

AIRPORT TUNG CHUNG LINK

CONSTRUCTION NOISE MANAGEMENT PLAN

5 January 2026

Ref: RT25358-AC-01C

Prepared by:

BeeXergy Consulting Limited (BXG)
in association with
Penta-Ocean Construction Co., Ltd

Project:	AIRPORT TUNG CHUNG LINK (Contract C24W08) CONSTRUCTION NOISE MANAGEMENT PLAN				
Report No.:	RT25358-AC-01B				
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Disclaimer:

-
- This report is prepared and checked by acoustic professional including at least one Certified Noise Modelling Professional as recognised by the Hong Kong Institute of Qualified Environmental Professional Limited or other professional as agreed by the Director. This report is prepared in association with Penta-Ocean Construction Co., Ltd with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
 - We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
 - This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.
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**This Construction Noise Management Plan for
Airport Tung Chung Link Project (Ref: RT25358-AC-01C)**

dated 5 January 2026

has been reviewed and certified by

the Environmental Team Leader (ETL) in accordance with

Conditions 1.9 and 2.12 of Environmental Permit No. EP-630/2023/A.

Certified by:



Ir Chan, Thomas
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date

8 January 2026

Your Ref: -
Our Ref: 60743142/C/LLMC2601081

By Email

Capital Works Management Department
Level 6, HKIA Tower 2,
15 Cheong Tat Road,
Hong Kong International Airport,
Lantau, Hong Kong

Mr. Lawrence Tsui (Authority's Representative's Delegate)

8 January 2026

Dear Sir,

**Contract C24C03 – Independent Environmental Checker Consultancy Services for
Airport Tung Chung Link
Construction Noise Management Plan (Ref: RT25358-AC-01C)**

Reference is made to the Contractor's submission of the Construction Noise Management Plan (Ref: RT25358-AC-01C) in accordance with Conditions 2.12 of EP-630/2023/A of the Project, certified by the ET Leader on 8 January 2026.

We would like to inform you that we have verified on the captioned submission in accordance with the requirement stipulated in Condition 1.9 of EP-630/2023/A.

Should you have any queries, please feel free to contact the undersigned at 3856 5680.

Yours faithfully,
AECOM Asia Co. Ltd.



Lemon Lam
Independent Environmental Checker

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1. INTRODUCTION

The EIA Report for Airport Tung Chung Link Project (the ATCL Project) (AEIAR-254/2023) was approved on 26 October 2023. The Environmental Permit (EP) (AEP-630/2023) was issued on 26 October 2023. According to Clause 2.12 of the EP, the Permit Holder shall submit a Construction Noise Management Plan (CNMP) for implementing construction noise mitigation measures no later than 2 months before the commencement of construction works of the Project to the Director of Environmental Protection (DEP).

As stipulated in Clause 2.12 of the EP, 3 hard copies and 1 electronic copy of the CNMP shall, no later than 2 months before the commencement of construction works of the Project, be deposited with the DEP. If there is any change to the construction noise mitigation measures and/or plant inventory recommended in the submitted CNMP, 3 hard copies and 1 electronic copy of an updated CNMP shall, no later than 1 month before the implementation of any such change, be deposited with the DEP. The CNMP and updated CNMP shall identify the noise source inventory and assess the effectiveness of construction noise mitigation measures, including the use of quieter powered mechanical equipment, quieter construction methods, noise barriers, enclosures and insulation fabric as recommended in the approved EIA Report (Register No. AEIAR-254/2023) for mitigating the construction noise impact of the Project. The CNMP and updated CNMP shall include an implementation schedule in table form to clearly list out the mitigation measures to be implemented, and the implementation party, location, timing, and environmental performance required for implementation of the mitigation measures. The CNMP and updated CNMP shall be prepared and checked by a Certified Noise Modelling Professional as recognized by the Hong Kong Institute of Qualified Environmental Professionals Limited or other professional as agreed by the Director, certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations of the approved EIA Report (Register No. AEIAR-254/2023). All mitigation measures recommended and requirements specified in the CNMP and the updated CNMP shall be fully implemented.

This CNMP will be regularly reviewed and updated to reflect any changes in construction work or site arrangements, ensuring continuous compliance. This CNMP focused on the construction works conducted during Jan 2026 to May 2026 only and the remaining construction period is still under planning and subject to change. The Contractor will submit other CNMP for the remaining construction period once the details become available. If there is any update on the construction works conducted from Jan 2026 to May 2026, a revised CNMP will be submitted to the EPD.

2. ENVIRONMENTAL LEGISLATION

The Noise Control Ordinance (NCO) (Cap. 400) provides the statutory framework for noise control. The Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) provides the framework for assessment of the noise impact for designated projects

Reference to the EIAO and the relevant technical memoranda has been made for the assessment of noise impacts. Annexes 5 and 13 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) set out the criteria and guidelines for evaluating noise impacts. Assessment procedures and standards are set out in the following technical memoranda and Guidance Note:

- Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM);
- Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM);
- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM);
- Technical Memorandum on Noise from Percussive Piling (PP-TM);
- EIAO Guidance Note – Preparation of Construction Noise Impact Assessment under the Environmental Impact Assessment Ordinance (GN9/2023).

3. NOISE CRITERIA

The Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) stipulates criteria of 65 – 75dB(A) for daytime construction activities, as shown in **Table 3.1**.

Table 3.1 Noise standards for daytime construction activities

Use	Noise Standards, Leq (30min) dB(A)
	0700 – 1900 hours on any day not being a Sunday or general holiday
All domestic premises, Temporary housing accommodation, Hostels, Convalescent homes, and Homes for the aged	75
Places of public worship, Courts of law, and Hospitals and medical clinics	70
Educational institutions (including kindergartens and nurseries)	70 65 (During Examination)

Notes:

[1] The above standards apply to uses which rely on opened windows for ventilation and are assessed at 1m from the external façade.

[2] A Construction Noise Permit shall be required for carrying out relevant construction work during restricted hours under the Noise Control Ordinance. In case the applicant would like to evaluate whether carrying out relevant construction works during restricted hours under the Noise Control Ordinance is feasible or not in the context of programming construction works, reference should be made to relevant technical memoranda issued under the Noise Control Ordinance.

4. ASSESSMENT METHODOLOGY

The assessment of noise impacts from the construction (excluding percussive piling) of the Project has been based on the methodology given in Annex 13 of the EIAO-TM. The typical approach is summarized as follows:

- Formulate construction programme and work sequences;
- Identify representative NSR that may be affected by the construction of the Project;
- Establish the construction plant inventory;
- Assign Sound Power Level (SWL) for each piece of PME based on the GW-TM and the list of Sound Power Level of other commonly used PME;
- Calculate the correction factors based on the distance between the NSR and the notional noise source positions at different construction works areas;
- Apply noise corrections in the calculations for distance, operation time, screening and façade correction, if any;
- Predict the construction noise levels at NSR and compare against the noise criteria; and
- Determine mitigation measures, as necessary, and assess any residual impacts.

5. CONSTRUCTION PROGRAMME

The Contractor has confirmed this scope of work, ensuring the noise assessment is focused and accurate. No construction activities other than specified below are permitted during this specific period. The proposed construction works will be carried out only between 07:00 and 19:00 hours on any day not being a Sunday or general holiday. It is noted that Marine Department Notices (MDN) is required for permission of entering the site portion at sea area which will take usually 3-6 months for the issuance of MDN. Hence, the commencement of construction works at sea area will be subject to change and depend on the progress of obtaining MDN. The Contractor shall submit other CNMP reports for the any changes in construction period. As advised by the Contractor and broadly indicated in the construction programme in **Appendix 5.1**, the major construction works of the Project during Jan 2026 to May 2026 include:

- Bored pile for Bridge Pier 1 - Pier 20
- Sea wall modification
- Tung Chung Central Station (TCCS) Construction (Sheet Pile)

6. IDENTIFICATION OF NOISE SENSITIVE RECEIVERS

The Project site is situated between Tung Chung town centre and Hong Kong Port (HKP) Island. The location of the Project is shown in **Figure 6.1**.

The noise sensitive receivers in the assessment area mainly comprise residential uses and the government, institution or community uses at Tung Chung town centre. The assessment area for noise impact generally include areas within 300m from the boundary of the Project and the works of the Project. Noise Sensitive Receivers (NSRs) within a distance of 300m from the boundary of the Project and the works of the Project have been identified. NSRs located within the first layer from the Project site and having openable windows for ventilation were selected as representative NSRs for assessment.

The identified existing, committed and planned NSRs, if any, within the assessment area are presented in **Table 6.1** and their locations are shown in **Figure 6.2**.

Table 6.1 Noise Sensitive Receivers (NSRs) Identified

NSR ID	Description	Uses	Existing/ Planned
N01	Seaview Crescent	Residential	Existing
N03	Ling Liang Church E Wun Secondary School	School	Existing
N05	Ching Chung Hau Po Woon Primary School	School	Existing
N06	Po On Commercial Association Wan Ho Kan Primary School	School	Existing
N08	Fu Tung Estate	Residential	Existing
N09	Tung Chung Crescent	Residential	Existing
N10 ^[3]	Priests' Quarters of the Planned Visitation Church Development	Residential	Planned

Notes:

[1] The assessment will only include NSRs which rely on opened windows for ventilation.

[2] Only the first layer of NSRs has been selected for assessment.

[3] The tentative occupancy year of the planned NSR (N10) is 2028; therefore, it is not included in the assessment in this CNMP, and will be included in future CNMP as and when appropriate.

7. CONSTRUCTION NOISE IMPACT ASSESSMENT

Prediction and Evaluation of Construction Noise Impact (Unmitigated)

Potential source of noise impact arising from the construction of the Project would be the use of Powered Mechanical Equipment (PME) for various construction activities. The percentage on-time for each PME has been estimated individually for each construction activity to ensure practicality. The proposed construction plant inventory is recommended by the Contractor and provided in **Appendix 7.2**. The proposed construction plant inventory in **Appendix 7.2** is considered technically feasible and confirmed by the Project engineer as workable, and would represent a realistic worst-case scenario for assessment purposes. The unmitigated construction noise impacts at the identified NSRs have been predicted accordingly. Details of unmitigated construction noise assessment are presented in **Appendix 7.3** with the results summarized in **Table 7.1**.

For worst-case scenario, the noise mitigation criteria for schools were set to 65dB(A) for all months. As shown in **Table 7.1**, the construction noise levels at the identified representative construction NSRs would range from 69 to 77dB(A) for residential use and 68 to 70dB(A) for schools under the unmitigated scenario. The predicted construction noise levels would comply the relevant noise criteria except Tung Chung Crescent (N09) and schools during examination period (N03, N05, N06). Noise

mitigation measures are therefore required to alleviate the construction noise impact on the affected NSRs.

Table 7.1 Predicted Construction Noise Levels under Unmitigated Scenario

NSR ID	Description	Uses	Predicted Construction Noise Level, Unmitigated, Leq (30mins), dB(A)	Noise Standards, dB(A)	Noise exceedance, dB(A)
N01	Seaview Crescent	Residential	74-75	75	0
N03	Ling Liang Church E Wun Secondary School	School	68-69	65	4
N05	Ching Chung Hau Po Woon Primary School	School	68-69	65	4
N06	Po On Commercial Association Wan Ho Kan Primary School	School	68-70	65	5
N08	Fu Tung Estate	Residential	69-70	75	0
N09	Tung Chung Crescent	Residential	75-77	75	2

Note:

[1] Cumulative noise level of other concurrent projects had been considered in the most affected NSR N09 Tung Chung Crescent.

