

Annex B Replacement Pages of Revised Environmental Assessment

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ENVIRONMENTAL ASSESSMENT

FOR

**APPLICATION FOR AMENDMENT
OF PLAN UNDER SECTION 12A
FOR THE TOWN PLANNING
ORDINANCE (CAP. 131) FOR
MIXED USE DEVELOPMENT AT
LOT 796 AND 1008RP IN D.D. 77
AND ADJOINING GOVERNMENT
LAND IN PING CHE, TA KWU
LING, NEW TERRITORIES**

Prepared by

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APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

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Polluting Uses	Parameters	Permitted Uses	Buffer Distance
	20- 30m	(a) Active and passive recreational uses (b) Passive recreational uses	>100m 5- 100m
	30- 40m	(a) Active and passive recreational uses (b) Passive recreational uses	>50m 5 - 50m
	> 40m	Active and passive recreational uses	>10m
Construction and earth moving Activities	-	(a) Passive recreational uses (b) Active and passive recreational uses	>50m

Air Pollution Control (Construction Dust) Regulation

- 5.2.3. The Air Pollution Control (Construction Dust) Regulation specifies processes that require special dust control. The Contractors are required to inform the EPD and adopt proper dust suppression measures while carrying out “Notifiable Works” (which requires prior notification by the regulation) and “Regulatory Works” to meet the requirements as defined under the regulation.

Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

- 5.2.4. The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation comes into operation on 1 June 2015. Under the Regulation, Non-road mobile machinery (NRMMs), except those exempted, are required to comply with the prescribed emission standards. From 1 September 2015, all regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites. The Contractor is required to ensure the adopted machines or non-road vehicle under the Project could meet the prescribed emission standards and requirement.

Air Pollution Control (Fuel Restriction) Regulations

- 5.2.5. The Air Pollution Control (Fuel Restriction) Regulations were enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide (SO₂) emissions. In June 2008, the Regulation was amended to tighten the control requirements of liquid fuels. The Regulation does not apply to any fuel-using equipment that is used or operated in premises used solely as a dwelling, or is used or operated in or on a vessel, motor vehicle, railway locomotive or aircraft.

Recommended Pollution Control Clauses for Construction Contracts

5.2.6. The Recommended Pollution Control Clauses (RPCC) are generally good engineering practice to minimize inconvenience and environmental nuisance to nearby residents and other sensitive receivers. Guidelines as stipulated under RPCC should be incorporated in the contract documents to abate dust impact.

5.3. Background Air Quality

Existing Air Quality in North and Tai Po District

5.3.1. The air quality data of the nearest general air quality monitoring station (AQMS) at North (Year 2020-2022) and Tai Po (Year 2018-2019) are adopted to represent the ambient air quality of the area. Latest available 5 years of air quality data, i.e. 2018 to 2022, are summarised in

5.3.2. **Table 5-3** to depict the trend of the localised air quality.

Table 5-3 Background Air Quality at North and Tai Po Monitoring Station

Pollutant	Averaging Time	Concentration 2018-2022 ($\mu\text{g}/\text{m}^3$) ^{[1][2]}					Annual AQO ($\mu\text{g}/\text{m}^3$)
		2018	2019	2020	2021	2022	
CO	1 st highest 1-hour	N.A. ^[3]	N.A. ^[3]	1,830	2,150	1,710	30,000
	1 st highest 8-hour	N.A. ^[3]	N.A. ^[3]	1,238	1,550	1,304	10,000
FSP/ PM _{2.5}	36 th highest 24-hour	33	35	28	27	25	50
	Annual	19	20	N.A. ^[4]	15	14	25
NO ₂	19 th highest 1-hour	125	142	112	135	115	200
	Annual	36	36	N.A. ^[4]	36	31	40
O ₃	10 th highest 8-hour	167	197	166	187	197	160
RSP / PM ₁₀	10 th highest 24-hour	69	65	55	62	50	100
	Annual	31	31	N.A. ^[4]	25	23	50
SO ₂	4 th highest 10-min	24	20	19	18	27	500
	4 th highest 24-hour	8	10	8	7	7	50

Notes:

[1] Monitoring result(s) exceeding the AQO is/are underlined.

