ARUP

Appendix E

Environmental Assessment

Prepared by

Ramboll Hong Kong Limited

SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN “RESIDENTIAL (GROUP E)” ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

ENVIRONMENTAL ASSESSMENT

Date	November 2024
Prepared by	Wendy Tin / Kyle Kam Environmental Consultant / Assistant Environmental Consultant
Signed	
Approved by	Tony Cheng Senior Manager
Signed	
Project Reference	CRC_4TYSEI00
Document No.	R9624_v1.0

Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

CHAPTERS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

1.1 Background

1.1.1 The Application Site is located at Yau Tong Marine Lot No.70, Tung Yuen Street (hereinafter collectively called "Application Site"). The Application Site is zoned as "Residential (Group E)" "R(E)" under the Approved Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan No. S/K15/27 (OZP). Figure 1.1 Shows the Location of the Application Site.

1.1.2 Ramboll Hong Kong Limited is commissioned by the Applicants to provide environmental consultancy services and prepare the relevant submissions to demonstrate the environmental sustainability of the Proposed Development for this Section 16 planning application.

1.1.3 The master layout plan (MLP) is provided by the project architect – P&T Group. The traffic forecast for vehicular emission impact assessment and road traffic noise impact assessment is provided by the project traffic consultant – MVA Asia Ltd.

1.2 Application Site and its Environ

1.2.1 The Application Site falls within an area zoned "R(E)" under the Approved Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan No. S/K15/27 (OZP). The area of the Site is about 2,419 m^2 and currently occupied by Wah Tung Godown Building.

1.2.2 The Application Site is bounded by Tung Yuen Street to the east and Ko Fai Road to the north. The surrounding areas are currently dominated by industrial and residential uses. Figure 1.1 Shows the Location of the Application Site and its environs.

1.3 Proposed Development

1.3.1 The Proposed Development consist of 1 residential tower, providing not more than 342 residential units. The residential tower is situated atop a 3 storeys podium for shop and services, eating place, and clubhouse with two level of basements for carparking and loading/ unloading spaces.

1.3.2 The residential towers have a various building height, ranging from ~ 80 mPD to ~ 100 mPD, and the level of first residential floor is ranging from 21.10 mPD.

1.3.3 Detailed development parameters can be referred to Table 1.1 below.

Table 1.1 Development Parameters of the Proposed Development

Tower		
No. of Residential Floors	25	19
Typical Floor Height (m)	1-18/F: 3.10 19/F: 3.4 20-24/F :3.15 25/F: 3.95	3.1
Floor Level of lowest Residential Floor (mPD)	21.10	
Building Height (mPD)	100	80
Ancillary Facilities	Shop and Services, Eating place (3 storeys podium)	
Total no. of residential Units	342	

Completion year	2032
Site Area (m^2)	2,419

1.3.4 The master layout plan, floor plans and section plan of the Proposed Development are shown in Appendix 1.1.

1.4 Key Environmental Issues and Study Approach

Noise

1.4.1 As mentioned, the Application Site is situated immediate to nearby carriageways including Tung Yuen Street and Ko Fai Road. Road traffic noise impact assessment (detailed in Section 3) was therefore conducted to address the potential adverse traffic noise impact that would be generated from these local roads.

1.4.2 Apart from road traffic noise impact, the Application Site is surrounded by various industrial establishments such as concrete batching plants, vehicle repair workshop, Kwun Tong Wholesale Fish Market, Tung Yuen Street Food Market, Yau Tong Saltwater Pumping Station and recycling workshop. In view of the Application Site is located in close proximity to the nearby industrial uses, an industrial noise impact assessment (detailed in Section 4) was carried out to address the potential adverse industrial noise impact on the Proposed Development.

1.4.3 There is no railway noise source identified in the vicinity within 300m of the Application Site and thus, no adverse railway noise impact is anticipated on the Proposed Development.

Air Quality

1.4.4 The Application Site is subject to the nearby emissions from road traffic, concrete batching plants, marine emissions and active chimneys in the industrial areas, so an air quality impact assessment was conducted to assess the air quality concentrations and to recommend mitigation measures, if applicable, to be incorporated in the Proposed Development. The quantitative air quality impacts are addressed in a separate assessment report.

Waste Management and Land Contamination Review

1.4.5 The historical land use and existing condition have been studied for the purpose to identify if there is/was any potentially land contaminating activity held onsite, and actions recommended to be taken afterwards. The details will be discussed in Section 5.

1.4.6 The potential waste management issues in connection with the construction and operation of the Proposed Development Sites will be discussed in Section 5. Waste management Practices and mitigation measures will be recommended in order to alleviate the impacts, where necessary.

1.5 Interim Industrial / Residential Interface

1.5.1 The presence of Industrial / Residential ("I/R") interface scenario has long been a circumstance when the Yau Tong Bay was first zoned as CDA. The Application Site is located at the southwestern fringe of Yau Tong Industrial Area (YTIA). Based on the information, the YTIA is rezoned to "CDA", "R(E)", and "Commercial" zone with the intention of phasing out the existing industrial activities. Currently there are still a number of existing industrial operations in the vicinity of the Application Site under other "CDA" sub-zones and "R(E)" zone, for example the fish market to the southwest

of the Application Site. According to the Notes of the OZP, the "CDA" zone is intended for comprehensive development/redevelopment of the area for residential and/or commercial uses with the provision of open space and other community and supporting facilities. Under the "R(E)" zone, existing industrial uses will be tolerated, while new industrial developments are not permitted in order to avoid perpetuation of I/R interface problems.

1.5.2 It should be emphasised that various recommendations based on the findings of this Environmental Assessment Report have been incorporated in the MLP of the Proposed Development with a view to fully addressing the interim I/R interface issues, including but not limited to the followings:

(i) Podium Design

Podium of 14.40mPD have been incorporated in the current design so that the residential uses start on elevated levels. It can reduce the air quality and noise impacts induced from the nearby roads, especially Tung Yuen Street and Ko Fai Road.

(ii) Building Layout / Orientation

Since the Application Site is located next to Redland Concrete Ltd, single aspect building design has been adopted as a precautionary layout design to minimize the potential noise impact from this industrial noise activity, the similar approach of the adjacent residential development, the Coastline I.

(iii) Direct Noise Mitigation Measures – Enhanced Acoustic Balcony (Baffle Type) in ProPECC PN 5/23 (EAB (BT)- (EPD-PN)]

As mentioned in Section 3.7.6, EAB (BT)- (EPD) with sidewall are proposed for living rooms to mitigate the road traffic noise impact. The industrial noise modelling results shows that there is no exceedance for NSRs F1-01 and F1-02, which immediately next to the concrete batching plant. In fact, the sidewall in the provision of the EAB (BT)- (EPD) applied at F1-01 and F1-02 could be consider as an effective barrier to provide further protection and completely blocked the line of sight from the NSRs to the concrete batching plant. Thus, the predicted industrial noise level in F1-01 and F1-02 should be lower as than modelling results. To present a worst-case scenario, such barrier correction has not applied at the mentioned NSRs in the assessment.

1.5.3 It should be emphasised the findings of this environmental assessment report confirm that there would not be any adverse noise or air quality impact with respect to the Proposed Development. That is, the predicted road traffic and industrial noise levels would comply with the relevant standards and air pollutant concentrations and odour at the fresh air intake locations for the clubhouse would comply with the Air Quality Objectives and odour criterion respectively. Nevertheless, in view of the nearby industrial activities are occurring in close proximity of the Application Site, the applicants would provide channels to assist the future residents to deal with their complaints relating to I/R interface issues of the Proposed Development. For instance, a designated hotline would be setup by the future management office to handle complaints with respect to the interim I/R interface matters. The future management office would also help future owners actively communicate and liaise with the nearby industrial operators to minimise disruption to the future residents.

1.6 Structure of the Environmental Assessment Report

1.6.1 According to the appraisal above, the environmental assessment reports are set out as follows:

- Section 2 Construction Noise Impact Assessment
- Section 3 Road Traffic Noise Impact Assessment
- Section 4 Industrial Noise Impact Assessment
- Section 5 Land Contamination Review and Waste Management
- Section 6 Overall Conclusion of the Environmental Assessment

2. CONSTRUCTION NOISE IMPACT ASSESSMENT

2.1 Introduction

2.1.1 The noise impact assessment is prepared to evaluate potential construction noise impact to the surroundings and to recommend mitigation measures where practicable to attenuate the impact.

2.2 Construction Phase Impact

2.2.1 During the construction phase of the proposed development, major noise impacts would arise from piling works, operation of Powered Mechanical Equipment (PME), and construction-related traffic.

Construction Noise Criteria

2.2.2 Construction noise is controlled under the Noise Control Ordinance (NCO) which prohibits the use of powered mechanical equipment (PME) during the restricted hours (7 p.m. to 7 a.m. on normal weekdays and any time on a public holiday, including Sunday) without a valid Construction Noise Permit (CNP) from the Authority. The criteria and procedures for issuing such a permit are specified in the "Technical Memorandum on Noise From Construction Works Other than Percussive Piling" (TM1). While there is no planned construction works to be carried out during the restricted hours, TM1 should be followed in case there is any need to carry out works in such time period in future.

2.2.3 With effect from 1 November 1996, the use of specified powered mechanical equipment (SPME) for carrying out construction work other than percussive piling and/ or the carrying out of prescribed construction work (PCW) within a designated area are also brought under control. The relevant technical details are provided in the "Technical Memorandum on Noise from Construction Work in Designated Areas" (TM2).

2.2.4 Percussive pilling is controlled similarly by a construction noise permit system and described in the NCO and the "Technical Memorandum On Noise From Percussive Piling" (TM3) which restrict the number of hours during which piling can be conducted. Percussive piling is prohibited between 7 p.m. and 7 a.m. and on holidays (including Sundays). Percussive piling during the daytime (i.e. between 7 a.m. and 7 p.m. on any day not being a holiday) may be carried out in accordance with the permitted hours and other conditions under a valid construction noise permit.

2.2.5 For construction works other than percussive piling, although TM1 does not provide control over daytime construction activities, noise limits as shown in below Table are set out in the "Practice Note for Professional Persons Environmental Consultative Committee" (ProPECC) PN/1 issued in 2024.

Table 2.1 Noise Limit for Daytime Construction Activities

NSR	0700 to 1900 Hours on Any Day Not Being a Sunday or General Holiday, Leq (30 min), dB(A)
Dwelling	75
School	70 (65 during examinations)

Notes:

(i) The above standards apply to uses which rely on opened windows for ventilation;

(ii) The above standards shall be viewed as the maximum permissible noise levels assessed at 1 m from the external façade.

2.2.6 In all circumstances, future contractor will be required to exercise adequate mitigation measures to minimise potential construction noise impact on the surrounding noise sensitive uses.

Mitigation Measures

2.2.7 Sufficient noise mitigation measures should be introduced in the development to alleviate potential noise impacts on nearby NSRs. The Contractor(s) will be required under the contract to ensure regular maintenance of all plant and equipment, and that noise generation at source would be minimized and practicable noise mitigation measures would be in use. The Contractor(s) will be required to adopt quiet type construction plants (e.g. EPD's quality powered mechanical equipment (QPME) inventory), wherever practicable. Similarly, quieter method other than percussive piling will be adopted as far as practicable for any piling works subject to ground investigation result (which usually dictates the piling method). Movable noise barriers will also be erected around noisy plants in order to minimize noise generation at source. With these measures in place noise generation due to construction activities would be minimized.

2.2.8 The following general noise mitigation measures are recommended for implementation:

- Use of quieter equipment and construction method where practicable;
- Application of properly designed silencers, mufflers, acoustically dampened panels and acoustic sheds or shields, etc.;
- Use of electric-powered equipment where applicable instead of diesel-powered or pneumatic-powered equipment;
- Erecting noise enclosures/ movable noise barriers around noisy plants;
- Only well-maintained plants should be operated on-site;
- Plants should be serviced regularly during the construction programme;
- Noisy activities can be scheduled to minimize exposure of nearby NSRs to high levels of construction noise. For example, noisy activities can be scheduled for midday or at times coinciding with periods of high background noise;
- Noisy equipment such as emergency generators shall always be sited as far away as possible from noise sensitive receivers;
- Location of noise emitting plants at maximum possible distances from sensitive receivers;
- Contractual clauses for construction works; and
- Schedule of noisy operations during non-restricted hours where possible.

2.2.9 The above-mentioned noise mitigation measures will be included in the contractual clauses for implementation by the contractor(s) during the construction stage.

2.2.10 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. These clauses spell out the recommended noise control measures to be implemented by the contractor(s) during the construction stage of the Project. The

Project Proponent will include the "Recommended Pollution Control Clauses for Construction Contracts" in the construction contract(s).

2.2.11 With these measures in place, construction noise due to the Proposed Development can be minimized, and no significant noise impact is anticipated.

2.3 Conclusion

2.3.1 With the implementation of recommended mitigation measures, including the use of QPMEs, installing temporary noise barrier and enclosure for PMEs as required in ProPECC PN 1/24, quiet construction methods and applying good site practices and together with the clauses of the "Recommended Pollution Control Clauses for Construction Contracts" in the construction contract(s) implemented by the contractor(s), the noise impact generated during the construction works on the NSRs will be minimised.

3. ROAD TRAFFIC NOISE IMPACT ASSESSMENT

3.1 Introduction

3.1.1 This road traffic noise impact assessment is prepared to address road traffic noise impact on the noise sensitive uses of the Proposed Development and to recommend mitigation measures where practicable to attenuate the impact.

3.2 Assessment Criteria

3.2.1 Noise standards are recommended in Chapter 9, "Environment", of the Hong Kong Planning Standards and Guidelines (HKPSG) for planning against possible noise impact from road traffic, railway and aircrafts.

3.2.2 For the Proposed Development, only dwellings will rely on openable window for ventilation purpose. The clubhouse will be provided with air-conditioning system and will not be provided with any openable windows / openings for ventilation.

3.2.3 According to the guidelines, the criterion for road traffic noise impact on domestic premises (habitable rooms) is $L_{10(1\text{-hour})}$ 70dB(A). This criterion applies to uses which rely on openable windows for ventilation.

3.3 Assessment Methodology

3.3.1 In this assessment, the potential noise impact arising from nearby existing and future road carriageways on the development has been assessed. It involved the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from traffic flows along existing and future road carriageways situated within or in the vicinity of the Application Site. Calculation of predicted road traffic noise were based on the worst-case peak hour traffic flows projected within a 15-year period from the target completion date (Year 2032) of the Proposed Development. For worst-case scenario evaluation, the assessment year was chosen to be year 2047, which has the maximum forecasted traffic flow within the 15-year period. The year 2047 traffic forecast data is prepared by the project traffic consultant and attached in Appendix 3.1.

3.3.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" (CRTN) has been applied to predict the hourly L10(1-hour) noise levels generated from road traffic at selected representative NSRs. Practicable environmental mitigation measures have been recommended, where necessary. The predicted noise levels were compared with the relevant HKPSG noise criterion (i.e., L10(1-hour) 70dB(A)).

3.3.3 Based on the site visit, the construction works at the YTIL 45 has already been started, the building blocks of the YTIL 45 is considered in this assessment as noise barriers.

3.4 Road Characteristics

3.4.1 Appendix 3.1 presents the predicted 2047 peak hour traffic data (i.e. road speed, traffic volume and percentage of heavy vehicle) on the main road carriageways surrounding the Application Site. The Tung Yuen Street is considered to be the dominant road traffic noise sources contributing on the Proposed Development. All roads are assumed with an impervious surface.

3.5 Noise Sensitive Receivers

3.5.1 All residential dwellings with openable windows/doors of habitable room (noise sensitive use) for prescribed ventilation purposes have been assigned with assessment points. All assessment points were taken at 1.2m above the floor and 1m away from

the facade of openable windows in rooms of sensitive use. Figure 3.1 shows the location of the NSRs of dwellings for road traffic noise impact assessment.

3.6 Road Traffic Impact Assessment Result (Base Case)

3.6.1 The assessment result for dwelling under base case scenario is presented in Detailed result is presented in Appendix 3.2 and summarised below.

Table 3.1 Assessment Result under Base Case Scenario

Scenario	Max Predicted Noise Level dB(A)	Total Number of Exceedances	Compliance Rate
AM	74	88	75%
PM	74	80	77%

3.6.2 Based on the result table above, scenario for AM peak flow is considered to be the worst-case scenario. Noise mitigation measures are recommended for the Proposed Development based on the AM scenario to attenuate the road traffic noise impact.

3.7 Proposed Road Traffic Noise Mitigation Measures

3.7.1 Noise mitigation measures have been duly studied and applied where practicable.

a. Podium Building

3.7.2 Since the Proposed Development on slope with the Tung Yuen Street at lower mPD level (+3.9 to +4.6 mPD) than the Proposed Development (+21.10 mPD FFL for first typical residential floor) podium (+14.40 mPD) has been provided to the Application Site. The podium would provide some shielding effects and increase the separation between the noise sources for the residential units.

b. Acoustic Window / Enhanced Acoustic Balcony (Baffle Type) (AW(BT)-(EPD-PN) / EAB(BT)-(EPD-PN)

3.7.3 Innovative noise mitigation measures are being explored in recent years. Baffle type acoustic windows and acoustic doors have been adopted for numerous residential developments for attenuating road traffic noise. It is understood that Environmental Protection Department (EPD) has issued the ProPECC PN 5/23 Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact (hereafter referred as "EPD-PN") for mitigating road traffic noise impact.

3.7.4 The reference cases in EPD-PN have been proposed in the Proposed Development. It refers to the type of window that has an inner sliding panel behind the outer opening, both readily openable, for creating an air gap for the supply of fresh air with noise mitigation effect. It comprises two glazing: -

(i) the outer window system with side hung openable window; and

(ii) the inner sliding panel.

3.7.5 The "designed setting" to reduce noise entering indoor area is achieved by placing the inner sliding panel behind the openable window, so that noise from outside cannot pass through the opening window and enter indoor area directly. As there is no gap at top and bottom of the sliding panel, direct transmission of sound energy into the habitable room is avoided. Instead, outdoor noise has to pass through the gap between the inner sliding panel and outer façade aside the opening window in order to enter indoor area. The design allows natural ventilation through the aforementioned gap (although extent of natural ventilation may be inferior to the case without the inner

sliding panel behind) and prevent most noise from entering indoor environment. According to the latest PNAP APP-130: "Lighting and Ventilation Requirements – Performance-based Approach", the proposed EAB(BT)-(EPD-PN) and AW(BT)-(EPD-PN) are considered complying with prescribed ventilation requirement if the net opening when the inner sliding panel is moved to another side with least obstruction to the openable window at the outer façade.

3.7.6 A road traffic noise sound attenuation of EAB(BT)-(EPD-PN) with sidewall applied in 14m^2 living rooms reaches 8.0 dB(A), and AW(BT)-(EPD-PN) applied in 8m^2 bedroom can reach 6.0 dB(A). The indicative EAB(BT)-(EPD-PN) and AW(BT)-(EPD-PN) design adopted in the Proposed Development is shown in Error! Reference source not found..

3.7.7 The outer opening size & room size also play a significant role in affecting the sound attenuation performance. The sound attenuation performance provided by EAB(BT)-(EPD-PN) and AW(BT)-(EPD-PN) increases with room size because of the longer reverberation time and lower reverberation effect in larger room. Due to the room size difference between the Proposed Development and the EPD-PN, further adjustment is needed and is made by accounting the difference between the room size between the Proposed Development and the EPD-PN. As a conservative approach, the corrected noise level would not be greater than the EPD-PN even the room size of the Proposed Development is larger than the EPD-PN. Error! Reference source not found. shows the sound attenuation adjustment of EAB(BT)-(EPD-PN) and AW(BT)-(EPD-PN) adopted in the Proposed Development. In case, the noise reduction of the proposed EAB(BT)-(EPD-PN) and AW(BT)-(EPD-PN) is higher than the residual exceedance, it is assumed that the reduction is equal to the residual exceedance for conservative assessment approach.

3.8 Road Traffic Impact Assessment Result (Mitigated Case)

3.8.1 The predicted road traffic noise effects on the selected NSRs based on the noise mitigation measures discussed above were assessed and presented in Appendix 3.5. With the implementation of the above recommended mitigation measure, full compliance can be achieved for the residential towers. The compliance rate would be 100%.

3.9 Conclusion

3.9.1 Road traffic noise impact assessment has been carried out for the Proposed Development.

3.9.2 Effective noise mitigation measures have been explored, which include podium building, acoustic window (baffle type), acoustic balcony (baffle type).

3.9.3 With the implementation of the above mitigation, no exceedance is found, i.e., 100% full compliance with the traffic noise standard. No adverse road traffic noise impact is anticipated for the Proposed Development. Figure 3.2 and Appendix 3.6 show the location and schedule of the consolidated noise mitigation measures respectively.

4. INDUSRTIAL NOISE IMPACT ASSESSMENT

4.1 Introduction

4.1.1 The aim of this study is to assess potential noise impacts arising from nearby industrial noise source of the industrial buildings and activities on the Proposed Development. Practicable noise mitigation measures would be recommended, where necessary.

4.1.2 There is a planning application (A/K15/129) of residential development is located at 18-20 Sze Shan Street southeast to the Proposed Development (hereinafter referred as "129 Approval Scheme") recently approved in 2023. The information from this recently approved planning application is referenced for this assessment. Site visits had been carried out in Aug, Sep, Nov, Dec 2023, and Feb, Oct and Nov 2024 to review and update the information of the industrial activities in the area in comparison with that identified in the 129 Approval Scheme. In general, the industrial noise sources identified in the 129 Approval Scheme remains. Apart from that identified in the 129 Approval Scheme, there is a temporary recycling workshop "全記" located north of the Ko Fai Road.

4.1.3 Since the Application Site is located next to Redland Concrete Ltd, single aspect building design has been adopted as a precautionary layout design to minimize the potential noise impact from this industrial noise activity, the similar approach of the adjacent residential development, the Coastline I.

4.2 Assessment Criteria

4.2.1 Industrial noise impact assessment has been conducted in accordance with the Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM), published under the Noise Control Ordinance (NCO). The IND-TM specifies the applicable Acceptable Noise Levels (ANLs) at Noise Sensitive Receivers (NSRs) which are dependent on the Area Sensitivity Rating (ASR) and the time period concerned. The ASR of NSR is determined based on the perceived usage of the study area and the presence of any influencing factors such as major roads, industrial areas, and airports.

4.2.2 The Application Site is located in urban area. Since there are a number of industrial establishments surrounding the site, such as Mai Tong Industrial Building, Ajisen Group Tower, Safer Industrial Building, Wholesale Fish Market, Redland Concrete Ltd., as well as other industrial buildings within 300m from the site etc), the Application Site is considered to be either directly or indirectly affected by these influence factors. According to the TM for the Assessment of Noise from Places or Construction Sites, an Urban Area with directly or indirectly affected by the Influence Factor is considered to having the Area sensitivity rating (ASR) of "C". Noise standards of 70 dB(A) and 60 dB(A) are adopted for daytime and night-time respectively.

4.2.3 For the façade facing away from the clusters of the industrial establishment, i.e. facing towards the Victoria Harbour, these façades are considered to be not affected by the influencing factor, and so ASR "B" is adopted.

4.2.4 Figure 4.1 shows the applicable ASR of the noise sensitive facades of the Proposed Development.

Table 4.1 Acceptable Noise Level (ANLs), dB(A)

Time Period	ASR	
	B	C
Day and Evening (0700 to 2300 hours)	65	70
Night (2300 to 0700 hours)	55	60

4.3 Industrial Noise Sources

Site Inspections

4.3.1 According to the recent site surveys carried out in Aug, Sep, Nov, Dec 2023, and Feb, Oct and Nov 2024, there are various industrial establishments in the vicinity of the Application Site. During site surveys, the industrial noise sources identified would include Saltwater Pumping Station, Redland Concrete Ltd., Kwun Tong Wholesale Fish Market, Tung Yuen Street Cooked Food Market, Tung Lee Motor Services Centre, Ko's Brother Hardware Shop, and Cooling Towers at the roof top of Ajisen Group. For the concrete batching plant at the eastern end of Tung Yuen Street, i.e. China Concrete Co. Limited, Hong Kong Concrete Co. Limited, their specified process licences have been expired. Additionally, to the further north of the Application Site, industrial noise generated from material screening and loading & unloading activities as well as were observed temporary recycling workshop "全記" at YTML No.1-4.

4.3.2 Although the Specified Process Licences (SP Licence) of China Concrete Co. Limited and Hong Kong Concrete Co. Limited has been expired and their zoning is for residential use, the industrial noise coming from these concrete batching plants will be considered in the assessment as a hypothetic conservative scenario.

4.3.3 Site inspections, for both day & evening time and night-time, were conducted in Aug, Sep, Nov & Dec 2023, and Feb, Oct and Nov 2024 to verify and update the industrial activities information, if necessary. Figure 4.2 shows the locations of the identified noise sources in the vicinity of the Application Site.

4.3.4 Photo records of site investigation are shown in Appendix 4.1.

Noise Measurement for the Industrial Activities

4.3.5 Noise measurements were carried out by using a calibrated Bruel&Kjaer (B&K) Precision Integration Sound Level Meter Type 2250L, which complies with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). The weather condition was fine with calm wind during measurements, which satisfied the required criteria. The equipment was properly calibrated immediately prior to and following each measurement by a B&K Sound Level Calibrator Type 4321.

4.3.6 Sound Power Levels (SWLs) of the noise activities are determined in accordance with standard acoustical principles, and "International Standard ISO 3746: Acoustics – Determination of sound power levels of noise sources using sound pressure – survey method using an enveloping measurement surface over a reflecting plane" (herein referred as ISO 3746), where necessary and practicable.

4.3.7 For 全記, standard acoustic principle was adopted for measuring the noise level generated from the industrial activities carried out in it. Details is shown in Appendix 4.2.

4.3.8 Measurement locations and data of the industrial noise sources are shown in Appendix 4.2.

4.3.9 Calculations of the SWLs are shown in Appendix 4.3.

4.3.10 Table 4.2 below lists out the identified industrial noise sources and the respective SWLs based on the findings of recent site surveys. The derived SWLs have taken into account the acoustic characteristics of tonality, impulsiveness and intermittency, if any.

Table 4.2 Identified Industrial Noise Sources

Noise Sources	Observations	Key Noise Sources	Noise Source IDs	Type of Industrial Noise Sources (Point Source/ Area Source)	Sound Power Level (SWLs), dB(A)	
					Day & Evening time	Nighttime
China Concrete Co. Limited	General Description and Characteristics • As observed from site surveys, the plant is enclosed without any opening at the top and sides. The main openings were located at the entrance / exit in front of Tung Yuen Street. Derivation of Sound Power Level (SWL) • The measured noise levels of the openings range from 71.8 dB(A) to 81.9 dB(A). • Given the size of the openings are considerable large and the close proximity between the noise source and the NSRs, the SWL is therefore derived in accordance with ISO 3746 (Please refer to Appendix 4.2 and Appendix 4.3 for noise measurement details and derivation of sound power level, respectively). Time Period of Operation • No night-time operation was being observed.	Concrete Batching Plant (Concrete Lorry Mixer)	CCC_1	Area Source	96.3	Nil
		Concrete Batching Plant (Concrete Lorry Mixer)	CCC_2	Area Source	95.2	Nil
		Concrete Lorry Mixer Washing Bay	CCC_3	Area Source	100.4	Nil
		Concrete Lorry Mixer Washing Bay	CCC_4	Area Source	100.4	Nil
		Concrete Batching Plant (Tanker)	CCC_5	Area Source	94.3	Nil
		Concrete Batching Plant (Tanker)	CCC_6	Area Source	97.9	Nil
		Screw Pumping Barge	CCC_7	--	102.0	Nil
Hong Kong Concrete Co. Limited	General Description and Characteristics • Site inspections revealed that the concrete batching plant is enclosed without any opening at the top and sides, resulting in no direct line of sight of the concrete lorry mixed and the associated loading operation within the concrete batching plant to all NSRs of the Proposed Development. There are only openings at the entrance / exit in front of Tung Yuen Street. Derivation of Sound Power Level (SWL) • The measured noise levels of the openings range from 74.4 dB(A) and 82.8 dB(A). • Given the size of the openings are considerable large and the close proximity between the noise source and the NSRs, the SWL is therefore derived in accordance with ISO 3746 (Please refer to Appendix 4.2 and Appendix 4.3 for noise measurement details and derivation of sound power level, respectively). Time Period of Operation • No night-time operation was being observed.	Concrete Batching Plant (Concrete Lorry Mixer)	HKA_1	Area Source	102.4	Nil
		Concrete Batching Plant (Tanker)	HKA_2	Area Source	96.2	Nil
		Screw Pumping Barge	HKA_3	--	102.0	Nil

Kwun Tong Wholesale Fish market	<u>General Description and Characteristics</u> • According to site investigations and as confirmed with the staff of the Wholesale Fish Market, peak hours of the operation of Fish Market are 07:00 – 12:00 for day-time and 04:00 – 6:00 for night-time. During day-time (07:00-12:00), noisy activities include fish unloading activities from fishing boats and lorries from restaurants or supermarkets picking up and packing from the Fish Market before noon which started from the early morning. During night-time (04:00-06:00), there are mainly fish unloading activities from fishing boats. <u>Derivation of Sound Power Level (SWL)</u> • The measured noise levels of the openings range from 64.3 dB(A) to 76.2 dB(A) for day-time and 63.3 dB(A) to 74.3 dB(A) for night-time. • Please refer to Appendix 4.2 for noise measurement details. <u>Time Period of Operation</u> • Both daytime and night-time operations were observed.	Operation Noise	Day & Evening time: WFM_1; Night-time: WFM_1N	Area Source	92.9	91.6
		Loading and Unloading By Marine Vessels	Day & Evening time: WFM_2; Night-time: WFM_2N	Point Source	96.7	94.8
Cooked Food Stall	<u>General Description and Characteristics</u> • The Cooked Food Stall comprises two ordinary cooking stove equipment which are considered to be the major noise sources. <u>Derivation of Sound Power Level</u> • The measured noise levels of the opening was 63.8 dB(A). • Given the size of the openings are considerably large and the close proximity between the noise source and the NSRs, the SWL is therefore derived in accordance with ISO 3746 (Please refer to Appendix 4.2 and Appendix 4.3 for noise measurement details and derivation of sound power level, respectively). <u>Time Period of Operation</u> • The operating hours is observed to be between 07:30 to 17:00. Thus, no night-time operation is anticipated.	Operation Noise	CFS_1	Area Source	75.3	Nil
Ajisen Group Tower	<u>General Description and Characteristics</u> • Four medium size (A) and one small size (B) of cooling towers were identified at the roof top of the building. According to on-site observation, the diameter of four medium size cooling towers is within the range of 1.5m – 2m; while the diameter of the smaller cooling tower is estimated within 1.2m – 1.5m. It is assumed that all 5 nos. of cooling towers are in operation. <u>Derivation of Sound Power Level (SWL)</u> • Due to restriction of access, SPL* provided from catalogue in Appendix 4.5 is applied to evaluate the SWLs of cooling towers based on their estimated size. To make a conservative assumption, the medium cooling towers are assumed as model FT-50 – FT-80 with max. SPL* of 59 dB(A). **SPLs are measured 16m horizontally from the edge of the tower at 1.5m above the foundation level according to the catalogue in Appendix 4.5.* <u>Time Period of Operation</u> • As advised by the property management staff of the Ajisen Group, there would not be any night-time operation within the building and hence the cooling towers would be shut down during night-time period.	Cooling Tower	AGT_1	Point Source	91.1	Nil
			AGT_2	Point Source	91.1	Nil
Safer Industrial Building	<u>General Description and Characteristics</u> • A forklift was parked outside the store with bulks of goods surrounded. Loading and unloading activities with the forklift were observed during site visit. <u>Derivation of Sound Power Level (SWL)</u> • The measured noise level for loading and unloading activities is 70.5 dB(A) with 5m distance from the identified noise source. <u>Time Period of Operation</u>	Loading and Unloading Activities	RCI_1	Point Source	92.5	Nil

	• As advised by the worker and site observation during night-time, there is no operation at night. Therefore, only the noise impact during day-time period is assessed.					
Yau Tong Salt Water Pumping Station	<u>General Description and Characteristics</u> • The operational plant was enclosed within the building. It was observed that there were only small sized louvers and window that emit sound. <u>Derivation of Sound Power Level (SWL)</u> • The measured noise levels of the openings range from 71.4 dB(A) to 71.8 dB(A) for day-time and 63.9 dB(A) to 64.5 dB(A) at night-time. • Given the close proximity between the noise source and the NSRs, the SWL is therefore derived in accordance with ISO 3746 (Please refer to Appendix 4.2 and Appendix 4.3 for noise measurement details and derivation of sound power level, respectively). <u>Time Period of Operation</u> • Both day-time and night-time operations were observed.	Operation Noise	WPS_1	Area Source	84.3	84.3
Tung Lee Motor Service Centre	<u>General Description and Characteristics</u> • Tung Lee Motor Service Centre is located at Shung Tak Wai to the further north of the Application Site. Based on observations from site surveys, the operation mainly involves insignificant grinding hammering and air-compressor noise. <u>Derivation of Sound Power Level (SWL)</u> • The measured noise levels of the openings range from 61.3 dB(A) to 61.9 dB(A). • Given the size of the openings are considerable large, the SWL is therefore derived in accordance with ISO 3746 (Please refer to Appendix 4.2 and Appendix 4.3 for noise measurement details and derivation of sound power level, respectively). <u>Time Period of Operation</u> • No night-time operation was being observed.	Operation Noise	TLM_1	Area Source	80.8	Nil
Redland Concrete Limited	<u>General Description and Characteristics</u> • The concrete batching plant is enclosed without any opening at the top and sides. There are only openings at the entrance / exit in front of Tung Yuen Street. <u>Derivation of Sound Power Level (SWL)</u> • The measured noise levels of the openings range from 74.8 dB(A) to 75.7 dB(A). • Given the size of the openings are considerably large and the close proximity between the noise source and the NSRs, the SWL is therefore derived in accordance with ISO 3746 (Please refer to Appendix 4.2 and Appendix 4.3 for noise measurement details and derivation of sound power level, respectively). <u>Time Period of Operation</u> • No night-time operation was being observed.	Operation Noise	RLC_1	Area Source	97.9	Nil
	<u>General Description and Characteristics</u> • Two cooling towers were identified located at the roof of Redland concrete plant. According to observations from site surveys, the diameter of cooling towers are less than 4m. <u>Derivation of Sound Power Level (SWL)</u> • Since noise measurement was unable to conduct due to restriction of access, SWLs are derived from the SPL* provided from a catalogue in Appendix 4.5 based on their estimated size. For a conservative approach, two cooling towers are assumed as model FT-225 – FT-250 with SPL* of 63 dB(A). **SPLs are measured 16m horizontally from the edge of the tower at 1.5m above the foundation level according to the catalogue in Appendix 3.5.* <u>Time Period of Operation</u> • No night-time operation was being observed.	Cooling Tower	RLC_2	Point Source	95.1	Nil
		Cooling Tower	RLC_3	Point Source	95.1	Nil

	Derivation of Sound Power Level (SWL) • Noise measurement was not able to conduct due to restriction of access. SWL used for the industrial noise impact assessment was referenced from “TECHNICAL MEMORANDUM ON NOISE FROM CONSTRUCTION WORK OTHER THAN PERCUSSIVE PILING” (GW-TM). Time Period of Operation • No night-time operation was being observed.	Derrick Barge	RLC_4	Point Source	102.0	Nil
全記	General Description and Characteristics • As observed from site surveys, the industrial activities of the recycling workshop mainly involve screening material and loading and unloading. • Derivation of Sound Power Level (SWL) • The measured noise levels of the activities about 105 dB(A). • Appendix 4.3 shows noise measurement details and derivation of sound power level, respectively). Based on the analysis of the measurement data, no tonality correction is to be adopted in the calculation. The analysis is also shown in Appendix 4.3. Time Period of Operation • No night-time operation was being observed during the site visits.	Operation Noise	QJ_1	Area Source	105.0	Nil

4.4 Assessment Methodology

4.4.1 Standard acoustical principles were adopted for prediction of cumulative industrial noise impact. In accordance with the "Technical Memorandum On Noise From Construction Work Other Than Percussive Piling", a -10dB shielding correction was adopted where the line of sight from the representative NSR would be completely blocked by buildings or barriers. A façade correction of +3dB was assumed. Corrections for tonality, intermittency or impulsiveness shall be applied where necessary.

4.5 Noise Sensitive Receivers

4.5.1 A total of 11 Representative NSRs of residential towers nearest to the identified noise sources have been selected for the assessment. The NSRs are taken at 1m away from the façade opening and 1.2m above the floor level of habitable rooms. Figure 4.4 shows the locations of the representative NSRs.

4.6 Assessment Result (Base Case)

4.6.1 From the results of industrial noise impact assessment, it is also found that the major industrial noise source which have significant contribution to Industrial noise at the NSRs are the concrete batching plant - Redland Concrete Limited, which is found to be the same findings of the adjacent residential development, the Coastline I and II. As such, mitigation measures would be required for mitigating these exceedances.

4.6.2 As mentioned in Section 3.7.6, EAB (BT)- (EPD) with sidewall are proposed for living rooms to mitigate the road traffic noise impact. The industrial noise modelling results shows that there is no exceedance for NSRs F1-01 and F1-02, which immediately next to the concrete batching plant. In fact, the sidewall in the provision of the EAB (BT)-(EPD) applied at F1-01 and F1-02 could be consider as an effective barrier to provide further protection and completely blocked the line of sight from the NSRs to the concrete batching plant. Thus, the predicted industrial noise level in F1-01 and F1-02 should be lower as than modelling results. To present a worst-case scenario, such barrier correction has not applied at the mentioned NSRs in the assessment.

4.6.3 A summary of predicted industrial noise levels at selected NSRs are tabulated in Table 4.3 below. Detailed calculations are shown in Appendix 4.4.

Table 4.3 Industrial Noise Impact Assessment Results under Unmitigated Scenario

NSR ID	ASR	Noise Criteria, dB(A)		Predicted Noise Level, dB(A)	
		Day & Evening, dB(A)	Nighttime, dB(A)	Day & Evening, dB(A)	Nighttime, dB(A)
F1-01	C	70	60	70	46
F1-02	C	70	60	68	41
F1-03	C	70	60	65	55
F1-04	C	70	60	65	52
F2-01	B	65	55	70	40
F2-02	B	65	55	69	40
F2-03	B	65	55	69	40
F2-04	B	65	55	68	40
F2-05	B	65	55	67	40
F2-06	B	65	55	67	40
F2-07	B	65	55	67	40

4.7 Proposed Industrial Noise Mitigation Measures

Building Layout / Orientation

4.7.1 Since the Application Site is located next to the Redland Concrete Ltd, single aspect building design has been adopted as a precautionary layout design to minimize the potential noise impact from this industrial noise activity, the similar approach of the adjacent residential development, the Coastline I.

Vertical Acoustic Fin

4.7.2 Full-height vertical acoustic fins with the length from 1.8 m to 2.5 m long are proposed at strategic locations to further reduce the view angle to nearby source.

4.7.3 It is understood that erection of vertical fins near NSRs would possibly create a semi-enclosure area and hence induce possible multi-reflection effect. To minimize the possible effect, sound absorptive material (SAM) is proposed at the surface and tip of all vertical fins.

4.7.4 The proposed fixed noise mitigation measures are shown in Figure 4.4 and Table 4.4.

Table 4.4 Detailed Schedule of Noise Mitigation Measures for Industrial Noise

NSR ID	Flat	Floor	Room	Noise Mitigation Measures
F2-01	1b	1/F – 25/F	MBR	2.5 m Vertical Fin
F2-02	1b	1/F – 25/F	BR	2.5 m Vertical Fin
F2-03	1b	1/F – 25/F	BR	2.5 m Vertical Fin
F2-04	1b	1/F – 19/F	LIV/DIN	2.5 m Vertical Fin
F2-05	1b	1/F – 19/F	LIV/DIN	1.8 m Vertical Fin
F2-06	1b	1/F – 19/F	BR	1.8 m Vertical Fin
F2-07	1b	1/F – 19/F	MBR	1.8 m Vertical Fin

4.8 Assessment Result (Mitigated Case)

4.8.1 The predicted Industrial noise levels at selected NSRs for mitigated scenario are tabulated in Table 4.5. Detailed calculation is shown in Appendix 4.7. With the proposed mitigation measures in place, all NSRs comply with industrial noise standard. No exceedance is found.

Table 4.5 Industrial Noise Impact Assessment Results under mitigated Scenario

NSR ID	ASR	Noise Criteria, dB(A)		Predicted Noise Level, dB(A)	
		Day & Evening, dB(A)	Nighttime, dB(A)	Day & Evening, dB(A)	Nighttime, dB(A)
F1-01	C	70	60	70	46
F1-02	C	70	60	68	41
F1-03	C	70	60	65	55
F1-04	C	70	60	65	52
F2-01	B	65	55	63	40
F2-02	B	65	55	62	40
F2-03	B	65	55	62	40
F2-04	B	65	55	62	40
F2-05	B	65	55	62	40
F2-06	B	65	55	62	40
F2-07	B	65	55	62	40

4.9 Conclusion

4.9.1 An industrial noise impact assessment has been carried out. No unacceptable noise impact is envisaged without noise mitigation measure in place.

4.9.2 In order to avoid adverse noise impact of the future industrial noise sources onsite on the surrounding NSRs, the future contractor shall ensure that the equipment within the Proposed Development would be designed and installed to meet the HKPSG criteria.

5. WASTE MANAGEMENT AND PRELIMINARY LAND CONTAMINATION REVIEW

5.1 Introduction

5.1.1 During the construction phase of the proposed development, there would be waste generation. Practicable environmental mitigation measures are recommenced to reduce the impact to acceptable ranges.

5.1.2 Potential land contamination impacts at the Schemes due to previous land uses and/or the existing operations are also being preliminary assessed. As the subject site is currently occupied with industrial building and concrete batching plant, detail assessment and site investigation will be carried out during the detailed design stage prior to the commencement of the construction of the proposed development, if this preliminary land contamination assessment identify further study is required.

5.2 Construction Waste Disposal

5.2.1 The following legislations and guidelines are relevant to the handling, treatment and disposal of waste in HKSAR and references were made in assessing the potential impacts and their avoidance or mitigation:

- Waste Disposal Ordinance (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N); and
- Practice Note for Authorized Persons and Registered Structural Engineers – Construction and Demolition Waste (PNAP ADV-19, also known as PN for AR&RSE No. 243)

5.2.2 The following guidelines also relate to waste management and disposal:

- Waste Disposal Plan for Hong Kong (1989);
- Hong Kong Planning Standards and Guidelines (HKPSG), Chapter 9 – Environment;
- WBTC No. 2/93, Public Dumps;
- WBTC No. 2/93B, Public Filling Facilities;
- WBTC No. 12/2000, Fill Management, Hong Kong SAR Government;
- WBTC No. 12/2002, Specification Facilitating the Use of Recycled Aggregates, Works Bureau, Hong Kong SAR Government;
- WBTC No. 32/92, The Use of Tropical Hard Wood on Construction Site;
- ETWB TC(W) No. 19/2005 Environmental Management on Construction Sites;
- DEVB TC(W) No. 2/2011, Encouraging the Use of Recycled and other Green Materials in Public Works Projects;
- DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials, Development Bureau, Hong Kong SAR Government;
- DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness, Works Bureau, Hong Kong SAR Government;
- DEVB TC(W) No. 9/2011, Enhanced Control Measures for Management of Public Fill;

- CEDD TC No. 3/2015, Management of Construction and Demolition Materials;
- ProPECC PN2/97, Handling of Asbestos Containing Materials in Buildings;
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, EPD (1992); and
- Project Administration Handbook for Civil Engineering Works.