Concurrent Project and Cumulative Impact

The Railway Development Strategy 2014 (RDS-2014) announced by the Government of the Hong Kong Special Administrative Region included the conceptual scheme of Tung Chung West (TCW) Extension and a possible Tung Chung East (TCE) Station. The works areas and construction programme of Tung Chung Line Extension have been reviewed based on latest available information. The location of the concurrent project is shown in **Figure 6.1**. According to Construction Noise Management Plan (Nov 2024) for Works Contract 1201, their latest works areas and works sites are within of 300m of the one of the NSRs (Tung Chung Crescent) of this Project (**Appendix 7.7** refers). It is noted that the representative NSR at Tung Chung Crescent in this CNMP is facing away from the construction site of Tung Chung Line Extension, a conservative construction noise level from the construction site of Tung Chung Line Extension at Tung Chung Crescent in Construction Noise Management Plan (Nov 2024) for Works Contract 1201 had been adopted in cumulative assessment for conservative approach. The cumulative construction noise impact from construction of Tung Chung Line Extension is presented in calculation **Appendix 7.3**.

It is noted that the sewage upgrade work of three runway system (3RS) would be constructed near TCCS and commenced no earlier than 2027, the relevant information of the sewage upgrading work of 3RS EIA report will be included in the future CNMP as and when available.

Use of Quieter PME and Quality Powered Mechanical Equipment (QPME)

Taking into account the latest construction programme and PME inventory provided by the Contractor, quieter PME for mobile crane, air compressor and generator are proposed as listed in **Table 7.2**. However, if the exact model specified in the references/QPME labels of the listed quieter PME are not available, or the QPME label has expired during the construction period, the model with SWL not higher than the listed SWL shall be adopted.

Table 7.2 Quality PME Proposed for Adoption during Construction Phase

PME	Reference	SWL, dB(A)
Crane, mobile	QPME: EPD-10143	100
Air Compressor	QPME: EPD-11726	100
Generator	QPME: EPD-12349	90

Note:

[1] The SWL is prescribed in Quality Powered Mechanical Equipment (QPME) in EPD website.

Quieter Construction Methods

The below quieter construction methods have been considered and assumed to be applied in all construction works areas in the EIA Report (AEIAR-254/2023). As advised by the Contractor, the methods shall be applied construction works whenever applicable.

- Hydraulic concrete crusher can be used for rock breaking activities during site establishment, instead of traditional hydraulic breaker. The operation principle of hydraulic breaker is by percussive striking actions of its chisels, while hydraulic concrete crusher is by clamping action. According to EPD website, the sound pressure level at 7m from the equipment is 67-69 dB(A). The Contractor advised that there are no rock breaking in the construction works of entire construction period, therefore, this method is not applicable. Nevertheless, if there are any updates in the construction works that are relevant to the specific quieter construction method, the method shall be re-considered whenever applicable.
- Non-explosive chemical expansion agent can be used for concrete breaking activities during site establishment, instead of traditional hydraulic breaker. The agent is a slow-acting chemical compound and expand, and cracks the structure. Significant noise, ground vibration, fly rock, gas, dust or any other environmental pollution would not be generated during the process. The Contractor advised that only road surface breaking is involved in the construction works of entire construction period, no concrete breaking activities are anticipated, therefore, this method is not applicable. Nevertheless, if there are any updates in the construction works that are relevant to the specific quieter construction method, the method shall be re-considered whenever applicable.
- Quieter type saw (e.g. diamond wire saw, diamond blade saw) is a flexible sawing technique that can be applied under various situations with excellent cutting performance. It will be used instead of excavator-mounted breaker for site formation and road works as far as practicable, subject to actual site conditions. According to the EPD website, the sound pressure level at 7 meters from the quieter type saw is 76-81 dB(A). As conservative approach, both quieter type saw and excavator-mounted breaker have been included in the construction noise calculation.
- Self-compacting concrete can be used for concreting works, instead of traditional vibratory poker. Self-compacting concrete is highly fluid and non-segregate, which can spread into place, fill the formwork, and encapsulate the steel bar reinforcement without using vibratory poker or other PME. The Contractor advised that the use of self-compacting concrete in bore piles poses significant challenges in quality control due to the risk of segregation (separation of components) or bleeding (water rising to the surface), therefore, this method is not applicable.
- Silent piling by Press-in Method (Press-in piling) can be used for sheet piling works, instead of traditional massive augering and piling machines (e.g.: Piling, vibrating hammer). Press-in method is a pile penetration method which accurately installs pre-formed piles through static loading piling. The construction work can also be completed in shorter duration so that the noise impact to nearby NSRs can also be further alleviated. According to the EPD website, the sound pressure level at 7 meters from the equipment is 69 dB(A). The Press-in method would be applied during sheet piling works at TCCS.
- Use of pre-casting and prefabrication technology, such as precast concrete blocks will be applied in seawall construction to reduce on-site construction work.

Use of Noise Barrier, Noise Enclosure and Noise Insulating Fabric

Proprietary noise barriers will be used for screening noise to NSRs and could achieve an insertion loss of 22 dB(A). The height of the proprietary noise barriers can be up to 7m can applied as close to the PME, this proprietary noise barriers will be capable to shield the PME from the NSR completely. The catalogue and schematic drawing of noise barrier is shown in **Appendix 7.4**. The noise barrier will be placed as close to the PME as possible and a location intercepting the line of sight between NSRs and PME. Gaps and openings at joints in the barrier material should be avoided. The barrier should also be long enough to minimize the degradation caused by the diffraction along the short edges. With reference to EIAO Guidance Note No.9/2023, noise reduction of 5dB(A) and 10dB(A) can be achieved by noise barriers for movable and stationary plant respectively. Following the assumptions in the Approved ATCL EIA Report, it is anticipated that suitably designed movable barriers/acoustic sheet barriers could achieve at least 5 to 10 dB(A) reduction. For a conservative assessment, only a reduction of 5 dB(A) is assumed.

Other noise mitigations such as noise enclosure and noise insulating fabric shall be considered if necessary.

Use of Soundproof Hammer Bracket for Hydraulic Breaker

Soundproof hammer bracket will be installed to reduce the noise from hydraulic breaker. According to the Best Practice Guide for Environmental Protection on Construction Sites, hammer bracket can achieve 10dB(A) noise reduction. The mitigation will include tuned mass dampers installed on the breaker head; tailored breaker cloth wrapped around the breaker head (minimum 7kg/m² surface density); and noise mitigating plastic skirt wrapped around the chisel tip of the breaker.

Prediction and Evaluation of Construction Noise Impact (Mitigated)

The implementation schedule of proposed mitigation measures is showed in **Appendix 7.6**. With the implementation of noise mitigations, the predicted construction noise levels at representative construction NSRs have been predicted and presented in **Appendix 7.5** with the results summarized in **Table 7.3**. The relevant construction plant inventory could be referred to **Appendix 7.2**.

Table 7.3 Predicted Construction Noise Levels under Mitigated Scenario

NSR ID	Description	Uses	Predicted Construction Noise Level, Mitigated, Leq (30mins), dB(A)	Noise Standards, dB(A)	Noise exceedance, dB(A)
N01	Seaview Crescent	Residential	68-70	75	0
N03	Ling Liang Church E Wun Secondary School	School	62-64	65	0
N05	Ching Chung Hau Po Woon Primary School	School	63-65	65	0
N06	Po On Commercial Association Wan Ho Kan Primary School	School	63-65	65	0
N08	Fu Tung Estate	Residential	64-66	75	0
N09	Tung Chung Crescent	Residential	73-75	75	0

With the implementation of proposed noise mitigations, the predicted construction noise level would comply with the relevant noise criteria, adverse construction noise impact would not be anticipated.

8. GOOD SITE PRACTICES

In addition to the mitigation measures listed above, there are also some good site practices that can further reduce the noise levels at NSRs. However, they are non-quantifiable and thus not included in the assessment. These include:

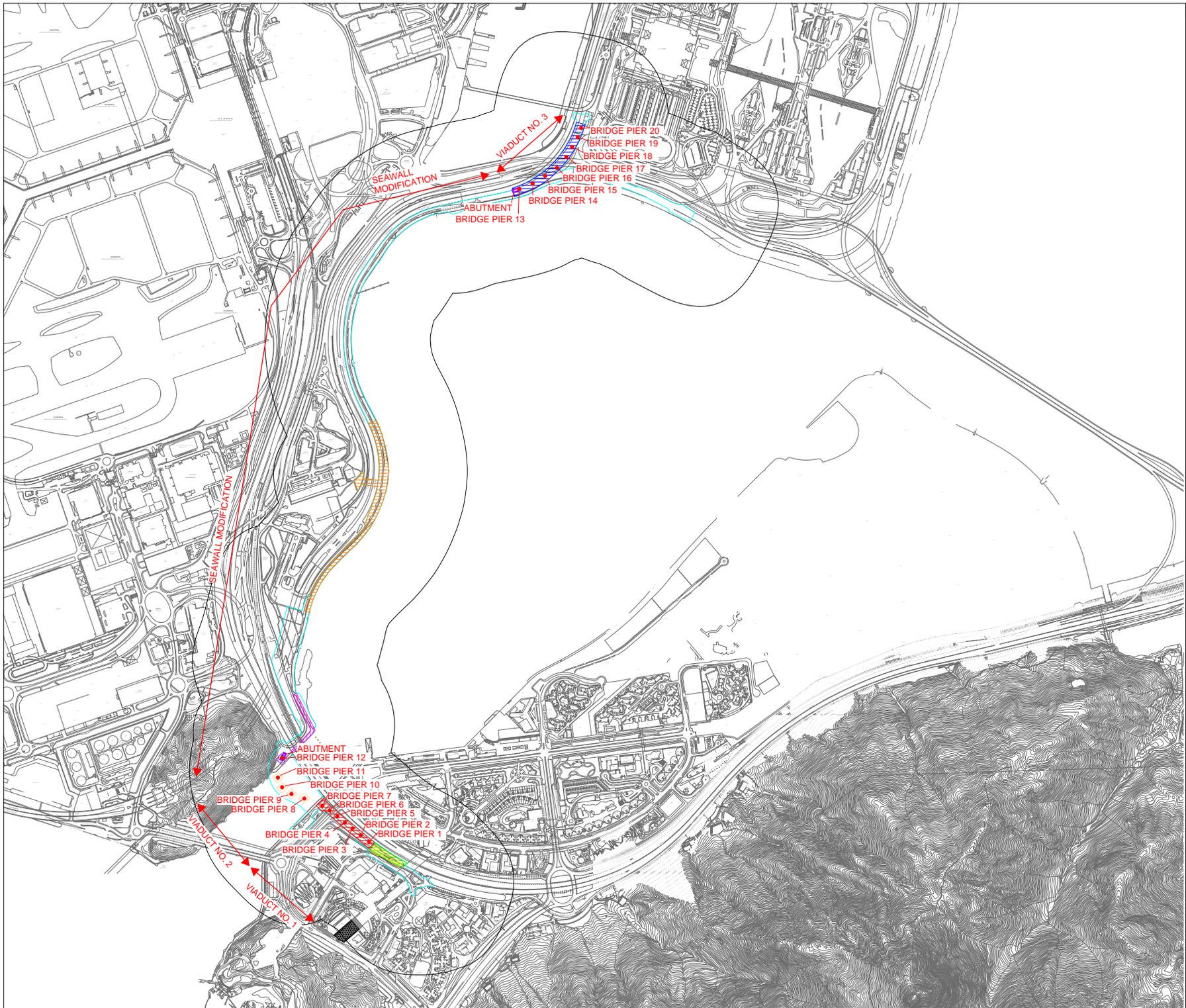
- Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction period;
- Mobile plant, if any, should be sited as far from NSRs as possible;
- Plant known to emit noise strongly in one direction should, wherever possible, be properly orientated so that the noise is directed away from the nearby NSRs;
- Use of site hoarding as a noise barrier to screen noise at low level NSRs;
- Machines and plant that may be used intermittently should be shut down between works periods or should be throttled down to a minimum;
- Any material stockpiles and other structures should be effectively utilized, wherever practicable, to screen the noise from on-site construction activities; and

9. CONCLUSION

This CNMP has identified the noise source inventory and assess the necessity of construction noise mitigation measures, including the use of quality powered mechanical equipment, noise barriers and noise enclosures for works at ATCL project. With the implementation of the proposed noise mitigations and recommended good practices, noise impacts during construction phases are expected to achieve full compliance of relevant noise criteria.

