3	1.2	NE	60.1		L1	1
	5:36	1	13	1.8	N	59.3	Tsui Churh Yiu	L2	1
	6:05	1	12.2	1.3	N	59.3	Yiu	L3	1
	5:58		16.8	1.4	NE	87.7		L1	1
	5:41	1	17.2	2.5	NE	76.5	Cheng Kam Wing	L2	1
11 7.1. 11	6:05	Yuet Wu	17.1	1.2	NE	88.4	Kain Wing	L3	1
11-Feb-11	5:58	Villa	16.8	1.4	NE	87.7	m : G! 1	L1	1
	5:41	1	17.2	2.5	NE	76.5	Tsui Churh Yiu	L2	1
	6:05		17.1	1.2	NE	88.4	114	L3	1
	6:18		15.3	0	-	83.2	CI	L1	1
	6:09		16.2	0.2	NE	79.8	Cheng Kam Wing	L2	1
17 Est. 11	6:25	Yuet Wu	15.3	0	-	85	Kain Wing	L3	1
17-Feb-11	6:18	Villa	15.3	0	-	83.2	T Cl. 1	L1	1
	6:09		16.2	0.2	NE	79.8	Tsui Churh Yiu	L2	1
	6:25		15.3	0	-	85	Tiu	L3	1
	5:48		17	0.5	NE	67	CI	L1	1
	5:40		16.9	0	-	68.2	Cheng Kam Wing	L2	1
23-Feb-11	6:07	Yuet Wu	16.1	0.3	NE	71	Kain wing	L3	1
23-17-011	5:48	Villa	17	0.5	NE	67	Tsui Churh	L1	1
	5:40		16.9	0	-	68.2	Yiu	L2	1
	6:07		16.1	0.3	NE	71	110	L3	1
	5:27		17.1	0.3	Е	62.9	Chana	L1 L2 L3 L3 L1 L2 L3 L1 L2 L3 L3 L4 L4 L4 L4 L5	1
	5:45		16.1	0.1	Е	65	Cheng Kam Wing	L2	1
2-Mar-11	5:34	Yuet Wu	16.3	0.5	SE	67.7	Tunn Wing	L3	1
2-14141-11	5:27	Villa	17.1	0.3	Е	62.9	Tsui Churh	L1	1
	5:45		16.1	0.1	Е	65	Yiu	L2	1
	5:34		16.3	0.5	SE	67.7		L3	1
	5:45		13.8	1.3	N	72.1	Cheng		1
	6:07		12.8	2.7	NE	77.1	Kam Wing	L2	1
8-Mar-11	6:00	Yuet Wu	13	2.9	N	77.9	g	L3	1
5 1,1u1 11	5:45	Villa	13.8	1.3	N	72.1	Tsui Churh	L1	1
	6:07	1	12.8	2.7	NE	77.1	Yiu	L2	1
	6:00		13	2.9	N	77.9		L3	1
	5:45		20.3	0.9	N	80.2	Cheng		1
	6:04		19.6	0.9	NE	85.4	_		1
14-Mar-11	5:58	Yuet Wu	19.7	0.5	N	84	g	L3	1
1 . 17101 11	5:45	Villa	20.3	0.9	N	80.2	Tsui Churh	L1	1
	6:04		19.6	0.9	NE	85.4	Cheng Kam Wing Tsui Churh Yiu	L2	1
	5:58		19.7	0.5	N	84		L3	1