5.3 Assessment Methodology

5.3.1 The assessment of the potential waste management implications during the construction and operation phases of the Project has been conducted in accordance with Annexes 7 and 15 of the EIAO-TM, including the following tasks:

- Estimation of the types and quantities of the wastes generated;
- Evaluation of opportunities for waste reduction and re-use;
- Identification of disposal options for each type of wastes;
- Assessment of potential environmental impacts arising from the wastes management with respect of potential hazards, air and odour emissions, noise, wastewater discharge, and public transport; and
- Assessment of the impacts caused by handling, collection, transportation and re-use /disposal of wastes.

5.3.2 Prior to considering the disposal options for various types of waste, opportunities for reducing waste generation, on-site or off-site reuse and recycling have been evaluated. Measures which can be taken in the planning and design phases (e.g. by modifying the design approach) and in the construction phase for maximizing waste reduction have been separately considered. Practices to promote segregation of waste materials are additionally considered for advancing the waste management efficiency.

5.3.3 After considering the opportunities for reducing waste generation and maximizing reuse, the types and quantities of the waste required to be disposed of have been estimated and the disposal options for each type of waste have been described. The disposal method recommended for each type of waste has been taken into account the result of the assessment. The impacts caused by handling (including stockpiling, labelling, packaging and storage), collection and reuse / disposal of waste have been addressed and appropriate mitigation measures have been proposed.

5.4 Identification and Evaluation of Potential Impact during Construction Stage

5.4.1 The construction activities to be carried out for the proposed Project would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and Demolition (C&D) materials (including those from site clearance);
- General refuse generated by the workforce;
- Chemical and oily wastes due to maintenance of equipment; and
- Asbestos containing materials (ACM)

C&D Materials

5.4.2 C&D materials comprise mainly of unwanted materials, including surplus materials arising from excavations that are generated from the works (e.g. site clearance,

demolition works of substructure, site formation works, excavation work for basement). Inert soft C&D materials comprise of soil, sand, clay, slurry, etc., while hard C&D materials comprise of crushed concrete, asphalt, rock, etc. The amount of non-inert C&D materials generated during site clearance would be minor (as there is little vegetation at the Application Site). C&D materials may comprise different types of materials, including:

- Inert C&D materials (also known as public fill, including soil, rock debris, rubble earth, concrete, etc.) do not decompose and are suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused should be delivered to Public Fill Reception Facilities.
- Non-inert C&D materials (also known as C&D waste, including bamboo, timber, paper, metal, glass, plastic, packaging wastes, etc.). Non-inert C&D materials should be reused or recycled as far as possible. For those non-inert C&D materials that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.4.3 The general waste management strategy is to avoid waste generation in the first place. Should it be unavoidable, reduction and segregation at-source should be exercised as far as practicable, and recycling and reuse should be adopted at the same time to salvage all the recyclable and reusable materials as much as possible.

5.4.4 Inert C&D materials should be re-used on-site (e.g for backfilling) if it is practical and/or delivered to public filling area or other CEDD designated public fill reception facilities. Non-inert C&D materials (i.e. C&D waste) should be re-used or recycled. For those that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.4.5 According to ETWB TC(W) 19/2005 on "Environmental Management on Construction Sites", waste management plan (WMP) becomes part of Environmental Management Plan (EMP) to be submitted to Architect/ Engineer for approval before construction works. The Project team will require the Contractor(s) to submit WMPs for approval. The WMPs will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. It will ensure that the day-to-day operations on site comply with the approved WMPs. It will control the disposal of inert C&D materials and non-inert C&D materials to public fill reception facilities and landfills, respectively, through a trip-ticket system. It will require the Contractor(s) to separate public fill from C&D materials for disposal at appropriate facilities. It will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

5.4.6 The Contractor(s) should be responsible for ensuring that all on-site wastes will be collected by approved waste collectors and appropriate measures should be undertaken to minimise adverse impacts to the surrounding environment, such as dust generation. The Contractor(s) must also ensure that all necessary waste disposal permits have been obtained before actions.

5.4.7 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals will be collected separately for re-use and/or recycling and inert C&D materials utilized as fill materials to minimize the quantity of waste to be delivered to the Public Fill Reception Facilities and landfill. The details are shown in Table 5.1.

5.4.8 All the soil generated from the underground work should be refill on site to form the site to the required level. Other C&D materials should be used on-site as far as practicable.

5.4.9 If the total quantity of C&D materials generated from the Project is estimated to be over 50,000 m³, a Construction and Demolition Material Management Plan (C&DMMP) is required to be prepared at the feasibility study or preliminary design stage in accordance with Chapter 4 Clause 4.1.3 of Project Administration Handbook for Civil Engineering Works. The purpose of the C&DMMP is to actively seek to minimise generation of C&D materials and to reuse inert materials generated, including rock, as far as possible. The C&DMMP shall be signed off by a D1 officer. The C&DMMP has been prepared in accordance with the guidelines stipulated in Appendix 4.9 of Project Administration Handbook for Civil Engineering Works for separate submission.

Chemical Waste

5.4.10 Construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner.

5.4.11 It is difficult to quantify the amount of chemical wastes as it will solely depend on the contractor's on-site maintenance practice and the quantities of plant and vehicles utilized at the construction site. Nevertheless, it is anticipated that the quantity of chemical waste such as lubrication oil and solvent produced from equipment maintenance would be small and less than hundred litres per month.

5.4.12 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.4.13 Storage, handling, transportation and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Facility Centre (CWTC) in Tsing Yi. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website mentioned the handling, storage and disposal of chemical wastes. With good management and site particles, adverse environmental impacts should not result.

General Refuse

5.4.14 The volume of general site wastes to be generated will depend on the Contractor's operating procedure and practices. In addition, during the construction phase, the workforce would generate general refuse, comprising food scraps, paper, empty containers etc. Rapid and effective collection of site wastes will be required to prevent waste materials being blown around by wind, flushed or leached into the environment, and odour nuisance. The amount of general refuse which is likely to arise will be largely dependent on the size of the workforce employed by the Contractor(s).

5.4.15 As no information regarding the number of workers on-site is available at this early project state, it has been assumed that about 80 workers in average will work on the Application Site during site formation at any one time. Based on a generation rate of 0.65kg per worker per day, the daily arising of general refuse during site formation would be approximately 52kg/day.

Asbestos Containing Materials (ACM)

5.4.16 Asbestos was widely used in the construction industry prior to the early 1980s for fireproofing, thermal and electrical insulation as well as in sound absorption materials. However, asbestos is currently recognized as hazardous materials, due to its etiological effects on human respiratory system.

5.4.17 As the Schemes involve the demolition of buildings/ structures that were built before 1980s, ACM may be present in the buildings within the Schemes. Thus, ACM which may be disturbed during demolition activities, should be removed and disposed of in a proper manner prior to the demolition work, so as to avoid the release of harmful asbestos fibres to environment and minimise potential hazard.

5.4.18 All ACM if confirmed to be present within the existing premises must be removed and disposed of in accordance with the Air Pollution Control Ordinance (APCO) and WDO prior to the demolition works. A Registered Asbestos Consultant and Registered Asbestos Laboratory shall be engaged to conduct investigation for the presence of ACM. An Asbestos Investigation Report, an Asbestos Abatement Plan (AAP) (if required) and a notification of commencement of asbestos abatement works commences. Also, the removal of ACMs should be carried out by a Registered Asbestos Contractor according to the approved AAP under the supervision of a Registered Asbestos Consultant. The asbestos waste generated shall be disposed of by a licensed collector in compliance with the WDO.

5.4.19 Table 5.1 below presents the estimation of waste generated during construction phase.

Table 5.1 Summary Table of Estimated Waste during Construction Phase

Waste Material Type		Estimated Quantity Generated	Disposal Method
Inert C&D materials (Soil, rock debris, rubble earth, concrete etc.)	Demolition of Existing Building	200 m^3	To be reused or recycled on site or in other projects; and delivered to Public Fill Reception Facilities for other beneficial reuse
	Excavation of Basements	6,527 m^3	
	Construction of New Buildings/Structures	80 m^3	
Non-inert C&D materials (Bamboo, timber, paper, metal, glass, plastic, packaging wastes etc.)	Demolition of Existing Building and Excavation of Basements	2,530 m^3	Disposed to NENT landfill.
	Construction of New Buildings/Structures	20 m^3	
Chemical Waste	-	Less than hundred litres /month (preliminary estimate)	To be collected by licensed chemical waste collector and delivered to CWTC

General Refuse	-	52kg/day (Preliminary estimate, assuming there are 80 workers at any one time with generation rate of 0.65kg per worker per day)	Recyclables to recyclers; non-recyclables to landfill
ACM	TBC [(b)]	TBC[(b)]	TBC[(b)]

Note:

(a) The above estimated quantities are subject to detailed design stage.

(b) As the majority of sites are managed by private owners and still in operation, further investigation is required by the asbestos specialist after land resumption, when access to the sites becomes available.

5.5 Mitigation Measures During Construction Phase

5.5.1 The mitigation measures for construction phase are recommended based on the waste management hierarchy principles. Recommendations of good site practices, waste reduction measures as well as the waste transportation, storage and collection are described in following sub-sections.

Good Site Practices

5.5.2 Appropriate waste handling, transportation and disposal methods for all waste arisings generated during the construction phase should be implemented to ensure that construction waste do not enter the nearby water sensitive receivers.

5.5.3 It is expected that adverse impacts from waste management would not arise, provided that good site practices are strictly followed. Recommendations for good site practices during construction include:

- Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to appropriate facilities;
- Training of site personnel in proper waste management and chemical waste handling procedures;
- Provision of sufficient waste disposal points and regular collection for disposal;
- Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.

5.5.4 In order to monitor the disposal of C&D material at landfills and public fill reception facilities, as appropriate, and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements to be implemented by the Contractor. Reference shall be made to DEVB TCW No. 6/2010 for details.

Waste Reduction Measures

5.5.5 Good management and control can prevent the generation of significant amounts of waste. Waste reduction is best achieved at the planning and design stage, as well as

by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:

- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- Separate labelled bins shall be provided to segregate aluminium cans from other general refuse generated by the work force, and to encourage collection of by individual collectors;
- Any unused chemicals or those with remaining functional capacity shall be recycled;
- Maximising the use of reusable steel formwork to reduce the amount of c&d material;
- Prior to disposal of non-inert c&d material, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill;
- Proper storage and site practices to minimise the potential for damage or contamination of construction materials;
- Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste; and
- Minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering.

5.5.6 In addition to the above good site practices and waste reduction measures, specific mitigation measures are recommended for the identified waste to minimise environmental impacts during handling, transportation and disposal of these wastes.

General Refuse

5.5.7 Recycle bins will be provided onsite to collect recyclable wastes such as paper, metal (e.g. cans), plastic and glass. Recyclable wastes will be segregated from non-recyclable waste to be stored in enclosed bins or compaction units. A reputable waste collector should be employed by the contractor to remove general refuse from the site on a daily basis. Recyclable waste will be collected in appropriate frequency to ensure no over stacking of recyclable wastes. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.

Construction and Demolition Material

5.5.8 The C&D material generated from site formation should be sorted on-site into inert C&D material (that is, public fill) and non-inert C&D material. In order to minimise the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material comprising fill material should be reused on-site as backfilling material as far as practicable. Non-inert C&D material, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill.

5.5.9 Suitable areas should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. Within stockpile areas, the following measures should be taken to control potential environmental impacts or nuisance:

- Covering material during heavy rainfall;
- Locating stockpiles to minimise potential air quality, water quality and visual impacts; and

- Minimising land intake of stockpile areas as far as possible.

Chemical Wastes

5.5.10 For those processes which would generate chemical waste, it may be possible to find alternatives to eliminate the use of chemicals, to reduce the generation quantities or to select a chemical type of less impact on environment, health and safety as far as possible.

5.5.11 If chemical wastes are produced at the construction site, the Contractor should register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidising, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport, and disposal of the chemical wastes generated at the Chemical Waste Treatment Centre at Tsing Yi, or other licenced facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

Asbestos Containing Materials

5.5.12 Due to the potential presence of ACM during the site clearance stage, asbestos investigation is required. An asbestos specialist shall be employed during the design and construction stage to investigate this issue.

5.5.13 Sufficient and reasonable lead time shall be allowed for the preparation, vetting and implementation of asbestos investigation report and asbestos abatement plan in accordance with APCO before commencement of any demolition or site clearance work.

5.5.14 Some key precautionary measures related to the handling and disposal of asbestos based on Handling of Asbestos Containing Materials in Buildings (ProPECC PN 2/97) are listed as following:

- Adoption of protection, such as full containment, mini containment, or segregation of work area;
- Provision of decontamination facilities for cleaning of workings, equipment and bagged waste before leaving the work area;
- Adoption of engineering control techniques to prevent fibre release from work area, such as use of negative pressure equipment with high efficiency particulate air (HEPA) filters to control air flow between the work area and the outside environment;
- Wetting of asbestos containing materials before and during disturbance, minimising the breakage and dropping of asbestos containing materials, and packing of debris and waste immediately after it is produced;
- Cleaning of work area by wet wiping and vacuuming with HEPA filtered vacuum cleaner;
- Coating on any surfaces previously in contact with or contained by asbestos with a sealant;
- Proper bagging, safe storage and disposal of asbestos and asbestos contaminated waste;

- Pre-treatment of all effluent from the work area before discharged; and
- Air monitoring strategy to check the leakage and clearance of the work area during and after the asbestos work.

5.6 Identification and Evaluation of Potential Impact during Operational Phase

5.6.1 During operational phase of the proposed development, since the uses are mainly residential, recreational, and social service. Disposal of chemical, livestock and clinical waste are not anticipated. Instead, general waste is anticipated to be the major type of waste generated during the operation of the proposed development. With reference to the latest data from "Monitoring of Solid Waste in Hong Kong 2022" by EPD, the MSW disposal rate was 1.51 kg/person/day in Year 2022, and the recovery rate for recycling was 32% of the MSW generation. By calculation, the MSW generation rate, disposal rate and recycled rate were 2.18 kg/person/day, 1.51 kg/person/day and 0.70 kg/person/day in 2022 respectively. Based on the estimated total number of residents and visitors for the residential and non-domestic portions of the Proposed Development is 1518 person/day and 240 person/day respectively, the total MSW generated from the operation of the Project is estimated to be 3.83 tonnes/day, in which 32% (i.e., 1.23 tonnes) would be recycled, and the remaining 68% (i.e., 2.30 tonnes) would be disposed of to the landfill.

5.6.2 The refuse shall be properly managed by suitable waste collectors so that intentional or accidental release to the surrounding environment will not occur. Storage of general refuse would generate odour nuisance and visual impact if they are not managed in a proper manner. Vermin and pests may also be attracted if the waste containers are not cleaned or maintained properly and frequently. Therefore, general refuse should be temporarily stored in proper containers with covers to avoid adverse impact to the surroundings. To reduce waste and improve recycling, sufficient properly labelled recycling bins for paper, plastic and aluminium should be provided at appropriate locations of the site to collect recyclables for off-site recycling. Regular (e.g., daily) waste removal and recyclables collecting should be arranged to avoid odour nuisance or pest/vermin problem. These waste management practices and good site practises should be properly implemented to ensure adverse environmental impacts from handling and disposal of general refuse would not arise.

5.6.3 For the food wastes such as leftovers, it is recommended an adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. Also, leftovers will be placed in bags and stored in enclosed containers. Rather than disposing of the food waste to the designated landfill directly, the project proponent is recommended to deliver the food waste to the Organic Resources Recovery Centre (ORRC) to reduce the pressure on the existing landfill. Therefore, the chances of odour nuisance and hygiene issues are reduced.

5.7 Conclusion

5.7.1 The types of wastes which may be generated from the construction and operation of the Project have been identified. The quantities of waste shall be estimated during the later project design stage when more information is available. The storage, handling and disposal of the identified wastes shall follow relevant guidelines in order to minimize potential environmental nuisance to the nearby sensitive receivers.

5.8 Assessment Criteria for Preliminary Land Contamination Review

5.8.1 This preliminary land contamination review has been prepared following the below guidelines published by EPD:

- *Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management (RBRGs), EPD, Revised in April 2023*
- *Guidance Note for Contaminated Land Assessment and Remediation, EPD, Revised in April 2023*; *and*
- *Practice Guide for Investigation and Remediation of Contaminated Land (EPD's Practice Guide), EPD, Revised in April 2023*

5.8.2 As the RBRGs and the EPD's Practice Guide were the latest guidelines promulgated for use in August 2007 and August 2011 respectively, the RBRGs criteria and the requirements stated in the EPD's Practice Guide will be adopted in this land contamination review.

5.9 Review of Historical and Currently Available Information

5.9.1 The Application Site is zoned as "Residential (Group E)" (RE) under the Approved Cha Kwo Ling, Yau Tong, Lei Yue Mun Outline Zoning Plan No. S/K15/27 (OZP).

5.9.2 The Subject Site comprises an industrial building, (i.e., Wah Tung Godown). The building was 6 storeys high without basements.

5.9.3 In the aerial photograph taken in 1963 by the Lands Department (LandsD), the Application Site was depicted as a sea area. Reclamation work began around 1964, and by 1967, the Application Site had been formed and become vacant land. In 1977, a building (i.e., Wah Tung Godown Building) was constructed at Lot No. YTML 70. It is important to note that the building at YTML 70 has remained unchanged until the present day.

5.9.4 Upon review of the aerial photographs in Years 1963, 1964, 1967, 1972, 1976, 1977, 1982, 1987, 1992, 1997, 1998, 2003, 2008, 2013, 2018, and 2022 from the Lands Department (LandsD), the land uses of the Subject Site are summarized in Table 5.2. The relevant aerial photographs from LandsD are presented in Appendix 5.1.

Table 5.2 Historical Landuse Summary of the Subject Site

Period / Year	Landuse / Description	Sources of Information
	YTML70	
1963	The Application Site was a sea area.	Aerial photographs from LandsD
1964	The Application Site was a sea area.	Aerial photographs from LandsD
1967	The Application Site was being formed by reclamation and become vacant land.	Aerial photographs from LandsD
1972	The Application Site was become vacant land.	Aerial photographs from LandsD
1976	The Application Site was become vacant land.	Aerial photographs from LandsD
1977	A building (i.e., Wah Tung Godown Building) was constructed.	Aerial photographs from LandsD

Period / Year	Landuse / Description	Sources of Information
	YTML70	
1982 - 1992	No landuse change for the Application Site.	Aerial photographs from LandsD
1997	No landuse change for the Application Site.	Aerial photographs from LandsD
1998	No landuse change for the Application Site.	Aerial photographs from LandsD
2003-2022	No landuse change for the Application Site.	Aerial photographs from LandsD

Site Inspection and Observation

5.9.5 Desktop review and site inspection to the Application Site was conducted on Nov, Dec 2023 and Feb, Oct, Nov 2024. Photo records are provided in Appendix 5.2.

5.9.6 For the building (i.e., Wah Tung Godown Building) at YTML 70, it is observed that the ground floor generally consists of car park. There were no aboveground / underground oil storage tanks, chemicals and dangerous goods observed to be stored on site during the site visit. Besides, the site was fully paved with good condition.

5.9.7 Due to the nature of the existing industrial building, potential land contamination issues need to be ascertained in later stage.

Information available from BRAVO website

5.9.8 Building Records Access and Viewing On-line (BRAVO) of Buildings Departments (BD) was visited to obtain records for completed private buildings. It is observed there is one (1) building plan for the Application Site. The captured shown of BRAVO is provide in Appendix 5.3.

Information from Government Department

5.9.9 Apart from the historical aerial photos, the following Hong Kong Special Administration Region (HKSAR) Government Departments have been enquired on the latest update on the availability of land contamination and/or spillage (i.e. (i) Dangerous Goods Incidents, (iv) Explosive Storage/Spillage, (v) Spillage/Leakage of Chemical or Dangerous Goods; and (vi) Fire Incidents) for Subject Site. The summary of correspondence is tabulated in Table 5.3 below. Copy of the response letters and emails are included in Appendix 5.4.

5.9.10 As advised by Environmental Protection Department (EPD), there are 3 chemical waste producer registrations in the Application Site.

5.9.11 As advised by Civil Engineering and Development Department (CEDD), There are no licences issued for the manufacture, storage, or use of explosives in the Application Site, and no records indicating that any incidents related to explosives occurred in the concerned area.

5.9.12 As advised by Lands Department, they are not in a position to provide on the land contamination issues.

5.9.13 As advised by Fire Services Department, there are no records of dangerous goods license, fire incidents nor incidents of spillage/ leakage of dangerous goods were found at Subject Site.

Table 5.3 Enquiries and Responses on Land Contamination Issue

Consultant's Letter Ref.	Department	Response Letter Ref.	Response Date	Summary
CRC_4TYSEI00_0_0002L.24	Environmental Protection Department (EPD)	Email	4 March 2024	No record of a chemical spillage/leakage accident at the Application Site in past 5 years.
CRC_4TYSEI00_0_0003L.24	Fire Services Department (FSD)	(63) in FSD GR 6-5/4 R Pt.52	25 March 2024	No records of dangerous goods license, fire incidents nor incidents of spillage/ leakage of dangerous goods were found at Subject Site.
CRC_4TYSEI00_0_0004L.24	Planning Department (PlanD)	--	--	The response would be supplemented once available.
CRC_4TYSEI00_0_0005L.24	Lands Department (LandsD)	(167) in DLOKE 852/KPA/ 63	8 April 2024	Not in a position to provide on the land contamination issues.
CRC_4TYSEI00_0_0006L.24	Civil Engineering and Development Department (CEDD)	() in CEDD-MIN-06-20-1	7 March 2024	There are no licences issued for the manufacture, storage, or use of explosives in the Application Site, and no records indicating that any incidents related to explosives occurred in the concerned area.

Discussion

5.9.14 The whole Application Site was formed by reclamation in the 1960s and was vacant until 1977. From 1977 to 1997, a building structure was observed at YTML 70, with the land use as an industrial building. The building at YTML 70, known as Wah Tung Godown Building, have remained unchanged to this day.

5.9.15 Based on the desktop review and site inspection, considering the nature of the existing industrial building and land uses, it is concluded that the Application Site has a potential land contamination issue related to its historic land use. The potential land contamination issue needs to be ascertained in later stage.

5.10 Conclusion

5.10.1 A preliminary land contamination review has been conducted for the Application Site. Background

5.10.2 from Lands Department and building plans from Buildings Department have been reviewed. Site inspection has also been conducted to identify the potential land contamination in the Application Site.

5.10.3 In considering the nature of existing industrial building at the Application Site and the surrounding land use, further site investigations shall be conducted to determine whether potential contamination sources are present at the Application Site subject to the findings of site investigation, a detailed land contamination study and hence Contamination Assessment Plan (CAP), Environmental Site Investigation (SI) and Contamination Assessment Report (CAR), if necessary, is recommended to be

conducted and prepared in the later stage to determine the presence and extent of contamination on the Subject Site.

5.10.4 Further land contamination assessment and/or remediation works will be completed before commencement of any construction works for the development, in accordance with relevant guidelines issued by government departments.

6. OVERALL CONSULSION

6.1.1 In order to confirm the environmental acceptability of the Proposed Development, an Environmental Assessment was carried out to examine the impacts associated with the Proposed Development. Potential environmental impacts, including air and noise impact have been assessed. Quantitative Air quality Impact Assessment is included in separation submission.

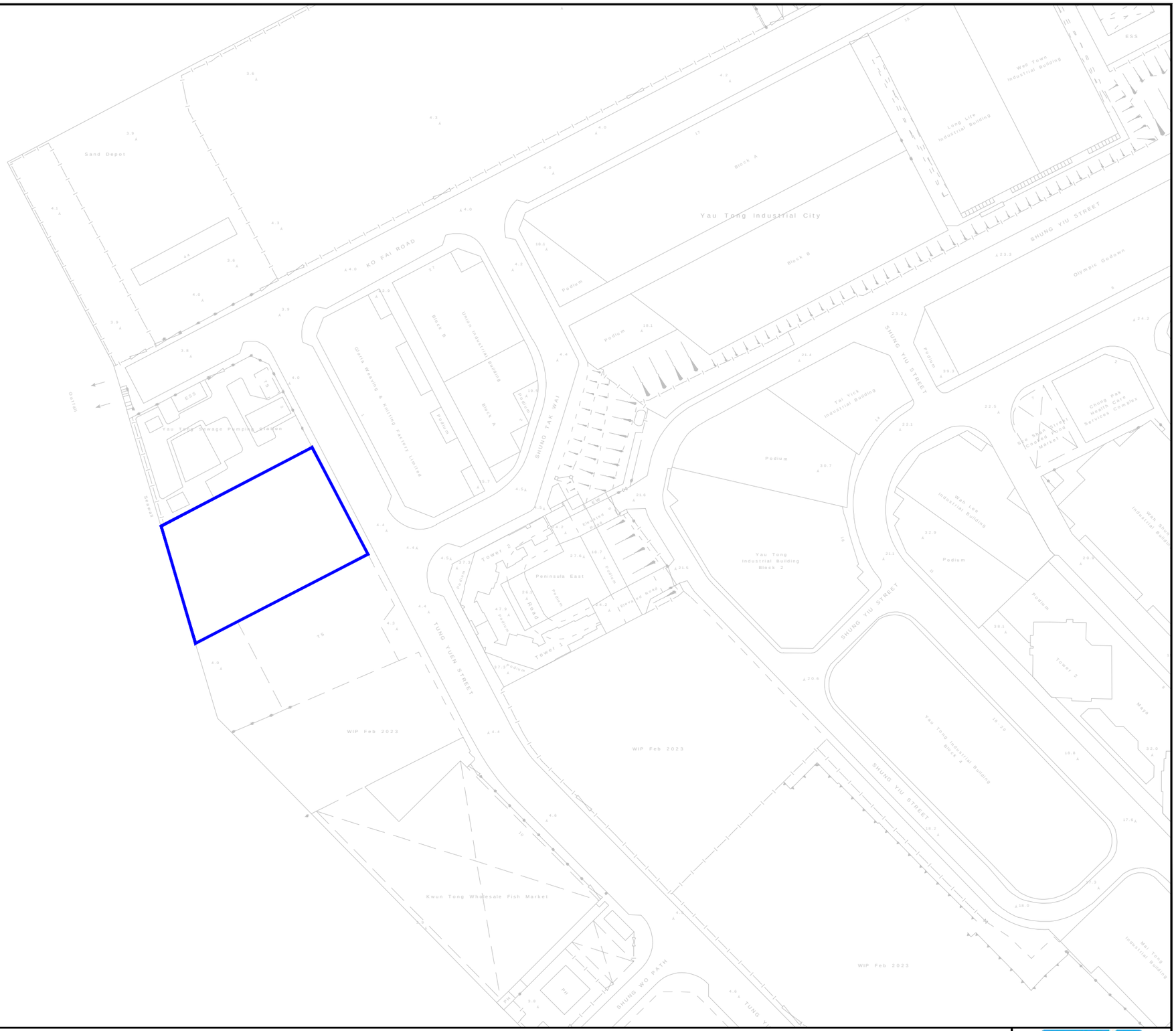
6.1.2 According to the road traffic noise impact assessment and industrial noise impact assessment, with the implementation of appropriate noise mitigation measures, the Proposed Development shall not be subject to adverse road traffic noise and industrial noise impact.

6.1.3 Due to the usage of the Project Site (i.e., industrial building and concrete batch plant), there are potential land contamination issues associated. Detail study will be carried out at later stages. The land contamination assessment and/or remediation works will be completed before commencement of any construction works for the development, if the later stage assessment demonstrated the land is contaminated.

6.1.4 With the implementation of the waste management measures, no adverse impact is anticipated due to the waste generated during construction and operational stages.

6.1.5 This Environmental Assessment confirms the feasibility of the Proposed Development from an environmental point of view.

Figure



Legend

Application Site

Figure: 1.1

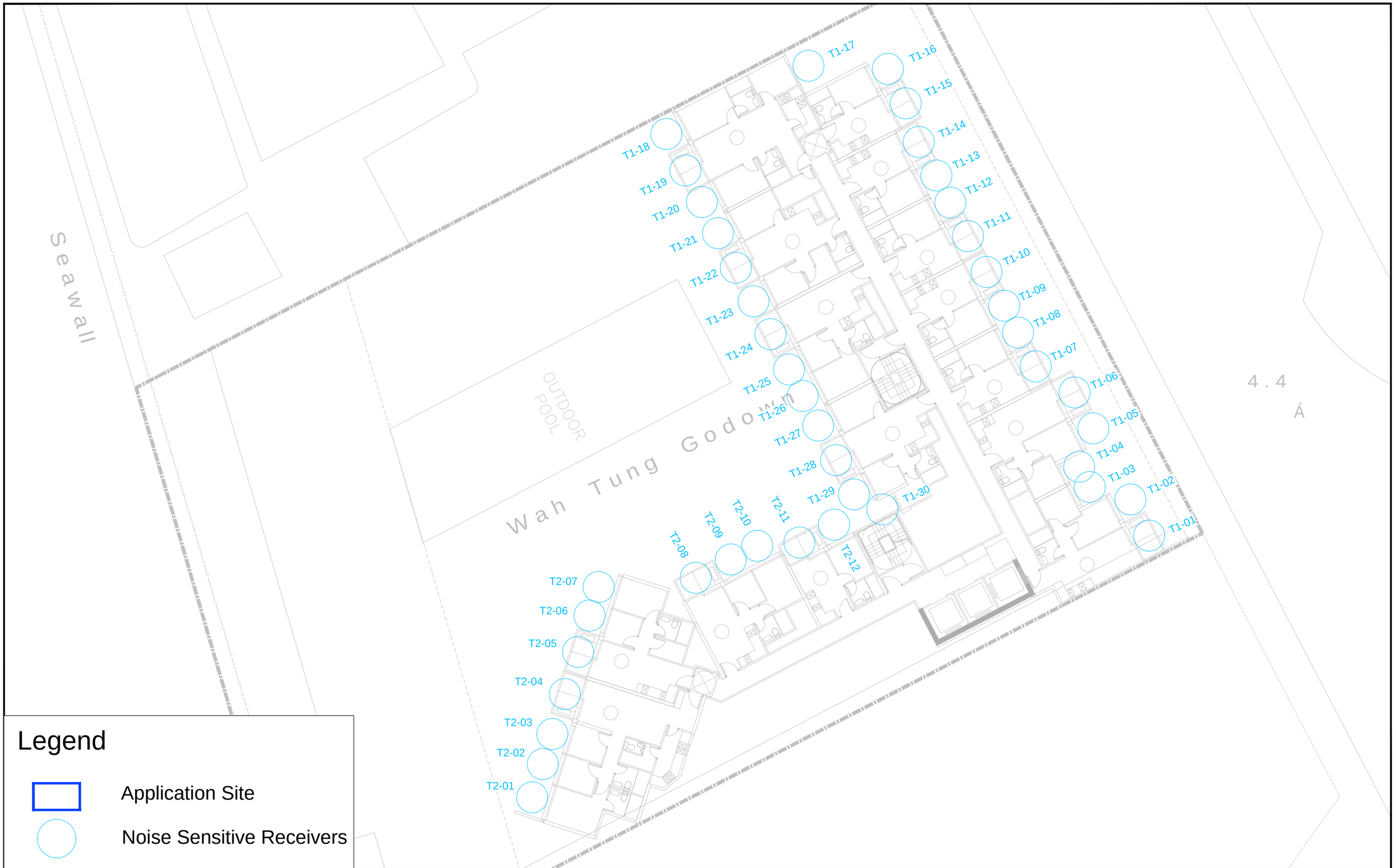
Title: The Location of the Application Site and its Environmental

Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by:	KK
Checked by:	TC
Rev.:	1.0
Date:	Nov 2024

Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg



Legend

- Application Site
- Noise Sensitive Receivers

Figure: 3.1

Title: Location of Noise Sensitive Receivers for Road Traffic Noise Impact Assessment

Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by:	KK
Checked by:	TC
Rev.:	1.0
Date:	Nov 2024

Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg

Legend

- Acoustic Window (Baffle Type) - (EPD-PN)
- Enhanced Acoustic Balcony (Baffle Type)- (EPD-PN)

Figure: 3.2

Title: Proposed Road Traffic Noise Mitigation Measures

Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by:	KK
Checked by:	TC
Rev.:	1.0
Date:	Nov 2024

Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg

Figure: 4.1

Title: The Applicable ASR of the Noise Sensitive Facades of the Proposed Development

Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by:	KK
Checked by:	TC
Rev.:	1.0
Date:	Nov 2024

Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg

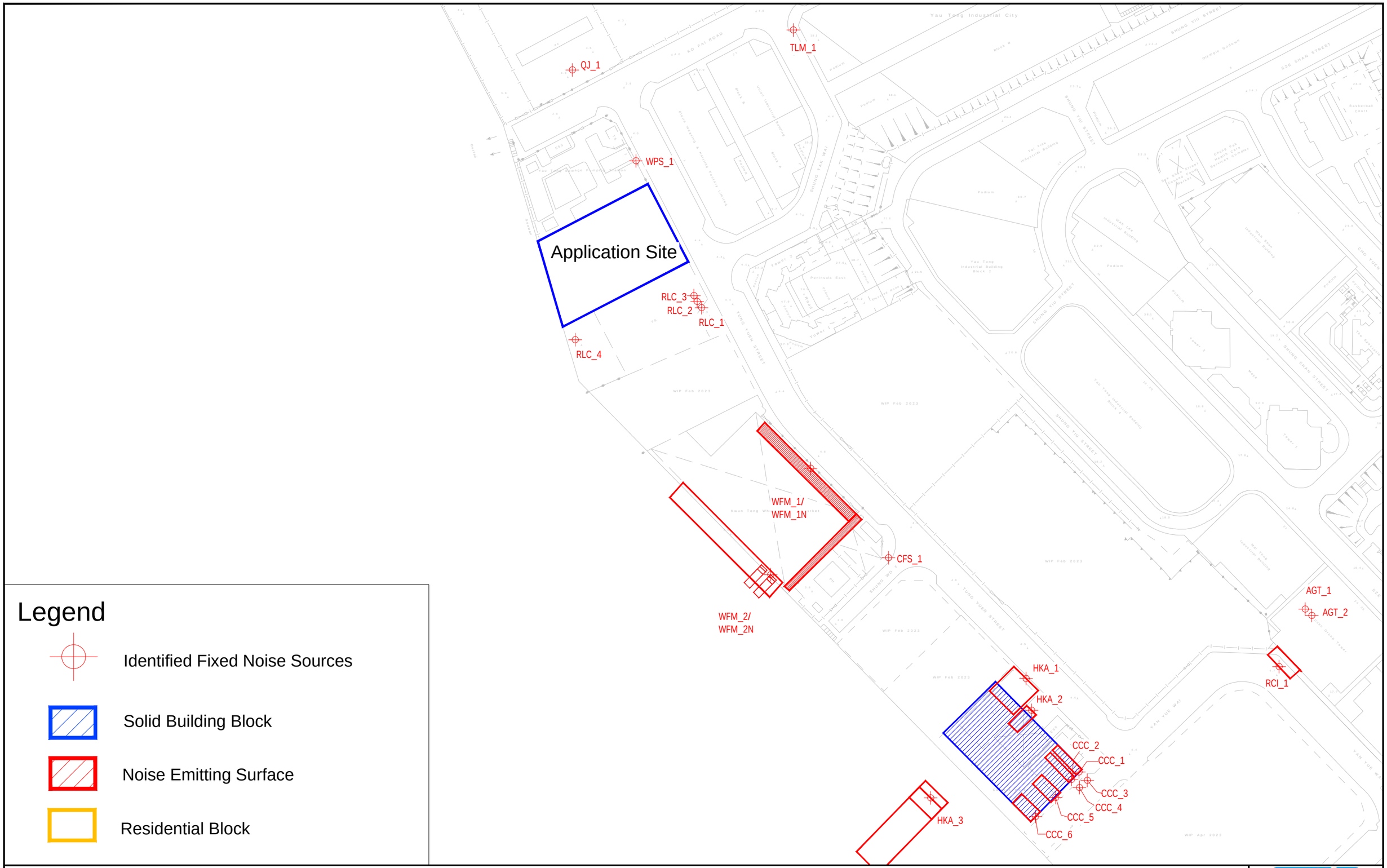


Figure: 4.2

Title: Location of Industrial Noise Sources Identified within 300m of the Application Site

Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by:	KK
Checked by:	TC
Rev.:	1.0
Date:	Nov 2024

Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg

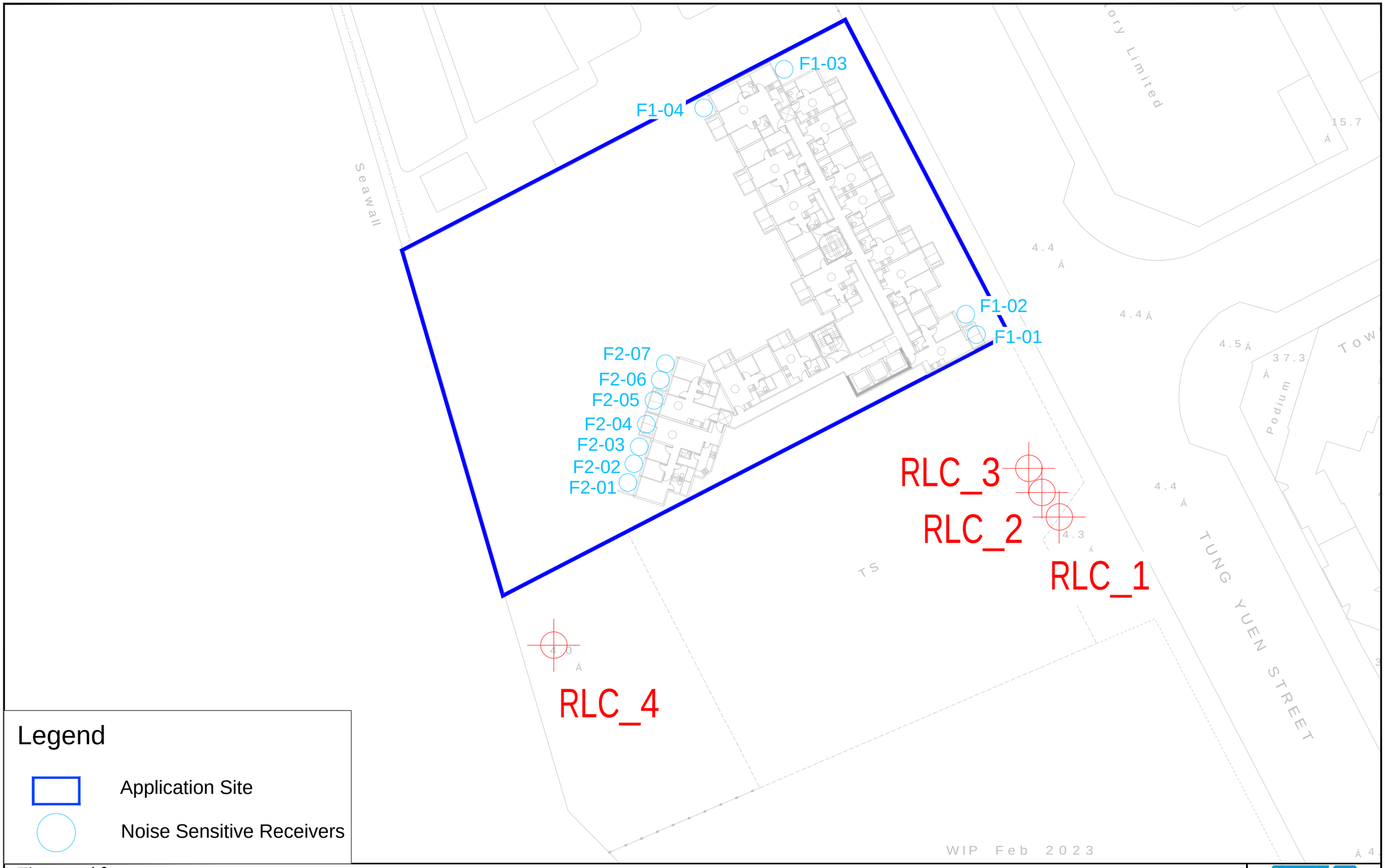


Figure: 4.3

Title: Location of Noise Sensitive Receivers for Industrial Noise Impact Assessment

Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by: KK

Checked by: TC

Rev.: 1.0

Date: Nov 2024

Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg

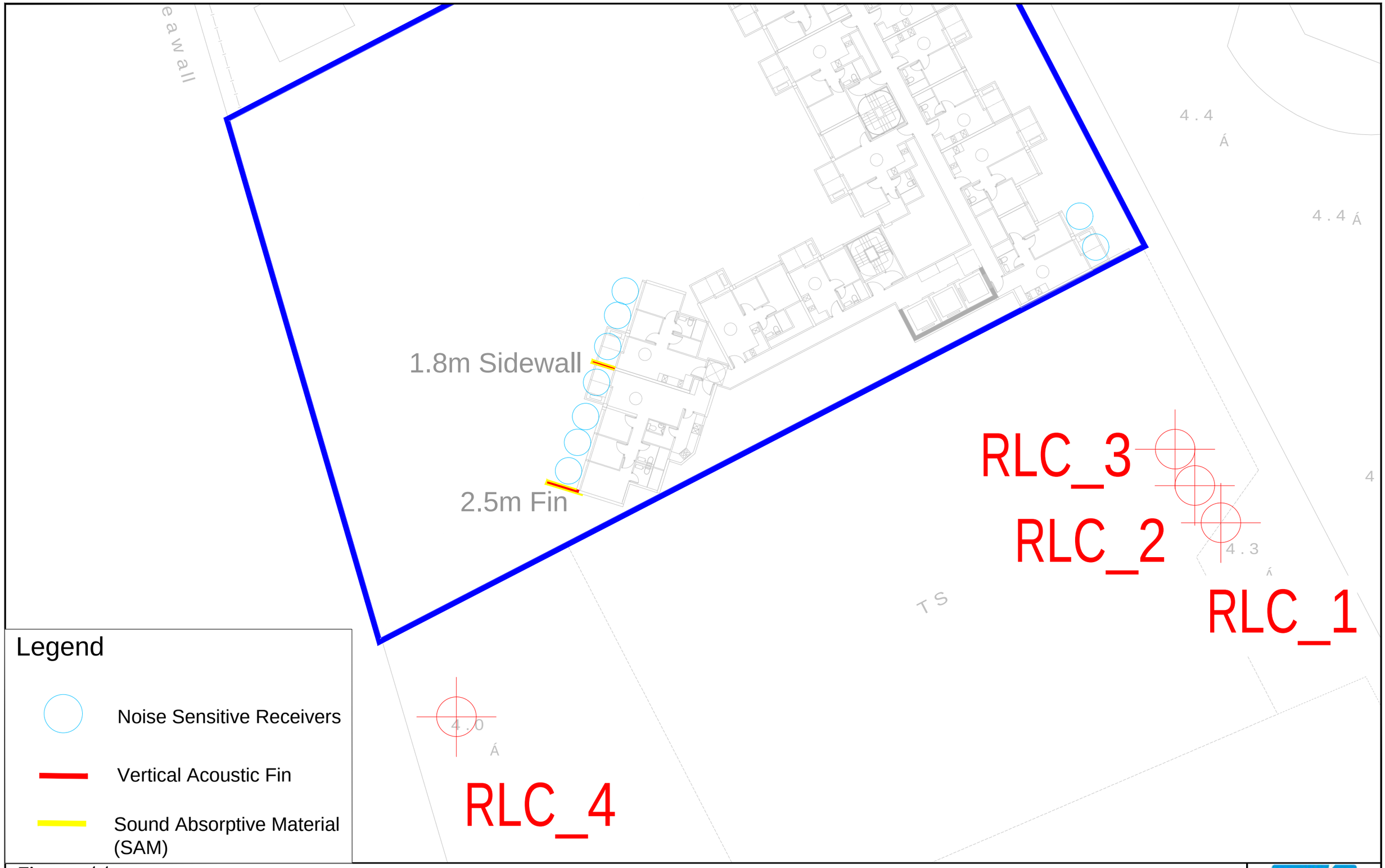


Figure: 4.4

Title: Proposed Industrial Noise Mitigation Measures

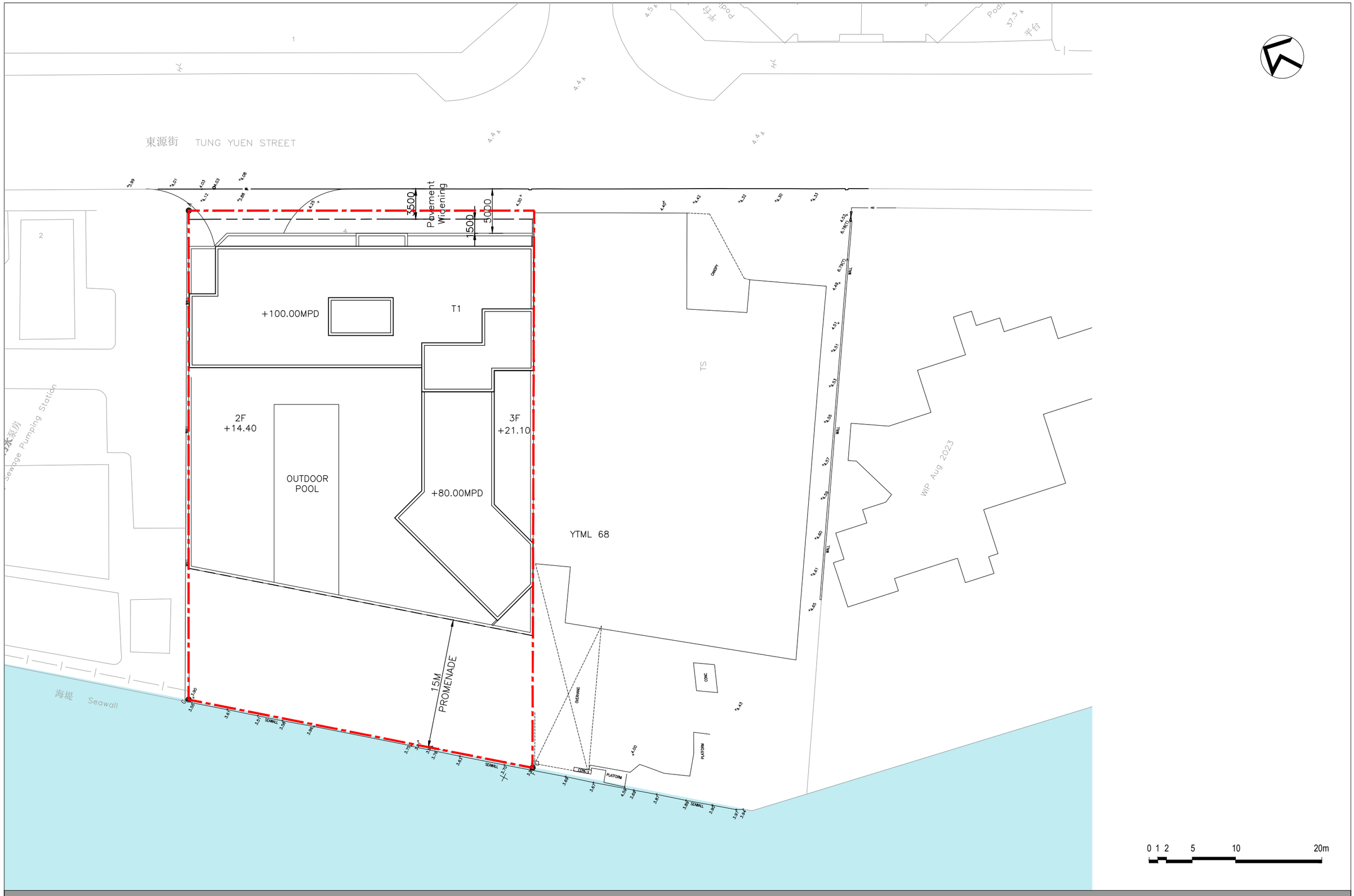
Project: SECTION 16 APPLICATION FOR PROPOSED FLAT, SHOP AND SERVICES, AND EATING PLACE WITH MINOR RELAXATION OF PLOT RATIO AND BUILDING HEIGHT RESTRICTIONS IN "RESIDENTIAL (GROUP E)" ZONE AT NO. 4 TUNG YUEN STREET, YAU TONG, KOWLOON

RAMBOLL

Drawn by:	KK
Checked by:	TC
Rev.:	1.0
Date:	Nov 2024

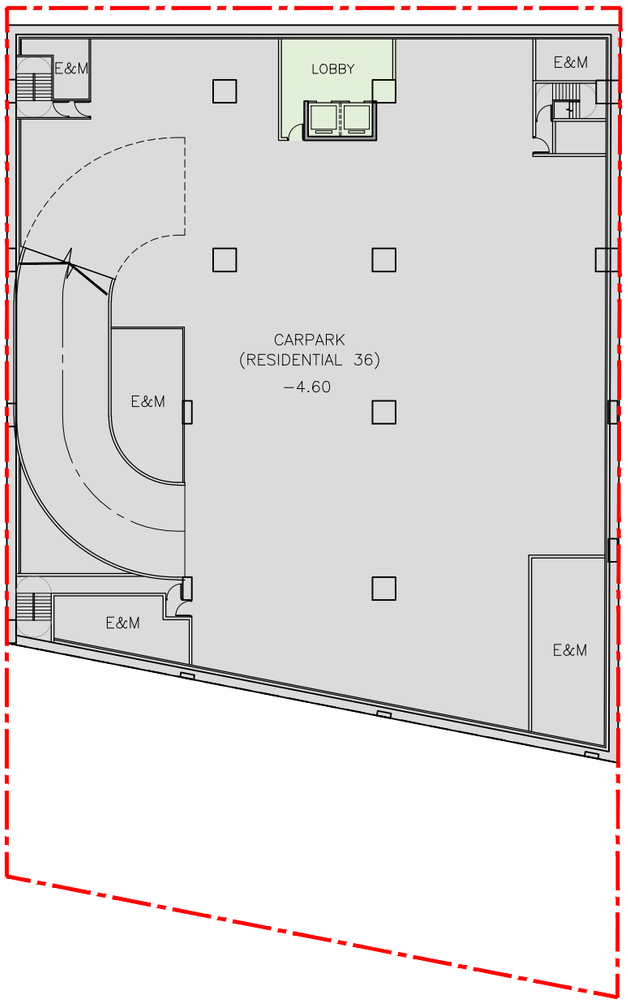
Q:\Projects\CRC_4TYSEI00\05 Assessments\02 Noise\02 Traffic\241118\TNIA_241118_recover.dwg

Appendix 1.1 The Master Layout Plan of the Proposed Development



A-01 Master Layout Plan

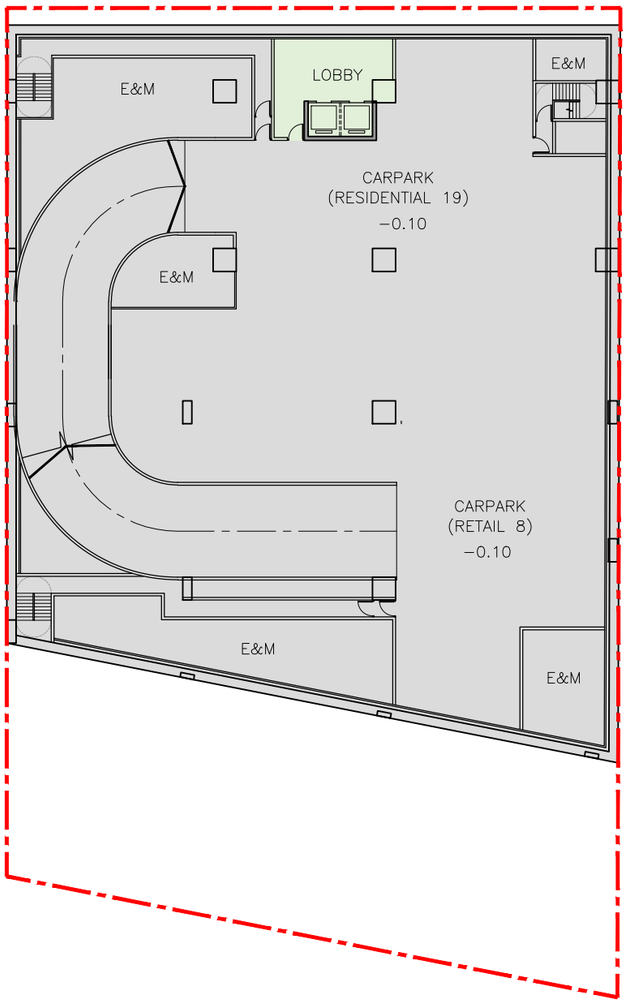
Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70



0 1 2 5 10 20m

A-02 Second Basement Level (B2) Plan

Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70



0 1 2 5 10 20m

A-03 First Basement Level (B1) Plan

Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70

東源街 TUNG YUEN STREET

5000
1500
3500
Pavement Widening

+4.40

LOBBY

RETAIL

L&UL
+3.90

5M

RETAIL
+4.40

PUBLIC PASSAGE TO PROMENADE

RETAIL

E&M

15M PROMENADE

CANOPY

TS

WIP Aug 2023

海堤 Seawall

Sewage Pumping Station 污水泵房

SEAWALL

OVERHANG

CONC

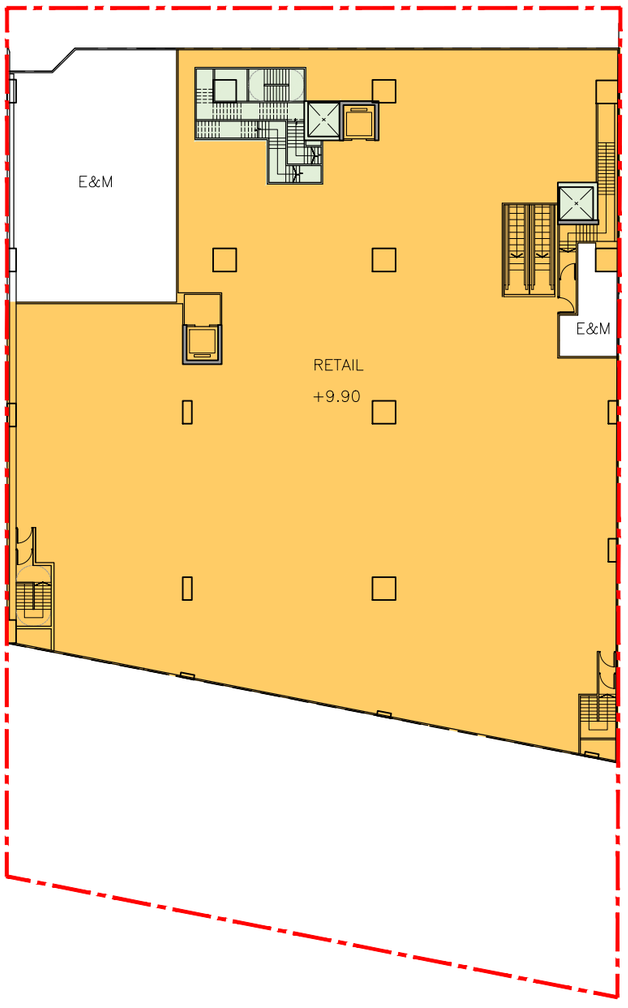
PLATFORM

WALL

0 1 2 5 10 20m

A-04 Ground Floor Level (GF) Plan

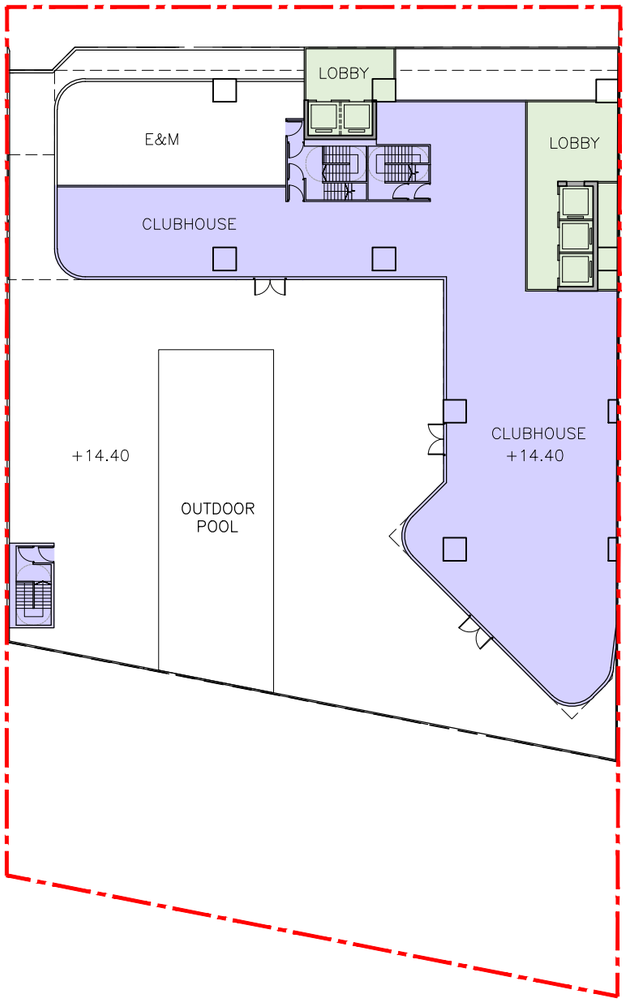
Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70



0 1 2 5 10 20m

A-05 Level 1 (L1) Plan

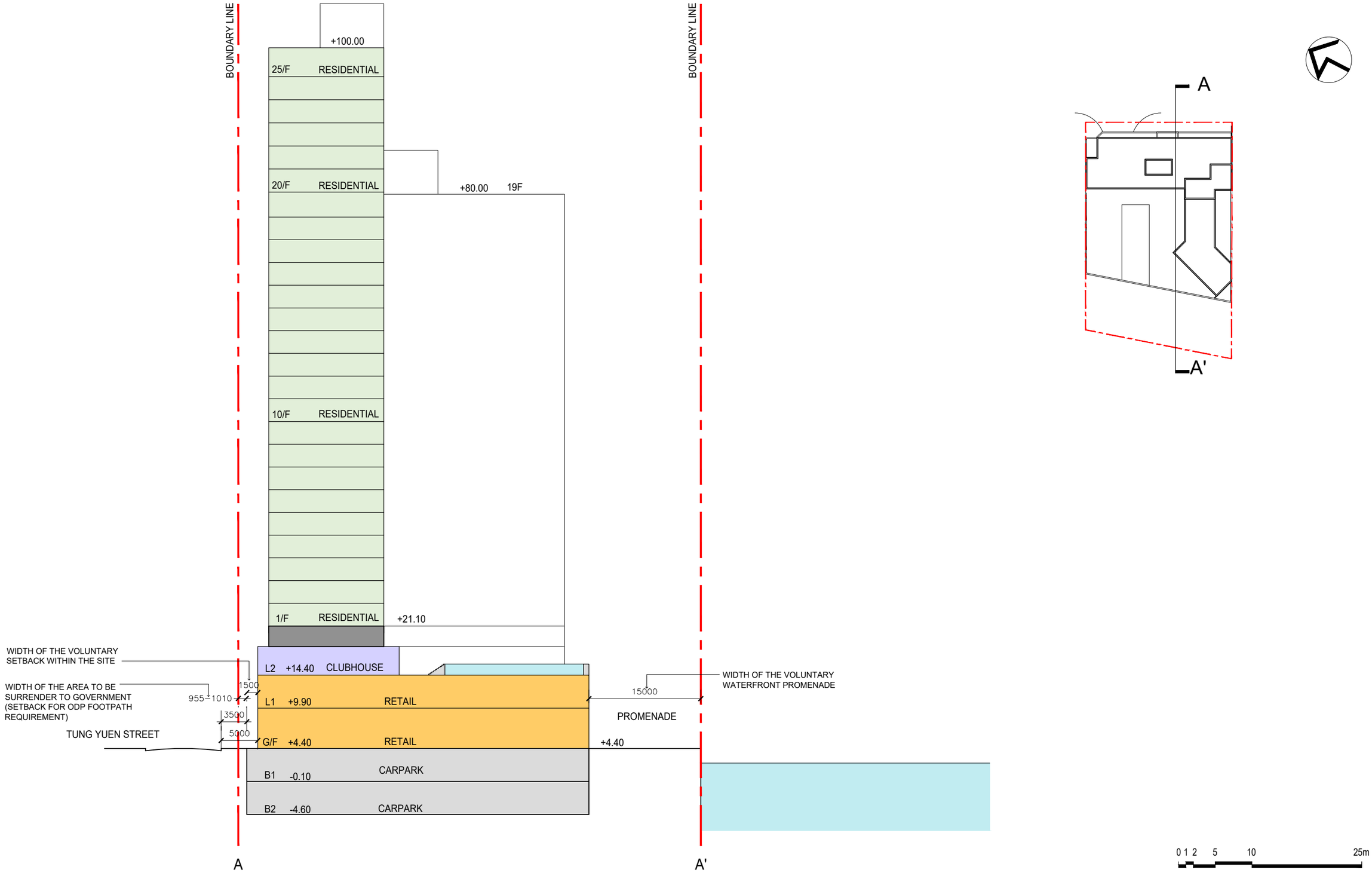
Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70



0 1 2 5 10 20m

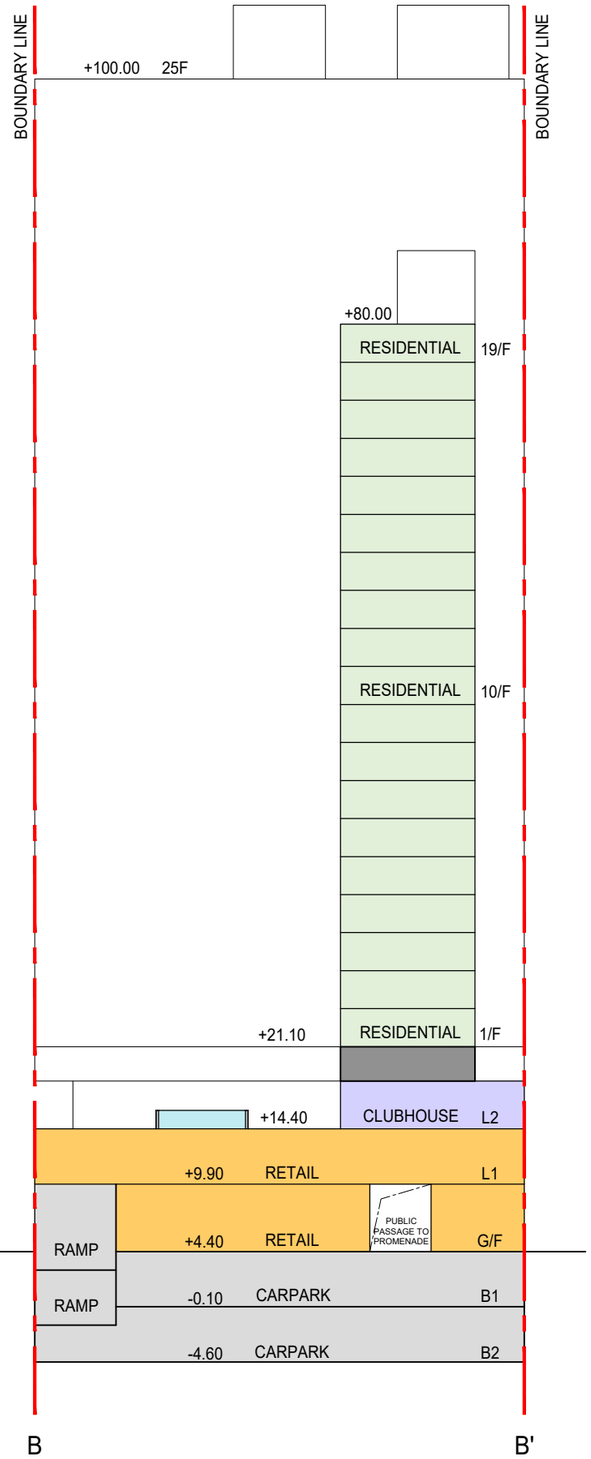
A-06 Level 2 (L2) Plan

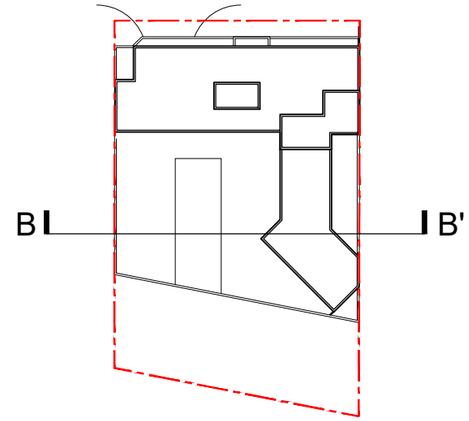
Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70



A-07 Section A-A'

Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70





0 1 2 5 10 25m

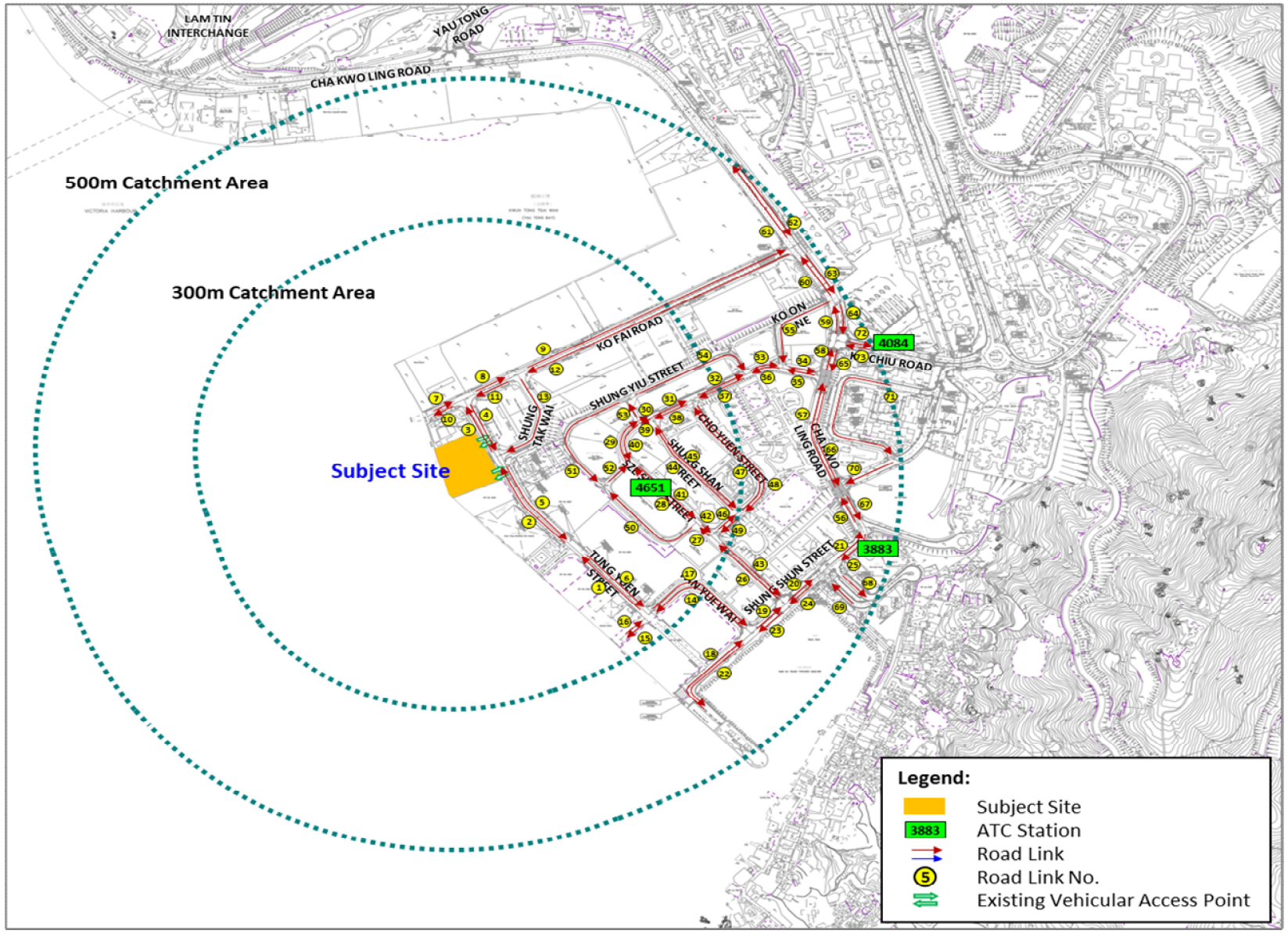
A-08 Section B-B'

Proposed Residential & Commercial Development at
No. 4 Tung Yuen Street, Yau Tong YTML 70

Appendix 3.1 Traffic Forecast of Year 2047

NIA | Reference: RONOSS_2023 | Assessment Year 2047

Index	Road Name	Direction	AM Peak Traffic Volume	Light Vehicles	Heavy Vehicles	Powered Two-wheelers	PM Peak Traffic Volume	Light Vehicles	Heavy Vehicles	Powered Two-wheelers	Speed Limit
			(veh/hr)	(%)	(%)	(%)	(veh/hr)	(%)	(%)	(%)	(km/h)
1	Tung Yuen Street	NB	145	38%	58%	4%	150	53%	47%	0%	50
2	Tung Yuen Street	NB	240	38%	61%	1%	215	44%	55%	1%	50
3	Tung Yuen Street	NB	280	39%	61%	0%	280	47%	53%	0%	50
4	Tung Yuen Street	SB	85	38%	58%	5%	110	53%	47%	0%	50
5	Tung Yuen Street	SB	210	58%	40%	2%	225	56%	40%	4%	50
6	Tung Yuen Street	SB	175	59%	39%	2%	145	49%	51%	0%	50
7	Ko Fai Road	EB	60	32%	68%	0%	40	54%	46%	0%	50
8	Ko Fai Road	EB	305	39%	61%	0%	280	48%	52%	0%	50
9	Ko Fai Road	EB	540	51%	49%	1%	465	67%	27%	6%	50
10	Ko Fai Road	WB	55	31%	62%	7%	75	35%	65%	0%	50
11	Ko Fai Road	WB	100	40%	53%	8%	140	41%	59%	0%	50
12	Ko Fai Road	WB	470	61%	33%	7%	500	58%	39%	2%	50
13	Shung Tak Wai	SB	225	58%	40%	1%	235	56%	41%	3%	50
14	Yan Yue Wai	EB	130	38%	58%	3%	175	57%	43%	0%	50
15	Yan Yue Wai	EB	25	13%	88%	0%	35	77%	23%	0%	50
16	Yan Yue Wai	WB	35	22%	78%	0%	5	0%	100%	0%	50
17	Yan Yue Wai	WB	200	57%	40%	2%	155	52%	48%	0%	50
26	Sze Shan Street	NB	100	72%	28%	0%	125	71%	20%	9%	50
27	Sze Shan Street	NB	55	74%	26%	0%	90	71%	25%	4%	50
28	Sze Shan Street	NB	75	73%	27%	0%	100	71%	25%	4%	50
29	Sze Shan Street	NB	165	73%	25%	2%	175	82%	12%	6%	50
30	Sze Shan Street	NB	160	72%	26%	2%	165	82%	12%	6%	50
31	Sze Shan Street	NB	165	73%	25%	2%	175	84%	10%	6%	50
32	Sze Shan Street	NB	210	69%	26%	5%	210	79%	12%	9%	50
37	Sze Shan Street	SB	210	76%	18%	6%	200	68%	21%	11%	50
38	Sze Shan Street	SB	155	69%	28%	3%	165	64%	26%	10%	50
39	Sze Shan Street	SB	140	68%	30%	2%	155	64%	27%	9%	50
40	Sze Shan Street	SB	105	68%	29%	3%	105	59%	31%	9%	50
41	Sze Shan Street	SB	90	67%	33%	0%	120	73%	27%	0%	50
42	Sze Shan Street	SB	80	67%	33%	0%	100	73%	27%	0%	50
43	Sze Shan Street	SB	130	78%	22%	0%	115	81%	16%	3%	50
44	Shung Shan Street	NB	20	83%	0%	17%	40	90%	0%	10%	50
45	Shung Shan Street	SB	35	79%	21%	0%	50	73%	18%	9%	50
46	Cho Yuen Street	NB	75	55%	35%	10%	55	58%	33%	9%	50
47	Cho Yuen Street	NB	85	65%	29%	6%	55	49%	37%	14%	50
48	Cho Yuen Street	SB	95	78%	10%	13%	55	82%	12%	6%	50
49	Cho Yuen Street	SB	75	76%	14%	10%	50	81%	19%	0%	50
50	Shung Yiu Street	NB	30	80%	20%	0%	35	78%	22%	0%	50
51	Shung Yiu Street	SB	60	77%	23%	0%	70	76%	16%	8%	50
52	Shung Yiu Street	NB	65	78%	22%	0%	85	78%	16%	6%	50
53	Shung Yiu Street	NB	70	66%	34%	0%	85	63%	22%	15%	50
54	Shung Yiu Street	NB	50	40%	60%	0%	50	45%	45%	9%	50



Appendix 3.2 Road Traffic Noise Impact Assessment Result (Base Case)

Predicted Road Traffic Noise (L10, dB(A)) at Representative Noise Assessment Points (NAPs) (AM Peak)
Base Case

T1																													
Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30
1	21.1	74	74	73	72	75	75	73	73	73	74	74	74	74	74	74	74	71	63	57	55	54	54	53	53	52	51	51	50	49	45
2	24.2	74	74	72	72	74	74	73	74	74	74	74	74	74	74	74	74	71	64	57	56	55	54	54	53	53	52	52	51	51	47
3	27.3	73	74	72	72	74	74	73	73	73	73	73	73	73	73	73	73	71	64	57	56	55	55	54	54	53	53	52	52	51	47
4	30.4	73	73	71	71	73	73	73	73	73	73	73	73	73	73	73	73	71	64	57	56	56	55	54	54	53	53	53	52	52	48
5	33.5	73	73	71	71	73	73	72	73	73	73	73	73	73	73	73	73	70	63	57	56	56	55	55	54	54	53	53	53	52	48
6	36.6	72	72	71	70	72	72	72	72	72	72	72	72	72	72	72	72	70	63	57	56	56	55	55	54	54	53	53	53	52	48
7	39.7	72	72	70	70	72	72	72	72	72	72	72	72	72	72	72	72	70	63	57	56	56	55	55	54	54	54	53	53	53	49
8	42.8	72	72	70	70	72	72	71	72	72	72	72	72	72	72	72	72	70	63	57	56	56	55	55	54	54	54	53	53	53	49
9	45.9	71	71	70	69	71	72	71	71	71	71	71	71	71	71	71	71	69	63	57	56	56	55	55	54	54	54	53	53	53	49
10	49	71	71	69	69	71	71	71	71	71	71	71	71	71	71	71	71	69	63	57	56	56	55	55	54	54	54	53	53	53	49
11	52.1	71	71	69	69	71	71	70	71	71	71	71	71	71	71	71	71	69	62	57	56	55	55	55	54	54	54	53	53	53	49
12	55.2	71	71	69	69	71	71	70	71	71	71	71	71	71	71	71	71	69	62	57	56	55	55	54	54	54	53	53	53	53	48
13	58.3	70	70	69	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	57	56	55	55	54	54	54	53	53	53	53	48
14	61.4	70	70	68	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	56	56	55	55	54	54	54	53	53	53	53	48
15	64.5	70	70	68	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	53	48
16	67.6	70	70	68	68	70	70	69	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	52	48
17	70.7	69	70	68	68	70	70	69	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	52	48
18	73.8	69	69	68	67	69	69	69	69	69	69	69	69	69	69	69	70	67	61	56	55	55	54	54	53	53	53	53	52	52	48
19	76.9	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	54	53	53	53	53	52	52	48
20	80.3	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	54	53	53	53	52	52	52	48
21	83.45	69	69	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	53	53	53	53	52	52	52	48
22	86.6	69	69	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	55	54	54	53	53	53	53	52	52	52	48
23	89.75	68	68	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	54	53	53	53	52	52	52	52	48
24	92.9	68	68	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	53	53	53	53	52	52	52	52	48
25	96.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	67	61	55	54	--	--	--	--	--	--	52	52	52	48
		12	12	6	5	12	12	10	12	12	12	12	12	12	12	12	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Max		74	74	73	72	75	75	73	74	74	74	74	74	74	74	74	74	71	64	57	56	56	55	55	54	54	54	53	53	53	49
Exceedance		12			12			12		12		12		12		12		4				0			0			0			

T2													
Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12
1	21.1	53	53	53	54	55	55	56	52	52	51	51	50
2	24.2	55	56	56	56	57	57	57	54	53	53	52	51
3	27.3	56	57	57	57	57	58	58	54	54	54	53	52
4	30.4	57	57	57	58	58	58	58	55	54	54	53	52
5	33.5	57	58	58	58	58	58	58	55	54	54	53	53
6	36.6	58	58	58	58	58	58	59	55	55	54	53	53
7	39.7	58	58	58	58	58	58	59	55	55	54	54	53
8	42.8	58	58	58	58	58	59	59	55	55	54	54	53
9	45.9	58	58	58	58	58	58	59	55	55	54	54	53
10	49	58	58	58	58	58	58	58	55	55	54	54	53
11	52.1	58	58	58	58	58	58	58	55	55	54	54	53
12	55.2	58	58	58	58	58	58	58	55	55	54	54	53
13	58.3	58	58	58	58	58	58	58	55	55	54	54	53
14	61.4	58	58	58	58	58	58	58	55	54	54	54	53
15	64.5	58	58	58	58	58	58	58	55	54	54	53	53
16	67.6	57	58	58	58	58	58	58	55	54	54	53	53
17	70.7	57	57	58	58	58	58	58	54	54	54	53	53
18	73.8	57	57	57	58	58	58	58	54	54	54	53	53
19	76.9	57	57	57	57	58	58	58	54	54	54	53	53
		0	0	0	0	0	0	0	0	0	0	0	0
Max		58	58	58	58	58	59	59	55	55	54	54	53
Exceedance		0				0		0		0			

No. of Units:	342
No. of Units with Exceedance:	88
Compliance Level:	74%
Max. Noise Level:	75

Noted:
Noise level exceed stardand of 70 dB(A)

Predicted Road Traffic Noise (L10, dB(A)) at Representative Noise Assessment Points (NAPs) (AM Peak)
Base Case

T1																														
Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30
1	21.1	74	74	72	72	74	74	73	73	73	73	74	74	74	74	74	74	71	63	56	55	54	53	53	52	51	51	50	50	49	45
2	24.2	73	74	72	72	74	74	73	73	73	74	74	74	74	74	74	74	71	63	57	55	55	54	53	53	52	52	51	51	50	46
3	27.3	73	73	72	71	73	73	73	73	73	73	73	73	73	73	73	73	71	63	57	56	55	54	54	53	53	52	52	51	51	47
4	30.4	73	73	71	71	73	73	72	73	73	73	73	73	73	73	73	73	70	63	57	56	55	54	54	53	53	53	52	52	51	47
5	33.5	72	72	71	71	73	73	72	72	72	72	72	72	72	72	72	72	70	63	57	56	55	55	54	54	53	53	52	52	52	48
6	36.6	72	72	70	70	72	72	72	72	72	72	72	72	72	72	72	72	70	63	57	56	55	55	54	54	53	53	53	52	52	48
7	39.7	72	72	70	70	72	72	71	72	72	72	72	72	72	72	72	72	69	63	57	56	55	55	54	54	54	53	53	52	52	48
8	42.8	71	71	70	69	71	72	71	71	71	71	71	71	71	71	71	71	69	63	57	56	55	55	54	54	54	53	53	53	52	48
9	45.9	71	71	69	69	71	71	71	71	71	71	71	71	71	71	71	71	69	63	57	56	55	55	54	54	54	53	53	53	52	48
10	49	71	71	69	69	71	71	70	71	71	71	71	71	71	71	71	71	69	62	57	56	55	55	54	54	54	53	53	53	52	48
11	52.1	70	71	69	69	71	71	70	71	71	71	71	71	71	71	71	71	69	62	56	56	55	55	54	54	54	53	53	53	52	48
12	55.2	70	70	69	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	56	56	55	54	54	54	53	53	53	53	52	48
13	58.3	70	70	68	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	52	48
14	61.4	70	70	68	68	70	70	69	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	52	48
15	64.5	70	70	68	68	70	70	69	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	53	53	53	53	52	52	48
16	67.6	69	69	68	68	70	70	69	70	70	70	70	70	70	70	70	70	67	61	56	55	55	54	54	53	53	53	53	52	52	48
17	70.7	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	54	53	53	53	52	52	52	48
18	73.8	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	54	53	53	53	52	52	52	48
19	76.9	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	55	55	54	54	53	53	53	53	52	52	52	48
20	80.3	69	69	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	54	53	53	53	52	52	52	52	48
21	83.45	68	69	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	53	53	53	53	52	52	52	52	47
22	86.6	68	68	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	53	53	53	52	52	52	52	52	47
23	89.75	68	68	66	66	68	68	68	68	68	68	68	68	68	68	68	69	66	60	55	54	54	53	53	53	52	52	52	52	52	47
24	92.9	68	68	66	66	68	68	68	68	68	68	68	68	68	68	68	68	66	60	55	54	54	53	53	53	52	52	52	52	51	47
25	96.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	66	60	55	54	--	--	--	--	--	--	52	52	52	48
		10	11	5	5	11	11	9	11	11	11	11	11	11	11	11	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Max		74	74	72	72	74	74	73	73	73	74	74	74	74	74	74	74	71	63	57	56	55	55	54	54	54	53	53	53	52	48
Exceedance		11			11			11		11		11		11		11		3				0			0			0			

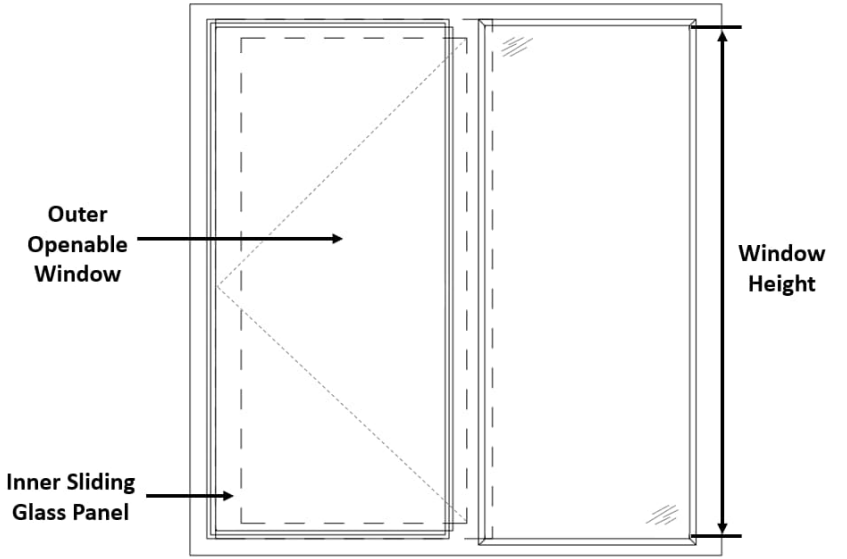
T2													
Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12
1	21.1	52	53	53	54	54	55	55	52	51	51	50	49
2	24.2	55	55	55	56	56	57	57	53	53	53	52	51
3	27.3	56	56	57	57	57	57	57	54	54	53	52	51
4	30.4	57	57	57	57	58	58	58	54	54	53	53	52
5	33.5	57	57	57	58	58	58	58	54	54	54	53	52
6	36.6	57	57	58	58	58	58	58	54	54	54	53	52
7	39.7	57	58	58	58	58	58	58	55	54	54	53	53
8	42.8	58	58	58	58	58	58	58	55	54	54	53	53
9	45.9	58	58	58	58	58	58	58	55	54	54	53	53
10	49	58	58	58	58	58	58	58	55	54	54	53	53
11	52.1	58	58	58	58	58	58	58	55	54	54	53	53
12	55.2	57	58	58	58	58	58	58	55	54	54	53	53
13	58.3	57	57	58	58	58	58	58	55	54	54	53	53
14	61.4	57	57	57	58	58	58	58	54	54	54	53	53
15	64.5	57	57	57	58	58	58	58	54	54	54	53	53
16	67.6	57	57	57	57	57	58	58	54	54	54	53	53
17	70.7	57	57	57	57	57	57	57	54	54	54	53	52
18	73.8	57	57	57	57	57	57	57	54	54	53	53	52
19	76.9	57	57	57	57	57	57	57	54	54	53	53	52
		0	0	0	0	0	0	0	0	0	0	0	0
Max		58	58	58	58	58	58	58	55	54	54	53	53
Exceedance		0				0		0		0			

No. of Units:	342
No. of Units with Exceedance:	80
Compliance Level:	77%
Max. Noise Level:	74

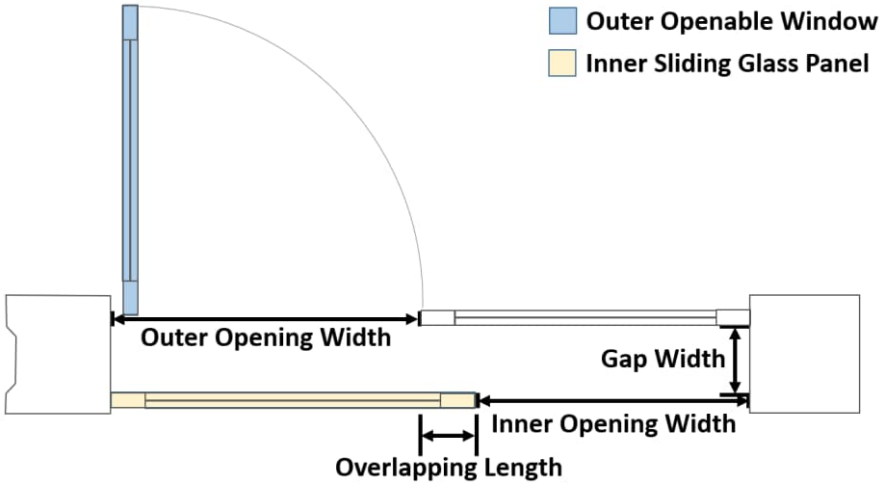
Noted:
Noise level exceed stardand of 70 dB(A)

Appendix 3.3 Indicative Design of EAB(BT)-(EPD-PN) & AW(BT)-(EPD-PN) Adopted in the Proposed Development

(I) Possible design of "Acoustic Window (Baffle Type)" for 8m² and 18m² habitable rooms (i.e. dining room, living room or bedroom)



INTERNAL VIEW (NOT TO SCALE)



PLAN (NOT TO SCALE)

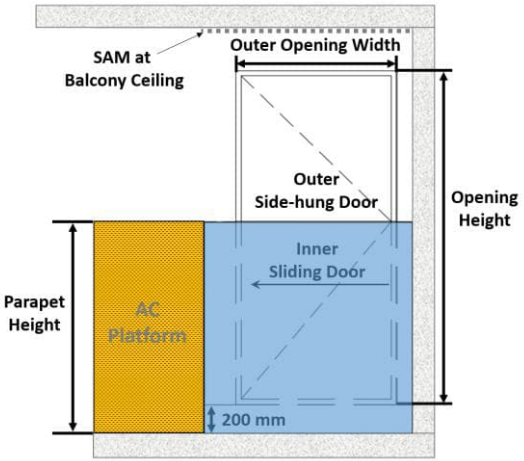
Possible Designs of "Acoustic Window (Baffle Type)" for 8m² and 18m² rooms					
Room Size (m^2)	**Room Dimensions (mm^3)**	**Inner Window Opening (mm^2)**	**Outer Window Opening (mm^2)**	**Overlapping Length (mm)**	**Gap Width (mm)**
8	**3200 (W) x 2500 (D) x 3400 (H)**	**580 (W) x 870 (H)**	**600 (W) x 870 (H)**	**≥ 100**	**100 to 175**
18	**5300 (W) x 3390 (D) x 3400 (H)**	**750 (W) x 1500 (H)**	**750 (W) x 1500 (H)**	**≥ 100**	**100 to 175**

Notes:

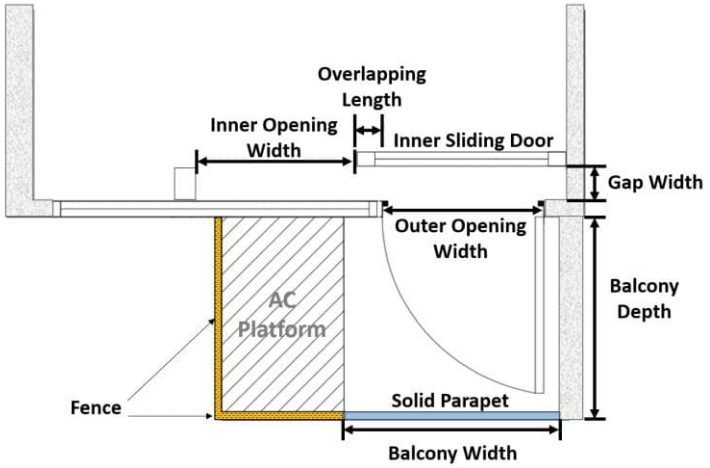
a. These are feasible designs of AW(BT) for 8m² and 18m² rooms.

b. For optimum performance of noise reduction, the air gap should have a pane-to-pane overlapping length of ≥ 100mm and a gap width between 100mm and 175mm, with the inner sliding glass panel in a closed position. The window pane shall be ≥ 6mm in thickness.

