

Project: Tung Chung New Town Extension  
Project no.: 219844-70  
Title: Proposed Marina Noise Source Determination

Event	Location	Passby time, s	Travelling Distance, m	Distance from yacht	Estimated Speed (km/hr)	Estimated Speed (Knots)	Estimated Speed, m/s	$L_{max}$ dB(A)	SEL, dB(A) <sup>[4]</sup>	Non-Disturbed Events(Y/N)	Speed ~ 5 knots (Y/N) <sup>[3]</sup>	SEL for non - disturbed events, dB(A)	SEL at 25m, dB(A)
Yacht - 1	Golden Coast	17	135	50	28	15	8	63.0	74.1	Y	N	-	-
Yacht - 2	Golden Coast	20	135	50	24	13	7	62.4	74.2	Y	N	-	-
Yacht - 3	Golden Coast	47	135	50	10	6	3	61.4	76.8	Y	Y	76.8	79.8
Yacht - 4	Aberdeen Harbour - South Horizon	15	120	75	29	16	8	66.3	79.0	Y	N	-	-
Yacht - 5	Aberdeen Harbour - South Horizon	15	120	75	29	16	8	64.7	77.4	Y	N	-	-
Yacht -6 <sup>[2]</sup>	Aberdeen Harbour - South Horizon	15	120	75	29	16	8	64.9	77.6	N	N	-	-
Yacht -7 <sup>[2]</sup>	Aberdeen Harbour - South Horizon	22	120	75	20	11	6	63.0	77.3	N	N	-	-
Yacht -8	Aberdeen Harbour - South Horizon	16	120	75	27	15	7	65.8	78.8	Y	N	-	-
Yacht -9 <sup>[2]</sup>	Aberdeen Harbour - South Horizon	16	120	75	27	15	7	63.1	76.1	N	N	-	-
Yacht -10 <sup>[2]</sup>	Aberdeen Harbour - Breakwater	10	60	30	22	12	6	75.4	85.4	N	N	-	-
Yacht -11 <sup>[2]</sup>	Aberdeen Harbour - Breakwater	20	60	30	11	6	3	69.8	82.8	N	Y	-	-
Yacht -12 <sup>[2]</sup>	Aberdeen Harbour - Breakwater	11	60	60	20	11	5	67.0	80.4	N	N	-	-
Yacht -13	Golden Coast	29	180	50	23	12	6	64.2	76.2	Y	N	-	-
Yacht - 14	Golden Coast	45	180	50	14	8	4	60.6	74.6	Y	Y	74.6	77.6
Yacht - 15	Golden Coast	32	180	50	20	11	6	62.1	74.7	Y	N	-	-
Yacht -16	Golden Coast	20	180	50	32	17	9	65.7	76.2	Y	N	-	-
Yacht -17	Golden Coast	45	180	50	14	8	4	65.1	79.1	Y	Y	79.1	82.1
Yacht -18	Golden Coast	25	180	50	26	14	7	63.5	74.9	Y	N	-	-
Yacht -19	Golden Coast	21	180	50	31	17	9	61.3	72.0	Y	N	-	-
Yacht -20	Golden Coast	25	180	50	26	14	7	60.9	72.3	Y	N	-	-
Yacht -21	Golden Coast	21	180	50	31	17	9	63.5	74.2	Y	N	-	-
Yacht -22	Golden Coast	55	180	50	12	6	3	63.1	78.0	Y	Y	78.0	81.0
												Min.	77.6
												Maximum	82.1
												Average	80.1

Note:

[1] All measurements were taken at free field condition.

[2] Affected by noise from other marine traffic.

[3] Marine Department Notice No. 84 of year 2000 regarding speed limit in typhoon shelters, all vessels underway in the entrance to or within a typhoon shelter should not exceed five knots. Therefore, only yachts with speed around five knots are considered in the source term calculation.

[4]  $SEL = L_{max} + 10\log(kd/V)$  according to Equation 2.22 of Transportation Noise Reference Book, 1987.

where  $k = 2$  (empirical constant,  $d$  = perpendicular distance,  $v$  = speed in m/s)

Project: Tung Chung New Town Extension  
Project no.: 219844-70  
Title: Existing Marine Passby Noise Source Determination

Event	Location	Measured $L_{max}$ , dB(A) <sup>[1]</sup>	Measurement Distance, m <sup>[2]</sup>	Speed, Knots <sup>[3]</sup>	Speed, m/s	Estimated SEL, dB(A) <sup>[4]</sup>	SEL at 25m, dB(A)
1	Tai O Promenade	63.6	20	16	8.2	70.5	69.5
2	Tai O Promenade	57.2	20	16	8.2	64.1	63.1
3	Tung Chung Development Pier <sup>[5]</sup>	65.0	100	16	8.2	78.9	-
4	Tai O Promenade	74.7	10	16	8.2	78.6	74.6
5	Tai O Promenade	71.5	10	16	8.2	75.4	71.4
6	Tai O Promenade	80.9	10	16	8.2	84.8	80.8
Max. SEL for ferry movement at 25m, dB(A)							80.8

Note:

[1] All measurements were taken at free field condition.