Sist		1			1 1	ı ı			f	1 .
24-Mar-11		6:03		15.6	1.3	SE	52.6	Cheng		1
24-Mar-11 6:17 Yuet Wu 15.1 0.6 SE 57.7 1.3 1 1 1 1 1 1 1 1 1										1
15.6 1.3 5.6 5.6 5.6 5.5	24-Mar-11	6:17		15.1	0.6	SE	57.7		L3	1
S:55	21 1/141 11	6:03	Villa	15.6	1.3	SE	52.6	Teui Churh	L1	1
1-Apr-11		5:55		15.1	0.7	E	58.5		L2	1
Signature Sign		6:17		15.1	0.6	SE	57.7	110	L3 L1 L2 L3 L4	1
2-Apr-11		5:08		21	< 0.1	N	80.3	Chana	L1	1
2-Apr-11		5:31		21.3	< 0.1	N	83.5	_	L2	1
Sign	2 Apr 11	5:25	Yuet Wu	20.8	< 0.1	N	83.8	ixam wing	L3	1
Side	2-Apr-11	5:08	Villa	21	< 0.1	N	80.3	T Cl. 1	L1	1
S:25 S		5:31		21.3	< 0.1	N	83.5		L2	1
Sign		5:25		20.8	< 0.1	N	83.8	Tiu	L3	1
3-Apr-11		5:08		21.4	2.7	Е	78.2	CI	L1	1
3-Apr-11 5:32		5:38		20.2	0.3	Е	78.4	_	L2	1
S:08	2 4 11	5:32	Yuet Wu	19.8	< 0.1	Е	79.1	Kain wing	L3	1
11-Apr-11 12 1 1 1 1 1 1 1 1	3-Apr-11	5:08	Villa	21.4	2.7	Е	78.2	m : «: .	L1	1
11-Apr-11		5:38	1	20.2	0.3	Е	78.4		L2	1
11-Apr-11 4:45 4:36 Yuet Wu Villa 22.1 0.7 NW 78.1		5:32	1	19.8	< 0.1	Е	79.1	1 Iu	L2 L3 L1 L3 L4 L4 L4 L5 L5 L5 L5 L5	1
11-Apr-11 4:36		4:22		22.1	0.7	NW	78.1	~*	Wing L3 Churh L2 L3 L4 L4 L5	1
11-Apr-11 4:36 Yuet Wu Villa 4:22 4:45 4:36 21.3 0.5 N 83.2 Tsui Churh Yiu L2 1 L3 1 L1 L1 L2 1 L3 1 L4:45 L2 1 L3 1 L4:45 L3 1 L2 1 L3 1 L4:45 L3 1 L4:50 L3 L3 L3 L4:50 L3 L1 L3 L3 L3 L4:50 L3 L1 L3 L3 L3 L3 L4:50 L3 L3 L3 L4:50 L4:50 L4:50 L4:50 L4:50 L4:50 L4:50 L4:50 L4:50 L5:13 L5:14 L5:15 L5:15 L5:15 L5:16 L5:17 L5:1		4:45	1	21.3	0.5	N	83.5	_		1
4:45	11 4 11	4:36	Yuet Wu	21.4	0.4	N	83.2	Kain wing		1
4:45	11-Apr-11	4:22	Villa	22.1	0.7	NW	78.1		L1	1
4:36		4:45	1	21.3	0.5	N	83.5		L2	1
22-Apr-11		4:36	1	21.4	0.4	N	83.2	Tsui Churh Yiu Cheng Kam Wing Tsui Churh Yiu Tsui Churh Yiu Tsui Churh Yiu Cheng Kam Wing	L3	1
22-Apr-11 4:35 4:35 Yuet Wu Villa 22.7 0.1 SW 79.4 4:20 4:45 4:45 4:35 4:35 4:35 4:45 4:50 5:13 22.4 0.3 E 81.3 Kam Wing L2 I I I I I I I I I I I I I I I I I I		4:20		22.9	0.8	SE	80.4		L1	1
22-Apr-11 4:35 Yuet Wu Villa 22.9 0.1 SW 79.4 79.4 L3 1 L1 1 1 1 1 1 1 1 1 1 1 1		4:45	1	22.4	0.3	Е	81.3	_	L2	1
4:20 Villa 22.9 0.8 SE 80.4 4:45 22.4 0.3 E 81.3 4:35 22.7 0.1 SW 79.4 4:50 5:13 Yuet Wu Villa 22.3 1.2 SE 77.2 5:05 Yuet Wu Villa 22.3 1.2 SE 77.2 5:13 5:05 Yuet Wu Villa 22.3 1.2 SE 77.2 5:13 Tsui Churh Yiu L2 1 Cheng Kam Wing L2 1 L1 1 L2 1 Cheng Kam Wing L2 1 L3 1 Tsui Churh Yiu L2 1 Tsui Churh Yiu L2 1 Tsui Churh Yiu L2 1	22 4 11	4:35	Yuet Wu	22.7	0.1	SW	79.4	Kam wing	L3	1
4:45 4:35 4:35 22.4 0.3 E 81.3 Yiu L2 1 L3 1 L3 1 L1 L3 1 L3 1 L1 1 1 1 1 1 1 1 1 1 1 1	22-Apr-11	4:20	Villa	22.9	0.8	SE	80.4	m . ~ .	L1	1
4:35 22.7 0.1 SW 79.4 L3 1 4:50 22.3 1.2 SE 77.2 Cheng Kam Wing L2 1 5:13 5:05 Yuet Wu Villa 21.7 0.1 SE 84 L3 1 4:50 Villa 22.3 1.2 SE 77.2 Tsui Churh Yiu L1 1 5:13 21.8 0.9 S 85 Tsui Churh Yiu L2 1		4:45		22.4	0.3	Е	81.3		L2	1
26-Apr-11		4:35		22.7	0.1	SW	79.4	1 1U	L2 L3 L1 L2 L3 L4 L4 L4 L5	1
26-Apr-11										
26-Apr-11										
26-Apr-11 4:50 Villa 22.3 1.2 SE 77.2 Tsui Churh Yiu L2 1	26 4 44		Yuet Wu					Kam Wing		
5:13 21.8 0.9 S 85 Tsui Churh Yiu L2 1	26-Apr-11									
r iu			1							
			1					Y 1U		