This CNMP focused on the construction works conducted during Jan 2026 to May 2026 only and the remaining construction period is subject to change. The Contractor will submit other CNMP reports for the remaining construction period once the details become available. If there is any update on the construction works conducted from Jan 2026 to May 2026, a revised CNMP will be submitted to the EPD.

FIGURE 6.1: PROJECT LOCATION



LEGEND:

- Works Area
 - 300m Assessment Area
 - Site Area A
 - Site Area B
 - Site Area C
 - Site Area D
 - Site Area E
 - Site Area F
 - Site Area G
- Concurrent Project:
- TCW Station and Tunnels Site (Contract No. 1201)

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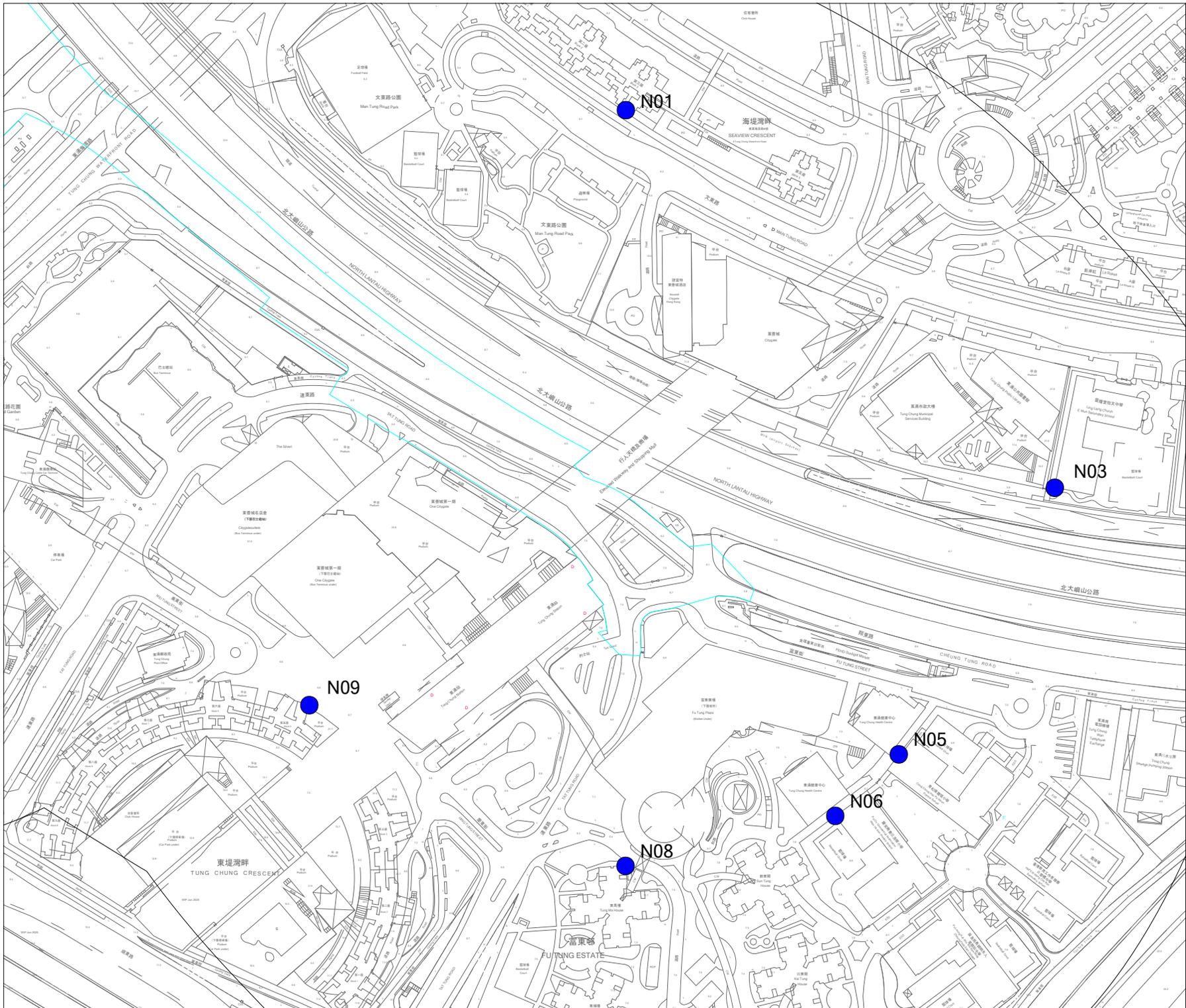
Project Title
 Airport Tung Chung Link

Drawing Title
 Project Location

Drawing No. FIGURE 6.1	Rev. 0
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FIGURE 6.2: NSR LOCATION



LEGEND:

- Works Area
- 300m Assessment Area
- Representative NSR

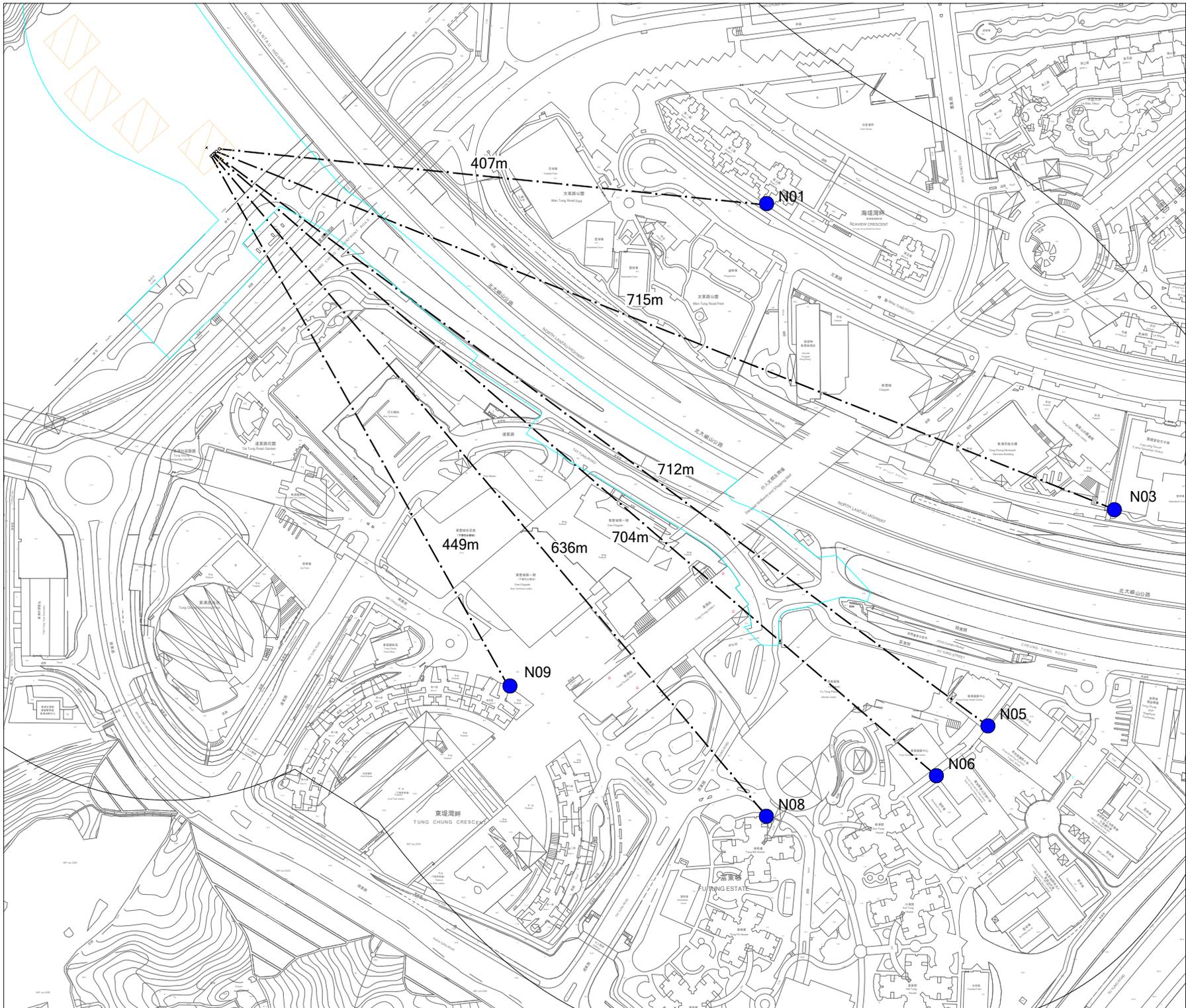
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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location

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LEGEND:

-  Works Area
-  300m Assessment Area
-  Site Area A
-  Representative NSR
-  Notional Source Positions

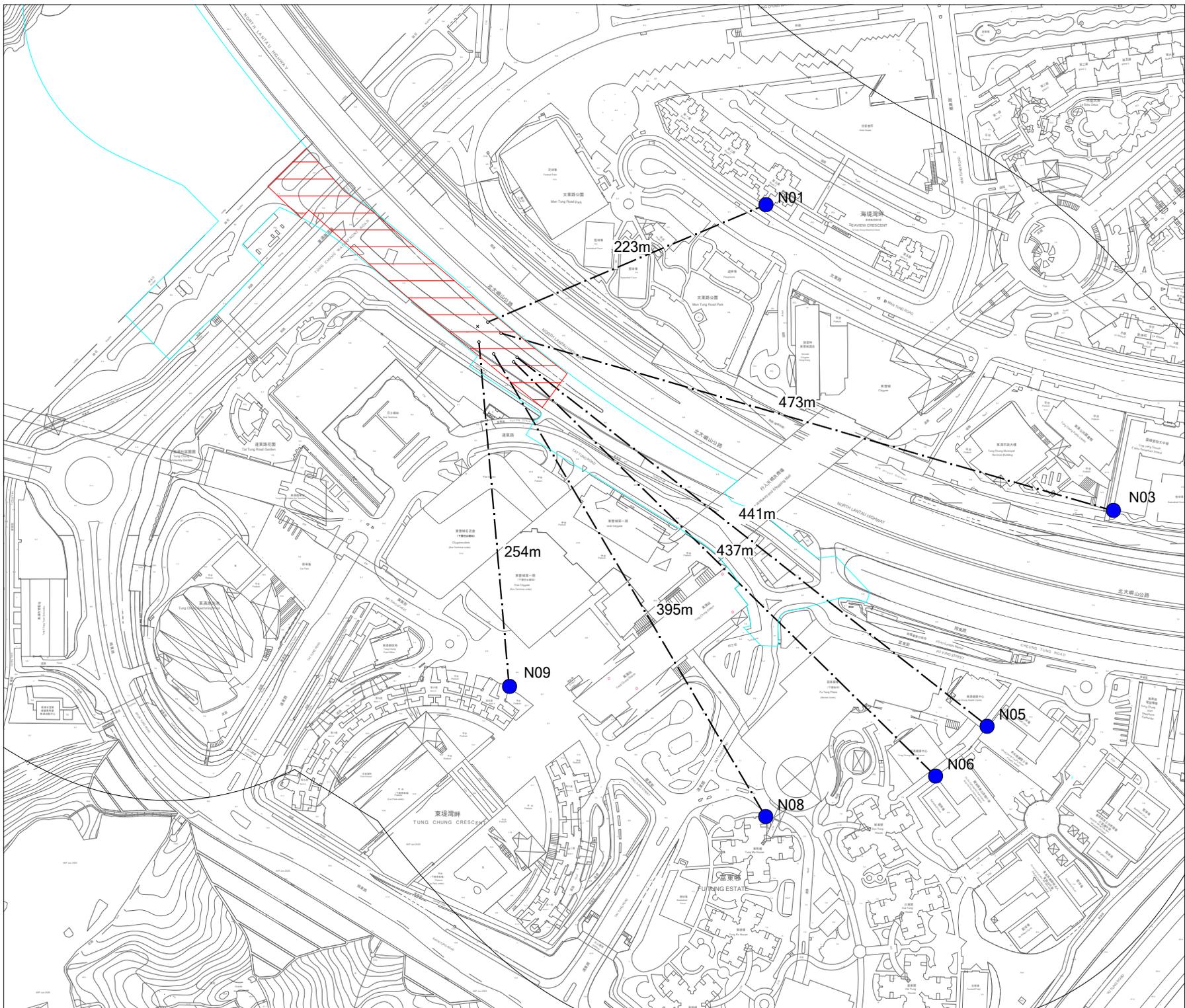
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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