[2] Perpendicular distance between the reference measurement location and the source.





[3] Maximum 16 knots (8.2m/s) for assessment.

[4]  $SEL = L_{max} + 10\log(kd/V)$  according to Equation 2.22 of Transportation Noise Reference Book, 1987.






where  $k = 2$  (empirical constant,  $d$  = perpendicular distance,  $v$  = speed in m/s)

[5] Affected by aircraft noise.






Title: Photos of Yachts

NSR No.	Lccation	Photo
Yacht – 1	Golden Coast Marina	
Yacht – 2	Golden Coast Marina	
Yacht – 3	Golden Coast Marina	
Yacht - 4	Aberdeen Harbour - South Horizon	


Title: Photos of Yachts

NSR No.	Location	Photo
Yacht - 5	Aberdeen Harbour - South Horizon	
Yacht - 6	Aberdeen Harbour - South Horizon	
Yacht - 7	Aberdeen Harbour - South Horizon	
Yacht - 8	Aberdeen Harbour - South Horizon	
Yacht - 9	Aberdeen Harbour - South Horizon	

Title: Photos of Yachts




NSR No.	Lccation	Photo	
Yacht - 10	Aberdeen Harbour - Breakwater		
Yacht - 11	Aberdeen Harbour - Breakwater		
Yacht - 12	Aberdeen Harbour - Breakwater		
Yacht - 13	Golden Coast Marina		
Yacht - 14	Golden Coast Marina		

Title: Photos of Yachts

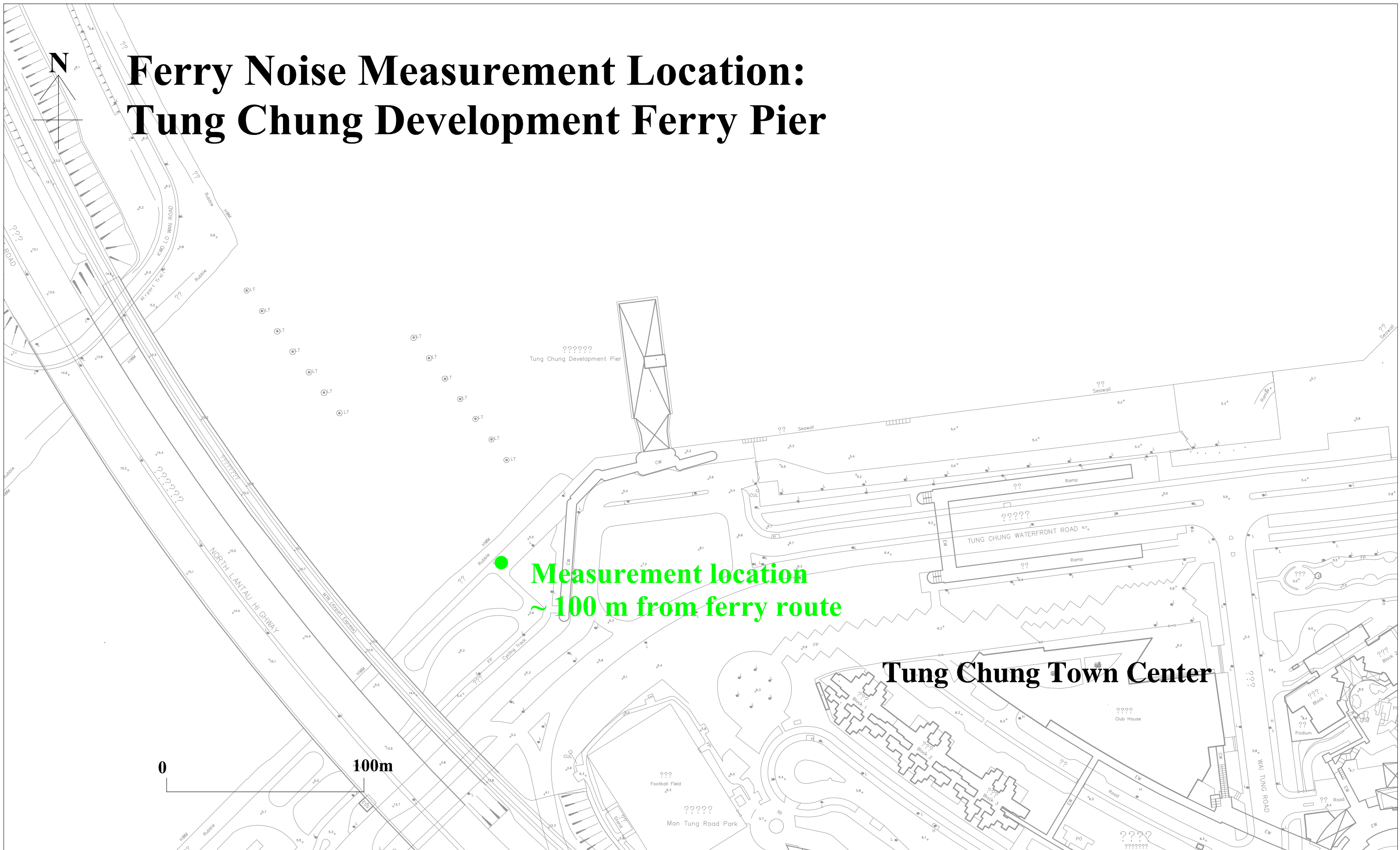
NSR No.	Location	Photo	
Yacht - 15	Golden Coast Marina		
Yacht -16	Golden Coast Marina		
Yacht -17	Golden Coast Marina		
Yacht -18	Golden Coast Marina		
Yacht -19	Golden Coast Marina		