* Remarks:

1. - no odour

2. - not unpleasant

3. - slightly unpleasant

4. - unpleasant

5. - very unpleasant

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Appen	uuin	\mathbf{C}

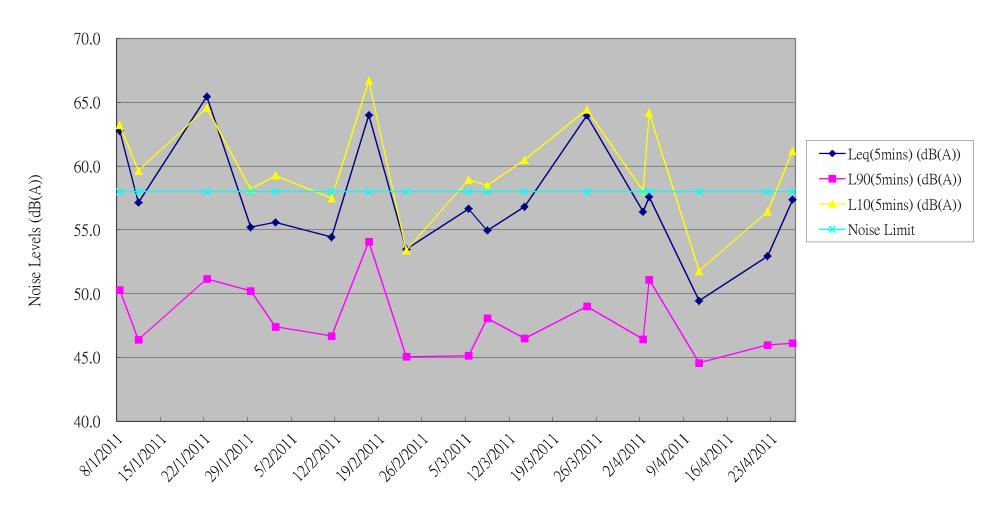
Summary and Graphical Plot of Operational Phase Noise Monitoring

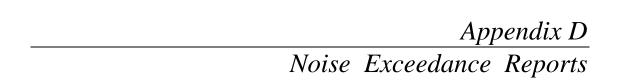
Impact Monitoring for Fish Market Project in Tuen Mun Operational Phase Noise Monitoring

Quarter: February 2011 - April 2011

Date	Time	$L_{10(5 mins)}(dB(A))$	L _{90(5mins)} (dB(A))	$L_{eq (5mins)} (dB(A))$	$\begin{array}{c} \text{Average } L_{eq(5min)} \\ \text{(dB(A))} \end{array}$
		58.1	47.4	55.6	
2-Feb-11	05:45 - 06:00	60.8	47.8	56.6	55.6
		58.4	47	54.3	
		53.9	45.8	50.9	
11-Feb-11	05:45 - 06:00	58.6	46.2	55.2	54.4
		58.5	47.8	55.8	
		62.6	47.6	61.8	
17-Feb-11	06:15 - 06:30	69.7	57.2	65.6	64.0
		64.6	52.7	63.8	
		54.5	45.2	51.2	
23-Feb-11	05:45 - 06:00	54.8	45.1	51.7	53.5
		48.6	44.9	55.9	
		59.2	44.8	55.3	
5-Mar-11	05:45 - 06:00	59.3	45.6	59	56.7
		58.2	45	54.1	
		60.1	48.6	56.6	
8-Mar-11	05:45 - 06:00	59.2	48.3	55.6	55.0
		54.2	47.2	50.8	1
	06:15 - 06:30	58.4	46.9	56	
14-Mar-11		59.7	46.7	56.2	56.8
		62.4	45.8	58	1
		67.4	48.8	65.1	
24-Mar-11	05:45 - 06:00	61.4	49.1	57.8	64.0
		61.6	49.1	65.6	1
		54.9	46.2	52.4	
2-Apr-11	05:05 - 05:20	60.9	46.8	59.8	56.4
•		55.8	46.3	52.7	1
		67.5	51.3	55.7	
3-Apr-11	05:15 - 05:30	61.6	51.8	59.3	57.6
•		59	50	57	1
		50.7	45.1	49	
11-Apr-11	04:15 - 04:30	51.7	44.2	49.5	49.4
•		52.7	44.4	49.8	1
		56.2	45.7	53.2	
22-Apr-11	04:15 - 04:30	55.8	45.7	52.4	52.9
•		57.2	46.5	53.2	1
		58.7	45.5	57.1	
26-Apr-11	04:45 - 05:00	62.2	46.5	58.1	57.4
1	01.15 05.00	61.9	46.3	56.8	1