[2] All air quality data were extracted from EPD's Environmental Protection Interactive Centre.

[3] CO concentration from 2018-2019 is not available at Tai Po Monitoring Station.

[4] North General Air Quality Monitoring Stations commissioned on 10 July 2020. Annual PM_{2.5},

NO₂ and PM₁₀ concentration is not available in 2020 .

- 5.3.3. Exceedance of concentration of O₃ in the AQO has been recorded at North and Tai Po Monitoring Station. The exceedance of O₃ is mainly caused by regional air pollution problem and it is not directly emitted from man-made sources.

Future Ambient Air Quality Condition

- 5.3.4. Background air quality concentrations were extracted from **PATH v3.0** (Pollutants in the Atmosphere and their Transport over Hong Kong), which is a regional air quality model has been developed by the Environmental Protection Department (EPD) for simulating air quality over Hong Kong against Pearl River Delta region. Application Site falls within Grid (39, 55).
- 5.3.5. In view of the operation year of 2032, the PATH v3 data at (39, 55) in Year 2030 is considered representative to represent background air quality concentrations at the Application Site area. A summary of background air quality concentration in Year **2030** is shown in **Table 5-4**. These data have demonstrated that the concentrations of pollutants are below the AQO, except for ozone (O₃). Ozone is not directly emitted from an emission source. It is formed by the chemical reactions of NO_x and VOCs under the presence of sunlight and a regional pollution problem. Ozone is therefore not considered as a key parameter in this assessment.

Table 5-4 Background Air Quality Concentration of Pollutants

Pollutant	Averaging time	AQOs Concentration limit (µg/m ³) (exceedance)	Background (39,55)
SO ₂	4th peak 10-min	500 (0)	32.93
	4th peak 24-hr	50 (0)	7.35
RSP/PM ₁₀	10th peak 24-hr	100 (0)	<u>54.18</u>
	Annual Average	50	<u>20.44</u>
FSP/ PM _{2.5}	36th peak 24-hr	50 (0)	<u>26.98</u>
	Annual Average	25	<u>12.64</u>
NO ₂	19th peak 1-hr	200 (0)	<u>46.23</u>
	Annual Average	40	<u>9.58</u>
O ₃	10th peak 8-hr	160 (22)	<u>174.77</u>
CO	1st peak 1-hr	30,000 (0)	<u>529.05</u>
	1st peak 8-hr	10,000 (0)	<u>488.86</u>

Notes:

[1] Prediction result(s) exceeding the AQO is/are underlined.

5.4. Assessment Area and Representative Air Sensitive Receivers (ASRs)

- 5.4.1. In general, the assessment area for an air quality impact assessment (AQIA) is defined by a distance of 500m from the site boundary which is presented in **Figure 3.1**.

5.4.2. Representative planned and existing air quality sensitive receivers (ASRs) were identified and the separation distance between ASRs and Application Site are shown in **Figure 5.1** and summarized in **Table 5-5** below.

Table 5-5 Representative Air Sensitive Receivers

ASR ID	Description	Approx. Horizontal Distance to Project Site (m)	Maximum Building Height (mPD)	Land Use
ASR01	8 Ng Chau Road	32	21	Residential
ASR02	Hong Kong Baptist Assembly	111	19	Educational
ASR03	29 Ping Che New Village	76	24	Residential
ASR04	Lots 750 DD77, Ping Che Road	66	11	Residential
ASR05	50C Ping Che	219	23	Residential
ASR06	Ta Kwu Ling Rural Centre Government Offices	150	21.5	Government, Institution, Community
ASR07	Ping Che Nursing Home Limited	159	26.1	Residential care home for the elderly
ASR08	Proposed Residential Development Phase 1* (Tentative Completion Year:2028)	177	120	Residential
ASR09	Ha Shan Kai Wat Village Houses	76	21.5	Residential

Note: * Reference to Y/NE-TKL/4

5.4.3. The existing ASRs were identified with reference to the latest best available information at the time of preparation of this report, including those earmarked on relevant OZP (approved Ping Che and Ta Kwu Ling OZP No. S/NE-TKL/14), Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land used plans, including plans and drawings published by the Lands Department and any land use and development applications approved by the Town Planning Board. Various site surveys were conducted to verify the sensitive receivers and confirm with the desktop studies.