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LEGEND:

- Works Area
- 300m Assessment Area
- Site Area B
- Representative NSR
- Notional Source Positions

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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

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- LEGEND:**
- Works Area
 - 300m Assessment Area
 - Site Area C
 - Representative NSR
 - Notional Source Positions

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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

Drawing No. FIGURE 6.2c	Rev. 0
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LEGEND:

- Works Area
- 300m Assessment Area
- Site Area D
- Representative NSR
- Notional Source Positions

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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

Drawing No. FIGURE 6.2d	Rev. 0
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LEGEND:

- Works Area
- 300m Assessment Area
- Site Area E
- Representative NSR
- Notional Source Positions

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Date	20250919	20250919	20250919

Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

Drawing No. FIGURE 6.2e	Rev. 0
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LEGEND:

- Works Area
- 300m Assessment Area
- Site Area F
- Representative NSR
- Notional Source Positions

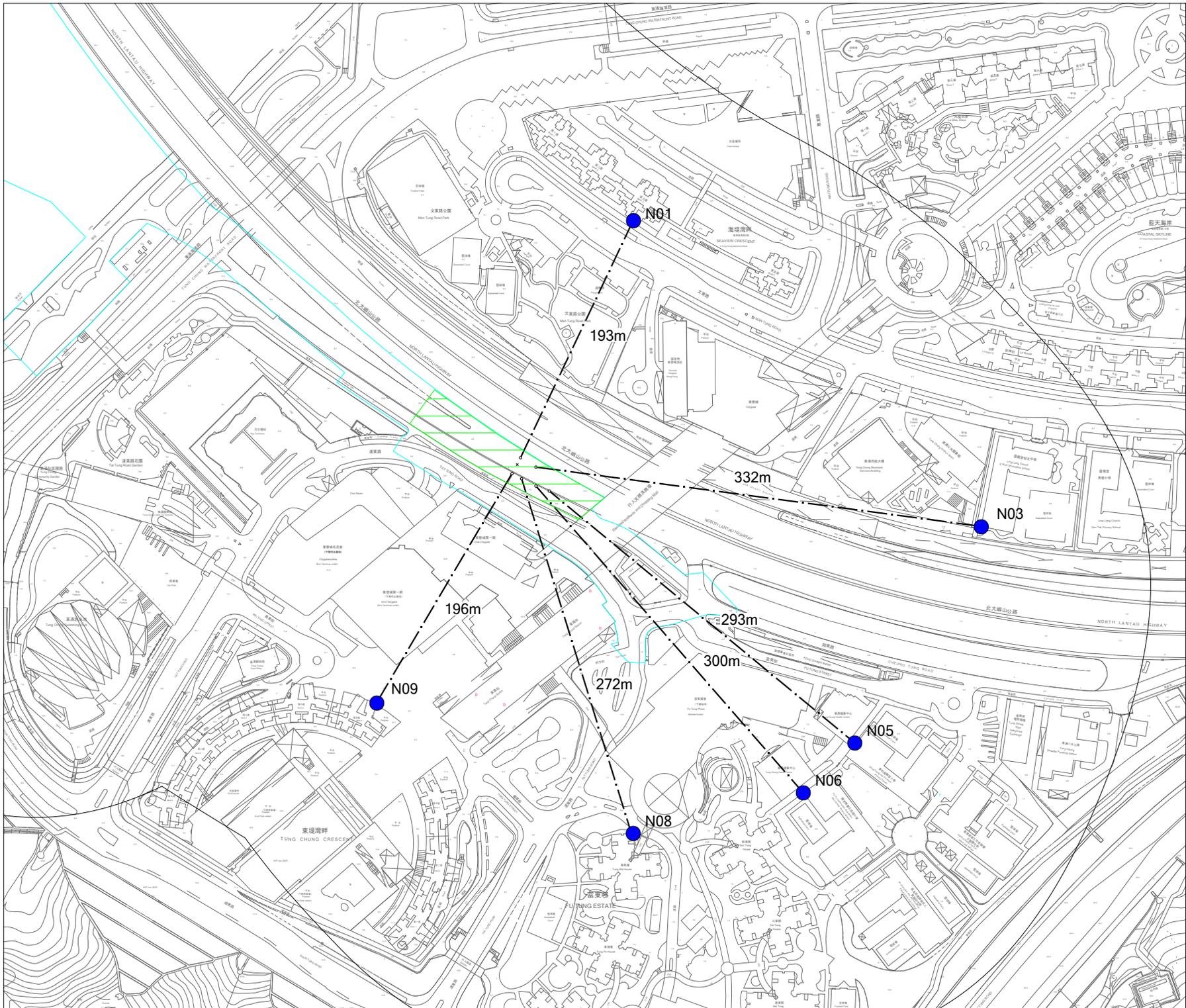
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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

Drawing No. FIGURE 6.2f	Rev. 0
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LEGEND:

- Works Area
- 300m Assessment Area
- Site Area G
- Representative NSR
- Notional Source Positions

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Project Title
 Airport Tung Chung Link

Drawing Title
 NSR Location and Notional Distance

Drawing No. FIGURE 6.2g	Rev. 0
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APPENDIX 5.1: CONSTRUCTION PROGRAMME