Noise Monitoring Record





Noise exceedance report (17th February 2011)

On 17th February 2011, the noise monitoring results of Joint User Complex And Wholesale Fish Market At Area 44 Tuen Mun recorded an average of 64.0dB(A), which exceeded the limit level of 58dB(A). The noise measurement results are summarised as below table.

Date	L _{10(5mins)} (dB(A))	L _{90(5mins)} (dB(A))	L _{eq (5mins)} (dB(A))	L _{eq(5min)}	Predicted $L_{eq(5min)}$ $(dB(A))$	
17 th February	62.6	47.6	61.8		50	
2011	69.7	57.2	65.6	64.0		
	64.6	52.7	63.8			

After investigation, the exceedance of noise level is not project related. According to observations of the personnel for the noise measurement, no marine traffic noise was identified and the dominant noise sources are buses which passed along Wu On Street during the measurement. There observed no significant noise coming from the Project Site.

From the noise monitoring results, the measured noise levels of $L_{10(5mins)}(dB(A))$ are similar to the $L_{eq~(5mins)}(dB(A))$. It reasonably matched the observations that the dominant noise are coming from impact noise sources as mentioned above, i.e. buses which passed along Wu Shan Road. Since the dominant noise source is coming from buses, hence the exceedance recorded is not project related.

Noise exceedance report (24th March 2011)

On 24^{th} March 2011, the noise monitoring results of Joint User Complex and Wholesale Fish Market at Area 44, Tuen Mun recorded readings of $L_{eq(5mins)}$ are 65.1dB(A) and 65.6dB(A), which exceeded the limit level of 58dB(A). The noise measurement results are summarised as below table.

Date	L _{10(5mins)} (dB(A))	L _{90(5mins)} (dB(A))	$L_{eq (5mins)}$ $(dB(A))$	$L_{eq(5min)}$	Predicted $L_{eq(5min)}$ $(dB(A))$	
24 th March	67.4	48.8	65.1		50	
24 March 2011	61.4	49.1	57.8	64.0		
2011	61.6	49.1	65.6			

After investigation, the exceedance of noise level is not project related. According to observations of the personnel for the noise measurement, no marine traffic noise was identified and the dominant noise sources are buses which passed along Wu Sau Street during the measurement. There observed no significant noise coming from the Project Site.

From the noise monitoring results, the measured noise levels of $L_{10(5mins)}(dB(A))$ are similar to the $L_{eq~(5mins)}(dB(A))$. It reasonably matched the observations that the dominant noise are coming from impact noise sources as mentioned above, i.e. buses which passed along Wu Sau Road. Since the dominant noise source is coming from vehicles, hence the exceedance recorded is not project related.