(II) Possible designs of "Enhanced Acoustic Balcony (Baffle Type)" in 14m^2 and 18m^2 habitable rooms (i.e. dining room, living room or bedroom)



EXTERNAL VIEW (NOT TO SCALE)



PLAN (NOT TO SCALE)

Fence (≥ 70% Permeability) Solid Parapet

Possible Designs of "Enhanced Acoustic Balcony (Baffle Type)" for 14m^2 and 18m^2 rooms								
Room size (m^2)	**Room Dimensions (mm^3)**	**Balcony Width (mm)**	**Balcony Depth (mm)**	**Parapet Height (mm)**	**Inner Opening (mm^2)**	**Outer Opening (mm^2)**	**Overlapping Length (mm)**	**Gap Width (mm)**
14	**3400 (W) x 4100 (D) x 3100 (H)**	**≥ 1440**	**≥ 1300**	**≥ 1450**	**1025 (W) x 2210 (H)**	**1150 (W) x 2210 (H)**	**≥ 100**	**100**
18	**5300 (W) x 3390 (D) x 3400 (H)**	**≥ 2055**	**≥ 1300**	**≥ 1450**	**1150 (W) x 2210 (H)**	**1150 (W) x 2210 (H)**	**≥ 100**	**100**

Notes:
1. These are feasible designs of EAB for 14m^2 and 18m^2 rooms. The room with EAB should meet the natural lighting and ventilation requirements in regulations 30 & 31 of the Building (Planning) Regulations (B(P)R). The AC platform should comply with the requirements under Appendix B of Code of Practice on Access for External Maintenance 2021 (AfEM Code), and balconies for residential buildings should comply with the criteria and conditions set out in Joint Practice Note (JPN) 1 for application of exemption from gross floor area and/or site coverage under the B(P)R.
2. SAM at balcony ceiling refers to sound absorptive material of noise reduction coefficient ≥ 0.7. It is an essential feature to attain the basic noise reduction performance in Annex B.
3. Comparable noise performance is anticipated should the AC platform be replaced by balcony with solid parapet.

Appendix 3.4 Sound Attenuation Adjustment of EAB(BT)-(EPD-PN) & AW(BT)-(EPD-PN) Adopted in the Proposed Development

Adjustment of Sound Attenuation for Traffic Noise Impact Assessment

Reference Case

Case ID	Acoustic Window/ Door System	SAM at 100mm gap	MPA	Air Gap, mm	Overlapping length, mm	Room area (RAref), m^2	Ref. sound attenuation, dB(A)
BAL	AB(BT)-EPD PN	No	No	100	≥100	14	8.0

Case ID	Acoustic Window/ Door System	SAM at 100mm gap	MPA	Air Gap, mm	Overlapping length, mm	Room area (RAref), m^2	Ref. sound attenuation, dB(A)
W	AW(BT)-EPD PN	No	No	100 to 175	≥100	8	6.0

Proposed Development							Reference Case					
NSRs with Acoustic Window / Balcony (Baffle Type)	Tower	Room	Referred Case ID	Max. Noise Level, dB(A)	Required Max. Sound Attenuation, dB(A)	Room area (RA), m^2	Air Gap, mm	Overlapping length (Mullion Included), mm	Room area (RAref), m^2	Ref. sound attenuation, dB(A)	Adjustment: 10xlog(RA/RAref)	Adjusted sound attenuation, dB(A)
N1-01	T1	LIV/DIN	BAL	74	3.6	17.5	100	≥100	14	8.0	0.0	8.0
N1-02	T1	MBR	W	74	3.9	6.2	100 to 175	≥100	8	6.0	-1.1	4.9
N1-03	T1	BR	W	73	2.2	4.5	100 to 175	≥100	8	6.0	-2.5	3.5
N1-04	T1	BR	W	72	1.7	4.5	100 to 175	≥100	8	6.0	-2.5	3.5
N1-05	T1	MBR	W	75	4.1	6.2	100 to 175	≥100	8	6.0	-1.1	4.9
N1-06	T1	LIV/DIN	BAL	75	4.2	16.4	100	≥100	14	8.0	0.0	8.0
N1-07	T1	LIV/DIN	BAL	73	2.9	10.3	100	≥100	14	8.0	-1.3	6.7
N1-08	T1	MBR	W	74	3.2	5.5	100 to 175	≥100	8	6.0	-1.6	4.4
N1-09	T1	MBR	W	74	3.2	5.5	100 to 175	≥100	8	6.0	-1.6	4.4
N1-10	T1	LIV/DIN	BAL	74	3.3	10.3	100	≥100	14	8.0	-1.3	6.7
N1-11	T1	LIV/DIN	BAL	74	3.5	10.3	100	≥100	14	8.0	-1.3	6.7
N1-12	T1	MBR	W	74	3.7	5.5	100 to 175	≥100	8	6.0	-1.6	4.4
N1-13	T1	MBR	W	74	3.7	5.5	100 to 175	≥100	8	6.0	-1.6	4.4
N1-14	T1	LIV/DIN	BAL	74	3.7	10.3	100	≥100	14	8.0	-1.3	6.7
N1-15	T1	LIV/DIN	BAL	74	3.9	10.3	100	≥100	14	8.0	-1.3	6.7
N1-16	T2	MBR	W	74	3.9	5.5	100 to 175	≥100	8	6.0	-1.6	4.4
N1-17	T2	BR	W	71	1.0	5.4	100 to 175	≥100	8	6.0	-1.7	4.3

Appendix 3.5 Road Traffic Noise Impact Assessment Result (Mitigated Case)

Predicted Road Traffic Noise (L10, dB(A)) at Representative Noise Assessment Points (NAPs)
Mitigated Case

T1																														
Floor	mPD	N1-01	N1-02	N1-03	N1-04	N1-05	N1-06	N1-07	N1-08	N1-09	N1-10	N1-11	N1-12	N1-13	N1-14	N1-15	N1-16	N1-17	N1-18	N1-19	N1-20	N1-21	N1-22	N1-23	N1-24	N1-25	N1-26	N1-27	N1-28	N1-29	N1-30
1	21.1	66	69	69	69	70	67	66	68	68	67	67	70	70	67	68	70	67	63	57	55	54	54	53	53	52	51	51	50	49	45
2	24.2	66	69	69	68	69	66	67	69	69	67	67	69	69	67	67	70	67	64	57	56	55	54	54	53	53	52	52	51	51	47
3	27.3	65	69	68	68	69	66	66	69	69	67	67	69	69	67	67	69	67	64	57	56	55	55	54	54	53	53	52	52	51	47
4	30.4	65	68	68	68	68	65	66	69	69	66	66	69	69	66	66	69	66	64	57	56	56	55	54	54	53	53	53	52	52	48
5	33.5	65	68	67	67	68	65	66	68	68	66	66	68	68	66	66	68	70	63	57	56	56	55	55	54	54	53	53	53	52	48
6	36.6	64	67	67	70	68	64	65	68	68	66	66	68	68	66	66	68	70	63	57	56	56	55	55	54	54	53	53	53	52	48
7	39.7	64	67	70	70	67	64	65	68	68	65	65	68	68	65	65	68	70	63	57	56	56	55	55	54	54	54	53	53	53	49
8	42.8	64	67	70	70	67	64	65	67	67	65	65	67	67	65	65	67	70	63	57	56	56	55	55	54	54	54	53	53	53	49
9	45.9	63	66	70	69	67	64	64	67	67	65	65	67	67	65	65	67	69	63	57	56	56	55	55	54	54	54	53	53	53	49
10	49	63	66	69	69	66	63	64	67	67	64	64	67	67	64	64	67	69	63	57	56	56	55	55	54	54	54	53	53	53	49
11	52.1	63	66	69	69	66	63	70	67	66	64	64	66	66	64	64	67	69	62	57	56	55	55	55	54	54	54	53	53	53	49
12	55.2	63	66	69	69	66	63	70	66	66	64	64	66	66	64	64	66	69	62	57	56	55	55	54	54	54	53	53	53	53	48
13	58.3	70	70	69	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	57	56	55	55	54	54	54	53	53	53	53	48
14	61.4	70	70	68	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	56	56	55	55	54	54	54	53	53	53	53	48
15	64.5	70	70	68	68	70	70	70	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	53	48
16	67.6	70	70	68	68	70	70	69	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	52	48
17	70.7	69	70	68	68	70	70	69	70	70	70	70	70	70	70	70	70	68	62	56	55	55	54	54	54	53	53	53	53	52	48
18	73.8	69	69	68	67	69	69	69	69	69	69	69	69	69	69	69	70	67	61	56	55	55	54	54	53	53	53	53	52	52	48
19	76.9	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	54	53	53	53	53	52	52	48
20	80.3	69	69	67	67	69	69	69	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	54	53	53	53	52	52	52	48
21	83.45	69	69	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	56	55	54	54	53	53	53	53	52	52	52	48
22	86.6	69	69	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	55	54	54	53	53	53	53	52	52	52	48
23	89.75	68	68	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	54	53	53	53	52	52	52	52	48
24	92.9	68	68	67	67	69	69	68	69	69	69	69	69	69	69	69	69	67	61	55	54	54	53	53	53	53	52	52	52	52	48
25	96.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67	61	55	54	-	-	-	-	-	-	52	52	52	48
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max		70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	64	57	56	56	55	55	54	54	54	53	53	53	49
Exceedance		0			0			0		0		0		0		0		0				0			0			0			

T2													
Floor	mPD	N2-01	N2-02	N2-03	N2-04	N2-05	N2-06	N2-07	N2-08	N2-09	N2-10	N2-11	N2-12
1	21.1	53	53	53	54	55	55	56	52	52	51	51	50
2	24.2	55	56	56	56	57	57	57	54	53	53	52	51
3	27.3	56	57	57	57	57	58	58	54	54	54	53	52
4	30.4	57	57	57	58	58	58	58	55	54	54	53	52
5	33.5	57	58	58	58	58	58	58	55	54	54	53	53
6	36.6	58	58	58	58	58	58	59	55	55	54	53	53
7	39.7	58	58	58	58	58	58	59	55	55	54	54	53
8	42.8	58	58	58	58	58	59	59	55	55	54	54	53
9	45.9	58	58	58	58	58	58	59	55	55	54	54	53
10	49	58	58	58	58	58	58	58	55	55	54	54	53
11	52.1	58	58	58	58	58	58	58	55	55	54	54	53
12	55.2	58	58	58	58	58	58	58	55	55	54	54	53
13	58.3	58	58	58	58	58	58	58	55	55	54	54	53
14	61.4	58	58	58	58	58	58	58	55	54	54	54	53
15	64.5	58	58	58	58	58	58	58	55	54	54	53	53
16	67.6	57	58	58	58	58	58	58	55	54	54	53	53
17	70.7	57	57	58	58	58	58	58	54	54	54	53	53
18	73.8	57	57	57	58	58	58	58	54	54	54	53	53
19	76.9	57	57	57	57	58	58	58	54	54	54	53	53
		0	0	0	0	0	0	0	0	0	0	0	0
Max		58	58	58	58	58	59	59	55	55	54	54	53
Exceedance		0				0		0		0			

No. of Units:	342
No. of Units with Exceedance:	0
Compliance Level:	100%
Max. Noise Level:	70

Noted:

- Noise level exceed stardand of 70 dB(A)
- Enhanced Acoustic Baclony (Baffle Type)- EPD PN
- Acoustic Window (Baffle Type)- EPD PN

Appendix 3.6 Proposed Overall Noise Mitigation Measures Schedule

Schedule of Noise Mitigation Measures

NSR	Room	Floor	Noise Mitigation Measures
N1-01	LIV/DIN	1 - 12/F	Enhanced Acoustic Balcony (Baffle Type)-EPD PN
N1-02	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-03	BR	1 - 6/F	Acoustic Window (Baffle Type)-EPD PN
N1-04	BR	1 - 5/F	Acoustic Window (Baffle Type)-EPD PN
N1-05	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-06	LIV/DIN	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-07	LIV/DIN	1 - 10/F	Enhanced Acoustic Balcony (Baffle Type)-EPD PN
N1-08	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-09	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-10	LIV/DIN	1 - 12/F	Enhanced Acoustic Balcony (Baffle Type)-EPD PN
N1-11	LIV/DIN	1 - 12/F	Enhanced Acoustic Balcony (Baffle Type)-EPD PN
N1-12	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-13	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-14	LIV/DIN	1 - 12/F	Enhanced Acoustic Balcony (Baffle Type)-EPD PN
N1-15	LIV/DIN	1 - 12/F	Enhanced Acoustic Balcony (Baffle Type)-EPD PN
N1-16	MBR	1 - 12/F	Acoustic Window (Baffle Type)-EPD PN
N1-17	BR	1 - 4/F	Acoustic Window (Baffle Type)-EPD PN

Appendix 4.1 Photo Records of Site Investigation

Site Surveys and Photo Records

Source ID: QJ_1

Name	Date of Observation	Time of Observation	Photo
全記	16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	 

Site Surveys and Photo Records

Source ID: WPS_1

Name	Date of Observation	Time of Observation	Photo
Yau Tong Salt Water Pumping Station	14 Sep 16 22 Sep 16 27 Sep 16 28 Sep 16 14 Mar 17 26 Jun 17 29 Jun 17 17 Apr 20 18 Apr 20 20 Jun 22 16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 0900 - 1500 1400 - 1800 0100 - 0600 0900 - 1300 0900 - 1300 1200 - 1800 1500 - 1900 0000 - 0300 1400 - 1800 0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	   

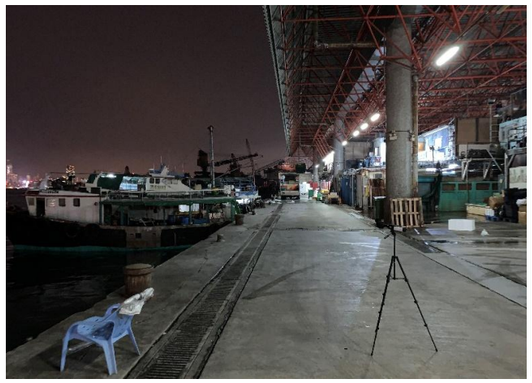
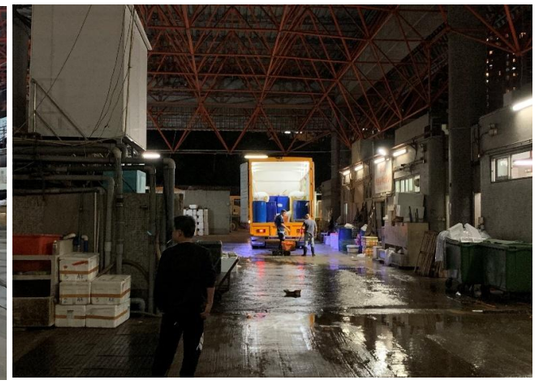
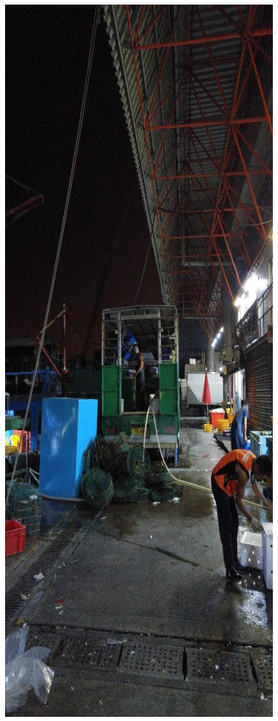
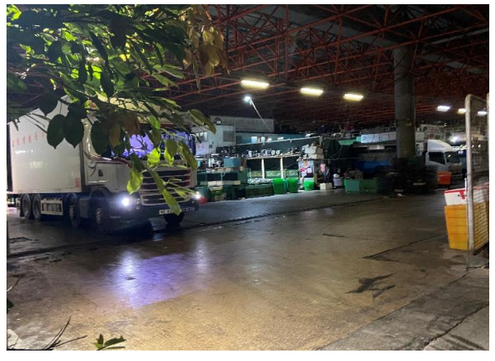
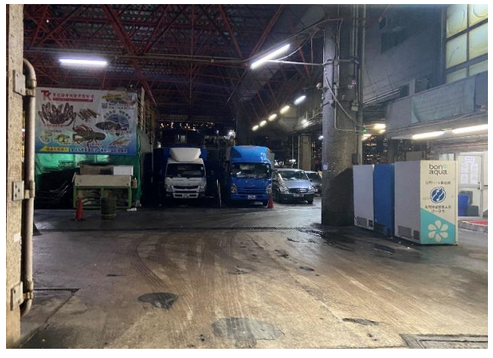
Site Surveys and Photo Records

Source ID: TLM_1

Name	Date of Observation	Time of Observation	Photo
Tung Lee Motor Service Centre	14 Sep 16 22 Sep 16 27 Sep 16 28 Sep 16 14 Mar 17 26 Jun 17 29 Jun 17 17 Apr 20 18 Apr 20 20 Jun 22 16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 0900 - 1500 1400 - 1800 0100 - 0600 0900 - 1300 0900 - 1300 1200 - 1800 1500 - 1900 0000 - 0300 1400 - 1800 0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	  

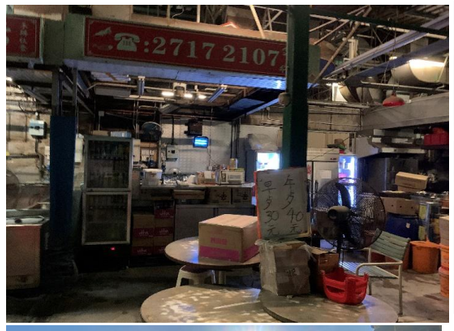
Site Surveys and Photo Records

Source ID: WFM_1-WFM_2

Name	Date of Observation	Time of Observation	Photo
Wholesale Fish Market	14 Sep 16 22 Sep 16 27 Sep 16 28 Sep 16 14 Mar 17 26 Jun 17 29 Jun 17 17 Apr 20 18 Apr 20 20 Jun 22 16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 0900 - 1500 1400 - 1800 0100 - 0600 0900 - 1300 0900 - 1300 1200 - 1800 1500 - 1900 0000 - 0300 1400 - 1800 0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	       

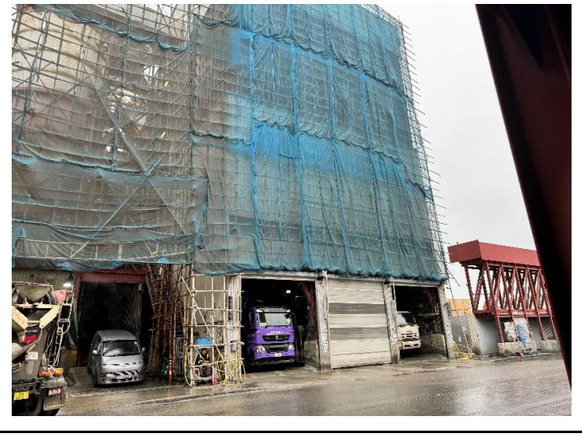
Site Surveys and Photo Records

Source ID: CFS_1

Name	Date of Observation	Time of Observation	Photo
Cooked Food Stall	14 Sep 16 22 Sep 16 27 Sep 16 28 Sep 16 14 Mar 17 26 Jun 17 29 Jun 17 17 Apr 20 18 Apr 20 20 Jun 22 16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 0900 - 1500 1400 - 1800 0100 - 0600 0900 - 1300 0900 - 1300 1200 - 1800 1500 - 1900 0000 - 0300 1400 - 1800 0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	    

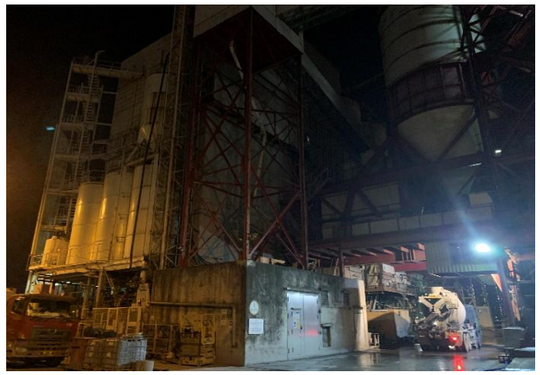
Site Surveys and Photo Records

Source ID: CCC_1-CCC_7

Name	Date of Observation	Time of Observation	Photo
China Concrete Co. Limited	14 Sep 16 22 Sep 16 27 Sep 16 28 Sep 16 14 Mar 17 26 Jun 17 29 Jun 17 17 Apr 20 18 Apr 20 20 Jun 22 16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 0900 - 1500 1400 - 1800 0100 - 0600 0900 - 1300 0900 - 1300 1200 - 1800 1500 - 1900 0000 - 0300 1400 - 1800 0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	    

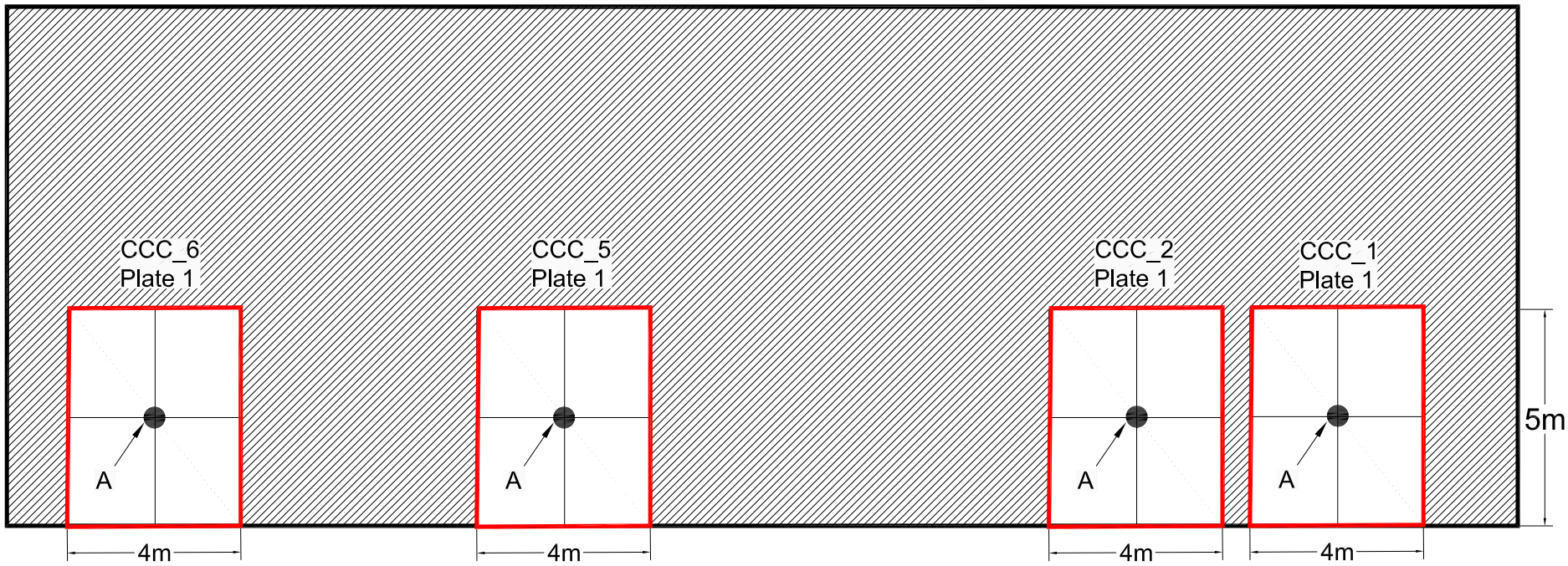
Site Surveys and Photo Records

Source ID: HKA_1 - HKA_3

Name	Date of Observation	Time of Observation	Photo
Hong Kong Concrete Co. Limited	14 Sep 16 22 Sep 16 27 Sep 16 28 Sep 16 14 Mar 17 26 Jun 17 29 Jun 17 17 Apr 20 18 Apr 20 20 Jun 22 16 Aug 23 18 Sep 23 23 Sep 23 25 Sep 23 28 Feb 24 17 Oct 24 01 Nov 24	0900 - 1300 0900 - 1500 1400 - 1800 0100 - 0600 0900 - 1300 0900 - 1300 1200 - 1800 1500 - 1900 0000 - 0300 1400 - 1800 0900 - 1300 1500 - 1800 2300 - 0000 2300 - 0000 0900 - 1200 0900 - 1200 1400 - 1800	    

Appendix 4.2 Detailed Measurement Locations and Data

China Concrete Company Limited

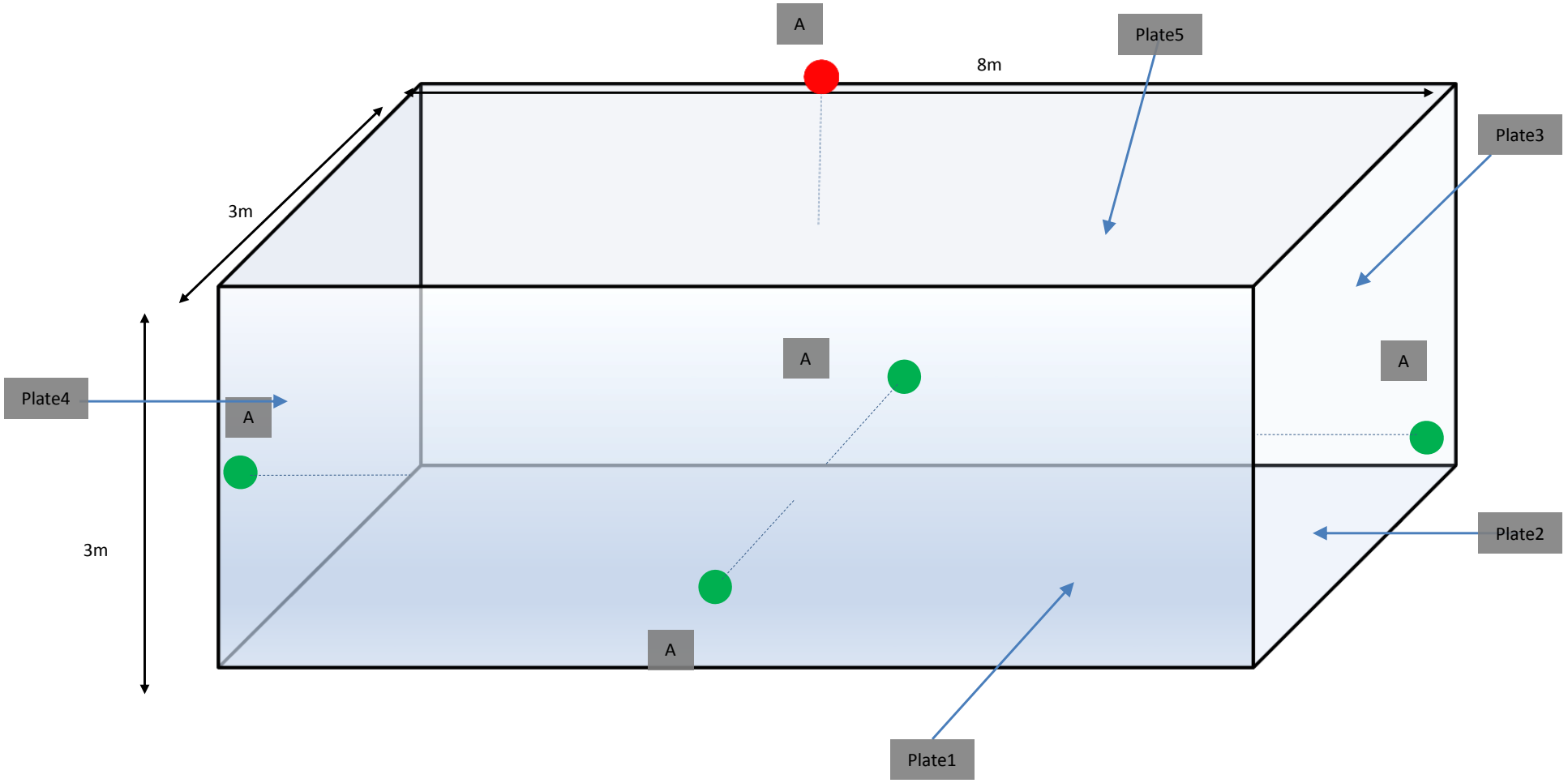


Legends:

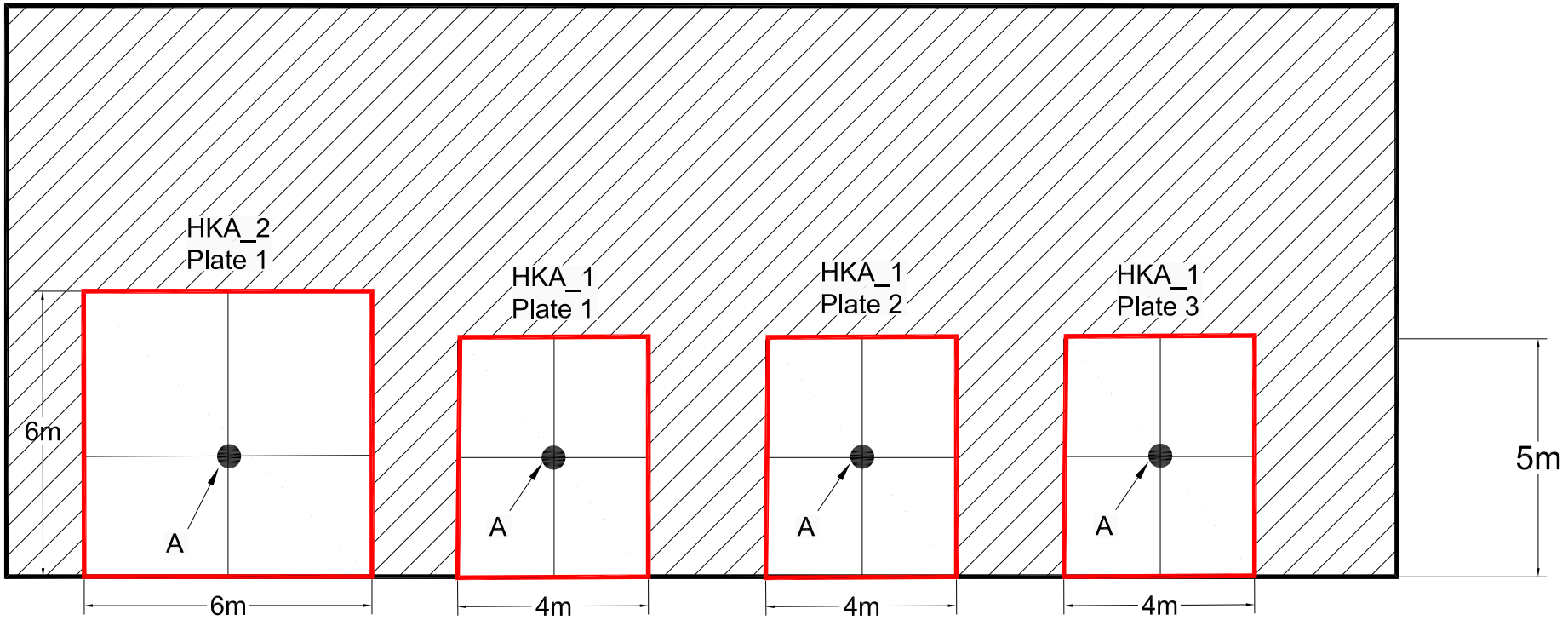
Measuring Points

Non-leakage Surface

Noise source ID: CCC_003



Hong Kong Concrete Co. Limited

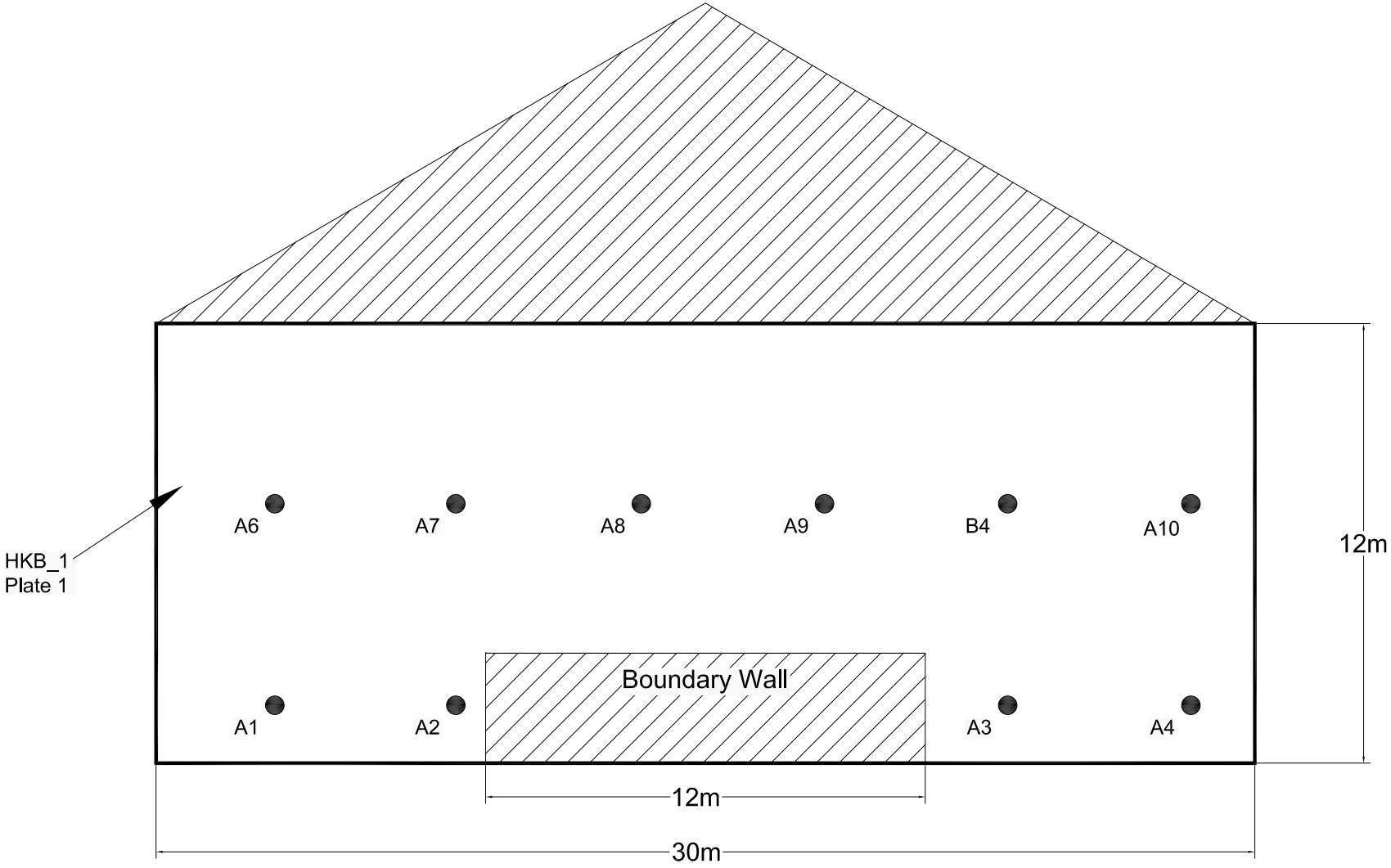


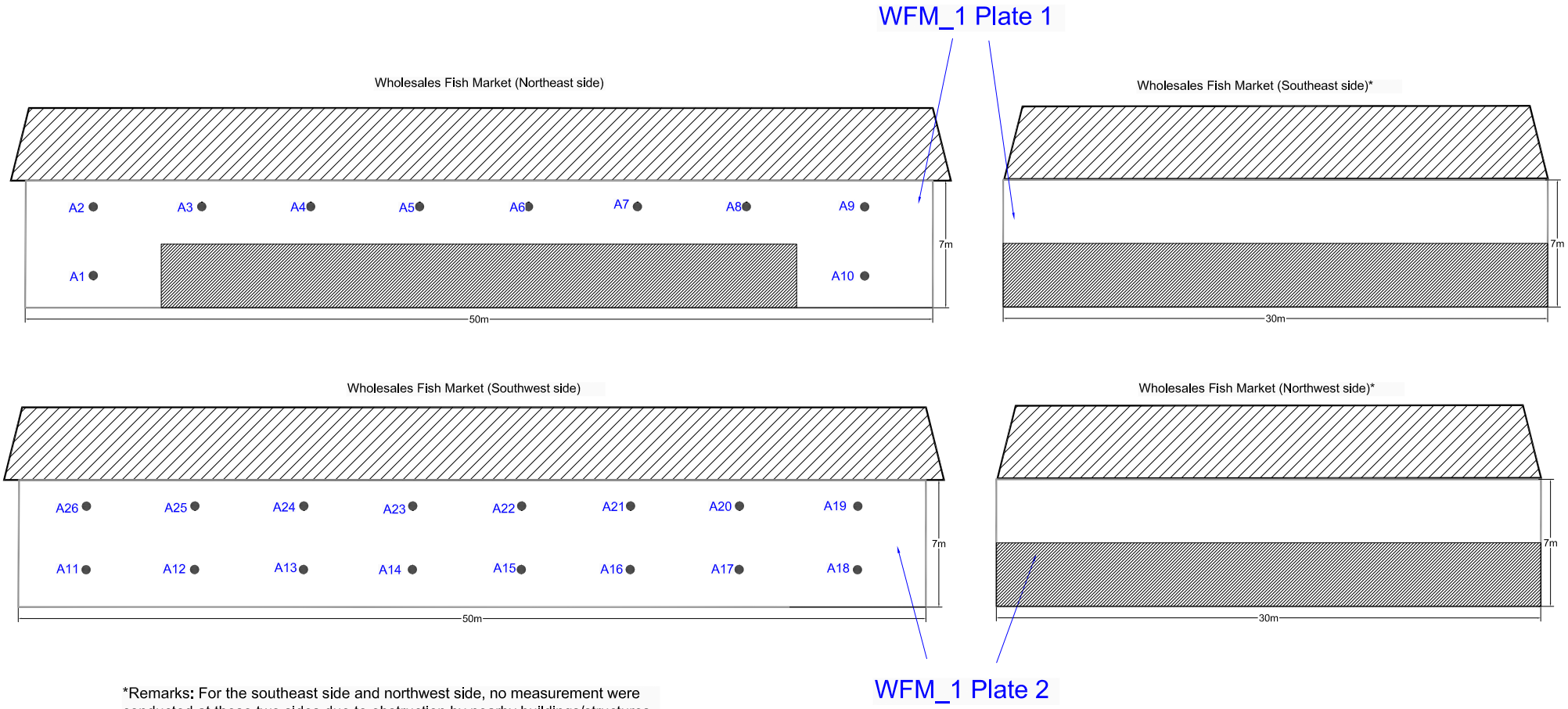
Legends:

Measuring Points

Non-leakage Surface

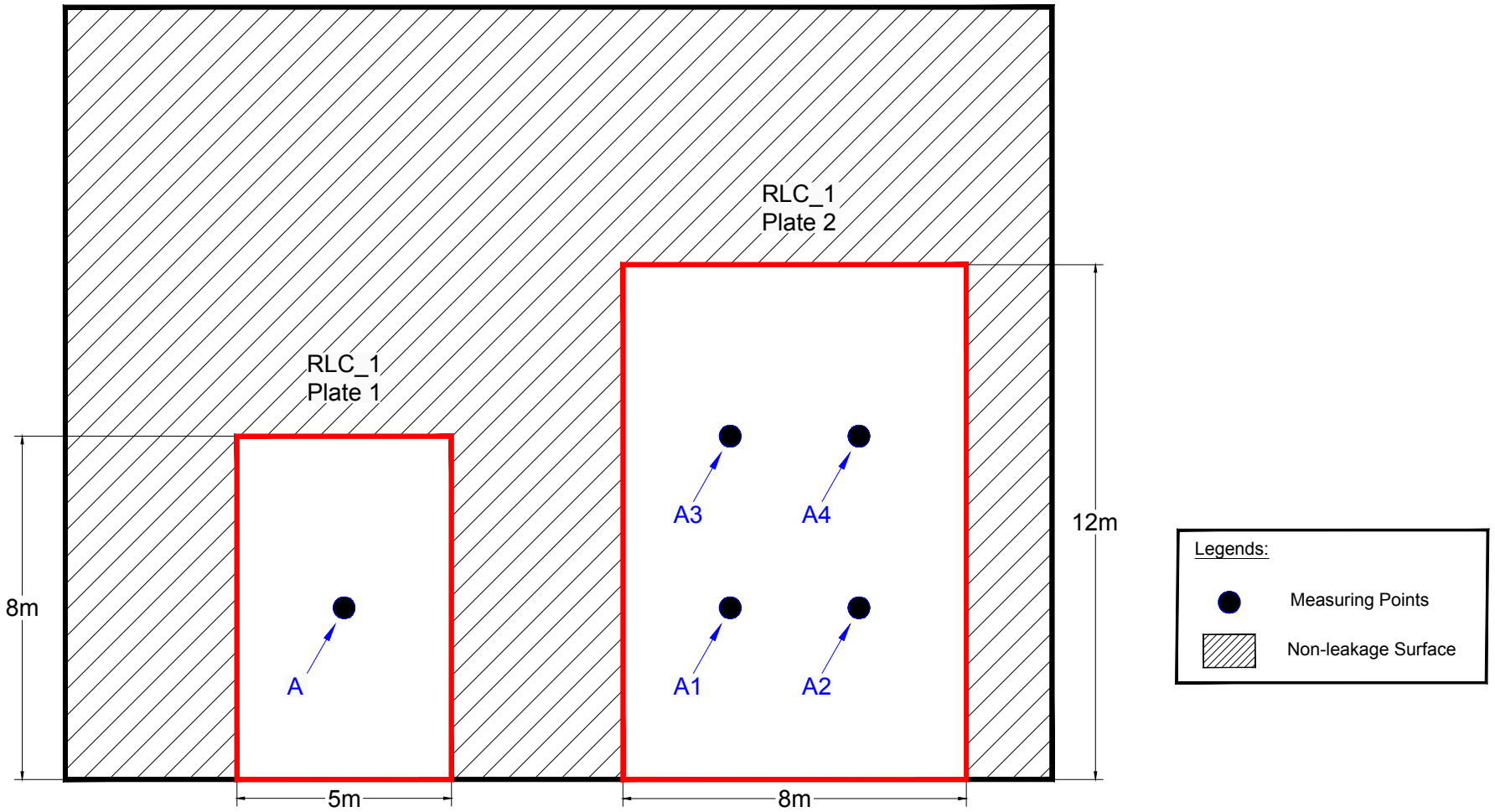
Hong Kong Concrete Co. Limited



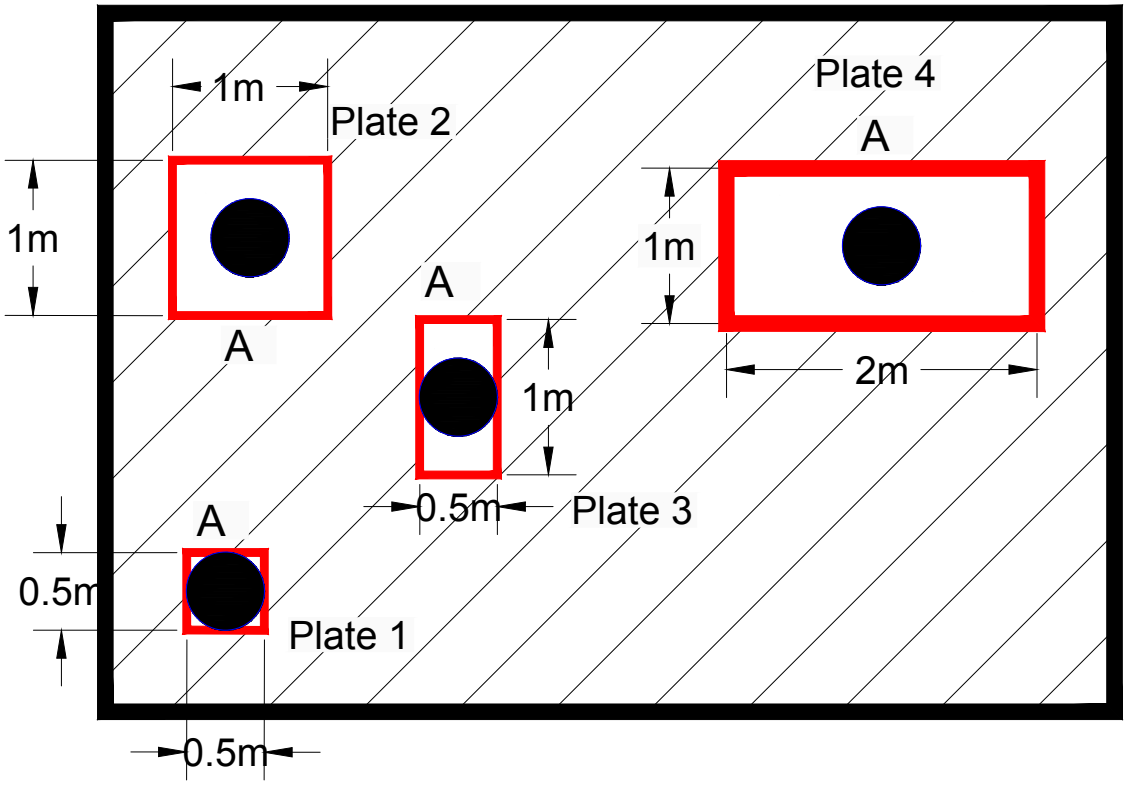


*Remarks: For the southeast side and northwest side, no measurement were conducted at these two sides due to obstruction by nearby buildings/structures.