APPENDIX 7.2: PROPOSED CONSTRUCTION PLANT INVENTORY

Airport Tung Chung Link

ID	Group	PME Description	TM or other ref.	No. of PME	SWL dB(A)/unit	% on time	Total SWL dB(A)	Noise Mitigation Measure	Screening Effect		Total SWL dB(A)	
									Before Mitigation	After Mitigation		
Construction Works of Bored Pile (Pier 1-7)												
P1A		Crane, mobile	CNP 048	3	112	50%	114	QPME	100	0	102	
		Piling, large diameter bored, oscillator	CNP 165	2	115	70%	116	Noise Barrier	115	-5	111	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112	Noise Barrier	112	-5	107	
		Piling, large diameter bored, reverse circulation drill	CNP 166	2	100	70%	101		100	0	101	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	2	102	70%	103	QPME, Noise Barrier	100	-5	96	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	95	70%	96	QPME	90	0	91	
		Power pack (diesel)	OCUCNP	2	100	70%	101	Noise Barrier	100	-5	96	
		Bar bender and cutter (electric)	CNP 021	2	90	50%	90		90	0	90	
		Water pump (electric)	CNP 281	6	88	50%	93		88	0	93	
		Concrete lorry mixer	CNP 044	2	109	100%	112	Noise Barrier	109	-5	107	
		Concrete pump, stationary/lorry mounted	CNP 047	2	109	100%	112	Noise Barrier	109	-5	107	
		Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCUCNP	2	105	50%	105		105	0	105	
		Breaker, electric hand-held, 18kg ≤ mass ≤ 35kg	OCUCNP	2	108	100%	111	Noise Barrier	108	-5	106	
		Drill, hand-held (battery)	OCUCNP	2	89	50%	89	Noise Barrier	89	-5	84	
		Welding machine	OCUCNP	3	80	100%	85		80	0	85	
		Wastewater treatment plant, water flow rate ≤ 80m³/hr	OCUCNP	2	83	100%	86		83	0	86	
		Lorry, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112		112	0	112	
		Excavator, wheeled/tracked	CNP 081	2	112	100%	115	Noise Barrier	112	-5	110	
		Breaker, excavator mounted (hydraulic)	CNP 028	1	122	70%	120	Hammer Bracket	122	-10	110	
								Quieter Type Saw ^[5]	106	0	104	
Total							125		Total	119		
Max SWL							125		Max SWL	119		
P1B		Crane, mobile	CNP 048	3	112	50%	114	QPME	100	0	102	
		Piling, vibrating hammer	OCUCNP	2	115	70%	116	Noise Barrier	115	-5	111	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112	Noise Barrier	112	-5	107	
		Piling, large diameter bored, reverse circulation drill	CNP 166	2	100	70%	101		100	0	101	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	2	102	70%	103	QPME, Noise Barrier	100	-5	96	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	95	70%	96	QPME	90	0	91	
		Power pack (diesel)	OCUCNP	2	100	70%	101	Noise Barrier	100	-5	96	
		Bar bender and cutter (electric)	CNP 021	2	90	50%	90		90	0	90	
		Water pump (electric)	CNP 281	6	88	50%	93		88	0	93	
		Concrete lorry mixer	CNP 044	2	109	100%	112	Noise Barrier	109	-5	107	
		Concrete pump, stationary/lorry mounted	CNP 047	2	109	100%	112	Noise Barrier	109	-5	107	
		Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCUCNP	2	105	50%	105		105	0	105	
		Breaker, electric hand-held, 18kg ≤ mass ≤ 35kg	OCUCNP	2	108	100%	111	Noise Barrier	108	-5	106	
		Drill, hand-held (battery)	OCUCNP	2	89	50%	89	Noise Barrier	89	-5	84	
		Welding machine	OCUCNP	3	80	100%	85		80	0	85	
		Wastewater treatment plant, water flow rate ≤ 80m³/hr	OCUCNP	2	83	100%	86		83	0	86	
		Lorry, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112		112	0	112	
		Excavator, wheeled/tracked	CNP 081	2	112	100%	115	Noise Barrier	112	-5	110	
		Breaker, excavator mounted (hydraulic)	CNP 028	1	122	70%	120	Hammer Bracket	122	-10	110	
								Quieter Type Saw ^[5]	106	0	104	
Total							125		Total	119		
Max SWL							125		Max SWL	119		
Construction Works of Bored Pile (Pier 13-20)												
P4A		Crane, mobile	CNP 048	3	112	50%	114	QPME	100	0	102	
		Piling, large diameter bored, oscillator	CNP 165	2	115	70%	116	Noise Barrier	115	-5	111	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112	Noise Barrier	112	-5	107	
		Piling, large diameter bored, reverse circulation drill	CNP 166	2	100	70%	101		100	0	101	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	2	102	70%	103	QPME	100	0	101	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	95	70%	96	QPME	90	0	91	
		Power pack (diesel)	OCUCNP	2	100	70%	101	Noise Barrier	100	-5	96	
		Bar bender and cutter (electric)	CNP 021	2	90	50%	90		90	0	90	
		Water pump (electric)	CNP 281	6	88	50%	93		88	0	93	
		Concrete lorry mixer	CNP 044	2	109	100%	112	Noise Barrier	109	-5	107	
		Concrete pump, stationary/lorry mounted	CNP 047	2	109	100%	112	Noise Barrier	109	-5	107	
		Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCUCNP	2	105	50%	105		105	0	105	
		Breaker, electric hand-held, 18kg ≤ mass ≤ 35kg	OCUCNP	2	108	100%	111	Noise Barrier	108	-5	111	
		Drill, hand-held (battery)	OCUCNP	2	89	50%	89	Noise Barrier	89	-5	84	
		Welding machine	OCUCNP	3	80	100%	85		80	0	85	
		Wastewater treatment plant, water flow rate ≤ 80m³/hr	OCUCNP	2	83	100%	86		83	0	86	
		Lorry, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112		112	0	112	
		Excavator, wheeled/tracked	CNP 081	2	112	100%	115	Noise Barrier	112	-5	110	
		Breaker, excavator mounted (hydraulic)	CNP 028	1	122	70%	120	Hammer Bracket	122	-10	110	
								Quieter Type Saw ^[5]	106	0	104	
Total							125		Total	124		
Max SWL							125		Max SWL	124		
P4B		Crane, mobile	CNP 048	3	112	50%	114	QPME	100	0	102	
		Piling, vibrating hammer	OCUCNP	2	115	70%	116	Noise Barrier	115	-5	111	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112	Noise Barrier	112	-5	107	
		Piling, large diameter bored, reverse circulation drill	CNP 166	2	100	70%	101		100	0	101	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	2	102	70%	103	QPME	100	0	101	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	95	70%	96	QPME	90	0	91	
		Power pack (diesel)	OCUCNP	2	100	70%	101	Noise Barrier	100	-5	96	
		Bar bender and cutter (electric)	CNP 021	2	90	50%	90		90	0	90	
		Water pump (electric)	CNP 281	6	88	50%	93		88	0	93	
		Concrete lorry mixer	CNP 044	2	109	100%	112	Noise Barrier	109	-5	107	
		Concrete pump, stationary/lorry mounted	CNP 047	2	109	100%	112	Noise Barrier	109	-5	107	
		Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCUCNP	2	105	50%	105		105	0	105	
		Breaker, electric hand-held, 18kg ≤ mass ≤ 35kg	OCUCNP	2	108	100%	111	Noise Barrier	108	-5	111	
		Drill, hand-held (battery)	OCUCNP	2	89	50%	89	Noise Barrier	89	-5	84	
		Welding machine	OCUCNP	3	80	100%	85		80	0	85	
		Wastewater treatment plant, water flow rate ≤ 80m³/hr	OCUCNP	2	83	100%	86		83	0	86	
		Lorry, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112		112	0	112	
		Excavator, wheeled/tracked	CNP 081	2	112	100%	115	Noise Barrier	112	-5	110	
		Breaker, excavator mounted (hydraulic)	CNP 028	1	122	70%	120	Hammer Bracket	122	-10	110	
								Quieter Type Saw ^[5]	106	0	104	
Total							125		Total	124		
Max SWL							125		Max SWL	124		
Construction Works of Bored Pile (Pier 12)												
P2	P2A	Crane, mobile	CNP 048	1	112	50%	109	QPME	100	0	97	
		Piling, large diameter bored, oscillator	CNP 165	1	115	70%	113	Noise Barrier	115	-5	108	
		Piling, vibrating hammer	OCUCNP	1	115	70%	113	Noise Barrier	115	-5	108	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	1	112	50%	109	Noise Barrier	112	-5	104	
		Piling, large diameter bored, reverse circulation drill	CNP 166	1	100	70%	98		100	0	98	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	1	102	70%	100	QPME, Noise Barrier	100	-5	93	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	95	70%	93	QPME	90	0	88	
		Power pack (diesel)	OCUCNP	2	100	70%	101	Noise Barrier	100	-5	96	
		Bar bender and cutter (electric)	CNP 021	1	90	50%	87		90	0	87	
		Water pump (electric)	CNP 281	3	88	50%	90		88	0	90	
		Concrete lorry mixer	CNP 044	1	109	100%	109	Noise Barrier	109	-5	104	
		Concrete pump, stationary/lorry mounted	CNP 047	1	109	100%	109	Noise Barrier	109	-5	104	
		Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCUCNP	1	105	50%	102		105	0	102	
		Breaker, electric hand-held, 18kg ≤ mass ≤ 35kg	OCUCNP	1	108	100%	108	Noise Barrier	108	-5	103	
		Wastewater treatment plant, water flow rate ≤ 80m³/hr	OCUCNP	1	83	100%	83		83	0	83	
		Excavator, wheeled/tracked	CNP 081	2	112	100%	115	Noise Barrier	112	-5	110	
		Breaker, excavator mounted (hydraulic)	CNP 028	2	122	70%	123	Hammer Bracket	122	-10	113	
								Quieter Type Saw ^[5]	106	0	107	
		Total							125		Total	118
		Max SWL							125		Max SWL	118
Construction Works of Marine Viaduct (Pier 8-11)												
P3A		Crane, barge mounted (diesel)	CNP 048	1	112	70%	110		112	0	110	
		Piling, large diameter bored, reverse circulation drill	CNP 166	1	100	70%	98		100	0	98	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	1	102	70%	100	QPME	100	0	98	
		Power pack (diesel)	OCUCNP	1	100	70%	98		100	0	98	
		Derrick barge	CNP 061	1	104	70%	102		104	0	102	
		Tug boat	CNP 221	3	110	70%	113		110	0	113	
		Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCUCNP	2	105	50%	105		105	0	105	
		Concrete lorry mixer	CNP 044	4	109	100%	115		109	0	115	
		Concrete pump, stationary/lorry mounted	CNP 047	2	109	100%	112		109	0	112	
		Welding machine	OCUCNP	1	80	100%	80		80	0	80	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	2	112	50%	112		112	0	112	
		Total							120		Total	120
P3B		Crane, mobile	CNP 048	1	112	50%	109	QPME	100	0	97	
		Lorry, with crane/grab, gross vehicle weight > 38 tonne	OCUCNP	1	112	50%	109		112	0	109	
		Drill rig, rotary type (diesel)	OCUCNP	1	110	70%	108		110	0	108	
		Air compressor, air flow > 10 m³/min and ≤ 30 m³/min	CNP 002	1	102	70%	100	QPME	100	0	98	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	95	70%	93	QPME	90	0	88	
		Welding machine	OCUCNP	3	80	100%	85		80	0	85	
		Water pump (electric)	CNP 281</									

APPENDIX 7.3: CONSTRUCTION NOISE CALCULATIONS (UNMITIGATED)

**Airport Tung Chung Link
Predicted Construction Noise Levels for Representative NSRs
Unmitigated Scenario**

NSR: N01 Seaview Crescent

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026							
							Month	Project Month	10	11	12	1	2	3	4	5	6	7	8	9	10
									3	4	5	6	7	8	9	10	11	12	1	2	3
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	407	3	63											63	63	63		
B	Viaduct 1 (Pier 1 - Pier 7)	P1	125	223	3	73							73	73	73	73	73	73	73		
C	Viaduct 2 (Pier 12)	P2	125	527	3	66											66	66	66		
D	Viaduct 3 (Pier 13 - Pier 20)	P4	125	2382	3	52											52	52	52		
E	Sea Wall Modification	S1	119	482	3	60											60	60			
F	Sea Wall Modification	S1	119	870	3	55											55	55			
G	Tung Chung Central Station (Sheet Pile)	T1	117	193	3	66											66	66	66		
							Total SPL, dB(A)					74	74	75	74	74					
							Noise criteria, dB(A)					75	75	75	75	75					

NSR: N03 Ling Liang Church E Wun Secondary School

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026							
							Month	Project Month	10	11	12	1	2	3	4	5	6	7	8	9	10
									3	4	5	6	7	8	9	10	11	12	1	2	3
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	715	3	58											58	58	58		
B	Viaduct 1 (Pier 1 - Pier 7)	P1	125	473	3	66											66	66	66		
C	Viaduct 2 (Pier 12)	P2	125	858	3	62											62	62	62		
D	Viaduct 3 (Pier 13 - Pier 20)	P4	125	2575	3	52											52	52	52		
E	Sea Wall Modification	S1	119	824	3	56											56	56			
F	Sea Wall Modification	S1	119	1195	3	52											52	52			
G	Tung Chung Central Station (Sheet Pile)	T1	117	332	3	62											62	62	62		
							Total SPL, dB(A)					68	68	69	68	68					
							Noise criteria, dB(A)					65	65	65	65	65					

NSR: N05 Ching Chung Hau Po Woon Primary School

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026							
							Month	Project Month	10	11	12	1	2	3	4	5	6	7	8	9	10
									3	4	5	6	7	8	9	10	11	12	1	2	3
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	712	3	58											58	58	58		
B	Viaduct 1 (Pier 1 - Pier 7)	P1	125	441	3	67											67	67	67		
C	Viaduct 2 (Pier 12)	P2	125	870	3	62											62	62	62		
D	Viaduct 3 (Pier 13 - Pier 20)	P4	125	2740	3	51											51	51	51		
E	Sea Wall Modification	S1	119	865	3	55											55	55			
F	Sea Wall Modification	S1	119	1286	3	52											52	52			
G	Tung Chung Central Station (Sheet Pile)	T1	117	293	3	63											63	63	63		
							Total SPL, dB(A)					68	68	69	69	69					
							Noise criteria, dB(A)					65	65	65	65	65					

[1] SPL = SWL - 10*log(2*PI*r²) + façade correction [where PI = 3.1416 and r is the distance of NSR from notional noise source]

[2] The figures are rounded-off to a whole number

[3] Construction work for Pier 8-11 will not overlap with each other

[4] Max SWL is adopted for activity ID P1, P3 and P4 in the calculation for worst-case scenario

**Airport Tung Chung Link
Predicted Construction Noise Levels for Representative NSRs
Unmitigated Scenario**

NSR: N06 Po On Commercial Association Wan Ho Kan Primary School

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026										
							Month		10	11	12	1	2	3	4	5	1	2	3	4	5			
							Project Month		3	4	5	6	7	8	9	10	1	2	3	4	5			
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	704	3	58												58	58	58				
B	Viaduct 1 (Pier 1 - Pier 7)	P1	125	437	3	67								67	67			67	67	67				
C	Viaduct 2 (Pier 12)	P2	125	867	3	62												62	62	62				
D	Viaduct 3 (Pier 13 - Pier 20)	P4	125	2781	3	51								51	51			51	51	51				
E	Sea Wall Modification	S1	119	871	3	55												55	55					
F	Sea Wall Modification	S1	119	1304	3	52												52	52					
G	Tung Chung Central Station (Sheet Pile)	T1	117	300	3	62								62	62	62								
Total SPL, dB(A)																		68	68	70	69	69		
Noise criteria, dB(A)																				65	65	65	65	65

NSR: N08 Fu Tung Estate

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026										
							Month		10	11	12	1	2	3	4	5	1	2	3	4	5			
							Project Month		3	4	5	6	7	8	9	10	1	2	3	4	5			
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	636	3	59												59	59	59				
B	Viaduct 1 (Pier 1 - Pier 7)	P1	125	395	3	68								68	68			68	68	68				
C	Viaduct 2 (Pier 12)	P2	125	805	3	62												62	62	62				
D	Viaduct 3 (Pier 13 - Pier 20)	P4	125	2826	3	51								51	51			51	51	51				
E	Sea Wall Modification	S1	119	828	3	56												56	56					
F	Sea Wall Modification	S1	119	1287	3	52												52	52					
G	Tung Chung Central Station (Sheet Pile)	T1	117	272	3	63								63	63	63								
Total SPL, dB(A)																			69	69	70	70	70	
Noise criteria, dB(A)																				75	75	75	75	75