5.4.4. For concurrent project and planned ASRs, as mentioned in Section 4, the proposed project is located within the proposed tentative boundary of NTN development, which is a designated project and EIA is required. The Project Profile for the NTN development (PP-622/2021) has been made referenced to, yet no detailed programme and development are available. The Project Proponent of the NTN (i.e. CEDD) has been approached for programme and development plan for the NTN development during the course of study. However, the requested information is not available for our study. Besides, the Proposed Residential Development Phase 1 will be completed tentatively by 2028. As such, ASR08 of the concurrent project will be assessed.

from the use of chemicals, such as solvents, cleaning agents and fuels, for the maintenance and servicing of construction plants and vehicles during construction phase. Considering that the quantities of chemicals to be used would be limited, the amount of VOC generated would be small. The works areas would be aboveground and in outdoor setting, such that the VOC would be able to disperse and would not accumulate at the works areas. With proper handling of the chemicals, environmental and health impacts associated with TAPs are anticipated to be insignificant.

- 5.5.7. Fuel combustion from the use of powered mechanical equipment (PMEs) during construction works could be a potential source of air pollutants such as NO₂, SO₂ and CO. To reduce SO₂ emission, Air Pollution Control (Fuel Restriction) Regulation was enacted in 1990 to impose legal control on the types of fuel allowed for use and their sulphur contents in commercial and industrial processes. To improve air quality and protect public health, EPD has introduced the Air Pollution control (Non-road Mobile Machinery) (Emission) Regulation since 1 December 2015, under which only approved or exempted NRMMS are allowed to be used in construction sites. In addition, all construction plants are required to use ULSD (defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No. 19/2005 on Environmental Management on Construction Sites. Furthermore, given the localized and small scale of the Project, as well as the small number of PMEs involved, adverse air quality impacts due to emissions from the use of PMEs would be unlikely.
- 5.5.8. With the implementation of sufficient dust suppression measures as stipulated under the Air Pollution Control (Construction Dust) Regulation and good site practices, significant adverse dust generated from the construction of the planned residential developments is not anticipated. Mitigation measures to control construction dust/ gaseous emission listed below are recommended to be incorporated into the future contractor specifications for contractor's implementation:
- Wetting by water spraying or dust suppression chemical on dusty material before loading and unloading, stockpile of dusty materials, area where breaking, excavation or earth moving activities works is carried out, and unpaved main haul road.
 - Providing hoarding of not less than 2.4m high from ground level along the site boundary which is next to a road or other public area.
 - Providing effective dust screens, sheeting or netting to enclose any scaffolding built around the perimeter of a building.
 - Covering or sheltering any stockpile of dusty materials.
 - Disposing of any dusty materials collected by fabric filters or other pollution control system in totally enclosed containers.

- Properly treating any exposed earth, such as by compacting or hydroseeding, within 6 months after the last construction activity.
- Providing vehicle washing facilities at all site exits to wash away any dusty materials from vehicles body and wheels before they leave the site.
- Covering of dust load on vehicles before they leave the site.
- Use of ultra-low sulphur content for on-site generators to minimize black smoke emission.
- Providing water spraying system where available and applicable.
- Restricting heights from which materials are to be dropped, as far as practicable, to minimise the fugitive dust arising from unloading / loading.
- Where the public can be affected by exhaust fumes or smoke emission from any construction plants or activities, shielding the related activities by an incombustible screen such as corrugated sheet of at least 2m in width and 1.8m in height.
- Using enclosed chutes for dropping construction materials to ground level and the chutes are dampened regularly, if applicable.
- The foundation work can be carried out either by percussive piling method or non-percussive piling method. For this project, adoption of non-percussive piling method is anticipated which helps generating lower dust emissions.
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.
- Vehicles within the site are restricted to a maximum speed of 10 kph.
- Vehicles are inspected regularly and well maintained to ensure that they are operating efficiently and that exhaust emissions are not causing nuisance.
- Vehicle engines are turned off when they are not in use.
- Haul road of the subject site is located as far as possible from nearby ASRs.