Redland Concrete Limited



Yau Tong Salt Water Pumping Station (WPS_1)

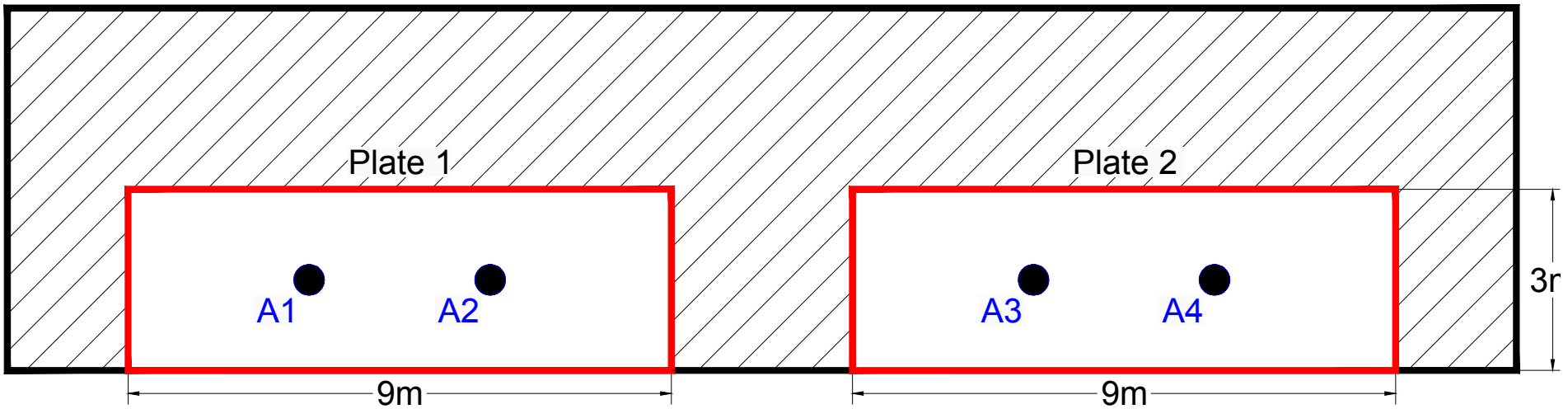


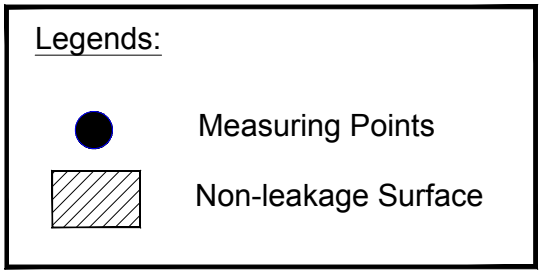
Legends:

Measuring Points

Non-leakage Surface

Tung Lee Motor Service Workshop (TLM_1)





Measurement Date: 19 Sep 2023 (Tue) 1100 – 1130 Weather Condition: Sunny Noise Source ID: QJ_1	Noise measurement was therefore carried out at 25m away of the sources, which having direct line of sight with the activities. 

Sound Level meter: Norsonic 139	Sound Calibrator: Norsonic 1256

Deduced Sound Power Level for the Chiller

Activity	SPL, dB(A)	Background Noise, dB(A)	Calculated SPL, dB(A)	Façade Correction, dB(A)	Measurement distance (D), m	Derived SWL, dB(A)*	Duration (min) / 30mins
Loading and unloading	72.0	70.7	66.2	+3	25	105.1	30

Note:

1. Only noise measurement was conducted during daytime as no operation was observed during site survey at nighttime.

Remark:

* Derived SWL = SPL + 20 x log (D) + 8 + façade correction

Frequency Analysis to determine the correction of tonality in accordance with IND-TM (Fixed Noise Source (S1) - VRV at the roof of the Police Station)

Noise Source Type(s): *operation Sound*

Freq	SPL (dB(A))	10^(SPL/10)	For 1/3 octave band								For pair of 1/3 octave band								
			Freq	1/3 octave band	(a)	(b)	Ftone	(c)	Tonal?	Corr	Freq	highest of 1/3 octave band pair	average of 1/3 octave band pair	(a)	(b)	Ftone	(c)	Tonal?	Corr
31.5	33.2	2113.0	31.5	33.2	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	31.5-40	37.8	35.5	FALSE	FALSE	--	FALSE	**FALSE**	**NA**
40	37.8	6056.0	40	37.8	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	40-50	43.7	40.7	FALSE	FALSE	--	FALSE	**FALSE**	**NA**
50	43.7	23278.0	50	43.7	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	50-63	43.8	43.8	FALSE	FALSE	--	FALSE	**FALSE**	**NA**
63	43.8	24231.7	63	43.8	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	63-80	47.7	45.8	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
80	47.7	59445.9	80	47.7	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	80-100	49.1	48.4	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
100	49.1	81377.5	100	49.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	100-125	53.1	51.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
125	53.1	205185.1	125	53.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	125-160	55.3	54.2	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
160	55.3	336262.4	160	55.3	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	160-200	55.8	55.5	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
200	55.8	376573.7	200	55.8	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	200-250	57.8	56.8	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
250	57.8	609171.4	250	57.8	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	250-315	58.8	58.3	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
315	58.8	762587.6	315	58.8	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	315-400	61.0	59.9	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
400	61.0	1247223.3	400	61.0	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	400-500	61.2	61.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
500	61.2	1313870.6	500	61.2	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	500-630	61.8	61.5	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
630	61.8	1530066.6	630	61.8	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	630-800	62.2	62.0	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
800	62.2	1642628.5	800	62.2	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	800-1k	62.5	62.3	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
1k	62.5	1780613.7	1000	62.5	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	1k-1.25k	62.5	62.0	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
1.25k	61.5	1422932.0	1250	61.5	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	1.25k-1.6k	61.5	61.4	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
1.6k	61.3	1338248.7	1600	61.3	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	1.6k-2k	61.3	60.7	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
2k	60.1	1031574.9	2000	60.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	2k-2.5k	60.1	59.5	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
2.5k	58.9	775029.1	2500	58.9	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	2.5k-3.15k	58.9	58.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
3.15k	57.3	533103.1	3150	57.3	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	3.15k-4k	57.3	56.2	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
4k	55.2	329629.8	4000	55.2	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	4k-5k	55.2	54.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
5k	52.9	195934.1	5000	52.9	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	5k-6.3k	52.9	51.5	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
6.3k	50.1	101703.0	6300	50.1	TRUE	FALSE	--	FALSE	**FALSE**	**NA**	6.3k-8k	50.1	48.7	TRUE	FALSE	--	FALSE	**FALSE**	**NA**
8k	47.3	53673.1	8000	47.3	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	8k-10k	47.3	45.8	FALSE	FALSE	--	FALSE	**FALSE**	**NA**
10k	44.2	26353.8	10000	44.2	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	10k-12.5k	44.2	42.6	FALSE	FALSE	--	FALSE	**FALSE**	**NA**
12.5k	40.9	12386.1	12500	40.9	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	12.5k-16k	40.9	37.8	FALSE	FALSE	--	FALSE	**FALSE**	**NA**
16k	34.7	2981.2	16000	34.7	FALSE	FALSE	--	FALSE	**FALSE**	**NA**	--	--	--	--	--	--	--	--	--

Highest	62.5
Overall	72.0
Tonality Correction Adopted, dB(A)	*0*

A correction for tonality shall be applied if, between 31.5Hz and 16kHz, any one-third octave band or any pair of adjacent one-third octave bands of the A-weighted spectrum of the noise under investigation satifies all of the following conditions:

(a) the level of the one-third octave band under consideration, or, in the case of a pair of bands, the level of the highest band in that pair, is not more than 15.0 dB below the level of the highest one-third octave band;

(b) the level of the one-third octave band under consideration, or, in the case of a pair of bands, the arithmetic average of the levels of the two bands, is more than 1.0 dB higher than the level of each of the adjacent bands on either side of the band or pair of bands under consideration; and

(c) the level difference, known as the tonality factor, ftone, between the level of the one-third octave band under consideration, or, in the case of a pair of bands, the arithmetic average of the levels of the two bands, and the arithmetic average of the levels of the adjacent bands on either side of the band or pair of bands under consideration is 3.0 dB or more

f_{tone}(dB)	C_{tone}(dB(A))	
	in cases where the frequency of any band under consideration is below 250 Hz	in cases where the frequency of each band under consideration is higher than or equal to 250 Hz
greater than or equal to 3.0 and less than 6.0	0	3
greater than or equal to 6.0 and less than 9.0	3	6
greater than or equal to 9.0	6	6

Appendix 4.3 Calculations of Sound Power Level of Industrial Noise Sources

Noise Measurements Data for Determination of Sound Power Level

Noise Sources	Source Description	Noise Sources ID	Location	Avg. Measured SPL, dB(A)	Measurement Distance from Source (d), m	Surface Area (S), m2	SWL, dB(A) (SPL + 10 log (S))	SWL, dB(A) (SPL + 20 log (d)+8)	SWL adopted in Noise from Fixed Source Calculation, dB(A)	Remarks
China Concrete Co. Limited	Concrete Batching Plant(Concrete Lorry Mixer)	CCC_1	Plate 1	81	1	34	96.3	-	96.3	
	Concrete Batching Plant(Concrete Lorry Mixer)	CCC_2	Plate 1	79.9	1	34	95.2	-	95.2	
	Concrete Lorry Mixer Washing Bay	CCC_3	Plate 1	78.6	3.0	66	96.8	-	100.4	
			Plate 2	77.6	3.0	66	95.8	-		
			Plate 3	78.2	3.0	36	93.8	-		
			Plate 4	71.8	3.0	36	87.4	-		
			Plate 5	71.8	3.0	90	91.3	-		
	Concrete Lorry Mixer Washing Bay	CCC_4	-	-	-	-	-	-	100.4	Same SWL as CCC_3 is assumed due to same nature and scale
	Concrete Batching Plant (Tanker)	CCC_5	Plate 1	78.3	1	40	94.3	-	94.3	
	Concrete Batching Plant (Tanker)	CCC_6	Plate 1	81.9	1	40	97.9	-	97.9	
	Screw Pumping Barge	CCC_7	-	-	-	-	-	-	102.0	Reference is made to the Approved Environmental Impact Assessment Report (Ref: AEIAR: 073/2003)
Hong Kong Concrete Co. Limited	Concrete Batching Plant(Concrete Lorry Mixer)	HKA_1	Plate 1	82.3	1	34	97.6	-	102.4	
			Plate 2	82.8	1	34	98.1	-		
			Plate 3	81.7	1	34	97.0	-		
	Concrete Batching Plant (Tanker)	HKB_2	Plate 1	76.7	1	90	96.2	-	96.2	
	Screw Pumping Barge	HKB_3	-	-	-	-	-	-	102.0	Reference is made to the Approved Environmental Impact Assessment Report (Ref: AEIAR: 073/2003)
Cooked Food Stall	Operation Noise	CFS_1	Plate 1	63.8	1	14	75.3	-	75.3	
Wholesale Fish Market - (Day-time)	Operation Noise	WFM_1	Plate 1	68.2	1	546	95.6	-	92.9	An Area correction is applied to represent the actual noise emitting suface with direct of sight from the Proposed Development Only
			Plate 2	64.3	1	668	92.5	-		
	Loading and Unloading by Marine Vessels	WFM_2	-	76.2	3	-	-	93.7	96.7	A correction of 10xlog(12/6) is applied to the SWL for calculation to illsutrade the worst possible scenario
Wholesale Fish Market - (Night-time)	Operation Noise	WFM_1	Plate 1	66.8	1	546	94.2	-	91.6	An Area correction is applied to represent the actual noise emitting suface with direct of sight from the Proposed Development Only
			Plate 2	63.3	1	668	91.5	-		
	Loading and Unloading by Marine Vessels	WFM_2	-	74.3	3	-	-	91.8	94.8	A correction of 10xlog(12/6) is applied to the SWL for calculation to illsutrade the worst possible scenario
Redland Concrete Limited	Operation Noise	RLC_1	Plate 1	74.8	1	61	92.7	-	97.9	
			Plate 2	75.3	1	128	96.4	-		
	Cooling Tower	RLC_2	-	-	-	-	-	-	95.1	Reference is made to the Product Catalogue in Appendix 4.5: FT-250 for similar diameter
		RLC_3	-	-	-	-	-	-	95.1	
	Screw Pumping Barge	RLC_4	-	-	-	-	-	-	102.0	Reference is made to the Approved Environmental Impact Assessment Report (Ref: AEIAR: 073/2003)
Yau Tong Salt Water Pumping Station	Operation Noise	WPS_1	Plate 1	71.8	1	2	74.8	-	84.3	
			Plate 2	71.6	1	5	78.6	-		
			Plate 3	71.7	1	4	77.7	-		
			Plate 4	71.4	1	8	80.4	-		
Tung Lee Motor Service Centre	Operation Noise	TLM_1	Plate 1	61.7	1	42	77.9	-	80.8	
			Plate 2	61.5	1	42	77.7	-		
Ajisen Group Tower	Cooling Tower	AGT_1	-	-	-	-	-	-	91.1	Reference is made to the Product Catalogue in Appendix 4.5: FT-80 for similar diameter
		AGT_2	-	-	-	-	-	-	91.1	
		AGT_3	-	-	-	-	-	-	84.1	Reference is made to the Product Catalogue in Appendix 4.5: FT-25 for similar diameter
Ko's Brother Hardware Shop	Loading and Unloading Activities	RCI_1	-	70.5	5	-	-	92.5	92.5	
全記	Loading and Unloading Activities	QJ_1	Plate 1	66.8	25	-	-	105.1	105.1	
Redland Concrete Limited	Operation Noise	RLC_1	Plate 1	74.8	1	61	92.7	-	97.9	
			Plate 2	75.3	1	128	96.4	-		
	Cooling Tower	RLC_2	-	-	-	-	-	-	95.1	Reference is made to the Product Catalogue in Appendix 3.5: FT-250 for similar diameter
		RLC_3	-	-	-	-	-	-	95.1	
	Screw Pumping Barge	RLC_4	-	-	-	-	-	-	102.0	Reference is made to the Approved Environmental Impact Assessment Report (Ref: AEIAR: 073/2003)

Appendix 4.4 Industrial Noise Impact Assessment Result (Base Case)

Predicted Noise Levels at Representative NSRs of Fixed Noise Impact Assessme

Daytime - Base Case

NSR	x-coordinate	y-coordinate	Predicted Noise Level, $L_{eq\ (30\ min)}$ dB(A)	Area Sensitivity Ratings	Daytime Acceptable Noise Level, $L_{eq\ (30\ min)}$ dB(A)
F1-01	842136.4	817247.0	70	C	70
F1-02	842135.2	817249.4	68	C	70
F1-03	842114.5	817277.3	65	C	70
F1-04	842105.3	817272.9	65	C	70
F2-01	842096.6	817230.2	70	B	65
F2-02	842097.3	817232.3	69	B	65
F2-03	842097.9	817234.2	69	B	65
F2-04	842098.7	817236.8	68	B	65
F2-05	842099.6	817239.5	67	B	65
F2-06	842100.3	817241.9	67	B	65
F2-07	842100.9	817243.7	67	B	65

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F1-01	842136.4	817247.0

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	100.7	-48.1	0	3	59.9
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	295.8	-57.4	-10	3	31.9
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	296.5	-57.4	-10	3	30.8
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	301.1	-57.6	-10	3	35.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	301.6	-57.6	-10	3	35.8
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	291.9	-57.3	-10	3	30.0
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	294.0	-57.4	-10	3	33.6
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	330.5	-58.4	-10	3	36.6
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	246.9	-55.9	-10	3	39.5
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	259.7	-56.3	-10	3	33.0
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	269.7	-56.6	-10	3	38.4
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	164.9	-52.3	-10	3	15.9
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	112.2	-49.0	-10	3	36.9
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	128.1	-50.1	-10	3	39.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	50.5	-42.1	0	3	45.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	117.7	-49.4	-10	3	24.4
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	326.0	-58.3	-10	3	25.8
AGT_2		Cooling Tower	91.1	842424.433	817085.765	330.1	-58.4	-10	3	25.7
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	24.6	-35.8	0	3	65.1
RLC_2		Cooling Tower	95.1	842140.879	817226.046	21.5	-34.6	0	3	63.5
RLC_3		Cooling Tower	95.1	842139.389	817228.785	18.5	-33.3	0	3	64.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	64.4	-44.2	-10	3	50.8
									Total	70
									Daytime Noise Criteria	70
									Comply?	Yes

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F1-02	842135.2	817249.4

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	98.1	-47.8	-10	3	50.2
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	298.4	-57.5	-10	3	31.8
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	299.1	-57.5	-10	3	30.7
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	303.7	-57.6	-10	3	35.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	304.1	-57.7	-10	3	35.7
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	294.5	-57.4	-10	3	29.9
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	296.6	-57.4	-10	3	33.5
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	333.2	-58.5	-10	3	36.5
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	249.5	-55.9	-10	3	39.5
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	262.3	-56.4	-10	3	32.9
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	272.3	-56.7	-10	3	38.3
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	167.5	-52.5	-10	3	15.8
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	114.8	-49.2	-10	3	36.7
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	130.6	-50.3	-10	3	39.4
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	47.9	-41.6	-10	3	35.7
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	116.2	-49.3	-10	3	24.5
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	328.2	-58.3	-10	3	25.8
AGT_2		Cooling Tower	91.1	842424.433	817085.765	332.3	-58.4	-10	3	25.7
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	27.2	-36.7	0	3	64.2
RLC_2		Cooling Tower	95.1	842140.879	817226.046	24.0	-35.6	0	3	62.5
RLC_3		Cooling Tower	95.1	842139.389	817228.785	21.0	-34.4	0	3	63.7
RLC_4		Derrick Barge	102.0	842085.196	817207.946	64.9	-44.2	-10	3	50.8
									Total	68
									Daytime Noise Criteria	70
									Comply?	Yes

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F1-03	842114.5	817277.3

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	63.7	-44.1	0	3	63.9
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	333.2	-58.5	-10	3	30.9
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	333.9	-58.5	-10	3	29.7
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	338.5	-58.6	-10	3	34.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	338.9	-58.6	-10	3	34.8
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	329.3	-58.4	-10	3	29.0
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	331.3	-58.4	-10	3	32.5
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	367.7	-59.3	-10	3	35.7
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	284.2	-57.1	-10	3	38.3
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	297.1	-57.5	-10	3	31.8
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	306.5	-57.7	-10	3	37.3
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	202.3	-54.1	-10	3	14.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	149.4	-51.5	-10	3	34.4
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	162.4	-52.2	-10	3	37.5
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	16.0	-32.1	0	3	55.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	105.3	-48.5	-10	3	25.3
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	360.3	-59.1	-10	3	25.0
AGT_2		Cooling Tower	91.1	842424.433	817085.765	364.4	-59.2	-10	3	24.9
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	61.1	-43.7	-10	3	47.2
RLC_2		Cooling Tower	95.1	842140.879	817226.046	57.7	-43.2	-10	3	44.9
RLC_3		Cooling Tower	95.1	842139.389	817228.785	54.5	-42.7	-10	3	45.4
RLC_4		Derrick Barge	102.0	842085.196	817207.946	75.3	-45.5	-10	3	49.5
									Total	65
									Daytime Noise Criteria	70
									Comply?	Yes

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F1-04	842105.3	817272.9

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	64.5	-44.2	0	3	63.8
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	335.4	-58.5	-10	3	30.8
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	335.9	-58.5	-10	3	29.7
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	340.7	-58.6	-10	3	34.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	341.0	-58.7	-10	3	34.7
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	331.2	-58.4	-10	3	28.9
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	332.8	-58.4	-10	3	32.5
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	368.7	-59.3	-10	3	35.7
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	286.8	-57.2	-10	3	38.2
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	299.4	-57.5	-10	3	31.7
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	306.8	-57.7	-10	3	37.3
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	204.2	-54.2	-10	3	14.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	150.8	-51.6	-10	3	34.3
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	160.8	-52.1	-10	3	37.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	22.9	-35.2	0	3	52.2
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	114.9	-49.2	-10	3	24.6
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	365.9	-59.3	-10	3	24.8
AGT_2		Cooling Tower	91.1	842424.433	817085.765	370.0	-59.4	-10	3	24.7
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	62.3	-43.9	-10	3	47.0
RLC_2		Cooling Tower	95.1	842140.879	817226.046	58.8	-43.4	-10	3	44.7
RLC_3		Cooling Tower	95.1	842139.389	817228.785	55.8	-42.9	-10	3	45.2
RLC_4		Derrick Barge	102.0	842085.196	817207.946	68.0	-44.6	-10	3	50.4
									Total	65
									Daytime Noise Criteria	70
									Comply?	Yes

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-01	842096.6	817230.2

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	105.0	-48.4	0	3	59.6
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	309.3	-57.8	-10	3	31.5
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	309.3	-57.8	-10	3	30.4
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	314.6	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	314.4	-57.9	-10	3	35.5
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	304.1	-57.7	-10	3	29.7
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	304.4	-57.7	-10	3	33.3
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	338.2	-58.6	-10	3	36.4
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	262.6	-56.4	-10	3	39.0
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	274.1	-56.8	-10	3	32.5
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	274.6	-56.8	-10	3	38.2
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	179.0	-53.1	-10	3	15.2
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	125.1	-49.9	-10	3	36.0
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	125.1	-49.9	-10	3	39.8
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	65.9	-44.4	-10	3	33.0
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	152.9	-51.7	-10	3	22.1
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	354.2	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	358.2	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.7	-41.4	-10	3	49.5
RLC_2		Cooling Tower	95.1	842140.879	817226.046	44.4	-41.0	-10	3	47.1
RLC_3		Cooling Tower	95.1	842139.389	817228.785	42.8	-40.6	-10	3	47.5
RLC_4		Derrick Barge	102.0	842085.196	817207.946	25.0	-36.0	0	3	69.0
									Total	70
									Daytime Noise Criteria	65
									Comply?	No

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-02	842097.3	817232.3

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	102.9	-48.3	0	3	59.7
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	310.3	-57.8	-10	3	31.5
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	310.3	-57.8	-10	3	30.4
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	315.6	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	315.5	-58.0	-10	3	35.4
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	305.2	-57.7	-10	3	29.6
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	305.6	-57.7	-10	3	33.2
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	339.5	-58.6	-10	3	36.4
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	263.5	-56.4	-10	3	39.0
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	275.1	-56.8	-10	3	32.5
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	276.1	-56.8	-10	3	38.2
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	179.9	-53.1	-10	3	15.2
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	126.0	-50.0	-10	3	35.9
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	126.7	-50.1	-10	3	39.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	63.7	-44.1	-10	3	33.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	150.8	-51.6	-10	3	22.2
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	354.5	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	358.4	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.4	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	44.0	-40.9	-10	3	47.2
RLC_3		Cooling Tower	95.1	842139.389	817228.785	42.2	-40.5	-10	3	47.6
RLC_4		Derrick Barge	102.0	842085.196	817207.946	27.2	-36.7	0	3	68.3

Total	69
Daytime Noise Criteria	65
Comply?	No

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-03	842097.9	817234.2

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	101.1	-48.1	0	3	59.9
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	311.3	-57.9	-10	3	31.5
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	311.3	-57.9	-10	3	30.4
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	316.6	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	316.5	-58.0	-10	3	35.4
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	306.2	-57.7	-10	3	29.6
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	306.7	-57.7	-10	3	33.2
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	340.7	-58.6	-10	3	36.4
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	264.3	-56.4	-10	3	39.0
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	276.0	-56.8	-10	3	32.4
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	277.3	-56.9	-10	3	38.1
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	180.8	-53.1	-10	3	15.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	126.8	-50.1	-10	3	35.8
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	128.1	-50.2	-10	3	39.5
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	61.6	-43.8	-10	3	33.6
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	148.9	-51.5	-10	3	22.3
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	354.7	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	358.7	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.2	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.7	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.8	-40.4	-10	3	47.7
RLC_4		Derrick Barge	102.0	842085.196	817207.946	29.2	-37.3	0	3	67.7

Total	69
Daytime Noise Criteria	65
Comply?	No

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-04	842098.7	817236.8

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	98.6	-47.9	0	3	60.1
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	312.5	-57.9	-10	3	31.4
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	312.6	-57.9	-10	3	30.3
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	317.9	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	317.8	-58.0	-10	3	35.4
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	307.6	-57.8	-10	3	29.6
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	308.1	-57.8	-10	3	33.1
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	342.3	-58.7	-10	3	36.3
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	265.5	-56.5	-10	3	38.9
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	277.2	-56.9	-10	3	32.4
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	279.0	-56.9	-10	3	38.1
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	181.9	-53.2	-10	3	15.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	127.9	-50.1	-10	3	35.8
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	130.0	-50.3	-10	3	39.4
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	58.9	-43.4	-10	3	33.9
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	146.3	-51.3	-10	3	22.5
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	355.0	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	359.0	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.1	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.5	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.4	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	31.9	-38.1	0	3	66.9

Total	68
Daytime Noise Criteria	65
Comply?	No

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-05	842099.6	817239.5

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	96.0	-47.6	0	3	60.4
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	313.9	-57.9	-10	3	31.4
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	314.1	-57.9	-10	3	30.3
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	319.3	-58.1	-10	3	35.3
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	319.2	-58.1	-10	3	35.3
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	309.0	-57.8	-10	3	29.5
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	309.7	-57.8	-10	3	33.1
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	344.0	-58.7	-10	3	36.3
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	266.7	-56.5	-10	3	38.9
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	278.5	-56.9	-10	3	32.3
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	280.9	-57.0	-10	3	38.0
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	183.2	-53.3	-10	3	15.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	129.2	-50.2	-10	3	35.7
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	132.1	-50.4	-10	3	39.3
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	56.1	-43.0	-10	3	34.4
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	143.6	-51.1	-10	3	22.7
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	355.4	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	359.4	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.2	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.4	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.2	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	34.7	-38.8	0	3	66.2

Total	67
Daytime Noise Criteria	65
Comply?	No

Daytime - Base Case

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-06	842100.3	817241.9

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	93.8	-47.4	0	3	60.6
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	315.1	-58.0	-10	3	31.3
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	315.3	-58.0	-10	3	30.2
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	320.5	-58.1	-10	3	35.3
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	320.4	-58.1	-10	3	35.3
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	310.3	-57.8	-10	3	29.5
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	311.0	-57.9	-10	3	33.1
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	345.5	-58.8	-10	3	36.2
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	267.8	-56.6	-10	3	38.8
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	279.7	-56.9	-10	3	32.3
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	282.5	-57.0	-10	3	38.0
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	184.3	-53.3	-10	3	15.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	130.3	-50.3	-10	3	35.6
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	133.9	-50.5	-10	3	39.2
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	53.6	-42.6	-10	3	34.8
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	141.3	-51.0	-10	3	22.8
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	355.7	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	359.7	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.4	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.5	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.2	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	37.2	-39.4	0	3	65.6

Total	67
Daytime Noise Criteria	65
Comply?	No

Daytime - Base Case

NSR	NSR (x)	NSR (y)
F2-07	842100.9	817243.7

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	92.1	-47.3	0	3	60.7
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	316.1	-58.0	-10	3	31.3
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	316.3	-58.0	-10	3	30.2
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	321.4	-58.1	-10	3	35.3
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	321.4	-58.1	-10	3	35.3
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	311.3	-57.9	-10	3	29.5
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	312.1	-57.9	-10	3	33.0
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	346.7	-58.8	-10	3	36.2
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	268.6	-56.6	-10	3	38.8
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	280.6	-57.0	-10	3	32.3
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	283.7	-57.1	-10	3	37.9
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	185.2	-53.4	-10	3	14.9
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	131.2	-50.4	-10	3	35.5
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	135.3	-50.6	-10	3	39.1
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	51.7	-42.3	-10	3	35.1
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	139.5	-50.9	-10	3	22.9
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	356.0	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	360.0	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.7	-41.4	-10	3	49.5
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.7	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.3	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	39.1	-39.8	0	3	65.2

Total	67
Daytime Noise Criteria	65
Comply?	No

Predicted Noise Levels at Representative NSRs of Fixed Noise Impact Assessme

Nighttime - Base Case

NSR	x-coordinate	y-coordinate	Predicted Noise Level, $L_{eq\ (30\ min)}$ dB(A)	Area Sensitivity Ratings	Daytime Acceptable Noise Level, $L_{eq\ (30\ min)}$ dB(A)
F1-01	842136.4	817247.0	46	C	60
F1-02	842135.2	817249.4	41	C	60
F1-03	842114.5	817277.3	55	C	60
F1-04	842105.3	817272.9	52	C	60
F2-01	842096.6	817230.2	40	B	55
F2-02	842097.3	817232.3	40	B	55
F2-03	842097.9	817234.2	40	B	55
F2-04	842098.7	817236.8	40	B	55
F2-05	842099.6	817239.5	40	B	55
F2-06	842100.3	817241.9	40	B	55
F2-07	842100.9	817243.7	40	B	55

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F1-01	842136.4	817247.0

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	100.7	-48.1	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	295.8	-57.4	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	296.5	-57.4	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	301.1	-57.6	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	301.6	-57.6	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	291.9	-57.3	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	294.0	-57.4	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	330.5	-58.4	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	246.9	-55.9	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	259.7	-56.3	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	269.7	-56.6	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	164.9	-52.3	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	112.2	-49.0	-10	3	35.6
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	128.1	-50.1	-10	3	37.7
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	50.5	-42.1	0	3	45.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	117.7	-49.4	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	326.0	-58.3	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	330.1	-58.4	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	24.6	-35.8	0	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	21.5	-34.6	0	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	18.5	-33.3	0	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	64.4	-44.2	-10	3	0.0
									Total	46
									Daytime Noise Criteria	60
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F1-02	842135.2	817249.4

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	98.1	-47.8	-10	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	298.4	-57.5	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	299.1	-57.5	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	303.7	-57.6	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	304.1	-57.7	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	294.5	-57.4	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	296.6	-57.4	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	333.2	-58.5	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	249.5	-55.9	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	262.3	-56.4	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	272.3	-56.7	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	167.5	-52.5	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	114.8	-49.2	-10	3	35.4
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	130.6	-50.3	-10	3	37.5
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	47.9	-41.6	-10	3	35.7
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	116.2	-49.3	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	328.2	-58.3	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	332.3	-58.4	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	27.2	-36.7	0	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	24.0	-35.6	0	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	21.0	-34.4	0	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	64.9	-44.2	-10	3	0.0
									Total	41
									Daytime Noise Criteria	60
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F1-03	842114.5	817277.3

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	63.7	-44.1	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	333.2	-58.5	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	333.9	-58.5	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	338.5	-58.6	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	338.9	-58.6	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	329.3	-58.4	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	331.3	-58.4	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	367.7	-59.3	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	284.2	-57.1	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	297.1	-57.5	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	306.5	-57.7	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	202.3	-54.1	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	149.4	-51.5	-10	3	33.1
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	162.4	-52.2	-10	3	35.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	16.0	-32.1	0	3	55.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	105.3	-48.5	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	360.3	-59.1	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	364.4	-59.2	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	61.1	-43.7	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	57.7	-43.2	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	54.5	-42.7	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	75.3	-45.5	-10	3	0.0
									Total	55
									Daytime Noise Criteria	60
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F1-04	842105.3	817272.9

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	64.5	-44.2	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	335.4	-58.5	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	335.9	-58.5	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	340.7	-58.6	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	341.0	-58.7	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	331.2	-58.4	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	332.8	-58.4	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	368.7	-59.3	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	286.8	-57.2	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	299.4	-57.5	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	306.8	-57.7	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	204.2	-54.2	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	150.8	-51.6	-10	3	33.0
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	160.8	-52.1	-10	3	35.7
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	22.9	-35.2	0	3	52.2
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	114.9	-49.2	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	365.9	-59.3	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	370.0	-59.4	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	62.3	-43.9	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	58.8	-43.4	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	55.8	-42.9	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	68.0	-44.6	-10	3	0.0
									Total	52
									Daytime Noise Criteria	60
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-01	842096.6	817230.2

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	105.0	-48.4	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	309.3	-57.8	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	309.3	-57.8	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	314.6	-58.0	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	314.4	-57.9	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	304.1	-57.7	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	304.4	-57.7	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	338.2	-58.6	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	262.6	-56.4	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	274.1	-56.8	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	274.6	-56.8	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	179.0	-53.1	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	125.1	-49.9	-10	3	34.7
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	125.1	-49.9	-10	3	37.9
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	65.9	-44.4	-10	3	33.0
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	152.9	-51.7	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	354.2	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	358.2	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.7	-41.4	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	44.4	-41.0	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	42.8	-40.6	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	25.0	-36.0	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-02	842097.3	817232.3

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	102.9	-48.3	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	310.3	-57.8	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	310.3	-57.8	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	315.6	-58.0	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	315.5	-58.0	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	305.2	-57.7	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	305.6	-57.7	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	339.5	-58.6	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	263.5	-56.4	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	275.1	-56.8	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	276.1	-56.8	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	179.9	-53.1	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	126.0	-50.0	-10	3	34.6
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	126.7	-50.1	-10	3	37.7
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	63.7	-44.1	-10	3	33.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	150.8	-51.6	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	354.5	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	358.4	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.4	-41.3	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	44.0	-40.9	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	42.2	-40.5	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	27.2	-36.7	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-03	842097.9	817234.2

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	101.1	-48.1	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	311.3	-57.9	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	311.3	-57.9	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	316.6	-58.0	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	316.5	-58.0	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	306.2	-57.7	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	306.7	-57.7	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	340.7	-58.6	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	264.3	-56.4	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	276.0	-56.8	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	277.3	-56.9	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	180.8	-53.1	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	126.8	-50.1	-10	3	34.5
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	128.1	-50.2	-10	3	37.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	61.6	-43.8	-10	3	33.6
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	148.9	-51.5	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	354.7	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	358.7	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.2	-41.3	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	43.7	-40.8	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	41.8	-40.4	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	29.2	-37.3	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-04	842098.7	817236.8

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	98.6	-47.9	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	312.5	-57.9	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	312.6	-57.9	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	317.9	-58.0	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	317.8	-58.0	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	307.6	-57.8	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	308.1	-57.8	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	342.3	-58.7	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	265.5	-56.5	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	277.2	-56.9	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	279.0	-56.9	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	181.9	-53.2	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	127.9	-50.1	-10	3	34.5
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	130.0	-50.3	-10	3	37.5
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	58.9	-43.4	-10	3	33.9
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	146.3	-51.3	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	355.0	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	359.0	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.1	-41.3	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	43.5	-40.8	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	41.4	-40.3	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	31.9	-38.1	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-05	842099.6	817239.5

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	96.0	-47.6	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	313.9	-57.9	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	314.1	-57.9	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	319.3	-58.1	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	319.2	-58.1	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	309.0	-57.8	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	309.7	-57.8	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	344.0	-58.7	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	266.7	-56.5	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	278.5	-56.9	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	280.9	-57.0	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	183.2	-53.3	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	129.2	-50.2	-10	3	34.4
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	132.1	-50.4	-10	3	37.4
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	56.1	-43.0	-10	3	34.4
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	143.6	-51.1	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	355.4	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	359.4	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.2	-41.3	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	43.4	-40.8	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	41.2	-40.3	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	34.7	-38.8	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-06	842100.3	817241.9

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	93.8	-47.4	0	3	0.0
CCC_1		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	315.1	-58.0	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	315.3	-58.0	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	320.5	-58.1	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	320.4	-58.1	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	310.3	-57.8	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	311.0	-57.9	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	345.5	-58.8	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	267.8	-56.6	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	279.7	-56.9	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	282.5	-57.0	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	184.3	-53.3	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	130.3	-50.3	-10	3	34.3
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	133.9	-50.5	-10	3	37.3
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	53.6	-42.6	-10	3	34.8
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	141.3	-51.0	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	355.7	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	359.7	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.4	-41.3	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	43.5	-40.8	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	41.2	-40.3	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	37.2	-39.4	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

Nighttime- Base Case

NSR	NSR (x)	NSR (y)
F2-07	842100.9	817243.7

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	0.0	842086.883	817334.718	92.1	-47.3	0	3	0.0
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842315.218	817011.373	316.1	-58.0	-10	3	0.0
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842311.776	817007.986	316.3	-58.0	-10	3	0.0
CCC_3		Concrete Lorry Mixer Washing Bay	0.0	842318.989	817007.594	321.4	-58.1	-10	3	0.0
CCC_4		Concrete Lorry Mixer Washing Bay	0.0	842315.381	817004.324	321.4	-58.1	-10	3	0.0
CCC_5		Concrete Batching Plant (Tanker)	0.0	842305.498	817009.084	311.3	-57.9	-10	3	0.0
CCC_6		Concrete Batching Plant (Tanker)	0.0	842296.246	817000.305	312.1	-57.9	-10	3	0.0
CCC_7		Screw Pumping Barge	0.0	842299.555	816959.566	346.7	-58.8	-10	3	0.0
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	0.0	842294.07	817057.035	268.6	-56.6	-10	3	0.0
HKA_2		Concrete Batching Plant (Tanker)	0.0	842296.5	817042.56	280.6	-57.0	-10	3	0.0
HKA_3		Screw Pumping Barge	0.0	842250.426	817002.603	283.7	-57.1	-10	3	0.0
CFS_1	Cooked Food Stall	Operation Noise	0.0	842231.223	817112.157	185.2	-53.4	-10	3	0.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	91.6	842192.658	817149.957	131.2	-50.4	-10	3	34.2
WFM_2		Loading and Unloading By Marine Vessels	94.8	842157.16	817120.657	135.3	-50.6	-10	3	37.2
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	51.7	-42.3	-10	3	35.1
TLM_1	Tung Lee Motor Service Centre	Operation Noise	0.0	842187.722	817352.983	139.5	-50.9	-10	3	0.0
AGT_1	Ajisen Group Tower	Cooling Tower	0.0	842421.433	817088.765	356.0	-59.0	-10	3	0.0
AGT_2		Cooling Tower	0.0	842424.433	817085.765	360.0	-59.1	-10	3	0.0
RLC_1	Redland Concrete Limited	Operation Noise	0.0	842142.846	817223.237	46.7	-41.4	-10	3	0.0
RLC_2		Cooling Tower	0.0	842140.879	817226.046	43.7	-40.8	-10	3	0.0
RLC_3		Cooling Tower	0.0	842139.389	817228.785	41.3	-40.3	-10	3	0.0
RLC_4		Derrick Barge	0.0	842085.196	817207.946	39.1	-39.8	0	3	0.0
									Total	40
									Daytime Noise Criteria	65
									Comply?	Yes

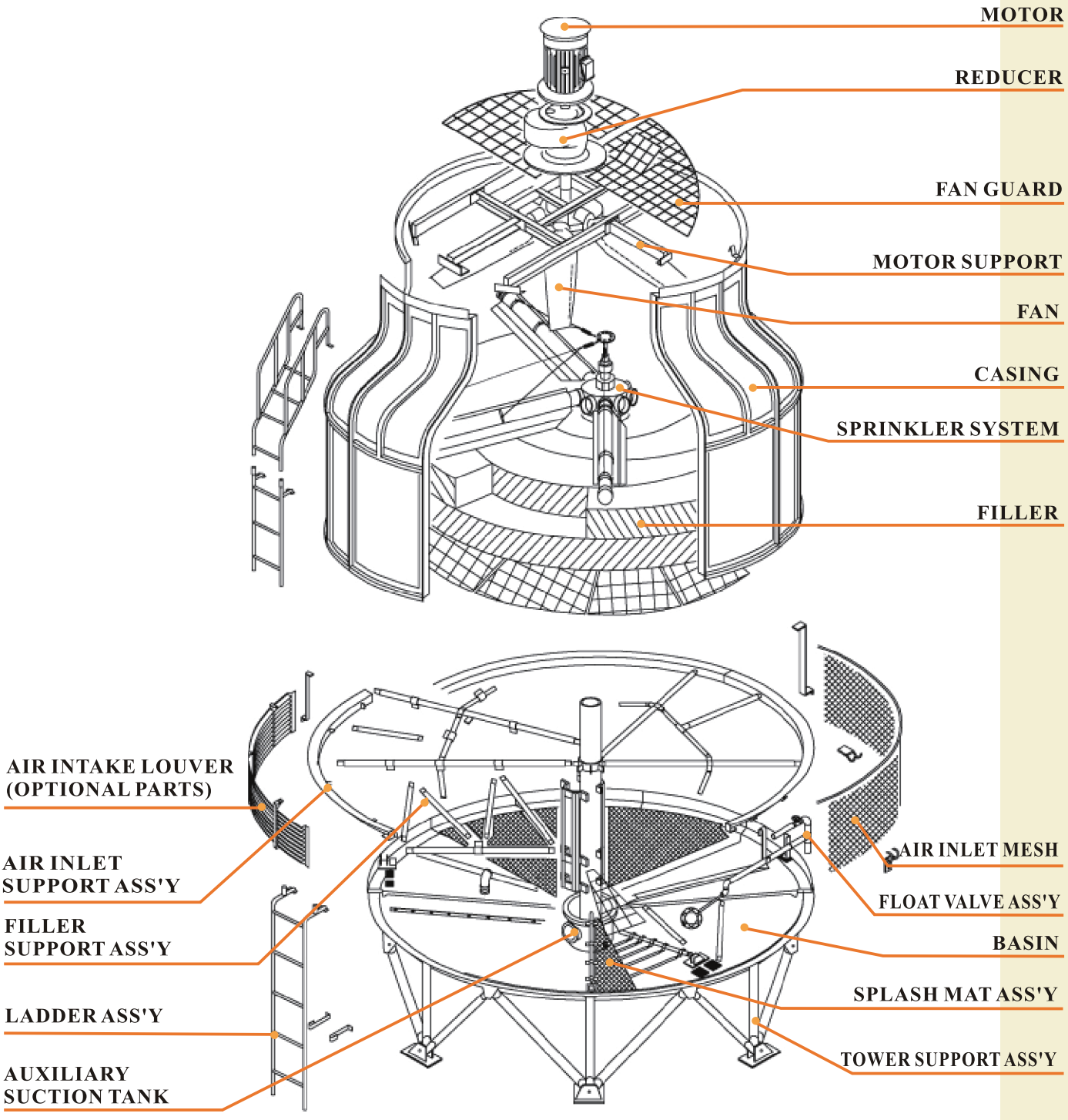
Appendix 4.5 Catalogues of Cooling Towers

菱和
ryowo™

FRP COUNTER FLOW FT SERIES

COOLING TOWER

STRUCTURE



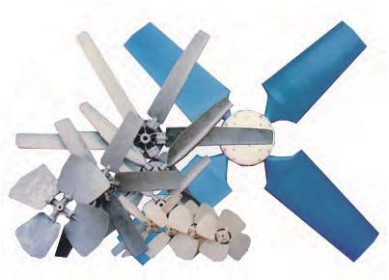
PRINCIPLE OF OPERATION

Hot water is distributed over the filler through the low velocity automatic sprinkler system and is mixed with the upward draft of ambient air causing evaporation and thus heat is removed from the water. The cooled water falls into the basin and is pumped to the heat sources for recirculation.