NSR: N09 Tung Chung Crescent

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026											
							Month		10	11	12	1	2	3	4	5	1	2	3	4	5				
							Project Month		3	4	5	6	7	8	9	10	1	2	3	4	5				
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	449	3	62												62	62	62					
B	Viaduct 1 (Pier 1 - Pier 7)	P1	125	254	3	72								72	72			72	72	72					
C	Viaduct 2 (Pier 12)	P2	125	618	3	65												65	65	65					
D	Viaduct 3 (Pier 13 - Pier 20)	P4	125	2767	3	51								51	51			51	51	51					
E	Sea Wall Modification	S1	119	664	3	58												58	58						
F	Sea Wall Modification	S1	119	1147	3	53												53	53						
G	Tung Chung Central Station (Sheet Pile)	T1	117	196	3	66								66	66	66									
Total SPL, dB(A)																			73	73	74	73	73		
SPL from TCW Station and Tunnels (1201), dB(A)																				72	74	74	74	71	
Cumulative SPL, dB(A)																					75	76	77	77	75
Noise criteria, dB(A)																					75	75	75	75	75

[1] SPL = SWL - 10*log(2*PI*r²) + façade correction [where PI = 3.1416 and r is the distance of NSR from notional noise source]

[2] The figures are rounded-off to a whole number

[3] Construction work for Pier 8-11 will not overlap with each other

[4] Max SWL is adopted for activity ID P1, P3 and P4 in the calculation for worst-case scenario

APPENDIX 7.4: CATALOGUE AND SECTIONAL DRAWING OF NOISE BARRIER



Acoustics Innovation

SilentUP® Retractable Noise Barrier

PATENTED



Product of Hong Kong
**THE WORLD'S FIRST
RETRACTABLE NOISE BARRIER**
27dB(A) NOISE REDUCTION*

* Tested with white noise source with SilentUP® STC24

Happy Valley Race Course



Roadworks



Breaking
Drilling



Piling



Loading
Unloading



Concreting

aihk.hk

info@aihk.hk

(852) 2702-2007

R&D Division of





Acoustics Innovation

SilentUP®

Product Description

SilentUP® is a patented retractable noise barrier for construction works and outdoor music events. It can be easily installed and mobilized by people without using any machines. No concrete foundation is required and the installation process is quiet enough to be conducted even at night time. The panels are installed upwards from ground level and connected by magnetic gap sealing.

Our product has been widely used in Hong Kong. Visit our website for the job references aihk.hk/SilentUP/reference.

Benefits

- ▶ Minimize noise complaints
- ▶ Quiet and manual installation
- ▶ No concrete foundation required
- ▶ Flexible construction site planning
- ▶ Facilitate Construction Noise Permit (CNP) application process

Technical Information

SilentUP® noise barrier material conforms to the flammability requirement specifications.

BS5867-2:2008 TYPE B
GF8624

Product Specification

STC	18	24
Insertion Loss*	22 dB(A)	27 dB(A)
Modular Weight	5kg	8kg
Maximum Height	7m	5m
Modular Size	1m(H) x1.35m(W)	
Standard Colour	Grey	
Panel Thickness	100mm on edges	

* Tested with white noise source



CITF 建造業
創科基金

CITF Pre-approved Product

Eligible contractors can apply for CITF.

citf.cic.hk

Installation videos available at aihk.hk/youtube

aihk.hk

info@aihk.hk

(852) 2702-2007

R&D Division of



Care has been taken to ensure the provided information is accurate, but Acoustics Innovation Ltd, does not accept responsibility or liability for errors or information which is found to be misleading.



Client Feedback

“Some of our contractors have used the retractable noise barriers to facilitate CNP application. They have found this innovative product useful - lightweight, easy to manoeuvre, and fit for purpose.”

Richard Kwan
Former Environment Manager
MTR Corporation Ltd

“We are impressed by SilentUP’s quick installation and relocation, it is definitely one of the best innovations and practicable “ approaches for the noise mitigation measures for the construction activities.”

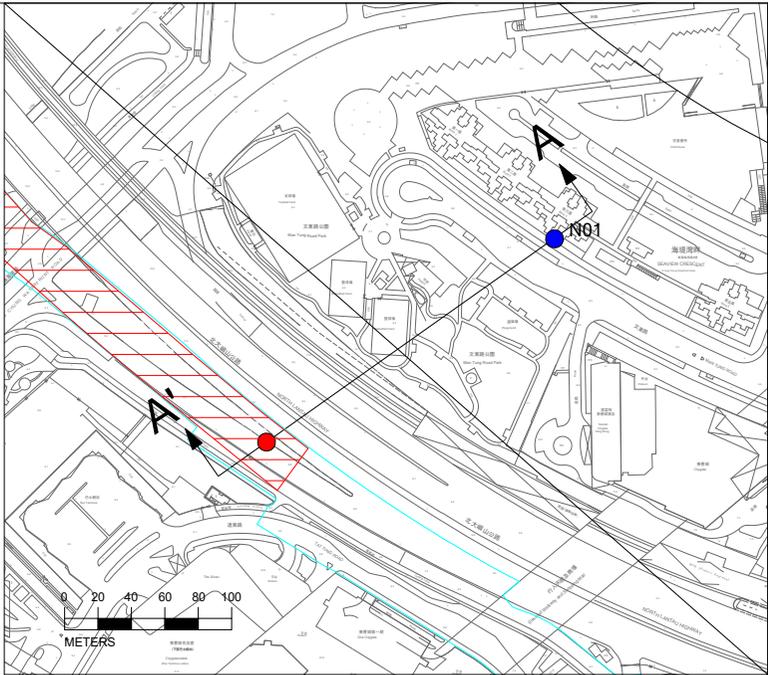
Lighting Chan
Environmental Compliance Support Manager,
Leighton Asia Ltd

“We are happy with Acoustics Innovation’s professional service (SilentUP Noise Barrier) in helping us achieve our noise mitigation goals.”

Ronald Fung
Project QA & Environmental Manager
Kier - Laing O’Rourke - Kaden Joint Venture

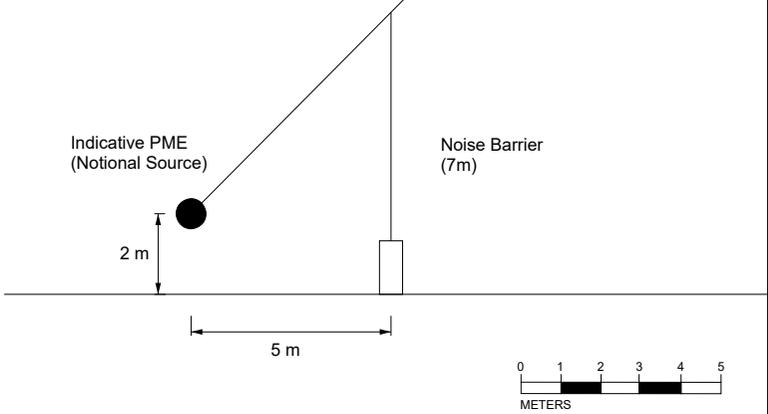
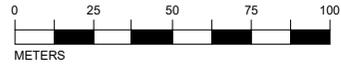
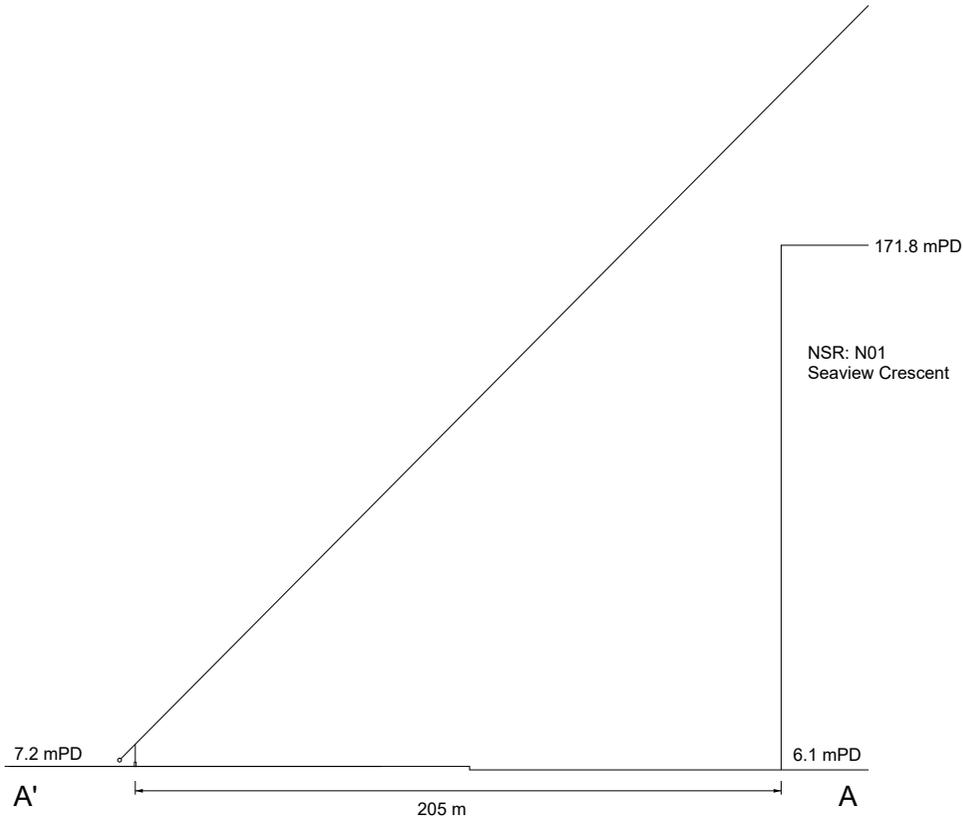
“SilentUP is definitely a useful tool to minimize the noise pollution. We successfully obtained a CNP and most importantly no complaint has been received from the NSRs.”

Clarence Yeung
Environmental Officer
Chun Wo Construction and Engineering Co. Ltd



LEGEND:

- Works Area
- Representative NSR
- Bridge Pier



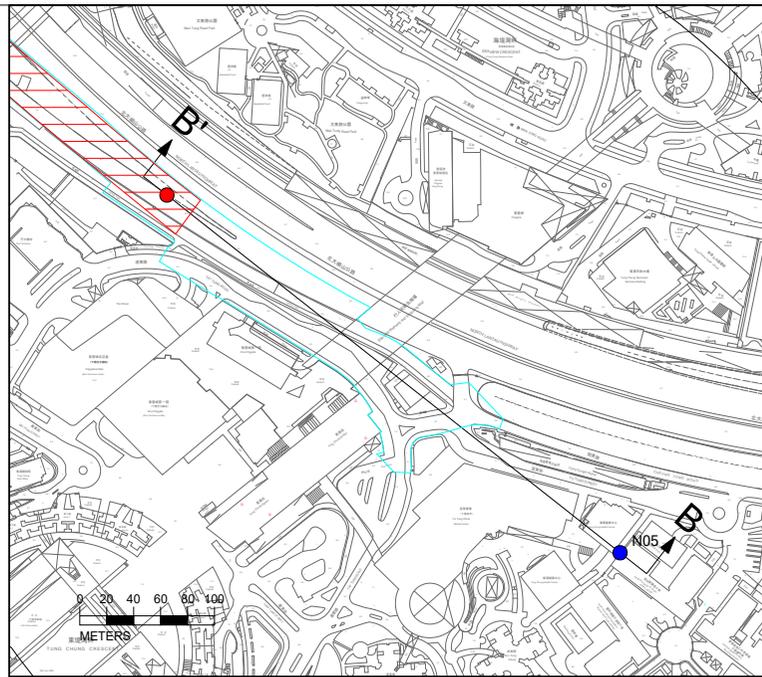
Note:
Noise barriers should be placed as close as practicable to the PME to screen the line-of-sight from the NSRs