5.6. Potential Air Quality Impact – Operation Phase

5.6.1. An environmental survey was conducted and records of specified license were reviewed in August 2023. There is a register of zinc galvanizing works under “Wader Engineering Company Limited” in the 1990s, it is situated in D.D. 77, Lot 1501 approximately 240m to the southeast of Application Site.

Vehicular Emissions from Open Road Traffic

5.6.2. The major air pollution source in the vicinity of the Subject Site during operational phase would be tailpipe emission generated from road traffic along open road.

potential air quality impact associated with the underground carpark to the nearby environment is minimal.

Table 5-7 Air Quality Guidelines of Carpark

Air pollutants	Maximum Concentration Not to be exceeded
	5 Minutes Average ($\mu\text{g}/\text{m}^3$)
Carbon monoxide	115,000
Nitrogen dioxide	1,800

* Expressed at the reference condition of 25°C and 101.325 kPa (one atmosphere)

Industrial Chimney Emissions

5.6.7. For chimney emission, an environmental surveys ,including daytime and nighttime, were conducted and records of specified license were reviewed in June , August and September 2023. There is a register of zinc galvanizing works under “Wader Engineering Company Limited” in the 1990s, it is situated in D.D. 77, Lot 1501 approximately 240m to the southeast of Application Site. The results of the environmental survey have confirmed that no chimney is located within 200m radius of the Subject Site. Due to the project nature of the proposed development (i.e. residential, commercial, hotel, elderly day care centre), no chimney emission from the proposed development. The buffer distance requirement of 200m from pollution source of industrial area stipulated in table 3.1 of the Ch 9 of HKPSG is well satisfied. Thus, no significant adverse air quality impact on the Proposed Amendment is anticipated.

5.7. Odour Emission

5.7.1. For odour emissions, the results of environmental survey and site visits show that **the Subject Site falls within 200m buffer of a pigsty located toward the southwest. As referred to the reply from EPD regarding the compliant record of the pigsty showed in Appendix 5.1, the pigsty has ceased business. No odour impact concerning the pigsty is expected.** No slaughterhouses, sewage treatment works facilities, village incinerator and duty uses are not found within 500m radius of the Subject Site.

5.7.2. As no existing public sewerage system is located in the vicinity of the Project Site, an on-site sewage treatment plant (STP) is proposed within the Project as shown in **Appendix 3.1**. The potential odour nuisance to the nearby ASRs (including proposed residential units) would result. Nonetheless, the “Guidelines for the Design of Small Sewage Treatment Plants”

been incorporated.

- The air gap of 100mm and overlapping lengths of not less than 253mm and 275mm will be provided in the bedrooms and living rooms respectively.
- The areas of outer openings would not be larger than 0.7m² and 3.2m² will be provided in the bedrooms and living rooms respectively.

Table 6-3 Baffle type acoustic window / acoustic door design criteria

Design Parameter	Configuration 1	Configuration 2
Type of Room	Bedroom	Living Room
Air gap	100mm	100mm
Overlapping length	253mm	275mm
Area of outer openings	0.7m ²	3.2m ²

6.3.17. Given the room areas of bedrooms and living rooms in the Proposed Amendment with traffic noise exceedance are comparable to the reference cases in NPE, the noise attenuation benefited from BAW in both NPE cases and the Proposed Amendment is evaluated. It is considered that the amount of sound energy entering the indoor environment should be proportional to the area of the window opening and the room area. Thus, the adjustments have accounted for the room size difference between the NPE case and the Proposed Amendment as shown in **Appendix 6.5**. By adjusting the room size correction, the noise reductions of the BAWs could be up to 6.4 dB(A) and 8.7 dB(A) in living rooms and bedrooms respectively. As a conservative approach, it is anticipated that a noise reduction of 6.0 dB as stated in EPD's "Practice Note on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact", is achievable and adopted in the assessment.