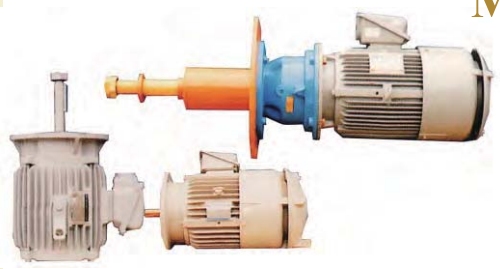
COMPONENT FUNCTION & FEATURE

AXIAL FAN

All fans are induced-draft axial type with adjustable pitch. Material chosen are non-corrosion of plastic, FRP or alu-minium alloy. The high efficiency design ensures low running cost and the lowest possible noise level . Fan blade pitches is factory set and balanced.



MOTOR



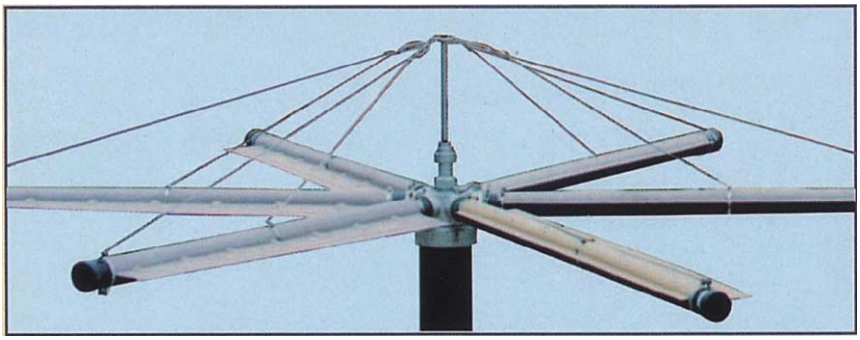
The motors, totally enclosed, fan cooled flange type, 380V/ 3ph/ 50 Hz, induction weather proof, are specially designed for RYOWO. Motors from 5.5 kw and up are Y- start and below are direct-on-line start.

TRANSMISSION SYSTEM

The fans of small models are designed to be driven by low speed motor of 6,8,10 or 12 poles which can minimise the numbers of transmission parts used. For large models, the fans are vee-belt or gear driven with 4 poles motors so the speed of fans can be adjustable to suit various application.

SPRINKLER SYSTEM

Automatic rotary sprinkler system with rotary head and sprinkler pipe distributes the hot water over the entire face area of the filler. Sprinkler pipes are non-clogging, require low-pressure to operate, and assures uniform water flow with minimal operating pump head. The F.R.P. eliminators attached to sprinkler pipes are specifically designed for Low pre Ssure drop and minimises the drift loss of water.

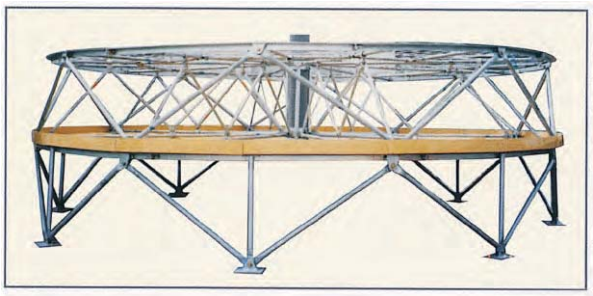


COMPONENT FUNCTION & FEATURE

CASING & BASIN

F.R.P. (fibreglass reinforced polyester) formed casings are durable, non-corrosive, weather-proof, and light weight. Cylindrical form is shaped to fully withstand wind pressure, vibration and such F.R.P. casings obliviate need for painting, reduce maintenance costs and guarantee long dependable service.

Bowl-shape basins are also made from F.R.P. with built in socket or flanged outlets for piping connections. For large models, a F.R.P. aux. suction tank is employed and fitted with piping flanges or sockets.



STEEL STRUCTURE

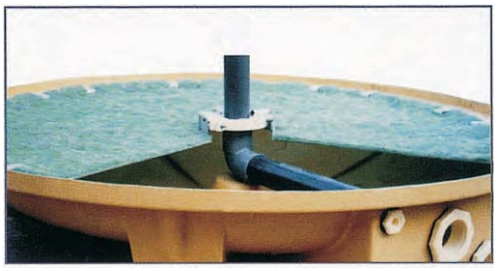
All supporting steel members are hot-dip galvanized to minimise rusting and corrosion ensuring long service life even in corrosive atmosphere. The stainless hardware members are also available upon request.

FILLER

High performance RYOWO V-30 film filler is the heart of the tower. The specially formed PVC sheets maximize the air/water contact area and minimise air pressure drop to assure efficient heat transfer while keeping fan power requirement low. It is virtually immune to corrosion and decay.

Eliminator

Specially made drift eliminator consisted of 2 types of sheets forms a “v” shape path for the transmission of the cooling tower discharge air stream. The small water droplets in the stream impact the surfaces of the drift eliminator sheets and are separated from the stream such that the drift loss ratio maintain at less than 0.001% of circulating water flow rate.



SPLASH MAT (LOW NOISE MODELS)

Specially designed noise absorbing splash mat is provided for low noise models on the water basin to minimise the unpleasant water dripping noise in the basin.

SPECIFICATION FOR FT SERIES

SPECIFICATION FOR FT SERIES

ITEM	MODEL			FT-8	FT-10	FT-15	FT-20	FT-25	FT-30	FT-40	FT-50	FT-60	FT-80	FT-100	FT-125	FT-150	FT-175	FT-200	FT-225	FT-250	FT-300	FT-350	FT-400	FT-500	FT-600	FT-700	FT-800	FT-1000
Capacity	27 ºC WB	Circulating water flow rate	m^3/ hr	6.2	7.8	11.7	15.6	19.5	23.4	31.2	39.1	46.9	62.5	78.1	97.7	117.2	136.7	156.2	175.8	195.3	234.4	273.4	312.5	390.6	468.7	546.8	625.0	781.2
		Make-up water (Approx.)	m^3/ hr	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9	1.1	1.4	1.7	2.0	2.2	2.5	2.8	3.4	3.9	4.5	5.6	6.7	7.8	8.9	11.2
	28 ºC WB	Circulating water flow rate	m^3/ hr	5.6	7.4	10.6	14.4	17.8	21.5	28.7	36.3	42.5	58.8	70.6	88.2	107.5	125.0	142.5	160.0	176.2	212.5	250.0	287.5	337.5	431.2	512.4	575.0	718.7
		Make-up water (Approx.)	m^3/ hr	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	3.0	3.6	4.1	4.8	6.2	7.3	8.2	10.3
	Air flow rate (Approx.)		m^3/ min	70	85	140	160	230	280	330	420	450	700	830	950	1150	1200	1250	1600	1750	2000	2200	2450	2700	3500	3750	5000	5400
	Hot water temperature		ºC	37																								
	Cold water temperature		ºC	32																								
Overall Dimension	Diameter (ϕ)		mm	920	920	1160	1160	1490	1660	1660	1890	2100	2100	2900	2900	2900	3310	3310	3960	3960	4360	4760	4760	5600	6600	6600	7600	7600
	Height (H)		mm	1560	1700	1585	1835	1945	1885	2035	2110	2300	2475	2910	3110	3110	3300	3450	3920	3920	3990	4195	4255	4590	5310	5510	5660	5860
	Height (w/o motor) (m)		mm	1390	1530	1395	1645	1760	1720	1785	1860	1980	2155	2590	2790	2790	2880	3030	3300	3300	3290	3495	3495	3830	4470	4670	4720	4940
Material	Air inlet mesh			PVC																								
	Basin			FRP																								
	Casing			FRP																								
	Eliminator			FRP																								
	Fan			ABS Plastic								FRP					Aluminium alloy							FRP				
	Filler			PVC																								
	Motor support			Steel (Hot-dip galvanized)																								
	Sprinkler head			ABS Plastic											Aluminium alloy													
	Sprinkler pipe			PVC pipe																								
	Stand pipe			PVC pipe																								
	Structure			Steel (Hot-dip galvanized)																								
Fan	TYPE			Axial-flow																								
	Diameter		mm	550	640		770			930		1200		1500			1800		2400				3000		3400		3700	
	Speed		rpm	970								750					600		450				375		314			
	Driven type			Direct driven															Belt driven						Gear driven			
Motor	TYPE			Totally enclosed fan cooled outdoor 3 phase induction motor																								
	Power source			380V / 3 / 50Hz																								
	Rated output		kw	0.18		0.37		0.75		1.5				2.2			3.7		5.5		7.5		11		15		22	
	No of pole		Pole	6								8					10		4									
Distribution System	TYPE			Automatic sprinkler system																								
	Inlet dia		mm	40		50		80				100		125		150			200					250			300	
	Outlet dia			15		20		40						65					75				100	75			100	
	No of outlet			4								6		4					6					8			10	
Piping	Inlet		mm	40		50		80				100		125		150			200					250			300	
	Outlet		mm	40		50		80				100		125		150			200					250			300	
	Drain		mm	25										50					80					100				
	Overflow		mm	25										50					80					100				
	Float valve		mm	15								20					25		32					50			80	
	Manual make-up		mm	15										20			25		32					50			80	
Weight	Dry weight		Kg	56	65	75	85	105	130	150	180	250	270	500	540	580	870	900	1300	1350	1550	1720	2050	2450	3950	4050	4700	4900
	Operating weight		Kg	140	150	200	210	290	370	390	550	840	860	1600	1640	1680	2170	2200	2700	2750	3350	3720	3950	6150	9350	9450	11900	12100
Noise Level	Sound pressure level		dBA	45.5	47	48	50	52	54	58	59	58	59	61	61.5	62	62	62	63	63	64	64.5	61.5	62	65	66	73	74

NOTE : Nominal cooling capacity is based on 13 ℓ / min / RT (1 RT=3,900 Kcal / hr) at 37ºC inlet water tpmperature, 32ºC outlet water temperature and 27ºC ambient wet bulb temperature.

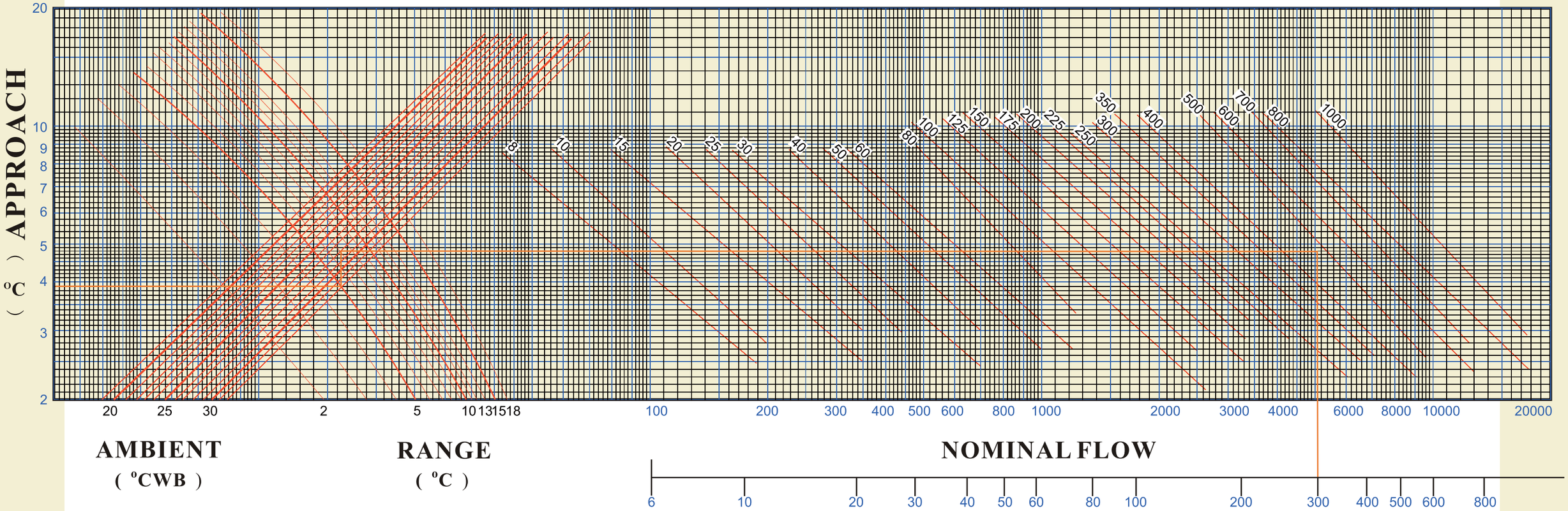
The SPLs are measured 16m horizontally from the edge of the tower at 1.5m above the foundation level.

Pump head is obtained by adding resistance of piping/condenser and the tower height(H).

The unit dimension in this catalogue is metric. Specifications listed in this catalogue are subject to change without further noticefor technical improvement of our products.

FT OR FT/LN SERIES QUICK SELECTION TABLE

(20°CWB~30°CWB)



EXAMPLE:

RATE :300m³/hr

INLET WATER TEMP :37°C

OUTLET WATER TEMP :32°C

WET BULB TEMP :28°C

RANGE: INLET WATER TEMP-OUTLET WATER TEMP
: 37°C - 32°C = 5°C

APPROACH: OUTLET WATER TEMP-WET BULB TEMP
: 37°C - 32°C = 5°C

TOWER SELECTED: FT - 500 OR FT/LN - 500

COOLING TOWER	CT							
NOMINAL FLOW	m³/hr							
INLET WATER	HWT°C							
OUTLET WATER	CWT°C							
AMBIENT WB	WB°C							
RANGE	(HWT-CWT)°C							
APPROACH	(CWT-WB)°C							
MODEL								

SPECIFICATION FOR FT/LN(LOW NOISE TYPE)

SPECIFICATION FOR FT/LN(LOW NOISE TYPE)

ITEM	MODEL			FT/LN 8	FT/LN 10	FT/LN 15	FT/LN 20	FT/LN 25	FT/LN 30	FT/LN 40	FT/LN 50	FT/LN 60	FT/LN 80	FT/LN 100	FT/LN 125	FT/LN 150	FT/LN 175	FT/LN 200	FT/LN 225	FT/LN 250	FT/LN 300	FT/LN 350	FT/LN 400	FT/LN 500	FT/LN 600	FT/LN 700	FT/LN 800	FT/LN 1000
Capacity	27 ºC WB	Circulating water flow rate	m^3/ hr	6.2	7.8	11.7	15.6	19.5	23.4	31.2	39.1	46.9	62.5	78.1	97.7	117.2	136.7	156.2	175.8	195.3	234.4	273.4	312.5	390.6	468.7	546.8	625.0	781.2
		Make-up water (Approx.)	m^3/ hr	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9	1.1	1.4	1.7	2.0	2.2	2.5	2.8	3.4	3.9	4.5	5.6	6.7	7.8	8.9	11.2
	28 ºC WB	Circulating water flow rate	m^3/ hr	5.6	7.1	10.6	14.4	17.8	21.5	28.7	36.3	42.5	58.8	70.6	88.2	107.5	125.0	142.5	160.0	176.2	212.5	250.0	287.5	337.5	431.2	512.4	575.0	718.7
		Make-up water (Approx.)	m^3/ hr	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	3.0	3.6	4.1	4.8	6.2	7.3	8.2	10.3
	Air flow rate (Approx.)		m^3/ min	70	85	140	160	230	280	330	420	450	700	830	950	1150	1200	1250	1600	1750	2000	2200	2450	2700	3500	3750	5000	5400
	Hot water temperature		ºC	37																								
	Cold water temperature		ºC	32																								
Overall Dimension	Diameter		mm	920	1160	1160	1490	1660	1660	1890	1890	2100	2100	2900	2900	2900	3310	3310	3960	3960	4360	4760	4760	5600	6600	6600	7600	7600
	Height （H）		mm	1755	1620	1870	1945	1885	2145	2220	2220	2340	2515	3060	3260	3260	3450	3600	3920	3920	3990	4195	4255	4590	5310	5510	5660	5860
	Height (w/o motor) (m)		mm	1530	1395	1645	1760	1720	1785	1860	1860	1980	2155	2590	2790	2790	2880	3030	3300	3300	3290	3495	3495	3830	4470	4670	4720	4940
Material	Air inlet mesh			PVC																								
	Basin			FRP																								
	Casing			FRP																								
	Eliminator			FRP																								
	Fan			ABS Plastic					Aluminium alloy															FRP				
	Filler			PVC																								
	Motor support			Steel (Hot-dip galvanized)																								
	Sprinkler head			ABS Plastic										Aluminium alloy														
	Sprinkler pipe			PVC pipe																								
	Stand pipe			PVC pipe																								
	Structure			Steel (Hot-dip galvanized)																								
	Splash mat			Nylon																								
Fan	TYPE			Axial-flow																								
	Diameter		mm	640		770			930			1200		1500			1800		2400			3000		3400		3700		
	Speed		rpm	750					600			500		440			375					314		257				
	Driven type			Direct driven										Belt driven										Gear driven				
Motor	TYPE			Totally enclosed fan cooled outdoor 3 phase induction motor																								
	Power source			380V / 3 / 50Hz																								
	Rated output		kw	0.2		0.37			1.1			1.5		3.7				5.5		7.5		11		15		22		
	No of pole		Pole	8					10			12		4														
Distribution System	TYPE			Automatic sprinkler system																								
	Inlet dia		mm	40	50			80				100		125		150			200				250			300		
	Outlet dia			15	20			40						65					75				100	75		100		
	No of outlet			4								6		4					6					8		10		
Piping	Inlet		mm	40	50			80				100		125		150			200				250			300		
	Outlet		mm	40	50			80				100		125		150			200				250			300		
	Drain		mm	25										50					80				100					
	Overflow		mm	25										50					80				100					
	Float valve		mm	15								20					25		32				50			80		
	Manual make-up		mm	15										20			25		32				50			80		
Weight	Dry weight		Kg	80	85	100	125	145	240	280	290	380	400	600	640	680	970	1000	1400	1450	1700	1920	2250	2650	4250	4350	5100	5300
	Operating weight		Kg	160	205	220	290	375	470	625	635	970	990	1700	1740	1780	2270	2300	2800	2850	3500	3920	4250	6350	9650	9750	12300	12500
Noise Level	Sound pressure level		dBA	40	41	42.5	43.5	44.5	46	47	48	48	49.5	52	52.5	53	54	54.5	55	55	56	57	58	60	62	62.5	65	66

GUARANTEE:

All components are guaranteed against defective material for a period of one (1) year.

When return to RYOWO with transportation prepaid , all parts found by factory inspection to be defective will be repaired replaced without charge , FOB HONG KONG.

No liability will be assumed for loss or damage resulting from misuse of products.

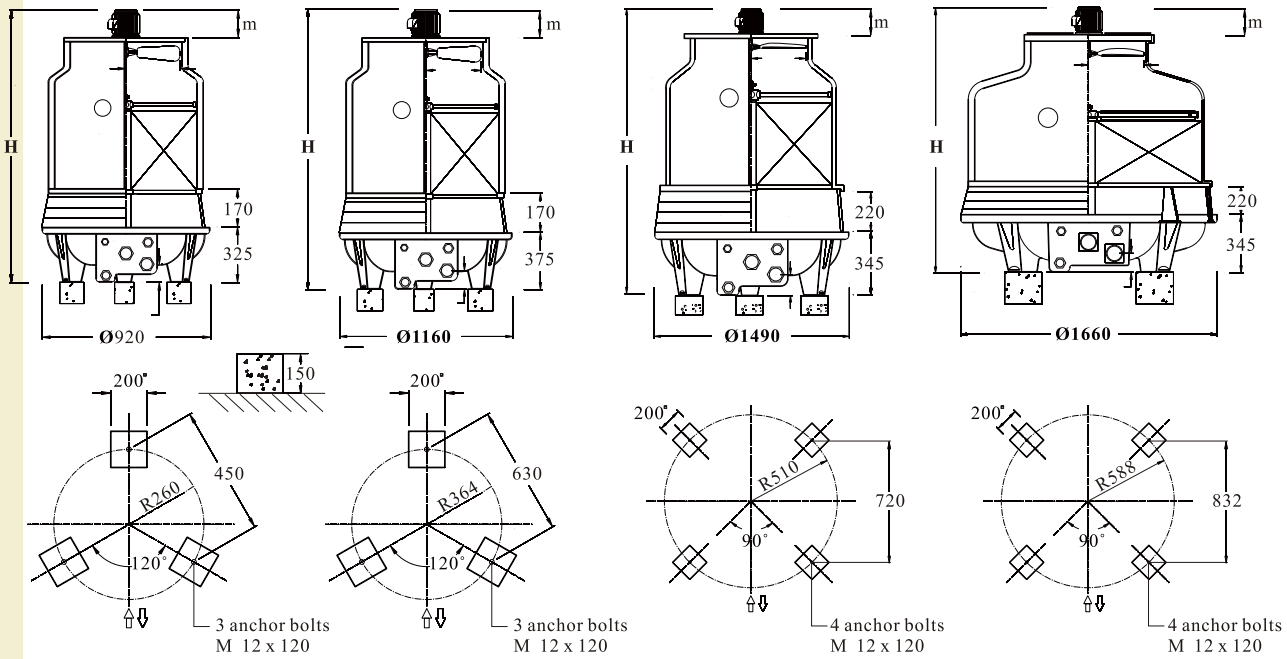
APPLICATION

For inquiry on RYOWO cooling towers , please contact local agents and specify the following conditions:

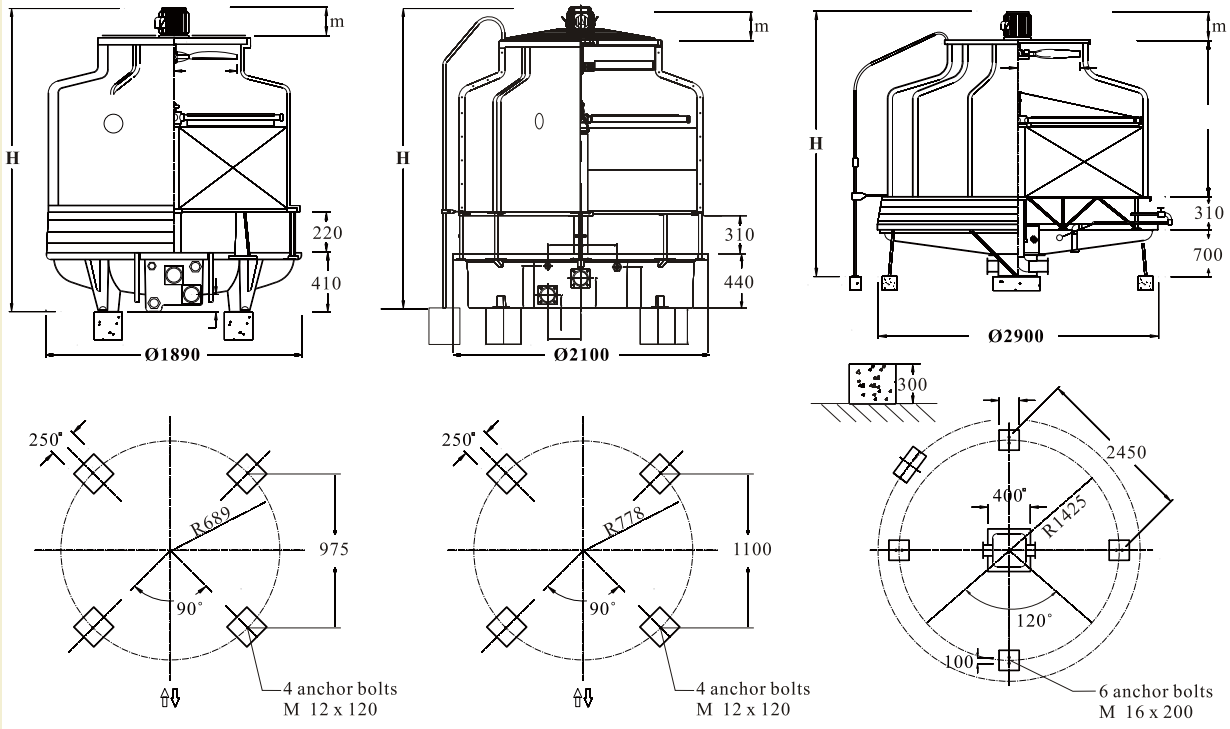
a). Circulating water flow
b). Inlet water temperature
c). outlet water temperature
d). ambient wet bulb temperature
e). power sources-voltage & frequency

TOWER FOUNDATION

FT-8 10 FT/LN-8 FT-15·20 FT/LN-10 15 FT-25 FT/LN-20 FT-30 40 FT/LN-25 30

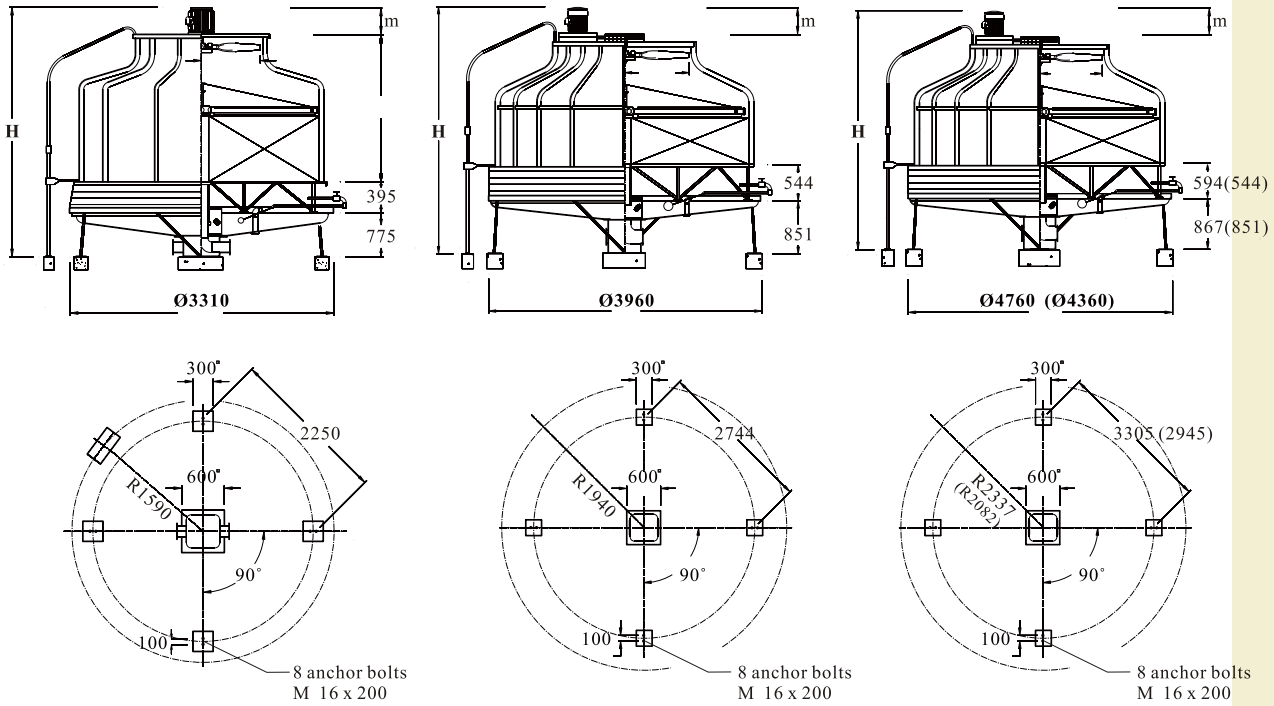


FT-50 FT/LN-40·50 FT· FT/LN-60·80 FT· FT/LN-100·125·150

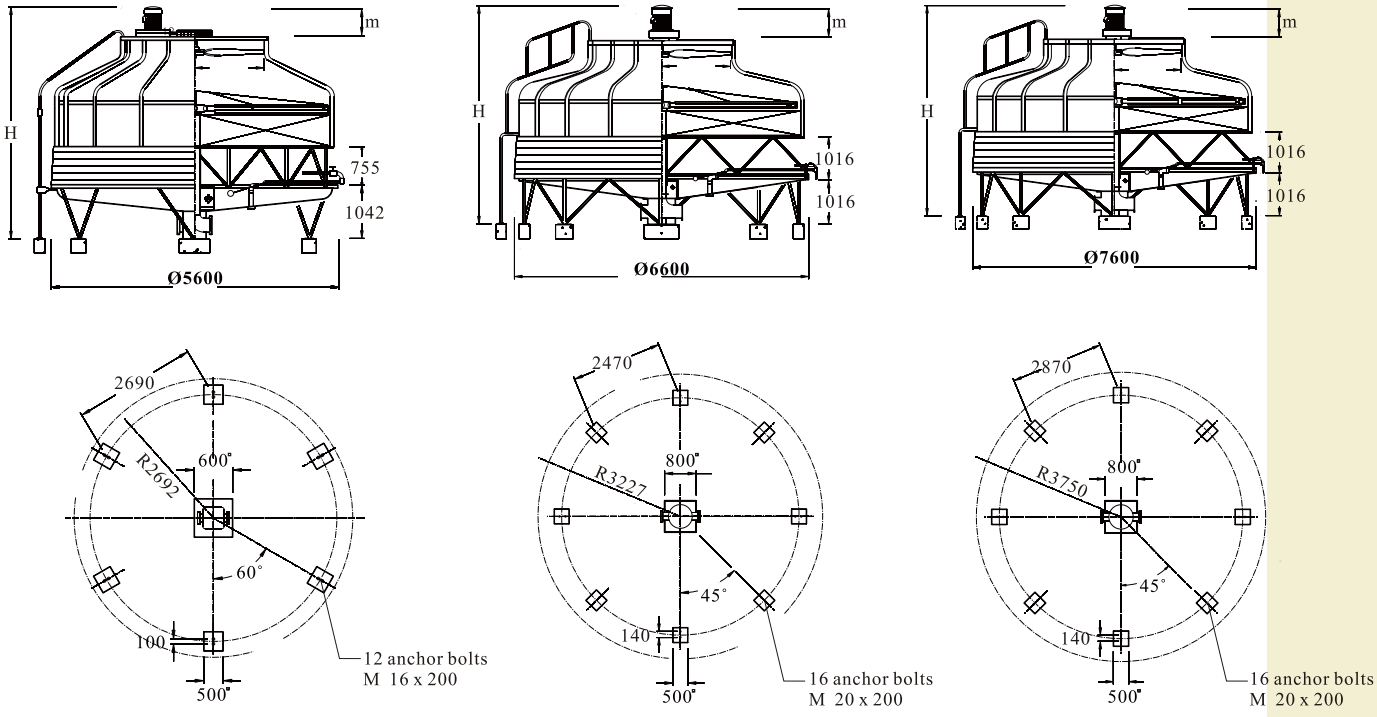


TOWER FOUNDATION

FT· FT/LN-175· 200 **FT· FT/LN-225·250** **FT· FT/LN-(300) ·350·400**



FT· FT/LN- 500 **FT· FT/LN-600 · 700** **FT· FT/LN-800 · 1000**



AVAILABLE OPTIONAL ACCESSORIES

DISCHARGE HOOD

This option is available on small models. It provides another direction of discharge air leaving the tower. It is made of F.R.P. with services door and wiring mesh on the air outlet.

HIGH TEMPERATURE FILLER

For high temperature operation such as waste water treatment , P.P. filler can withstand up to 80℃inlet water. (Special arrangement should be made for other components, please contact us for details.)

STAINLESS STEEL COMPONENTS

As an option, we can provide type 304 stainless steel major steel members, bolts and nuts.

TWO-SPEED MOTOR

As an option, two-speed motor can be provided in 4P/6P single winding configeration. A considerable reduction in noise and energy management can be achieved.

F.R.P. AIR INLET LOUVER

Inlet louver constructed of F.R.P. material can be provided, which matches the rest of tower and prevents water splashing out from the tower.

BASIN HEATERS

Electric immersion heaters with thermostat and control box are available to keep the basin water from freezing in sub-zero weather.

BODY COLOR

Cooling tower installed on the roof of building may be barely noticeable from the ground, and a colored cooling tower matching to building color will make it "good look".

JOB REFERENCES

FT-400 X 2
Bank of China, Shen Zhen

FT/LN-600 X 11
Hotel Lisboa, Macau

FT-1000 X 3
FT-500 X 10
CITIC Plaza, Guangzhou

FT/LN-300 X 6
Hong Kong University

FT-200 X 2
Miami University, U.S.A

RYOWO (HOLDING) CO .,LTD.

Rm. 1218, Angyle Centre 1,
688 Nathan Rd., MongKok,
Kowloon, Hong Kong

Tel : (852) 23918381
Fax: (852) 27893802

Http://www.ryowo.com
e-mail: ryinfo@ryowo.com

DONGGUAN RYOWO COOLING TOWER CO., LTD.