Appendix E

Mitigation Measures Implementation Schedule for Operational Stage

MITIGATION MEASURES IMPLEMENTATION SCHEDULE FOR OPERATIONAL STAGE

EIA Ref. Section	EM&A Ref. Section	Environmental Protection Measures	Status
4.7	2.8	Air Quality The WFM (including parking area) shall be enclosed with no unprotected openings facing Wu Shan Road to reduce the potential odour nuisance posed to the nearby residents	۸
		• Exhaust air from the WFM (including parking area) shall be discharged on the eastern elevation facing the typhoon shelter	۸
		• Contingency provision of future addition of odour removal system for the WFM, if required, will be allowed in the current design	۸
		• All fresh air intakes for the Community Hall and Other Possible Community Uses shall be sited at levels above 15mPD and 18.5mPD, respectively, and fitted with appropriate filters to remove odour	۸
		• Exhaust air from the RCP and Marine RCP shall be treated with appropriate deodorisation system prior to discharge to outdoors	^
		Good hygiene and effective operational and waste management practices	٨
		Daily washing down of fish market areas and the storage and daily removal of organic wastes	٨
		Drains and channels shall be easy to clean and construction materials for the WFM shall be impervious, durable and easy to clean	^
		Measures should be taken to further minimize the potential odour impact during the transportation of fish or other odorous materials, including the use of properly covered containers	۸
		Deodourisation systems shall be installed for the public toilets	۸
5.7	3.7	Noise	
		• To avoid a potential night time nuisance to nearby residents a right-turn only junction (northern access road/Wu Shan Road) is provided for vehicles leaving the WFM	۸
		Arrangement will be made with drivers to reduce lorry queuing; assistance will be sought from WFM users and vessel operators to avoid loudhailer operation and reduce horn tooting along the seafront	۸
		MD and WFM management to encourage vessels to use the eastern harbour entrance	٨
		MD and WFM management to encourage the use of silencers at fishing vessels' exhaust	٨
		MD to monitor and maintain practical and safe movement within the harbour, and to assist MARPOL and EPD in minimizing where possible noise impact to nearby residents	۸
		To request vessel owners to avoid horning except in emergency and to use other means such as phones to notify their presence	۸
		The WFM (including parking area) shall be enclosed with no unprotected openings facing Wu Shan Road to reduce potential noise nuisance posed to the nearby residents	^
		A canopy is to be provided to cover all the fish unloading areas on the quay to increase noise screening to NSRs	٨
		 Mechanical plant exhausts shall be directed towards the typhoon shelter and appropriately screened from Wu Shan Road and nearby NSRs 	٨
		• Suitable noise control measures will be included in building services system design, such as provision of silencers and	۸

Compliance of mitigation measure; Remarks:

N/A Not Applicable at this stage;

Non-compliance of mitigation measure; Not satisfactory but rectified by the contractor.

EIA Ref. Section	EM&A Ref. Section	Environmental Protection Measures	Status
		acoustic louvers to mechanical plant and plantroom	
6.7	4.1	Water Quality	
		Surface drainage channels of operational areas shall be easily cleaned and connected to foul sewerage	۸
		• Wastewater from toilets, kitchen, and other users of the WFM market shall be discharged into a foul sewer or a sewage	٨
		treatment facility. No effluent discharge into the nullah will be allowed	
		• The flushing water storage tank shall be properly designed so as to minimize the amount of water for each flush	٨
		• Wastewater resulting from cleansing of floors of the fish market and the refuse collection units (RCP) should be	٨
		discharged into a foul sewer to avoid direct discharge of wastewater to the nullah	
		Chemical toilets shall be provided to cope with the additional sewage generated on the day of Dragon Boat Festival	٨
7.2	5.1	Waste Management	
		• In order to minimize the amount of waste disposal, durable and reusable containers should be used, where practicable, instead of plastic bags	۸
		Organic matter shall be collected and sealed in plastic bags after each operation and removed daily	۸
		The design shall allow for separation and suitable storage of broken polyfoam casings prior to collection	٨
		Municipal solid waste generated from community hall, library and offices will be segregated	٨
8.7	6.1	Hazard to Life	
		Manually operated warning siren shall be installed to instruct people to take timely shelter	٨
		• Fire drill exercises shall be organized for the workers at the site and users of the WFM	٨
		Pedestrian access to the area of podium within the 150m consultation zone should be minimized by design	٨
		• LPG deliveries shall be avoided during the hours when the spectator stand is fully occupied on the day of Dragon Boat Festival	^
		• Reference shall be made to the Code of Practice for the Provision of Means of Escape in Case of Fire (Hong Kong	٨
		Buildings Department [1997]) and the Code of Practice for Minimum Fire Service Installations and Equipment and	
		Inspection, Testing and Maintenance of Installations and Equipment (Hong Kong Fire Services Department [1997])	

N/A Not Applicable at this stage; As updated on 24 August 2011

Non-compliance of mitigation measure; Not satisfactory but rectified by the contractor.