	Prepared	Checked	Approved
Initial	LY	HC	HM
Date	20260105	20260105	20260105

Project Title
Airport Tung Chung Link

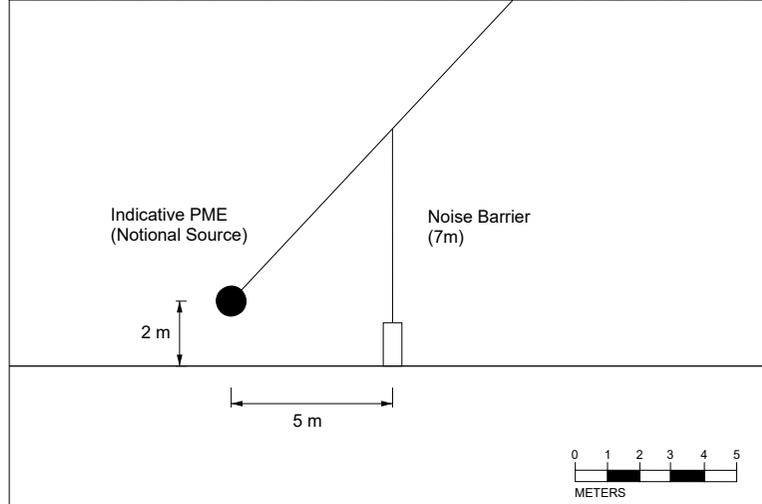
Drawing Title
Schematic Drawing of Mitigation Measures

Drawing No. APPENDIX 7.4a	Rev. 0
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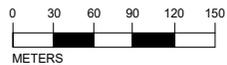
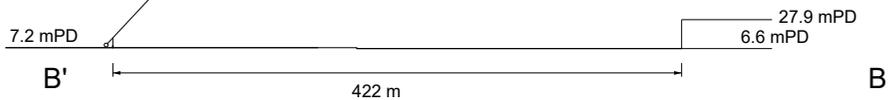
LEGEND:

- Works Area
- Representative NSR
- Bridge Pier



Note:
Noise barriers should be placed as close as practicable to the PME to screen the line-of-sight from the NSRs

NSR: N05
Ching Chung Hau Po
Woon Primary School

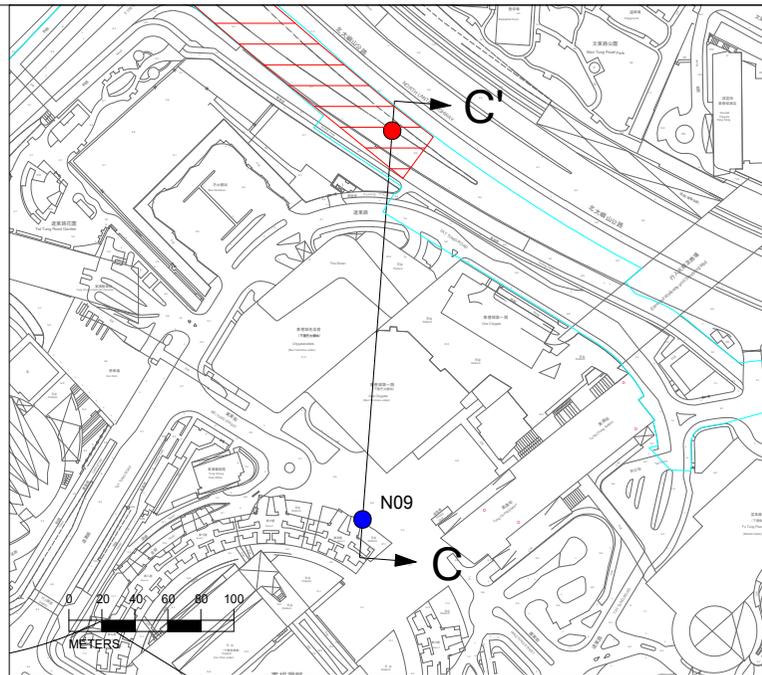


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Initial	LY	HC	HM
Date	20260105	20260105	20260105

Project Title
Airport Tung Chung Link

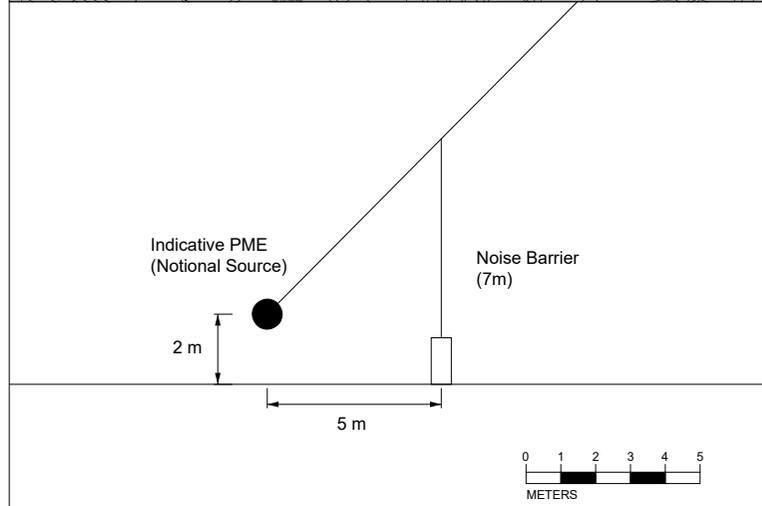
Drawing Title
Schematic Drawing of Mitigation Measures

Drawing No.	Rev.
APPENDIX 7.4b	0



LEGEND:

- Works Area
- Representative NSR
- Bridge Pier



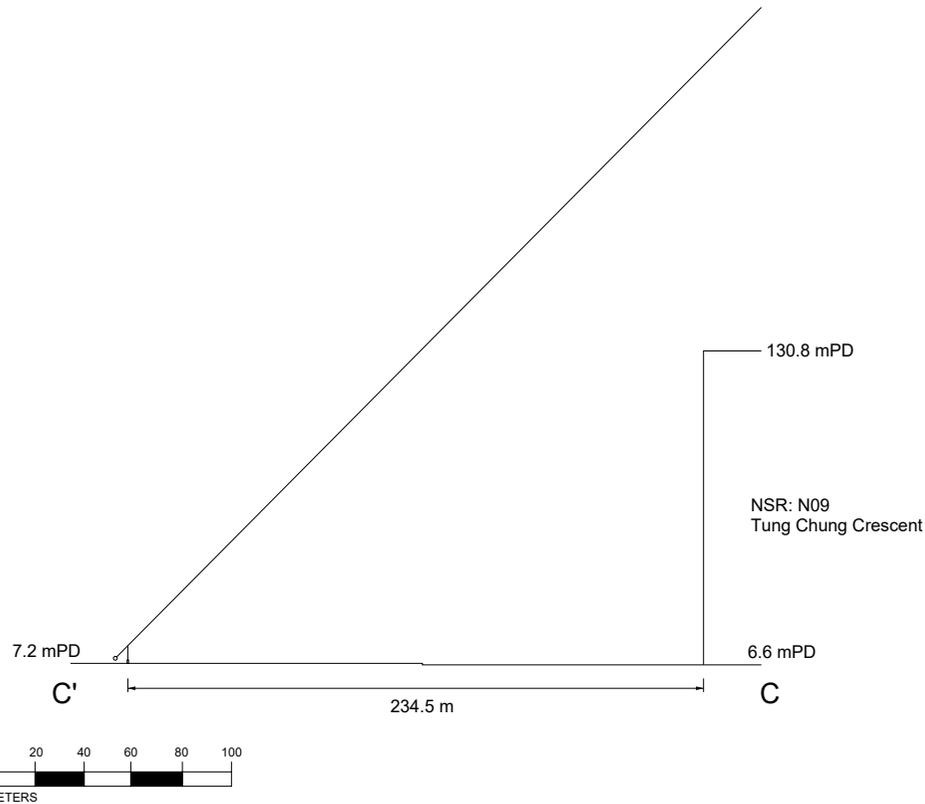
Note:
Noise barriers should be placed as close as practicable to the PME to screen the line-of-sight from the NSRs

	Prepared	Checked	Approved
Initial	LY	HC	HM
Date	20260105	20260105	20260105

Project Title
Airport Tung Chung Link

Drawing Title
Schematic Drawing of Mitigation Measures

Drawing No. APPENDIX 7.4c	Rev. 0
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APPENDIX 7.5: CONSTRUCTION NOISE CALCULATIONS (MITIGATED)

**Airport Tung Chung Link
Predicted Construction Noise Levels for Representative NSRs
Mitigated Scenario**

NSR: N06 Po On Commercial Association Wan Ho Kan Primary School

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026							
							Month		10	11	12	1	2	3	4	5	1	2	3	4	5
							Project Month		3	4	5	6	7	8	9	10	6	7	8	9	10
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	704	3	58												58	58	58	
B	Viaduct 1 (Pier 1 - Pier 7)	P1	119	437	3	61							61	61				61	61	61	
C	Viaduct 2 (Pier 12)	P2	118	867	3	54												54	54	54	
D	Viaduct 3 (Pier 13 - Pier 20)	P4	124	2781	3	50												50	50	50	
E	Sea Wall Modification	S1	118	871	3	54													54	54	
F	Sea Wall Modification	S1	118	1304	3	51													51	51	
G	Tung Chung Central Station (Sheet Pile)	T1	113	300	3	59												59	59	59	
							Total SPL, dB(A)		63					63 65 64 64							
							Noise criteria, dB(A)		65					65 65 65 65							

NSR: N08 Fu Tung Estate

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026							
							Month		10	11	12	1	2	3	4	5	1	2	3	4	5
							Project Month		3	4	5	6	7	8	9	10	6	7	8	9	10
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	636	3	59												59	59	59	
B	Viaduct 1 (Pier 1 - Pier 7)	P1	119	395	3	62							62	62				62	62	62	
C	Viaduct 2 (Pier 12)	P2	118	805	3	55												55	55	55	
D	Viaduct 3 (Pier 13 - Pier 20)	P4	124	2826	3	50												50	50	50	
E	Sea Wall Modification	S1	118	828	3	55													55	55	
F	Sea Wall Modification	S1	118	1287	3	51													51	51	
G	Tung Chung Central Station (Sheet Pile)	T1	113	272	3	59												59	59	59	
							Total SPL, dB(A)		64					64 66 65 65							
							Noise criteria, dB(A)		75					75 75 75 75							

NSR: N09 Tung Chung Crescent

Site Area	Activities	ID	SWL	Dist.	Façade Corr.	SPL	Year		2025					2026							
							Month		10	11	12	1	2	3	4	5	1	2	3	4	5
							Project Month		3	4	5	6	7	8	9	10	6	7	8	9	10
A	Viaduct 2 (Pier 8 - Pier 11)	P3	120	449	3	62												62	62	62	
B	Viaduct 1 (Pier 1 - Pier 7)	P1	119	254	3	66							66	66				66	66	66	
C	Viaduct 2 (Pier 12)	P2	118	618	3	57												57	57	57	
D	Viaduct 3 (Pier 13 - Pier 20)	P4	124	2767	3	51												51	51	51	
E	Sea Wall Modification	S1	118	664	3	57													57	57	
F	Sea Wall Modification	S1	118	1147	3	52													52	52	
G	Tung Chung Central Station (Sheet Pile)	T1	113	196	3	62												62	62	62	
							Total SPL, dB(A)		67					68 69 68 68							
							SPL from TCW Station and Tunnels (1201), dB(A)		72					74 74 74 71							
							Cumulative SPL, dB(A)		73					75 75 75 73							
							Noise criteria, dB(A)		75					75 75 75 75							