6.3.18. Future occupants shall be informed through Deed of Mutual Covenant (DMC) and sales brochures the provision of acoustic window/acoustic door (Baffle type) to let them be well aware of the intended purpose, appropriate use and correct setting.

Table 6-4 BAW (Configuration 1) and the Proposed Amendment

Parameters	NPE (Bedroom Room)	Proposed Amendment
Size of Room (m ²)	6.8	4.8 to 10.2
Maximum relative noise reduction required (dB)	-	5.4
Noise reduction adopted (dB)	6.9	5.4 to Maximum 6.0

Table 8-2 Potential Off-site contamination sources

	Uses	Location	Shortest Distance from Project Site (m)	Condition
OLC-1	Open storage (from 1990); Warehouse (i.e. Metal) (from 1992 onwards)	West of proposed Site	13	Warehouse: for storage of metal, enclosed, paved land
OLC-2	Warehouse (i.e. Bamboo) (from 1990 onwards)	Northeast of proposed Site	47	Warehouse: for storage of bamboo, enclosed, paved land
OLC-3	Open storage (from 2000)	Southeast of proposed Site	38	Open storage of building material, no maintenance, no machinery, paved

8.4.5. As summarized in **Table 8-1** and **Table 8-2**, OLC-1 was a warehouse at the west, operated by Fat Lee Company Limited, a paper merchant. Based on the aerial photos, it was farmland from 1949 until 1986. The Site was first used as Open Storage in 1990, served as warehouses since 2000 with a further extension of the warehouse in 2005. The warehouse is an enclosed warehouse, with pavement. Only storage of stack pallets and paper rolls was observed on site, without operation of machinery and maintenance as observed in several site inspections (**Photo 71 in Appendix 8.5**). Land contamination issues due to its operation is unlikely.

8.4.6. For OLC-2, Hong Kong Bamboo Trading Company Limited is situated towards the northeast of the Site. The site of the existing Bamboo Trading Company remained vegetated since 1949 and it was a vacant land since 1986. Based on site observation in 2023, the warehouses are enclosed. Due to the storage of bamboo, without other operation of powered machinery and maintenance works, land contamination issues due to its operation are unlikely. During the site inspection conducted in 2024, concrete, soil and sand was observed to be stored within the site (**Photo 73 in Appendix 8.5**). Only trucks were observed, no operation of PME was identified. The area is enclosed with barriers and there is a road in between OLC-2 and the Project Site (**Photo 74 in Appendix 8.5**). Given the physical separation found between OLC-2 and the Project Site, impact of offsite land contamination should be insignificant.

8.4.7. For the land towards southeast (OLC-3), it was farmland until 1986. It became vacant at 1986 and was again vegetated in 1990. It served as storage afterwards in 2000. Based on aerial photos and site observation, only storage of building equipment is observed, without other operation of powered machinery and maintenance works. Thus no polluting and hazardous industrial uses are anticipated. Similar to OLC-2, it is a road apart from the Project Site (**Photo 61 in Appendix 8.5**). Hence, potential contamination issue is not anticipated from these historical surrounding uses.

The rubbish fire on 21 Jan 2021 was happened outside site boundary, no land contamination potential upon the rubbish fire outside the site. There was No.1 fire alarm happened near lamppost EA3379 of Ha Shan Kai Wat, and since it was on the access road outside the east boundary of the application site, storage of chemical along access road is unlikely. It is thus expected that there was no dangerous goods or chemicals in the fire incident area, therefore it is anticipated that no potential land contamination upon the fire incident.

8.6. Site Visit and Observation

8.6.1. Site Visit was conducted on 20 June 2023 to identify potential source of contamination. A Site Walkover Checklist has been completed with the Tenant's representative as required in the EPD's Practice Guide and attached in **Appendix 8.4**. Photo records of the Application Site taken during the site visit are presented in **Appendix 8.5**. Indicative air drone diagrams are shown in **Figure 8.1**.

Entrance, Temporary Office and Village House

8.6.2. The entrance and the container storage area are paved with concrete in good condition (photo 12 – Photo 16, Photo 67, 69), there is no sign of chemical spillage, pollutant nor potential source of contamination observed. There are also some village houses located within the site, no anticipated land contamination around the residential area (Photo 17).