No.263 MeiJing Road West,Dalang,Dongguan,Guangdong,PRC

Tel : (86)-769 89399698
Fax: (86)-769 82973398

(86)-769 89399699
Postal Code: 523795

ryowo™

COOLING TOWER MANUFACTURER SINCE 1978

BROCH -EN-(03)-2013

Appendix 4.6 Industrial Noise Impact Assessment Result (Mitigated Case)

Predicted Noise Levels at Representative NSRs of Fixed Noise Impact Assessme

Daytime - Mitigated Case

NSR	x-coordinate	y-coordinate	Predicted Noise Level, $L_{eq\ (30\ min)}$ dB(A)	Area Sensitivity Ratings	Daytime Acceptable Noise Level, $L_{eq\ (30\ min)}$ dB(A)
F1-01	842136	817247	70	C	70
F1-02	842135	817249	68	C	70
F1-03	842114	817277	65	C	70
F1-04	842105	817273	65	C	70
F2-01	842097	817230	63	B	65
F2-02	842097	817232	63	B	65
F2-03	842098	817234	63	B	65
F2-04	842099	817237	62	B	65
F2-05	842100	817240	62	B	65
F2-06	842100	817242	62	B	65
F2-07	842101	817244	62	B	65

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F1-01	842136.4	817247.0

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	100.7	-48.1	0	3	59.9
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	295.8	-57.4	-10	3	31.9
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	296.5	-57.4	-10	3	30.8
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	301.1	-57.6	-10	3	35.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	301.6	-57.6	-10	3	35.8
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	291.9	-57.3	-10	3	30.0
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	294.0	-57.4	-10	3	33.6
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	330.5	-58.4	-10	3	36.6
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	246.9	-55.9	-10	3	39.5
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	259.7	-56.3	-10	3	33.0
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	269.7	-56.6	-10	3	38.4
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	164.9	-52.3	-10	3	15.9
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	112.2	-49.0	-10	3	36.9
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	128.1	-50.1	-10	3	39.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	50.5	-42.1	0	3	45.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	117.7	-49.4	-10	3	24.4
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	326.0	-58.3	-10	3	25.8
AGT_2		Cooling Tower	91.1	842424.433	817085.765	330.1	-58.4	-10	3	25.7
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	24.6	-35.8	0	3	65.1
RLC_2		Cooling Tower	95.1	842140.879	817226.046	21.5	-34.6	0	3	63.5
RLC_3		Cooling Tower	95.1	842139.389	817228.785	18.5	-33.3	0	3	64.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	64.4	-44.2	-10	3	50.8
									Total	70
									Daytime Noise Criteria	70
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F1-02	842135.2	817249.4

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	98.1	-47.8	-10	3	50.2
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	298.4	-57.5	-10	3	31.8
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	299.1	-57.5	-10	3	30.7
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	303.7	-57.6	-10	3	35.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	304.1	-57.7	-10	3	35.7
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	294.5	-57.4	-10	3	29.9
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	296.6	-57.4	-10	3	33.5
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	333.2	-58.5	-10	3	36.5
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	249.5	-55.9	-10	3	39.5
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	262.3	-56.4	-10	3	32.9
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	272.3	-56.7	-10	3	38.3
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	167.5	-52.5	-10	3	15.8
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	114.8	-49.2	-10	3	36.7
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	130.6	-50.3	-10	3	39.4
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	47.9	-41.6	-10	3	35.7
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	116.2	-49.3	-10	3	24.5
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	328.2	-58.3	-10	3	25.8
AGT_2		Cooling Tower	91.1	842424.433	817085.765	332.3	-58.4	-10	3	25.7
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	27.2	-36.7	0	3	64.2
RLC_2		Cooling Tower	95.1	842140.879	817226.046	24.0	-35.6	0	3	62.5
RLC_3		Cooling Tower	95.1	842139.389	817228.785	21.0	-34.4	0	3	63.7
RLC_4		Derrick Barge	102.0	842085.196	817207.946	64.9	-44.2	-10	3	50.8

Total	68
Daytime Noise Criteria	70
Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F1-03	842114.5	817277.3

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	63.7	-44.1	0	3	63.9
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	333.2	-58.5	-10	3	30.9
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	333.9	-58.5	-10	3	29.7
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	338.5	-58.6	-10	3	34.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	338.9	-58.6	-10	3	34.8
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	329.3	-58.4	-10	3	29.0
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	331.3	-58.4	-10	3	32.5
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	367.7	-59.3	-10	3	35.7
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	284.2	-57.1	-10	3	38.3
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	297.1	-57.5	-10	3	31.8
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	306.5	-57.7	-10	3	37.3
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	202.3	-54.1	-10	3	14.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	149.4	-51.5	-10	3	34.4
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	162.4	-52.2	-10	3	37.5
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	16.0	-32.1	0	3	55.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	105.3	-48.5	-10	3	25.3
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	360.3	-59.1	-10	3	25.0
AGT_2		Cooling Tower	91.1	842424.433	817085.765	364.4	-59.2	-10	3	24.9
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	61.1	-43.7	-10	3	47.2
RLC_2		Cooling Tower	95.1	842140.879	817226.046	57.7	-43.2	-10	3	44.9
RLC_3		Cooling Tower	95.1	842139.389	817228.785	54.5	-42.7	-10	3	45.4
RLC_4		Derrick Barge	102.0	842085.196	817207.946	75.3	-45.5	-10	3	49.5

Total	65
Daytime Noise Criteria	70
Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F1-04	842105.3	817272.9

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	64.5	-44.2	0	3	63.8
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	335.4	-58.5	-10	3	30.8
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	335.9	-58.5	-10	3	29.7
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	340.7	-58.6	-10	3	34.8
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	341.0	-58.7	-10	3	34.7
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	331.2	-58.4	-10	3	28.9
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	332.8	-58.4	-10	3	32.5
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	368.7	-59.3	-10	3	35.7
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	286.8	-57.2	-10	3	38.2
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	299.4	-57.5	-10	3	31.7
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	306.8	-57.7	-10	3	37.3
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	204.2	-54.2	-10	3	14.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	150.8	-51.6	-10	3	34.3
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	160.8	-52.1	-10	3	37.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	22.9	-35.2	0	3	52.2
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	114.9	-49.2	-10	3	24.6
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	365.9	-59.3	-10	3	24.8
AGT_2		Cooling Tower	91.1	842424.433	817085.765	370.0	-59.4	-10	3	24.7
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	62.3	-43.9	-10	3	47.0
RLC_2		Cooling Tower	95.1	842140.879	817226.046	58.8	-43.4	-10	3	44.7
RLC_3		Cooling Tower	95.1	842139.389	817228.785	55.8	-42.9	-10	3	45.2
RLC_4		Derrick Barge	102.0	842085.196	817207.946	68.0	-44.6	-10	3	50.4
									Total	65
									Daytime Noise Criteria	70
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-01	842096.6	817230.2

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	105.0	-48.4	0	3	59.6
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	309.3	-57.8	-10	3	31.5
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	309.3	-57.8	-10	3	30.4
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	314.6	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	314.4	-57.9	-10	3	35.5
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	304.1	-57.7	-10	3	29.7
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	304.4	-57.7	-10	3	33.3
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	338.2	-58.6	-10	3	36.4
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	262.6	-56.4	-10	3	39.0
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	274.1	-56.8	-10	3	32.5
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	274.6	-56.8	-10	3	38.2
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	179.0	-53.1	-10	3	15.2
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	125.1	-49.9	-10	3	36.0
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	125.1	-49.9	-10	3	39.8
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	65.9	-44.4	-10	3	33.0
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	152.9	-51.7	-10	3	22.1
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	354.2	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	358.2	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.7	-41.4	-10	3	49.5
RLC_2		Cooling Tower	95.1	842140.879	817226.046	44.4	-41.0	-10	3	47.1
RLC_3		Cooling Tower	95.1	842139.389	817228.785	42.8	-40.6	-10	3	47.5
RLC_4		Derrick Barge	102.0	842085.196	817207.946	25.0	-36.0	-10	3	59.0
									Total	63
									Daytime Noise Criteria	65
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-02	842097.3	817232.3

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	102.9	-48.3	0	3	59.7
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	310.3	-57.8	-10	3	31.5
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	310.3	-57.8	-10	3	30.4
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	315.6	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	315.5	-58.0	-10	3	35.4
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	305.2	-57.7	-10	3	29.6
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	305.6	-57.7	-10	3	33.2
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	339.5	-58.6	-10	3	36.4
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	263.5	-56.4	-10	3	39.0
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	275.1	-56.8	-10	3	32.5
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	276.1	-56.8	-10	3	38.2
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	179.9	-53.1	-10	3	15.2
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	126.0	-50.0	-10	3	35.9
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	126.7	-50.1	-10	3	39.6
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	63.7	-44.1	-10	3	33.3
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	150.8	-51.6	-10	3	22.2
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	354.5	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	358.4	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.4	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	44.0	-40.9	-10	3	47.2
RLC_3		Cooling Tower	95.1	842139.389	817228.785	42.2	-40.5	-10	3	47.6
RLC_4		Derrick Barge	102.0	842085.196	817207.946	27.2	-36.7	-10	3	58.3
									Total	63
									Daytime Noise Criteria	65
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-03	842097.9	817234.2

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	101.1	-48.1	0	3	59.9
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	311.3	-57.9	-10	3	31.5
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	311.3	-57.9	-10	3	30.4
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	316.6	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	316.5	-58.0	-10	3	35.4
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	306.2	-57.7	-10	3	29.6
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	306.7	-57.7	-10	3	33.2
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	340.7	-58.6	-10	3	36.4
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	264.3	-56.4	-10	3	39.0
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	276.0	-56.8	-10	3	32.4
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	277.3	-56.9	-10	3	38.1
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	180.8	-53.1	-10	3	15.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	126.8	-50.1	-10	3	35.8
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	128.1	-50.2	-10	3	39.5
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	61.6	-43.8	-10	3	33.6
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	148.9	-51.5	-10	3	22.3
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	354.7	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	358.7	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.2	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.7	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.8	-40.4	-10	3	47.7
RLC_4		Derrick Barge	102.0	842085.196	817207.946	29.2	-37.3	-10	3	57.7
									Total	63
									Daytime Noise Criteria	65
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-04	842098.7	817236.8

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	98.6	-47.9	0	3	60.1
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	312.5	-57.9	-10	3	31.4
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	312.6	-57.9	-10	3	30.3
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	317.9	-58.0	-10	3	35.4
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	317.8	-58.0	-10	3	35.4
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	307.6	-57.8	-10	3	29.6
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	308.1	-57.8	-10	3	33.1
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	342.3	-58.7	-10	3	36.3
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	265.5	-56.5	-10	3	38.9
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	277.2	-56.9	-10	3	32.4
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	279.0	-56.9	-10	3	38.1
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	181.9	-53.2	-10	3	15.1
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	127.9	-50.1	-10	3	35.8
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	130.0	-50.3	-10	3	39.4
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	58.9	-43.4	-10	3	33.9
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	146.3	-51.3	-10	3	22.5
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	355.0	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	359.0	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.1	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.5	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.4	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	31.9	-38.1	-10	3	56.9
									Total	62
									Daytime Noise Criteria	65
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-05	842099.6	817239.5

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	96.0	-47.6	0	3	60.4
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	313.9	-57.9	-10	3	31.4
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	314.1	-57.9	-10	3	30.3
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	319.3	-58.1	-10	3	35.3
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	319.2	-58.1	-10	3	35.3
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	309.0	-57.8	-10	3	29.5
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	309.7	-57.8	-10	3	33.1
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	344.0	-58.7	-10	3	36.3
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	266.7	-56.5	-10	3	38.9
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	278.5	-56.9	-10	3	32.3
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	280.9	-57.0	-10	3	38.0
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	183.2	-53.3	-10	3	15.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	129.2	-50.2	-10	3	35.7
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	132.1	-50.4	-10	3	39.3
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	56.1	-43.0	-10	3	34.4
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	143.6	-51.1	-10	3	22.7
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	355.4	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	359.4	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.2	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.4	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.2	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	34.7	-38.8	-10	3	56.2
									Total	62
									Daytime Noise Criteria	65
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-06	842100.3	817241.9

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	93.8	-47.4	0	3	60.6
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	315.1	-58.0	-10	3	31.3
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	315.3	-58.0	-10	3	30.2
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	320.5	-58.1	-10	3	35.3
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	320.4	-58.1	-10	3	35.3
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	310.3	-57.8	-10	3	29.5
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	311.0	-57.9	-10	3	33.1
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	345.5	-58.8	-10	3	36.2
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	267.8	-56.6	-10	3	38.8
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	279.7	-56.9	-10	3	32.3
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	282.5	-57.0	-10	3	38.0
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	184.3	-53.3	-10	3	15.0
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	130.3	-50.3	-10	3	35.6
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	133.9	-50.5	-10	3	39.2
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	53.6	-42.6	-10	3	34.8
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	141.3	-51.0	-10	3	22.8
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	355.7	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	359.7	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.4	-41.3	-10	3	49.6
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.5	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.2	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	37.2	-39.4	-10	3	55.6
									Total	62
									Daytime Noise Criteria	65
									Comply?	Yes

Daytime - Mitigated Case

NSR	NSR (x)	NSR (y)
F2-07	842100.9	817243.7

Noise Source ID	Location	Description	SWL (with tonality), dB(A)	X coor.	Y Coor.	Horizontal Distance between Source and NSR, m	Dist Corr., dB(A)	Barr. Corr., dB(A)	Façade Corr., dB(A)	Corrected Noise Level, dB(A)
QJ_1	全記	Operation Noise	105.0	842086.883	817334.718	92.1	-47.3	0	3	60.7
CCC_1	China Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	96.3	842315.218	817011.373	316.1	-58.0	-10	3	31.3
CCC_2		Concrete Batching Plant (Concrete Lorry Mixer)	95.2	842311.776	817007.986	316.3	-58.0	-10	3	30.2
CCC_3		Concrete Lorry Mixer Washing Bay	100.4	842318.989	817007.594	321.4	-58.1	-10	3	35.3
CCC_4		Concrete Lorry Mixer Washing Bay	100.4	842315.381	817004.324	321.4	-58.1	-10	3	35.3
CCC_5		Concrete Batching Plant (Tanker)	94.3	842305.498	817009.084	311.3	-57.9	-10	3	29.5
CCC_6		Concrete Batching Plant (Tanker)	97.9	842296.246	817000.305	312.1	-57.9	-10	3	33.0
CCC_7		Screw Pumping Barge	102.0	842299.555	816959.566	346.7	-58.8	-10	3	36.2
HKA_1	Hong Kong Concrete Co. Limited	Concrete Batching Plant (Concrete Lorry Mixer)	102.4	842294.07	817057.035	268.6	-56.6	-10	3	38.8
HKA_2		Concrete Batching Plant (Tanker)	96.2	842296.5	817042.56	280.6	-57.0	-10	3	32.3
HKA_3		Screw Pumping Barge	102.0	842250.426	817002.603	283.7	-57.1	-10	3	37.9
CFS_1	Cooked Food Stall	Operation Noise	75.3	842231.223	817112.157	185.2	-53.4	-10	3	14.9
WFM_1	Kwun Tong Wholesale Fish market	Operation Noise	92.9	842192.658	817149.957	131.2	-50.4	-10	3	35.5
WFM_2		Loading and Unloading By Marine Vessels	96.7	842157.16	817120.657	135.3	-50.6	-10	3	39.1
WPS_1	Yau Tong Salt Water Pumping Station	Operation Noise	84.3	842115.863	817293.216	51.7	-42.3	-10	3	35.1
TLM_1	Tung Lee Motor Service Centre	Operation Noise	80.8	842187.722	817352.983	139.5	-50.9	-10	3	22.9
AGT_1	Ajisen Group Tower	Cooling Tower	91.1	842421.433	817088.765	356.0	-59.0	-10	3	25.1
AGT_2		Cooling Tower	91.1	842424.433	817085.765	360.0	-59.1	-10	3	25.0
RLC_1	Redland Concrete Limited	Operation Noise	97.9	842142.846	817223.237	46.7	-41.4	-10	3	49.5
RLC_2		Cooling Tower	95.1	842140.879	817226.046	43.7	-40.8	-10	3	47.3
RLC_3		Cooling Tower	95.1	842139.389	817228.785	41.3	-40.3	-10	3	47.8
RLC_4		Derrick Barge	102.0	842085.196	817207.946	39.1	-39.8	-10	3	55.2
									Total	62
									Daytime Noise Criteria	65
									Comply?	Yes

Appendix 5.1 The Relevant Aerial Photographs from LandsD

Historical Aerial Photo – Year 1963

Aerial photo from LandsD (Ref.: 5241), Height: 2700 ft

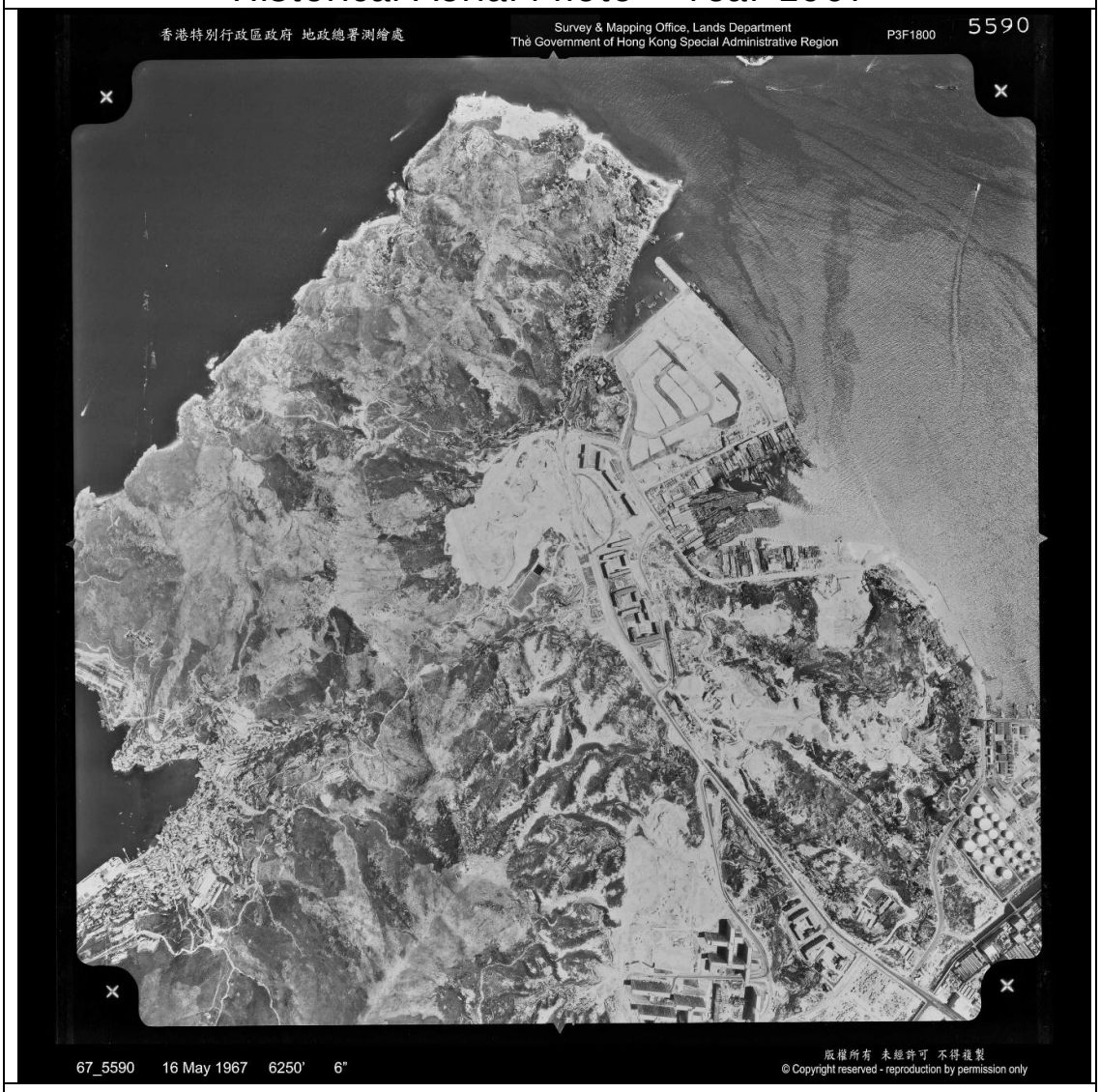
Blow up Photo of Subject Site	Year	Landuse/Description
	1963	The Application Site was a sea area

Historical Aerial Photo – Year 1964

Aerial photo from LandsD (Ref.: 5367), Height: 1800 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1964	The Application Site was a sea area.

Historical Aerial Photo – Year 1967



Aerial photo from LandsD (Ref.: 5590), Height: 6250 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1967	The Application Site was being formed by reclamation and become vacant land.

Historical Aerial Photo – Year 1972

Aerial photo from LandsD (Ref.: 00079), Height: 4000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1972	The Application Site was become vacant land.

Historical Aerial Photo – Year 1976

Aerial photo from LandsD (Ref.: 12250), Height: 3000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1976	The Application Site was become vacant land.

Historical Aerial Photo – Year 1977

Aerial photo from LandsD (Ref.: 18753), Height: 3000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1977	A building (i.e., Wah Tung Godown) was constructed at Lot No. YTML 70 .

Historical Aerial Photo – Year 1982

Aerial photo from LandsD (Ref.: 41193), Height: 3500 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1982	No landuse change for the Subject Site.

Historical Aerial Photo – Year 1987

Aerial photo from LandsD (Ref.: A08892), Height: 2000 ft

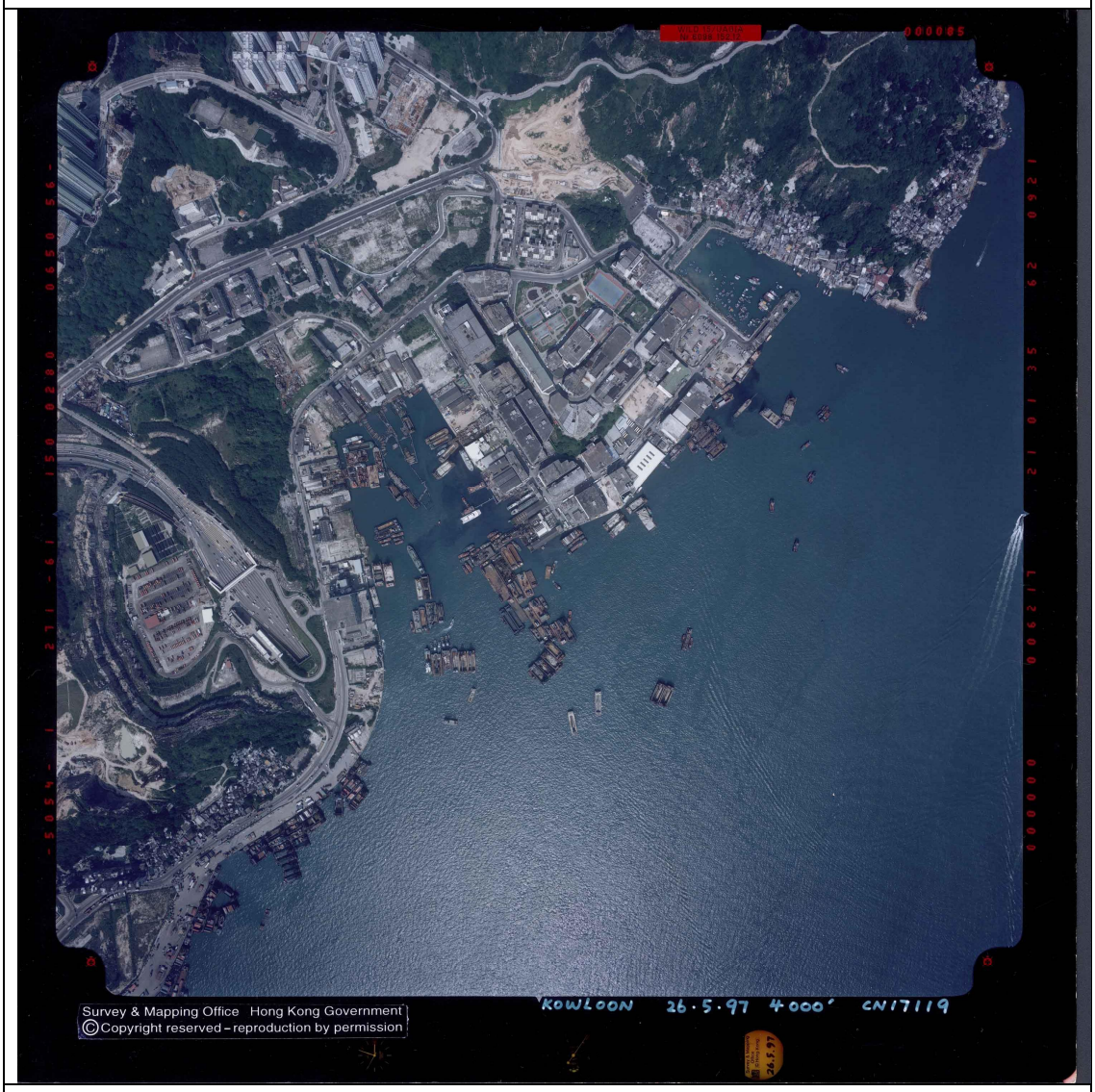
Blow up Photo of Subject Site	Year	Landuse/Description
	1987	No landuse change for the Subject Site.

Historical Aerial Photo – Year 1992

Aerial photo from LandsD (Ref.: CN3131), Height: 3000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1992	No landuse change for the Subject Site.

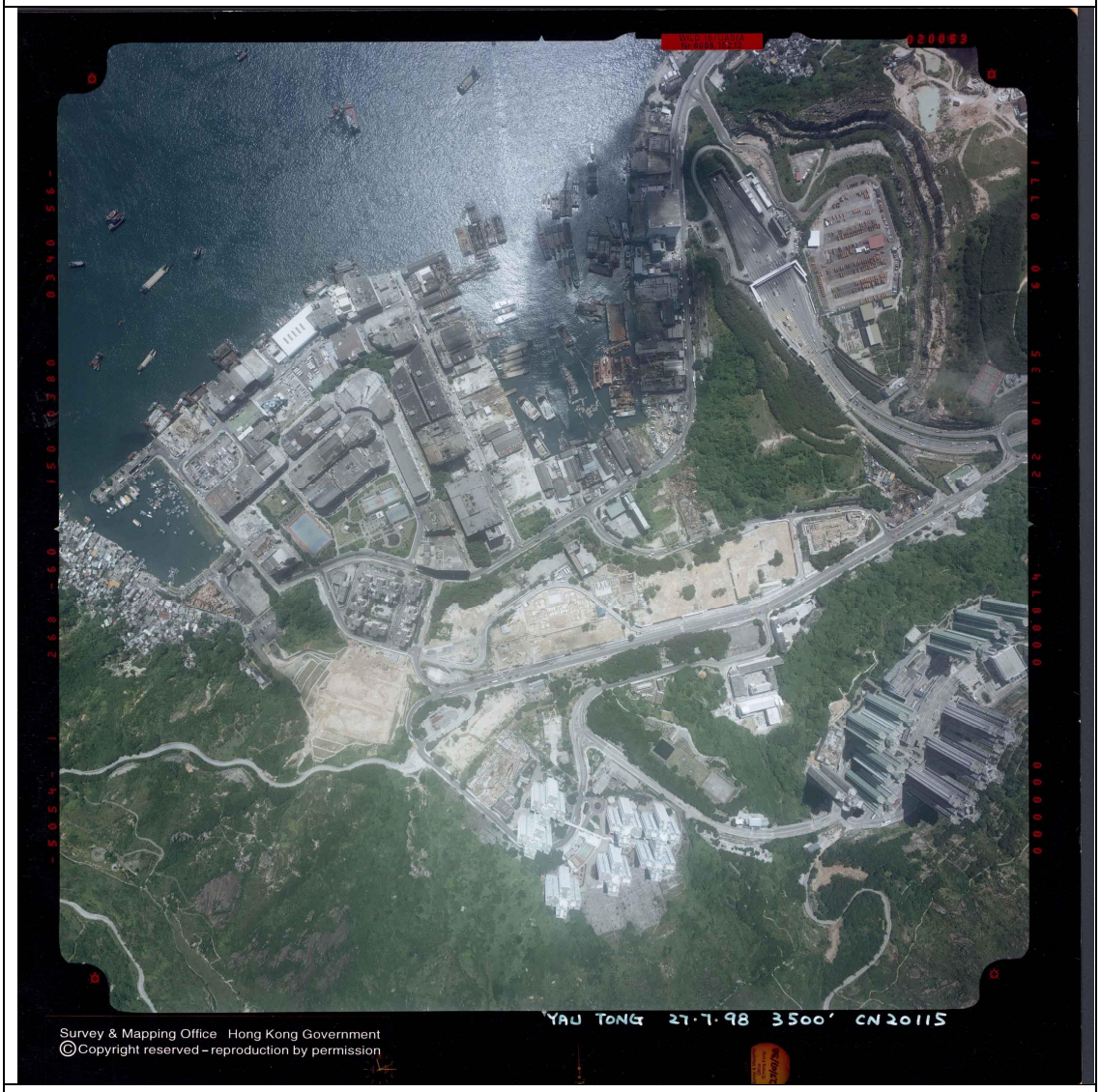
Historical Aerial Photo – Year 1997



Aerial photo from LandsD (Ref.: CN17119), Height: 4000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1997	No landuse change for the Subject Site.

Historical Aerial Photo – Year 1998



Aerial photo from LandsD (Ref.: CN20115), Height: 3500 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	1998	No landuse change for the Subject Site.

Historical Aerial Photo – Year 2003

Aerial photo from LandsD (Ref.: CW47662), Height: 4000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	2003	No landuse change for the Application Site.

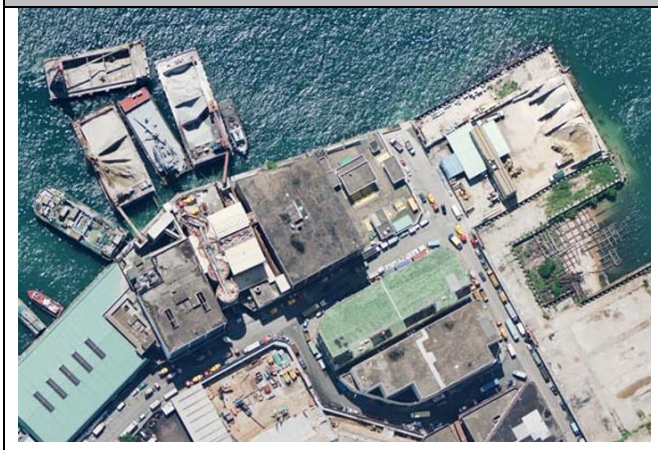
Historical Aerial Photo – Year 2008

Aerial photo from LandsD (Ref.: CS13379), Height: 6000 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	2008	No landuse change for the Application Site.

Historical Aerial Photo – Year 2013

Aerial photo from LandsD (Ref.: CS44647), Height: 6000 ft

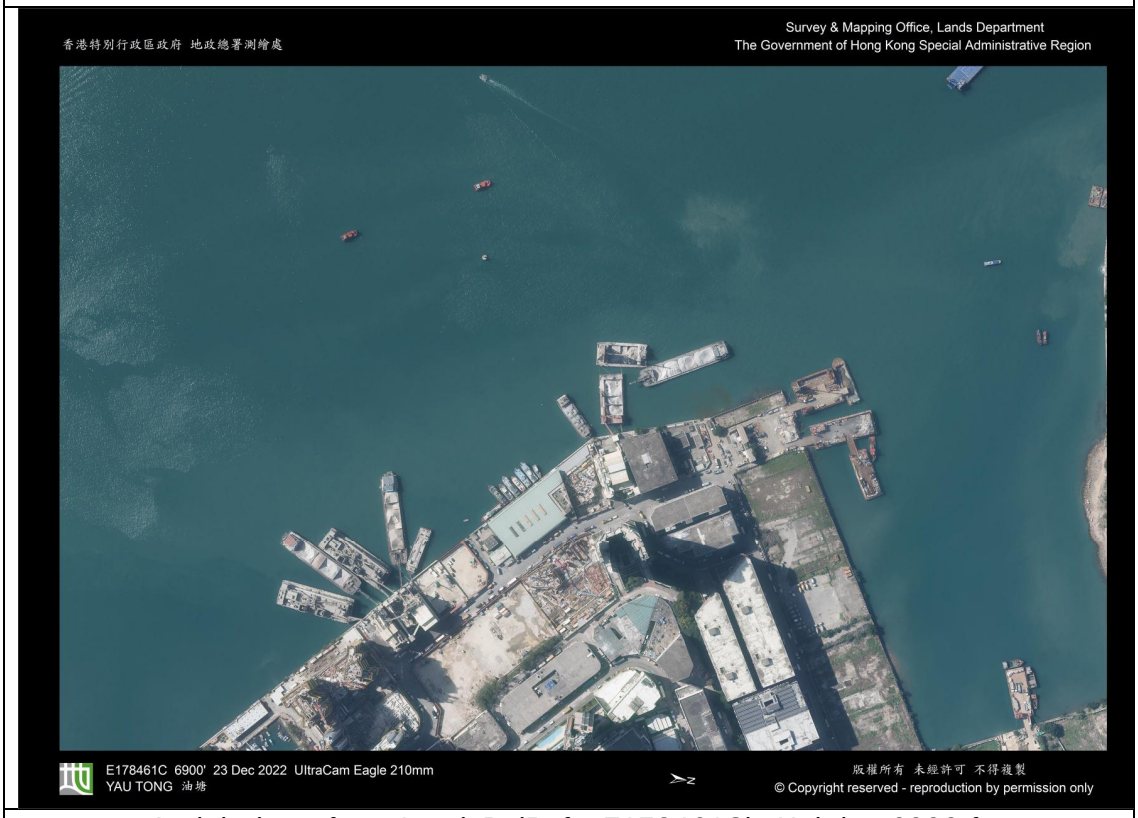
Blow up Photo of Subject Site	Year	Landuse/Description
	2013	No landuse change for the Application Site.

Historical Aerial Photo – Year 2018

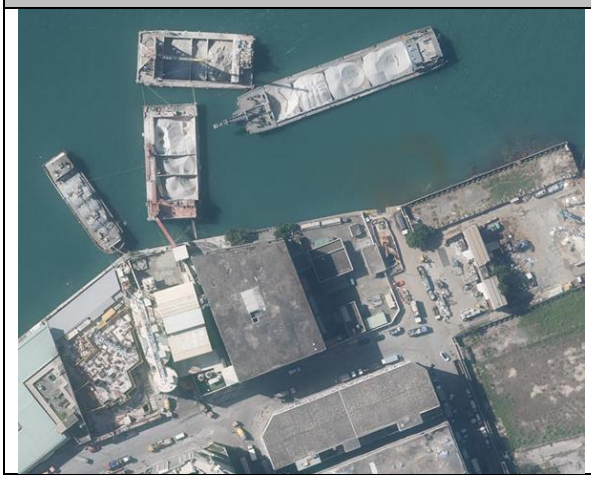
Aerial photo from LandsD (Ref.: E047102C), Height: 6900 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	2018	No landuse change for the Application Site.

Historical Aerial Photo – Year 2022



Aerial photo from LandsD (Ref.: E178461C), Height: 6900 ft

Blow up Photo of Subject Site	Year	Landuse/Description
	2022	No landuse change for the Application Site.

Appendix 5.2 Photo Records of Site Inspection

Point 1

Point 2

Point 3

Point 4

Point 5

Point 6

Seawall

Godown

Podium

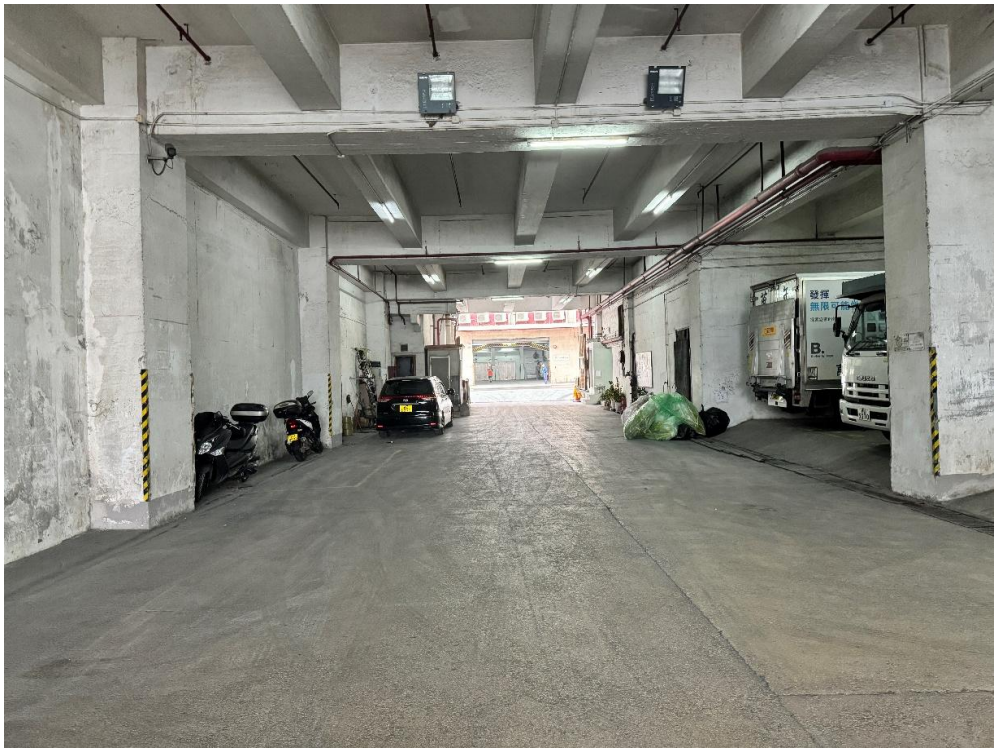
JG YUEN STREET

WIP Feb 2023

1. Current situation of the Application Site (Point 1)

Building entre area, paved with good condition

2. Current situation of the Application Site (Point 2)



Car park area, paved with good condition

3. Current situation of the Application Site (Point 3)

Car park area, paved with good condition

4. Current situation of the Application Site (Point 4)

Car park area, paved with good condition

5. Current situation of the Application Site (Point 5)

Car park area, paved with good condition

6. Current situation of the Application Site (Point 6)

Car park area, paved with good condition

Appendix 5.3 The captured shown from BRAVO

Address	4 TUNG YUEN STREET	Building Name	WAH TUNG GODOWN	Lot No.	Y.T.M.L. 70	Modification	View
File Ref No.	2/4013/76	File Type	Building	Remarks			

Filter Clear Filters

Plan Type	Drawing No.	Drawing Title	Approval / Receipt Date
Approved Plan	G-1	SCHEDULE, NOTES, GROUND FL. AREA DIAGRAM, 1ST TO 6TH FL. AREA DIAGRAM CALCULATION	30/06/1978
Approved Plan	G-10	BACK ELEVATION	30/06/1978
Approved Plan	G-2	GROUND FL. PLAN, MEZZANINE FL. PLAN	30/06/1978
Approved Plan	G-3	1ST FL. PLAN & 2ND FL. PLAN	30/06/1978
Approved Plan	G-4	3RD FL. PLAN TO 6TH FL. PLAN	30/06/1978
Approved Plan	G-5	ROOF PLAN	30/06/1978
Approved Plan	G-6	SECTION A-A	30/06/1978
Approved Plan	G-7	SECTION B-B	30/06/1978
Approved Plan	G-8	SECTION C-C, PART SECTION D-D	30/06/1978
Approved Plan	G-9	FRONT ELEVATION, SHADOW AREA DIAGRAM & CALCULATION	30/06/1978
Approved Plan	-	TYPICAL SECTION OF SEA WALL	24/05/1976

Appendix 5.4 Correspondences from Government Departments

RAMBOLL

Ref.: CRC_4TYSEI00_0_0002L.24

04 March 2024

Environmental Protection Department
Environmental Compliance Division
Regional Office (East)
5/F, Nan Fung Commercial Centre,
19 Lam Lok Street, Kowloon Bay,
Kowloon

By Fax (2756 8588) & Post

Dear Sir / Madam,

Environmental Assessment for Proposed Residential & Commercial Development at No.4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTML70) - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for a site at Tung Yuen Street, Yau Tong (see attached Annex 1). As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the subject site are required as part of the vetting process.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc.;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighboring areas; and

3. Any land contamination assessment that has conducted at the site or neighboring areas.

Due to the tight timeline of the project, we would be much appreciated if you could provide the requested information ay your earliest convenience.

Should you have any queries, please do not hesitate to contact our Mr. Kyle Kam at 3465 2855 (email: kylekam@ramboll.com) or the undersigned at 3465 2878 (email: wendytin@ramboll.com). We thank you in anticipation of your help in the matter.

Thank you for your attention.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Wendy Tin
Consultant

Enclosure:
Annex 1 - Location of Subject Site
Annex 2 - Appointment Letter

Q:\Projects\CRC_4TYSEI00\02 Project Management\02 Corr\CRC_4TYSEI00_0_0002L.24.docx

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Annex 1

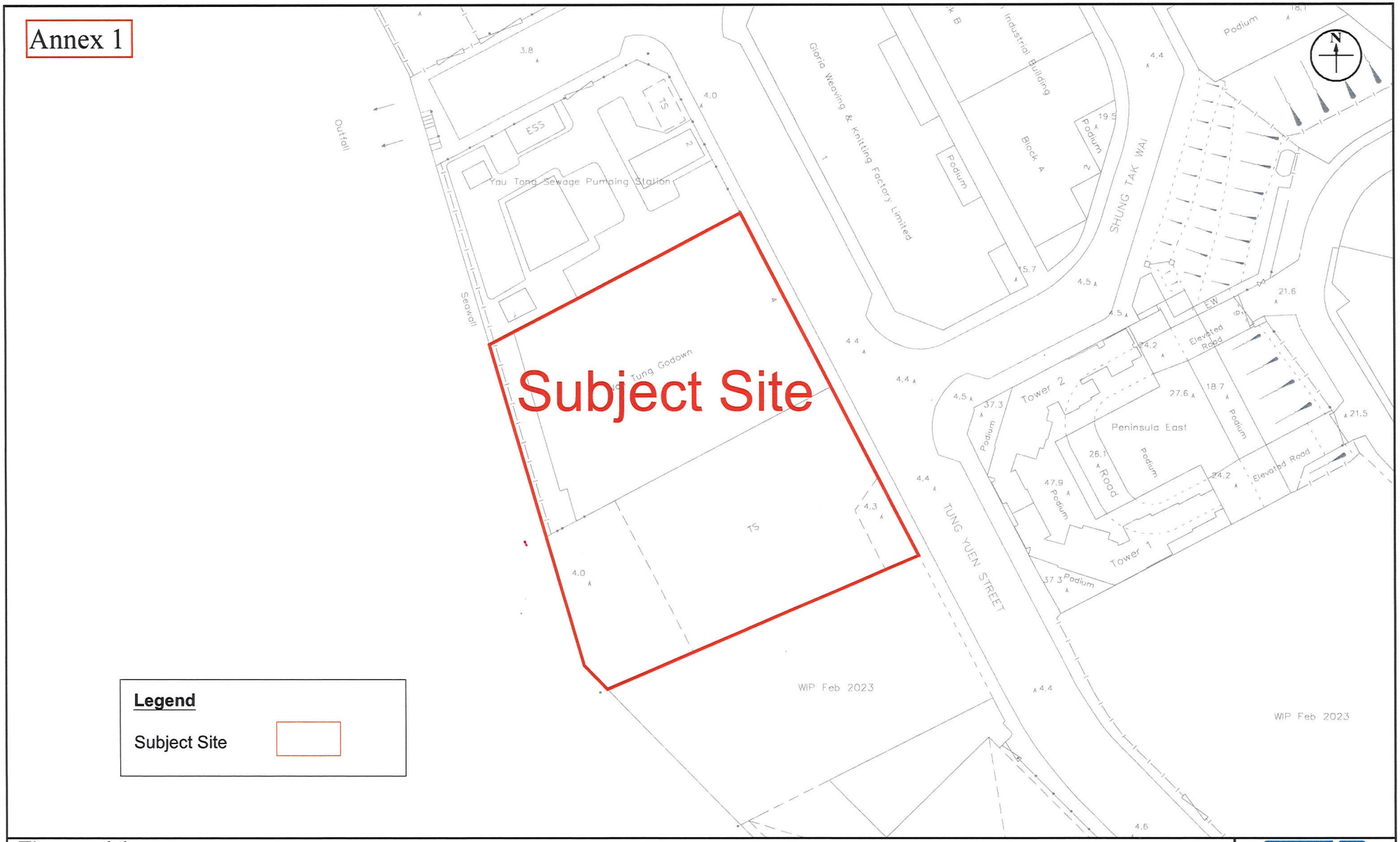


Figure: 1.1	RAMBOLL
Title: Location of the Subject Site and its Environ	Drawn by: SC Checked by: TC
Project: Proposed Flats, Shop and Services, Eating Places and Social Welfare Facility (Child Care Centre) with Minor Relaxation and Domestic and Non-domestic Plot Ratio and Building Height Restriction at No. 4 Tung Yuen Street, Yau Tong (Lot No. YTML68 & YTML 70)	Rev.: 1.0 Date: Dec 2023

\\aphkfps3\Drive Q\Projects\CRC_4TYSEI00\05 Assessments\05 SIA\SIA - 240226.dwg

Annex 2

華潤置地
CR LAND

DUPLICATE

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

1 August 2023

Ramboll Hong Kong Limited By HAND ~~& By Fax~~

21/F, BEA Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong By Email dyeung@ramboll.com

Attn David YEUNG

Dear Sir / Madam

Re: **Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong (Lot no.YTML68 & YTML70)**
Letter of Acceptance for Environmental Consultancy Services for S16 Application

With reference to your fee proposal dated 3 July 2023, subsequent tender query reply dated 28 July 2023, we, on behalf of Good Hour International Limited, are pleased to confirm the acceptance of your fee proposal for Environmental Consultancy Services for S16 Application at the following fee, rates and payment schedule:-

1. Fee

Base Fee for the Environmental Consultancy Services for S16 Application in the lump sum of [redacted]

In which Lump Sum [redacted] for Noise Impact Assessment;
Lump Sum [redacted] for Air Quality Assessment;
Lump Sum [redacted] or Sewerage Impact Assessment;
Lump Sum [redacted] or Drainage Impact Assessment;
Lump Sum [redacted] for Air Ventilation Assessment.

2. Optional Fee (Included) for the following items:-
   (a) Land Contamination Preliminary Review in the lump sum of [redacted]
   (b) Water Quality Impact Assessment in the lump sum of [redacted]
   (c) Waste Management Assessment in the lump sum of [redacted]
   (d) Odour Assessment in the lump sum of [redacted] Only);
   (e) Sediment Quality Assessment in the lump sum of [redacted]
   (f) Land Contamination Assessment (CAP, CAR, RAP) in the lump sum of [redacted]

华润置地有限公司 **China Resources Land Limited**
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Payment Schedule

It is expressly agreed that the following payment terms will be applied in this consultancy:-

Environmental Consultancy Service – Base Fee	%
Noise Impact Assessment	
[redacted]	
Air Quality Impact Assessment	
[redacted]	
Sewerage Impact Assessment	
[redacted]	
Drainage Impact Assessment	
[redacted]	
Air Ventilation Assessment	
[redacted]	

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Environmental Consultancy Service – Optional Fee	%
Land Contamination Preliminary Review	
Water Quality Impact Assessment	
Waste Management Assessment	
Odour Assessment	
Sediment Quality Assessment	
Land Contamination Assessment (CAP, CAR, RAP)	

[redacted]

This Letter of Acceptance together with the Tender Documents shall constitute a binding contract between the Employer and the Consultant. In case of any ambiguities and discrepancies between and / or among this Letter of Acceptance and other correspondences document, this Letter of Acceptance shall prevail.