[1] SPL = SWL - 10*log(2*PI*r²) + façade correction [where PI = 3.1416 and r is the distance of NSR from notional noise source]

[2] The figures are rounded-off to a whole number

[3] Construction work for Pier 8-11 will not overlap with each other

[4] Max SWL is adopted for activity ID P1, P3 and P4 in the calculation for worst-case scenario

APPENDIX 7.6: IMPLEMENTATION SCHEDULE OF PROPOSED MITIGATION MEASURES

Implementation Schedule of Mitigation Measures

CNMP Ref.	Proposed Mitigation Measures	Target PME	Implemented by	Location	Period	Environmental Performance Required
Section 7	Use of quieter PME is considered to be a practicable means to mitigate the construction noise impact. Quieter plant is defined as a PME having actual SWL lower than the value specified in the GW-TM.	Refer to table 7.2	Main Contractor	All areas of the Project	Jan 2026 – May 2026	Annex 5, EIAO-TM
Section 7	Quieter Construction Method: <ul style="list-style-type: none"> Use of Quieter type saw (e.g. diamond wire saw, diamond blade saw) as far as practicable 	Excavator-mounted breaker	Main Contractor	Pier 1-7, 12, 13-20	Jan 2026 – Mar 2026	Annex 5, EIAO-TM
Section 7	Quieter Construction Method: <ul style="list-style-type: none"> Use of Silent piling by Press-in Method 	Piling machines for sheet piling work	Main Contractor	Tung Chung Central Station (TCCS) Construction	Jan 2026 – Mar 2026	Annex 5, EIAO-TM
Section 7	Quieter Construction Method: <ul style="list-style-type: none"> Use of pre-casting and prefabrication technology 	N/A	Main Contractor	Sea Wall Modification Construction	Apr 2026 – May 2026	Annex 5, EIAO-TM
Section 7	The use of noise barrier for certain PME could generally provide a 5 dB(A) reduction for movable PME and 10 dB(A) for stationary PME. The barrier material shall be long enough and have no opening or gaps.	Refer to Appendix 7.2	Main Contractor	Pier 1-7, 12	Jan 2026 – May 2026	Annex 5, EIAO-TM
Section 7	Use of Hammer Bracket: Tuned mass dampers, tailored breaker cloth and noise mitigating plastic skirt on the breaker head of Hydraulic Breaker	Breaker, excavator mounted (hydraulic)	Main Contractor	Pier 1-7, 12	Jan 2026 – May 2026	Annex 5, EIAO-TM
Section 8	Good Site Management Practices <ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction period; Mobile plant, if any, should be sited as far from NSRs as possible; Plant known to emit noise strongly in one direction should, wherever possible, be properly orientated so that the noise is directed away from the nearby NSRs; Use of site hoarding as a noise barrier to screen noise at low level NSRs; Machines and plant that may be used intermittently should be shut down between works periods or should be throttled down to a minimum; and Any material stockpiles and other structures should be effectively utilized, wherever practicable, to screen the noise from on-site construction activities 	All PME to be operated	Main Contractor	All areas of the Project	Jan 2026 – May 2026	Annex 5, EIAO-TM

**APPENDIX 7.7:
EXTRACTED CNMP FOR TUNG CHUNG
LINE EXTENSION PROJECT
SUBMISSIONS UNDER EP-614/2022**

3 CONSTRUCTION AIRBORNE NOISE (ABN) IMPACT ASSESSMENT

3.1 Construction ABN Impact Assessment Methodology

3.1.1 Construction noise assessment will be conducted based on the following procedures:

- Determine 300m from the boundary of the Project and from any works of the Project;
- Identify and locate representative NSRs that may be affected by the works;
- Obtain the construction method and work sequence for the construction period;
- Obtain the construction plant inventory for each corresponding construction work sequence;
- Determine the Sound Power Levels (SWLs) of the plant items according to the information stated in the GW-TM or other recognised sources of reference, where appropriate;
- Calculate the correction factors based on the distance between the NSRs and the notional noise source positions of the work sites;
- Apply corrections for façade, distance, barrier attenuation, acoustic reflection, where appropriate;
- Predict construction noise levels at the NSRs;
- Quantify the level of impact at the NSRs, in accordance with GW-TM;
- Predict the cumulative noise impacts for any concurrent construction works in the vicinity of the proposed work;
- For any exceedance of noise criteria, all practical mitigation measures such as alternative quieter construction methodology, quiet plant, silencer, enclosure, etc., shall be examined to alleviate the predicted noise impacts as much as practicable.

3.2 Noise Sensitive Receivers (NSRs)

3.2.1 To evaluate the construction noise impacts from the project, representative existing NSRs of the project have been identified and are summarized in **Table 3.1**. Residential premises and educational institutions closest to the construction site areas are identified as the representative NSRs. The locations of the NSRs are shown in **Appendix A**.

Table 3.1: Representative Noise Sensitive Receivers (NSRs)

Site Area	NSR ID	NSR Description	Uses
TCC & EAP/EEP	TCC-01a	Tung Chung Crescent Block 1	Residential
	TCC-03a	Tung Chung Crescent Block 3	
	TCC-05a	Tung Chung Crescent Block 5	
	TCC-07a	Tung Chung Crescent Block 7	Educational Institution
	TCC-09a	Tung Chung Crescent Block 9	
	ESHI-01a	Sunshine House International Pre-school (Tung Chung) #1	
TCW #2	YTE-01a	Yat Tung Estate Fuk Yat House	Residential
	YTE-02a	Yat Tung Estate Luk Yat House	

TCW	YTE-03a	Yat Tung Estate Ying Yat House	Residential
	YTE-04a	Yat Tung Estate Yu Yat House	
	YTE-14a	Yat Tung Estate Chui Yat House	
	YTE-15a	Yat Tung Estate Yuet Yat House	
	YTE-16a	Yat Tung Estate Sui Yat House	
	MTE-01a	Mun Tung Estate Mun Wo House	
	HLP-01a	Ha Ling Pei Village	
	ETCCS-01a	Tung Chung Catholic School Primary Section	Educational Institution
Barging Facility	LED-06a	Le Bleu Deux Block 6	Residential
	LED-07a	Le Bleu Deux Block 7	
	A54-01a	Yu Nga Court	

Remark:

1. No examination will be conducted in ESHI-01a.
2. NSR at Ma Wan Chung (NSR ID: MWC-01a) assessed in the last version of the CNMP is excluded as it was verified by the Lands Department on 29 February 2024 that the village house would be demolished. Therefore, MWC-01a is not considered as NSR in this CNMP.

3.3 Identification of Construction Noise Impacts

3.3.1 Potential noise impacts are likely raised by the following key construction activities:

- Construction of the Tunnel Boring Machine (TBM) launching shaft/retrieval shaft near TCC;
- Underground TBM operation;
- Construction of the EAP/EEP at the artificial slope located West of Shun Tung Road;
- Construction of the underground TCW Station;
- Construction of the above-ground vent shaft structures and the station entrances at TCW Station;
- Establishment and operation of the barging facility at seawall of Tung Chung East

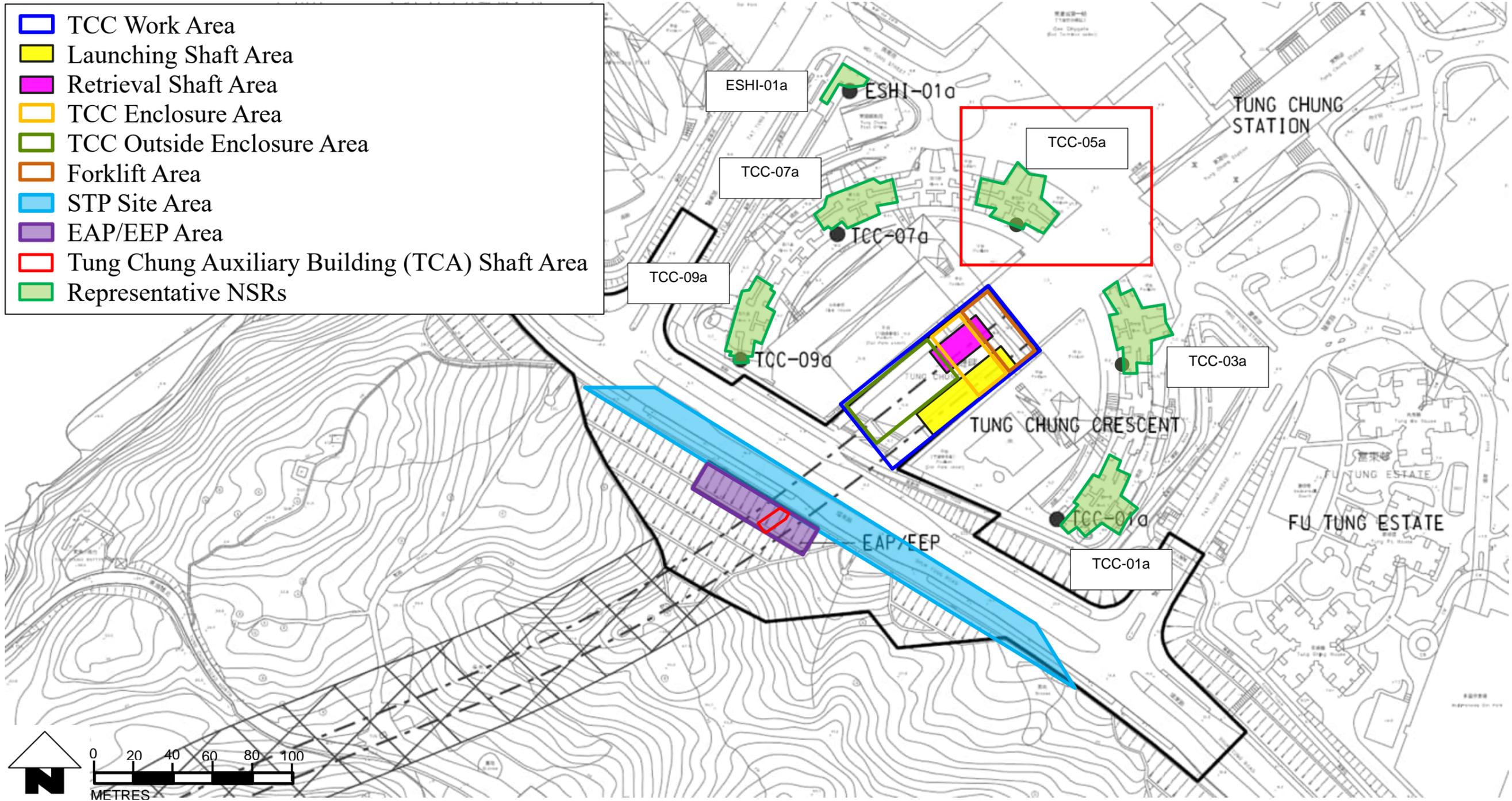
3.3.2 Respective list of Powered Mechanical Equipment (PME) and their detail Sound Power Level (SWL) calculation of key construction activities are listed in **Appendix C**. For PME not included in the GW-TM and the list of 'SWLs of other commonly used PME' by the EPD, their SWL values are made reference to other equipment in the list with similar operation noise and considered reasonable by Project Engineers.

3.3.3 The construction of the Project will be carried out concurrently with the project under Tung Chung New Town Extension (TCNTE). The cumulative noise impacts caused by concurrent projects under TCNTE were assessed in this CNMP. Details of the concurrent construction activities could refer to the approved EIA of TCNTE (Register No. AEIAR-196/2016).

Appendix A

Site Layout of Construction Site

Figure A2: Site Layout of TCC and EAP/EEP



Appendix G2

Detail Noise Calculation (Mitigated)

TCC and EAP/EEP