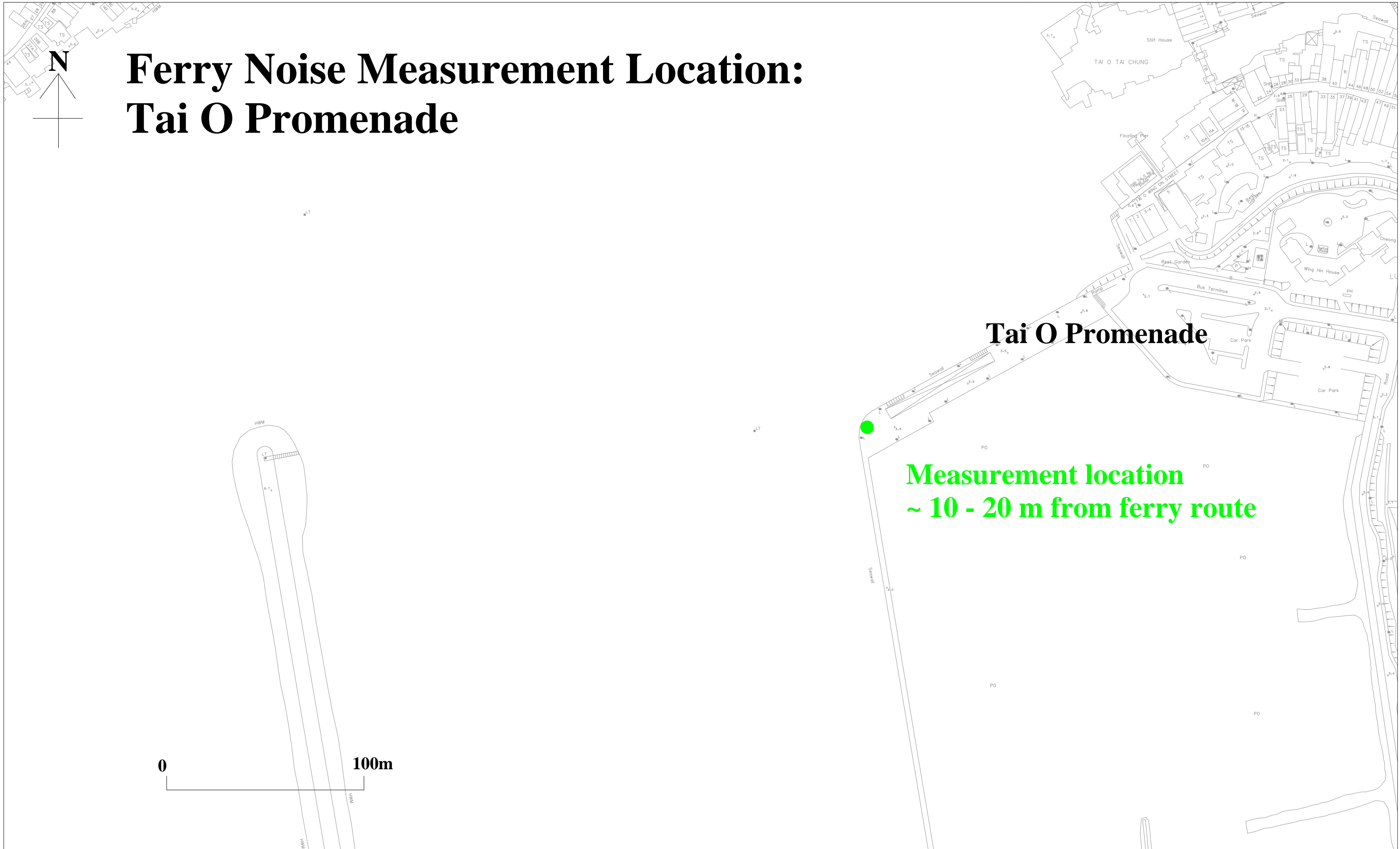


Title: Photos of Yachts

NSR No.	Lccation	Photo	
Yacht -20	Golden Coast Marina		
Yacht -21	Golden Coast Marina		
Yacht -22	Golden Coast Marina		

# Ferry Noise Measurement Location: Tung Chung Development Ferry Pier

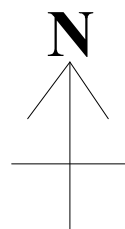






**Measurement location**  
**~ 50 m from yacht route**





# Yacht Noise Measurement Location: Aberdeen West Typhoon Shelter

Tin Wan

Measurement location  
~ 30 - 60 m from yacht route

Aberdeen West  
Typhoon Shelter

0 100m

Measurement location  
~ 75 m from yacht route

South  
Horizon