You are advised to liaise with our Chief Manager (Projects & Design) - Mr Ricky To at 3959-3902 (toyeuklun@crland.com.hk) or Manager (Cost & Contract) – Ms Mimi Cheung at 3620-3137 (cheungyuenki@crland.com.hk) on the arrangement for the carrying out of the Environmental Consultancy Services for S16 Application within fourteen (14) days from the date hereof.

Please confirm your acceptance by signing and returning the Original of this letter. The enclosed Dupliocate of this Letter is for your retention.

Yours faithfully,

Johnson Wai
Deputy Managing Director
China Resources Land (Overseas) Limited
CY / ZX / PG / DJ / JW / SY / RT / SW / mc

Agreed and Accepted by:
Ramboll Hong Kong Limited

Ramboll Hong Kong Limited 英環香港有限公司

Signature & Stamp of Company
Date: 11 August 2023

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

Kyle Kam

From: Wendy Tin
Sent: Monday, March 4, 2024 5:20 PM
To: Kyle Kam
Cc: Tony Cheng
Subject: FW: Re. Enquiry on chemical spillage & Land contamination (Your ref: CRC_4TYSEI00_0_0002L.24)

Follow Up Flag: Follow up
Flag Status: Flagged

FYI

Classification: Confidential

From: herrickho@epd.gov.hk <herrickho@epd.gov.hk>
Sent: Monday, March 4, 2024 5:18 PM
To: Wendy Tin <wendytin@ramboll.com>
Cc: tommytctang@epd.gov.hk
Subject: Re. Enquiry on chemical spillage & Land contamination (Your ref: CRC_4TYSEI00_0_0002L.24)

> You don't often get email from herrickho@epd.gov.hk. Learn why this is important

Dear Wendy.

Refers to your letter dated 4 Mar 2024.

Please be informed that:
1. There are 3 chemical waste producer registrations in the concerned area; &
2. No chemical spillage & land contamination had been recorded in last 5 years.

Thanks & Regards,
Herrick HO / EPD
2117 7551

Ref.: CRC_4TYSEI00_0_0003L.24

4 March 2024

Fire Services Department
Fire Services Headquarters
Management Group (MG)
9th Floor, Fire Services Headquarters Building,
1 Hong Chong Road, Tsim Sha Tsui East, Kowloon

By Fax (2739 5879) & Post

Dear Sir / Madam,

Environmental Assessment for Proposed Residential & Commercial Development at No.4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTML70) - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for a site at Tung Yuen Street, Yau Tong (see attached Annex 1). As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the subject site are required as part of the vetting process.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc.;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighboring areas; and

3. Any land contamination assessment that has conducted at the site or neighboring areas.

Due to the tight timeline of the project, we would be much appreciated if you could provide the requested information ay your earliest convenience.

Should you have any queries, please do not hesitate to contact our Mr. Kyle Kam at 3465 2855 (email: kylekam@ramboll.com) or the undersigned at 3465 2878 (email: wendytin@ramboll.com). We thank you in anticipation of your help in the matter.

Thank you for your attention.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Wendy Tin
Consultant

Enclosure:
Annex 1 - Location of Subject Site
Annex 2 - Appointment Letter

Q:\Projects\CRC_4TYSEI00\02 Project Management\02 Corr\CRC_4TYSEI00_0_0003L.24.docx

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Annex 1

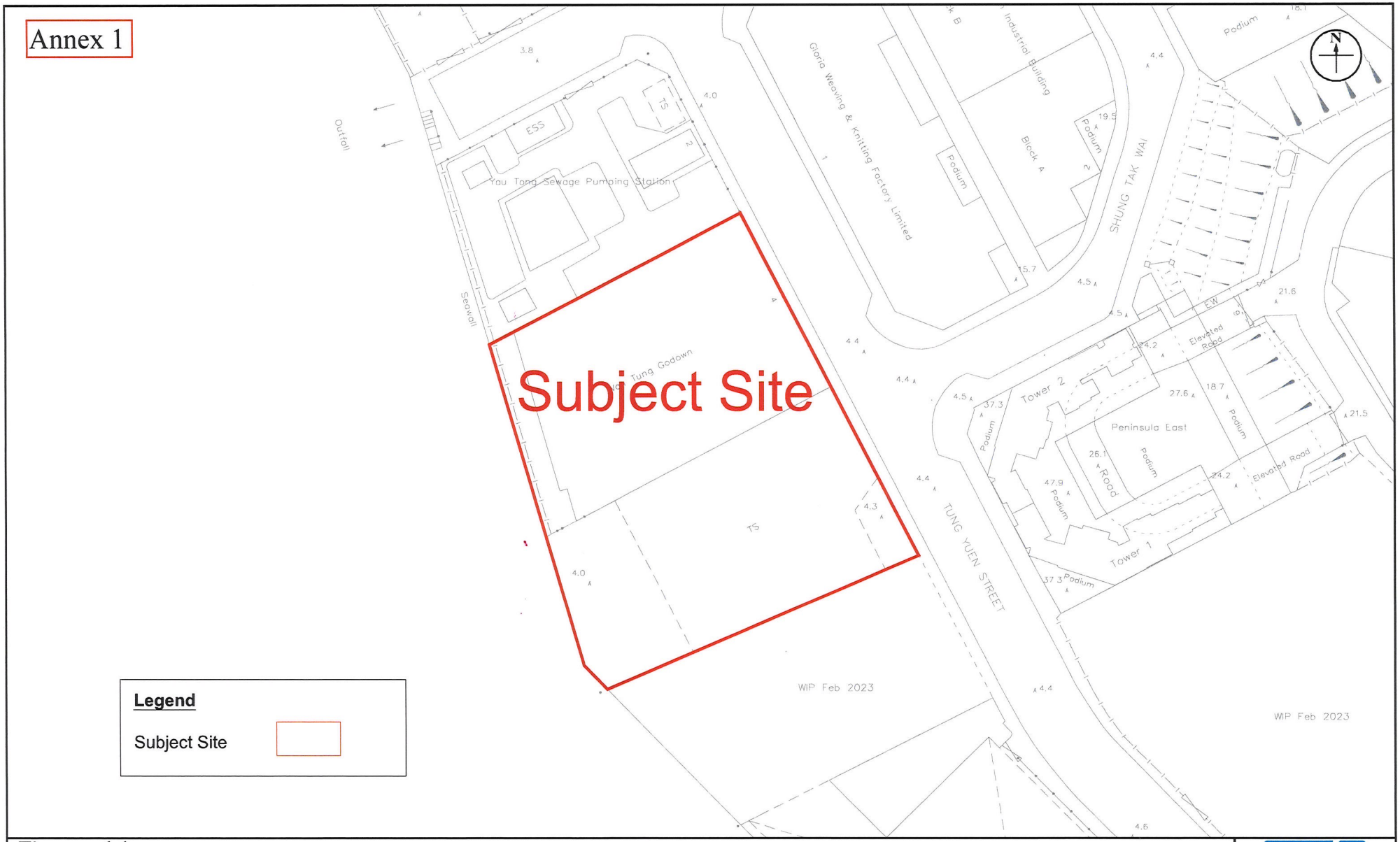


Figure: 1.1	RAMBOLL
Title: Location of the Subject Site and its Environ	Drawn by: SC Checked by: TC
Project: Proposed Flats, Shop and Services, Eating Places and Social Welfare Facility (Child Care Centre) with Minor Relaxation and Domestic and Non-domestic Plot Ratio and Building Height Restriction at No. 4 Tung Yuen Street, Yau Tong (Lot No. YTML68 & YTML 70)	Rev.: 1.0 Date: Dec 2023

\\aphkfps3\Drive Q\Projects\CRC_4TYSEI00\05 Assessments\05 SIA\SIA - 240226.dwg

Annex 2

華潤置地
CR LAND

DUPLICATE

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

1 August 2023

Ramboll Hong Kong Limited By HAND ~~& By Fax~~

21/F, BEA Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong By Email dyeung@ramboll.com

Attn David YEUNG

Dear Sir / Madam

Re: **Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong (Lot no.YTML68 & YTML70)**
Letter of Acceptance for Environmental Consultancy Services for S16 Application

With reference to your fee proposal dated 3 July 2023, subsequent tender query reply dated 28 July 2023, we, on behalf of Good Hour International Limited, are pleased to confirm the acceptance of your fee proposal for Environmental Consultancy Services for S16 Application at the following fee, rates and payment schedule:-

1. Fee

Base Fee for the Environmental Consultancy Services for S16 Application in the lump sum of [redacted]

In which Lump Sum [redacted] for Noise Impact Assessment;
Lump Sum [redacted] for Air Quality Assessment;
Lump Sum [redacted] or Sewerage Impact Assessment;
Lump Sum [redacted] or Drainage Impact Assessment;
Lump Sum [redacted] for Air Ventilation Assessment.

2. Optional Fee (Included) for the following items:-
   (a) Land Contamination Preliminary Review in the lump sum of [redacted]
   (b) Water Quality Impact Assessment in the lump sum of [redacted]
   (c) Waste Management Assessment in the lump sum of [redacted]
   (d) Odour Assessment in the lump sum of [redacted] Only);
   (e) Sediment Quality Assessment in the lump sum of [redacted]
   (f) Land Contamination Assessment (CAP, CAR, RAP) in the lump sum of [redacted]

华润置地有限公司 **China Resources Land Limited**
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Payment Schedule

It is expressly agreed that the following payment terms will be applied in this consultancy:-

Environmental Consultancy Service – Base Fee	%
Noise Impact Assessment	
[redacted]	
Air Quality Impact Assessment	
[redacted]	
Sewerage Impact Assessment	
[redacted]	
Drainage Impact Assessment	
[redacted]	
Air Ventilation Assessment	
[redacted]	

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Environmental Consultancy Service – Optional Fee	%
Land Contamination Preliminary Review	
Water Quality Impact Assessment	
Waste Management Assessment	
Odour Assessment	
Sediment Quality Assessment	
Land Contamination Assessment (CAP, CAR, RAP)	

[redacted]

This Letter of Acceptance together with the Tender Documents shall constitute a binding contract between the Employer and the Consultant. In case of any ambiguities and discrepancies between and / or among this Letter of Acceptance and other correspondences document, this Letter of Acceptance shall prevail.

You are advised to liaise with our Chief Manager (Projects & Design) - Mr Ricky To at 3959-3902 (toyeuklun@crland.com.hk) or Manager (Cost & Contract) – Ms Mimi Cheung at 3620-3137 (cheungyuenki@crland.com.hk) on the arrangement for the carrying out of the Environmental Consultancy Services for S16 Application within fourteen (14) days from the date hereof.

Please confirm your acceptance by signing and returning the Original of this letter. The enclosed Dupliocate of this Letter is for your retention.

Yours faithfully,

Johnson Wai
Deputy Managing Director
China Resources Land (Overseas) Limited
CY / ZX / PG / DJ / JW / SY / RT / SW / mc

Agreed and Accepted by:
Ramboll Hong Kong Limited

Ramboll Hong Kong Limited 英環香港有限公司

Signature & Stamp of Company
Date: 11 August 2023

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

消 防 處
香港九龍尖沙咀東部康莊道 1 號
消防處總部大廈

FIRE SERVICES DEPARTMENT
FIRE SERVICES HEADQUARTERS BUILDING,
No.1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon,
Hong Kong.

本處檔號 OUR REF. : (32) in FSD GR 6-5/4 R Pt. 52
來函檔號 YOUR REF. : CRC_4TYSEI00_0_0003L.24
電子郵件 E-mail : hkfsdenq@hkfsd.gov.hk
圖文傳真 FAX NO. : 2988 1196
電 話 TEL NO. : 2733 7570

11 March 2024

Ramboll Hong Kong Limited
21/F, BEA Harbour View Centre,
56 Gloucester Road,
Wanchai, Hong Kong.
(Attn: Ms. Wendy TIN, Consultant)

By fax (3465 2899) only

Dear Ms. TIN,

Environmental Assessment for Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTML70)
Request for Information of Dangerous Goods & Incident Records

I refer to your letter of 4.3.2024 regarding the captioned subject.

Your case is being handled, and a reply will be furnished to you as soon as possible. Please be advised that due to time lapse, this Department can only provide the following information for your requested information:

(i) Dangerous Goods Licence Record: from the year of 1990 to present moment.

(ii) Incident Record: Past three years of fire and special services incidents.

Should you have further questions, please feel free to contact the undersigned.

Yours sincerely,

(LAI Kin-man)
for Director of Fire Services

RAMBOLL

Ref.: CRC_4TYSEI00_0_0004L.24

4 March 2024

Planning Department,
District Planning Branch,
Metro District Planning Division,
Kowloon District Planning Office,
14/F, North Point Government Offices,
33 Java Road,
Hong Kong

By Fax (2894 9502) & Post

Dear Sir / Madam,

Environmental Assessment for Proposed Residential & Commercial Development at No.4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTML70) - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for a site at Tung Yuen Street, Yau Tong (see attached Annex 1). As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the subject site are required as part of the vetting process.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc.;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighboring areas; and

3. Any land contamination assessment that has conducted at the site or neighboring areas.

4. Any change on the land use.

Due to the tight timeline of the project, we would be much appreciated if you could provide the requested information ay your earliest convenience.

Should you have any queries, please do not hesitate to contact our Mr. Kyle Kam at 3465 2855 (email: kylekam@ramboll.com) or the undersigned at 3465 2878 (email: wendytin@ramboll.com). We thank you in anticipation of your help in the matter.

Thank you for your attention.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Wendy Tin
Consultant

Enclosure:
Annex 1 - Location of Subject Site
Annex 2 - Appointment Letter

Q:\Projects\CRC_4TYSEI00\02 Project Management\02 Corr\CRC_4TYSEI00_0_0004L.24.docx

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Annex 1

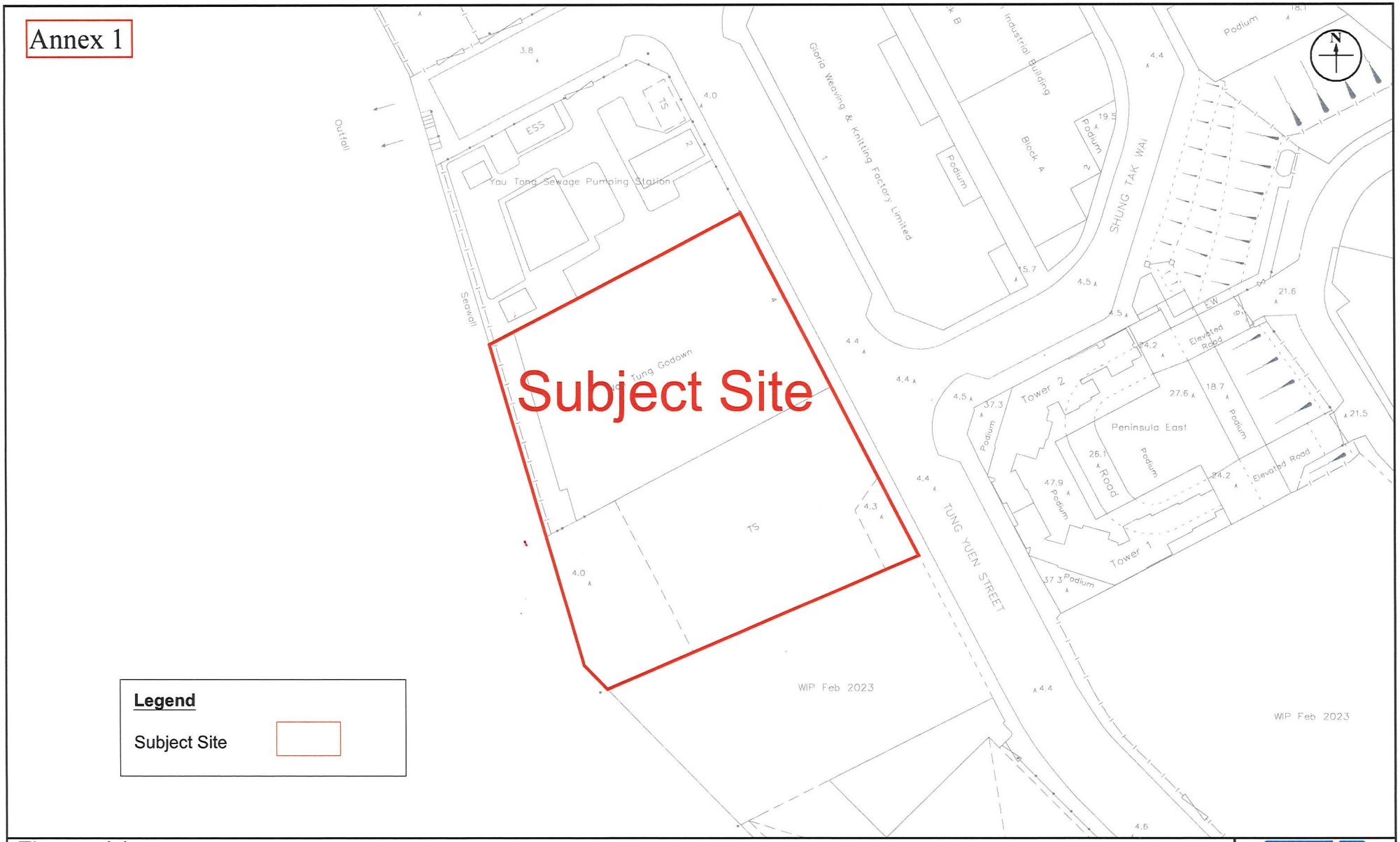


Figure: 1.1	RAMBOLL
Title: Location of the Subject Site and its Environ	Drawn by: SC Checked by: TC
Project: Proposed Flats, Shop and Services, Eating Places and Social Welfare Facility (Child Care Centre) with Minor Relaxation and Domestic and Non-domestic Plot Ratio and Building Height Restriction at No. 4 Tung Yuen Street, Yau Tong (Lot No. YTML68 & YTML 70)	Rev.: 1.0 Date: Dec 2023

\\aphkfps3\Drive Q\Projects\CRC_4TYSEI00\05 Assessments\05 SIA\SIA - 240226.dwg

Annex 2

華潤置地
CR LAND

DUPLICATE

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

1 August 2023

Ramboll Hong Kong Limited By HAND ~~& By Fax~~

21/F, BEA Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong By Email dyeung@ramboll.com

Attn David YEUNG

Dear Sir / Madam

Re: **Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong (Lot no.YTML68 & YTML70)**
Letter of Acceptance for Environmental Consultancy Services for S16 Application

With reference to your fee proposal dated 3 July 2023, subsequent tender query reply dated 28 July 2023, we, on behalf of Good Hour International Limited, are pleased to confirm the acceptance of your fee proposal for Environmental Consultancy Services for S16 Application at the following fee, rates and payment schedule:-

1. Fee

Base Fee for the Environmental Consultancy Services for S16 Application in the lump sum of [redacted]

In which Lump Sum [redacted] for Noise Impact Assessment;
Lump Sum [redacted] for Air Quality Assessment;
Lump Sum [redacted] or Sewerage Impact Assessment;
Lump Sum [redacted] or Drainage Impact Assessment;
Lump Sum [redacted] for Air Ventilation Assessment.

2. Optional Fee (Included) for the following items:-
   (a) Land Contamination Preliminary Review in the lump sum of [redacted]
   (b) Water Quality Impact Assessment in the lump sum of [redacted]
   (c) Waste Management Assessment in the lump sum of [redacted]
   (d) Odour Assessment in the lump sum of [redacted] Only);
   (e) Sediment Quality Assessment in the lump sum of [redacted]
   (f) Land Contamination Assessment (CAP, CAR, RAP) in the lump sum of [redacted]

华润置地有限公司 **China Resources Land Limited**
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Payment Schedule

It is expressly agreed that the following payment terms will be applied in this consultancy:-

Environmental Consultancy Service – Base Fee	%
Noise Impact Assessment	
[redacted]	
Air Quality Impact Assessment	
[redacted]	
Sewerage Impact Assessment	
[redacted]	
Drainage Impact Assessment	
[redacted]	
Air Ventilation Assessment	
[redacted]	

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Environmental Consultancy Service – Optional Fee	%
Land Contamination Preliminary Review	
Water Quality Impact Assessment	
Waste Management Assessment	
Odour Assessment	
Sediment Quality Assessment	
Land Contamination Assessment (CAP, CAR, RAP)	

[redacted]

This Letter of Acceptance together with the Tender Documents shall constitute a binding contract between the Employer and the Consultant. In case of any ambiguities and discrepancies between and / or among this Letter of Acceptance and other correspondences document, this Letter of Acceptance shall prevail.

You are advised to liaise with our Chief Manager (Projects & Design) - Mr Ricky To at 3959-3902 (toyeuklun@crland.com.hk) or Manager (Cost & Contract) – Ms Mimi Cheung at 3620-3137 (cheungyuenki@crland.com.hk) on the arrangement for the carrying out of the Environmental Consultancy Services for S16 Application within fourteen (14) days from the date hereof.

Please confirm your acceptance by signing and returning the Original of this letter. The enclosed Dupliocate of this Letter is for your retention.

Yours faithfully,

Johnson Wai
Deputy Managing Director
China Resources Land (Overseas) Limited
CY / ZX / PG / DJ / JW / SY / RT / SW / mc

Agreed and Accepted by:
Ramboll Hong Kong Limited

Ramboll Hong Kong Limited 英環香港有限公司

Signature & Stamp of Company
Date: 11 August 2023

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

RAMBOLL

Ref.: CRC_4TYSEI00_0_0005L.24

4 March 2024

Lands Department
Lands Administration Office
District Lands Office, Kowloon East
1/F, Tai Po Government Offices,
1 Ting Kok Road,
Tai Po, New Territories

By Fax (2782 5061) & Post

Dear Sir / Madam,

Environmental Assessment for Proposed Residential & Commercial Development at No.4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTML70) - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for a site at Tung Yuen Street, Yau Tong (see attached Annex 1). As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the subject site are required as part of the vetting process.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc.;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighboring areas; and

3. Any land contamination assessment that has conducted at the site or neighboring areas.

Due to the tight timeline of the project, we would be much appreciated if you could provide the requested information ay your earliest convenience.

Should you have any queries, please do not hesitate to contact our Mr. Kyle Kam at 3465 2855 (email: kylekam@ramboll.com) or the undersigned at 3465 2878 (email: wendytin@ramboll.com). We thank you in anticipation of your help in the matter.

Thank you for your attention.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Wendy Tin
Consultant

Enclosure:
Annex 1 - Location of Subject Site
Annex 2 - Appointment Letter

Q:\Projects\CRC_4TYSEI00\02 Project Management\02 Corr\CRC_4TYSEI00_0_0005L.24.docx

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Annex 1

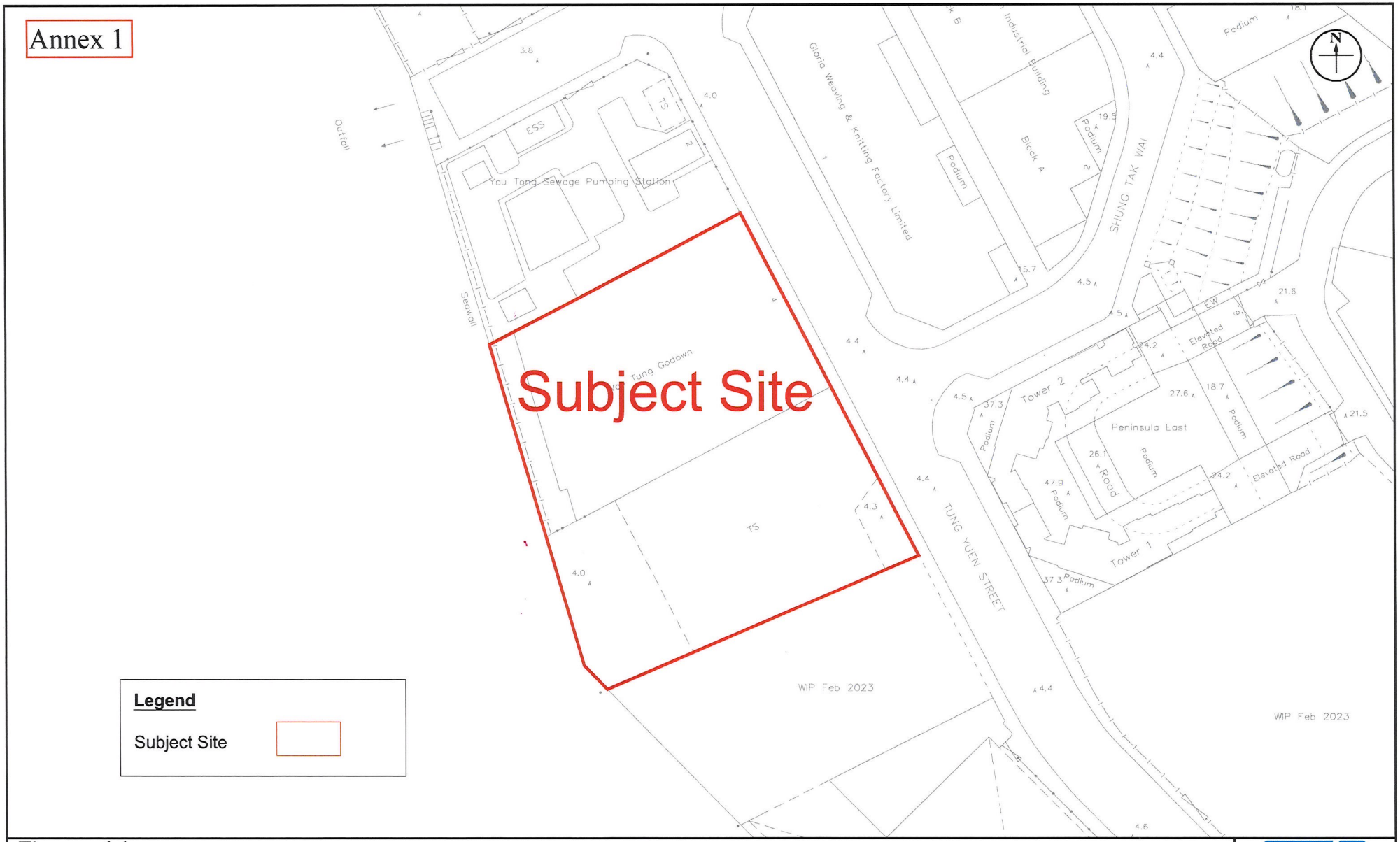


Figure: 1.1	RAMBOLL
Title: Location of the Subject Site and its Environ	Drawn by: SC Checked by: TC
Project: Proposed Flats, Shop and Services, Eating Places and Social Welfare Facility (Child Care Centre) with Minor Relaxation and Domestic and Non-domestic Plot Ratio and Building Height Restriction at No. 4 Tung Yuen Street, Yau Tong (Lot No. YTML68 & YTML 70)	Rev.: 1.0 Date: Dec 2023

\\aphkfps3\Drive Q\Projects\CRC_4TYSEI00\05 Assessments\05 SIA\SIA - 240226.dwg

Annex 2

華潤置地
CR LAND

DUPLICATE

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

1 August 2023

Ramboll Hong Kong Limited By HAND ~~& By Fax~~

21/F, BEA Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong By Email dyeung@ramboll.com

Attn David YEUNG

Dear Sir / Madam

Re: **Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong (Lot no.YTML68 & YTML70)**
Letter of Acceptance for Environmental Consultancy Services for S16 Application

With reference to your fee proposal dated 3 July 2023, subsequent tender query reply dated 28 July 2023, we, on behalf of Good Hour International Limited, are pleased to confirm the acceptance of your fee proposal for Environmental Consultancy Services for S16 Application at the following fee, rates and payment schedule:-

1. Fee

Base Fee for the Environmental Consultancy Services for S16 Application in the lump sum of [redacted]

In which Lump Sum [redacted] for Noise Impact Assessment;
Lump Sum [redacted] for Air Quality Assessment;
Lump Sum [redacted] or Sewerage Impact Assessment;
Lump Sum [redacted] or Drainage Impact Assessment;
Lump Sum [redacted] for Air Ventilation Assessment.

2. Optional Fee (Included) for the following items:-
   (a) Land Contamination Preliminary Review in the lump sum of [redacted]
   (b) Water Quality Impact Assessment in the lump sum of [redacted]
   (c) Waste Management Assessment in the lump sum of [redacted]
   (d) Odour Assessment in the lump sum of [redacted] Only);
   (e) Sediment Quality Assessment in the lump sum of [redacted]
   (f) Land Contamination Assessment (CAP, CAR, RAP) in the lump sum of [redacted]

华润置地有限公司 **China Resources Land Limited**
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Payment Schedule

It is expressly agreed that the following payment terms will be applied in this consultancy:-

Environmental Consultancy Service – Base Fee	%
Noise Impact Assessment	
[redacted]	
Air Quality Impact Assessment	
[redacted]	
Sewerage Impact Assessment	
[redacted]	
Drainage Impact Assessment	
[redacted]	
Air Ventilation Assessment	
[redacted]	

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Environmental Consultancy Service – Optional Fee	%
Land Contamination Preliminary Review	
Water Quality Impact Assessment	
Waste Management Assessment	
Odour Assessment	
Sediment Quality Assessment	
Land Contamination Assessment (CAP, CAR, RAP)	

[redacted]

This Letter of Acceptance together with the Tender Documents shall constitute a binding contract between the Employer and the Consultant. In case of any ambiguities and discrepancies between and / or among this Letter of Acceptance and other correspondences document, this Letter of Acceptance shall prevail.

You are advised to liaise with our Chief Manager (Projects & Design) - Mr Ricky To at 3959-3902 (toyeuklun@crland.com.hk) or Manager (Cost & Contract) – Ms Mimi Cheung at 3620-3137 (cheungyuenki@crland.com.hk) on the arrangement for the carrying out of the Environmental Consultancy Services for S16 Application within fourteen (14) days from the date hereof.

Please confirm your acceptance by signing and returning the Original of this letter. The enclosed Dupliocate of this Letter is for your retention.

Yours faithfully,

Johnson Wai
Deputy Managing Director
China Resources Land (Overseas) Limited
CY / ZX / PG / DJ / JW / SY / RT / SW / mc

Agreed and Accepted by:
Ramboll Hong Kong Limited

Ramboll Hong Kong Limited 英環香港有限公司

Signature & Stamp of Company
Date: 11 August 2023

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

地政總署
九龍東區地政處
DISTRICT LANDS OFFICE,
KOWLOON EAST
LANDS DEPARTMENT

電　話	Tel:	3842 7616
圖文傳真	Fax:	2782 5061
電郵地址	Email:	eske1@landsd.gov.hk
本署檔號	Our Ref:	(167) in DLOKE 852/KPA/63
來函檔號	Your Ref:	CRC_4TYSEI00_0_0005L.24

我們矢志努力不懈，提供盡善盡美的土地行政服務。
We strive to achieve excellence in land administration.

九龍海庭道 11 號西九龍政府合署南座 4 樓
4/F, SOUTH TOWER, WEST KOWLOON GOVERNMENT OFFICES, 11 HOI TING ROAD, KOWLOON

網址 Website : http://www.landsd.gov.hk

來函請註明本署檔號
Please quote our reference in your reply

Ramboll Hong Kong Limited
21/F, BEA Harbour View Centre,
56 Gloucester Road,
Wan Chai , Hong Kong
(Attn: Wendy Tin)

By Fax (3465 2899) & By Post

8 April 2024

Dear Sirs/ Madams,

Environmental Assessment for Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong
Yau Tong Marine Lot Nos. 68 and 70
Enquiry for Land Contamination Information

I refer to your letter dated 4 March 2024 regarding the captioned matter.

Please be advised that this office is not in a position to advise on the land contamination issues.

Should you have any enquiries, please do not hesitate to contact the undersigned.

Yours faithfully,

(Alex LAM)
for District Lands Officer/Kowloon East

RAMBOLL

Ref.: CRC_4TYSEI00_0_0006L.24

4 March 2024

Civil Engineering and Development Department
Geotechnical Engineering Office
Mines Division
6th floor, South Tower,
West Kowloon Government Offices,
11 Hoi Ting Road, Kowloon

By Fax (2714 0193) & Post

Dear Sir / Madam,

Environmental Assessment for Proposed Residential & Commercial Development at No.4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTML70) - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for a site at Tung Yuen Street, Yau Tong (see attached Annex 1). As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the subject site are required as part of the vetting process.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc.;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighboring areas; and

3. Any land contamination assessment that has conducted at the site or neighboring areas.

Due to the tight timeline of the project, we would be much appreciated if you could provide the requested information ay your earliest convenience.

Should you have any queries, please do not hesitate to contact our Mr. Kyle Kam at 3465 2855 (email: kylekam@ramboll.com) or the undersigned at 3465 2878 (email: wendytin@ramboll.com). We thank you in anticipation of your help in the matter.

Thank you for your attention.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Wendy Tin
Consultant

Enclosure:
Annex 1 - Location of Subject Site
Annex 2 - Appointment Letter

Q:\Projects\CRC_4TYSEI00\02 Project Management\02 Corr\CRC_4TYSEI00_0_0006L.24.docx

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Annex 1

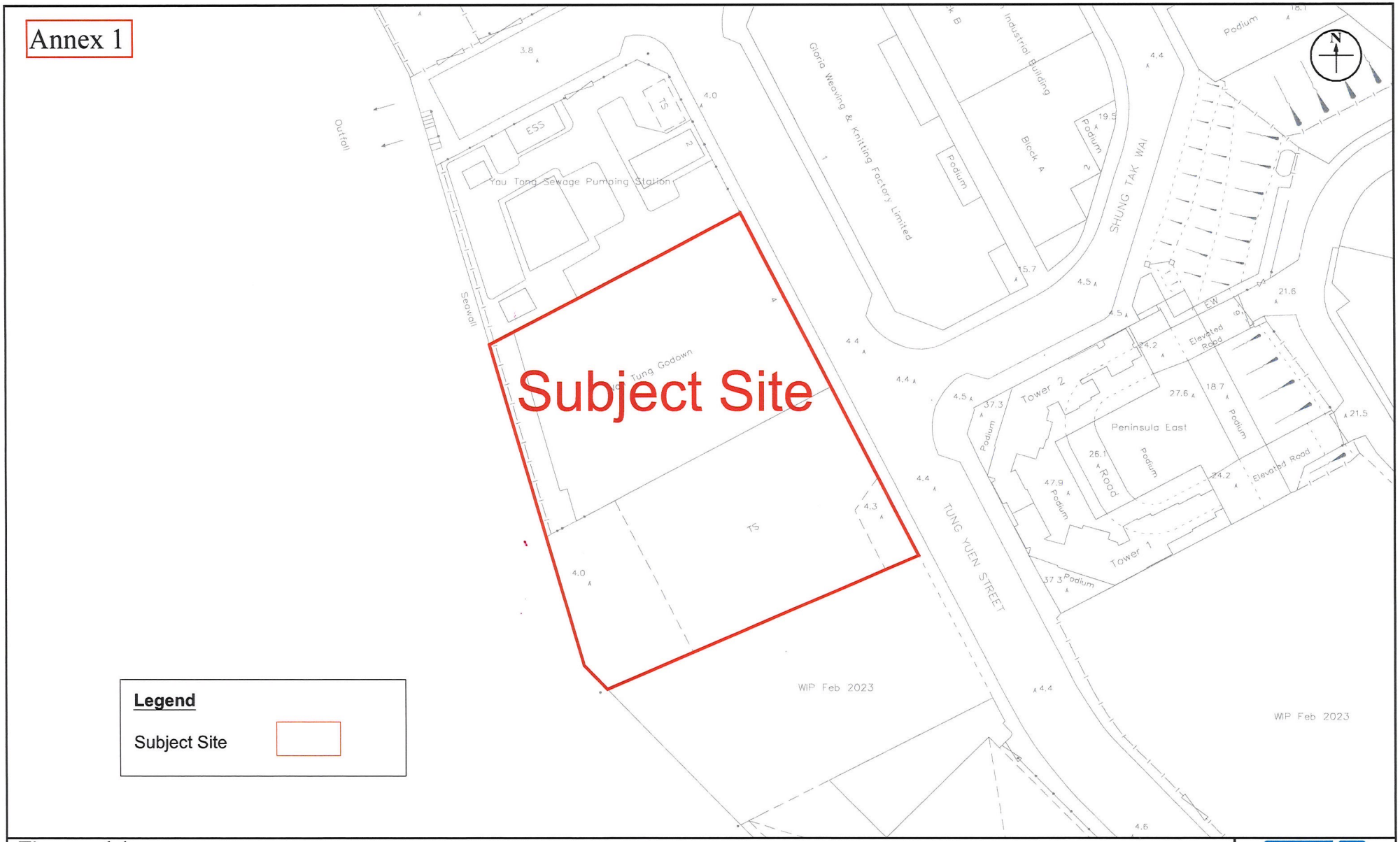


Figure: 1.1	RAMBOLL
Title: Location of the Subject Site and its Environ	Drawn by: SC Checked by: TC
Project: Proposed Flats, Shop and Services, Eating Places and Social Welfare Facility (Child Care Centre) with Minor Relaxation and Domestic and Non-domestic Plot Ratio and Building Height Restriction at No. 4 Tung Yuen Street, Yau Tong (Lot No. YTML68 & YTML 70)	Rev.: 1.0 Date: Dec 2023

\\aphkfps3\Drive Q\Projects\CRC_4TYSEI00\05 Assessments\05 SIA\SIA - 240226.dwg

Annex 2

華潤置地
CR LAND

DUPLICATE

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

1 August 2023

Ramboll Hong Kong Limited By HAND ~~& By Fax~~

21/F, BEA Harbour View Centre, 56 Gloucester Road, Wanchai, Hong Kong By Email dyeung@ramboll.com

Attn David YEUNG

Dear Sir / Madam

Re: **Proposed Residential & Commercial Development at No. 4 Tung Yuen Street, Yau Tong (Lot no.YTML68 & YTML70)**
Letter of Acceptance for Environmental Consultancy Services for S16 Application

With reference to your fee proposal dated 3 July 2023, subsequent tender query reply dated 28 July 2023, we, on behalf of Good Hour International Limited, are pleased to confirm the acceptance of your fee proposal for Environmental Consultancy Services for S16 Application at the following fee, rates and payment schedule:-

1. Fee

Base Fee for the Environmental Consultancy Services for S16 Application in the lump sum of [redacted]

In which Lump Sum [redacted] for Noise Impact Assessment;
Lump Sum [redacted] for Air Quality Assessment;
Lump Sum [redacted] or Sewerage Impact Assessment;
Lump Sum [redacted] or Drainage Impact Assessment;
Lump Sum [redacted] for Air Ventilation Assessment.

2. Optional Fee (Included) for the following items:-
   (a) Land Contamination Preliminary Review in the lump sum of [redacted]
   (b) Water Quality Impact Assessment in the lump sum of [redacted]
   (c) Waste Management Assessment in the lump sum of [redacted]
   (d) Odour Assessment in the lump sum of [redacted] Only);
   (e) Sediment Quality Assessment in the lump sum of [redacted]
   (f) Land Contamination Assessment (CAP, CAR, RAP) in the lump sum of [redacted]

华润置地有限公司 **China Resources Land Limited**
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Payment Schedule

It is expressly agreed that the following payment terms will be applied in this consultancy:-

Environmental Consultancy Service – Base Fee	%
Noise Impact Assessment	
[redacted]	
Air Quality Impact Assessment	
[redacted]	
Sewerage Impact Assessment	
[redacted]	
Drainage Impact Assessment	
[redacted]	
Air Ventilation Assessment	
[redacted]	

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk

華潤置地
CR LAND

CR Ref:- CRHK/CR04/01/10/176
Your Ref:- AP/P2023-111-23F01

Environmental Consultancy Service – Optional Fee	%
Land Contamination Preliminary Review	
Water Quality Impact Assessment	
Waste Management Assessment	
Odour Assessment	
Sediment Quality Assessment	
Land Contamination Assessment (CAP, CAR, RAP)	

[redacted]

This Letter of Acceptance together with the Tender Documents shall constitute a binding contract between the Employer and the Consultant. In case of any ambiguities and discrepancies between and / or among this Letter of Acceptance and other correspondences document, this Letter of Acceptance shall prevail.

You are advised to liaise with our Chief Manager (Projects & Design) - Mr Ricky To at 3959-3902 (toyeuklun@crland.com.hk) or Manager (Cost & Contract) – Ms Mimi Cheung at 3620-3137 (cheungyuenki@crland.com.hk) on the arrangement for the carrying out of the Environmental Consultancy Services for S16 Application within fourteen (14) days from the date hereof.

Please confirm your acceptance by signing and returning the Original of this letter. The enclosed Dupliocate of this Letter is for your retention.

Yours faithfully,

Johnson Wai
Deputy Managing Director
China Resources Land (Overseas) Limited
CY / ZX / PG / DJ / JW / SY / RT / SW / mc

Agreed and Accepted by:
Ramboll Hong Kong Limited

Ramboll Hong Kong Limited 英環香港有限公司

Signature & Stamp of Company
Date: 11 August 2023

华润置地有限公司 China Resources Land Limited
香港湾仔港湾道 26 号华润大厦 46 楼 46F, China Resources Bldg., 26 Harbour Road., WanChai, Hong Kong
电话 Tel: 00852-28772330 传真 Fax: 00852-28779068 网址 Http: www.crland.com.hk
华润集团旗下香港上市公司

土木工程拓展署
CEDD Civil Engineering and Development Department

土力工程處
Geotechnical Engineering Office

Web site 網址 : http://www.cedd.gov.hk
E-mail 電子郵件 : siumingng@cedd.gov.hk
Telephone 電話 : (852) 3842 7272
Facsimile 傳真 : (852) 2714 0193
Our ref 本署檔號 : ( ) in CEDD-MIN-06-20-1
Your ref 來函檔號 : CRC_4TYSEI00_0_0006L.24

香港九龍海庭道 11 號
西九龍政府合署南座 6 樓礦務部
Mines Division
6/F, South Tower
West Kowloon Government Offices
11 Hoi Ting Road, Kowloon, Hong Kong

Ramboll Hong Kong Limited
21/F, BEA Harbour View Centre,
56 Gloucester Road, Wan Chai, Hong Kong
(Attn: Ms. Wendy TIN)

7 March 2024

By Fax: 3465 2899

Dear Ms. TIN,

Re: Environmental Assessment for Proposed Residential & Commercial Development at No.4 Tung Yuen Street, Yau Tong (Lot no. YTML68 & YTM70)- Enquiry for Land Contamination Information

I refer to your letter dated 4 March 2024 regarding the subject enquiry.

Based on our records, no licences were issued for the manufacture, storage, or use of explosives in the concerned area. This Office has no records indicating that any incidents related to explosives occurred in the concerned area.

If you have any further queries, please feel free to contact me at 3842 7272.

Yours sincerely,

(NG Siu-ming)
for Commissioner of Mines

THL/KCL/SMNG/smng