8.6.3. For the temporary storage structures near the site entrance (Photo 55-60), as confirmed by current user, they are used for temporary office, store room for small maintenance equipment and parts. Potential land contamination is unlikely.

Construction Material, Machinery Storage Area, **Vehicle Access**

8.6.4. The Application Site is used as open storage area for construction materials and machinery. Equipment such as excavators, welding machines, maintenance tools at the machinery storage area. The machinery storage area is not paved. Yet no chemical and oil drums were identified at the material and machinery storage site. The construction materials stored on site are mostly concrete blocks. They are kept at southwest area of the Application Site (Photo 34), which is paved in good condition. As verified on site and confirmed by the current users, no maintenance and refilling of chemical would be carried out at the machinery Storage Area at strip of area along the site boundary. Stains were observed along vehicle access between the construction material and machinery storage area (**Photo 44-46**), where the respective ground is paved in good condition. Stains were also spotted at the edge of building material storage area (Photo 39) where the ground is unpaved.

Machinery Maintenance/Chemical, Oil Drums Storage Area

- 8.6.5. Given the nature of the site usage, it may involve use and refilling of the chemical (e.g. Lubricant oil) for maintenance of machinery occasionally as confirmed by current user. Two separated machinery maintenance areas are designated at middle portion of the Application Site as shown in **Figure 8.1a** and **Figure 8.1b**. Onsite maintenance works of machinery resulting in potential land contamination at this area.
- 8.6.6. The Chemical, oil drums storage area is identified towards the north of the machinery maintenance area. The chemical found within the site includes a temporary oil drum to transport the oil on-site, and acetylene cylinders.
- 8.6.7. Additionally, waste oil was generated in the daily operation. The oil tanks/oil drum were observed to be placed on the ground (Photo 18, Photo 21 – Photo 23, Photo 26 – Photo 28), where the ground is paved and cracks identified, while some of the acetylene cylinders were placed on the tray with a lock (Photo 29). It was found that the improper storage of chemicals resulted in potential for oil spillage within the site at the machinery area. The stained surfaces were found on the paved ground and were not found on the unpaved ground towards the boundary of the site (Photo 21), the stained surfaces was only limited in the machinery maintenance area of the site. They are considered as potential hotspots of land contamination.

Vegetated Area

- 8.6.8. Vegetated area is identified at the south portion of the proposed site which is outside the main working area of the site. Only unnamed village houses identified, without any industrial activities. Land contamination is unlikely.
- 8.6.9. Works area, including Construction Material, Machinery Storage Area, Vehicle Access and Construction Material, Machinery Storage Area are considered to have potential land contaminations while non-works area like Entrance, Temporary Office and Village House and vegetated area are unlikely to have potential land contamination.

8.7. Potential Land Contamination Appraisal

- 8.7.1. According to the desktop study and site appraisal presented in **Section 8.3** to **8.5**, the current usage of the Application Site is used as open storage area.
- 8.7.2. According to the government's response, no chemical spillage accidents were recorded at the Application Site within the past 5 years. There are two chemical waste producer registration and no illegal land use identified found at the Application Site. The record of chemical waste producers' registration is given in **Appendix 8.2**. There were two fire incidents near the Application Site, the rubbish fire happened outside the site boundary, while it is

expected that there is no dangerous goods and chemicals involved in the No.1 fire alarm incidents as it was happened on the access road outside the site boundary. Therefore, it is anticipated that no potential land contamination upon fire incidents. As refer to PlanD's response, part of the site was approved to be used as warehouse for building equipment and materials in 1992.

8.7.3. Upon the site visits, no signs of as abnormal odour and/or distressed vegetation within the Application Site were observed. The dangerous good found (i.e. Acetylene), is gaseous compound where contamination on land is not expected. Given that the acetylene cylinder was kept in a locked tray, and no incident record associated with chemicals is recorded, land contamination due to storage/incidents of dangerous goods are not anticipated.

8.7.4. However, stained surfaces were found on the ground within Application Site within the machinery maintenance area **and other works area**. Based on the nature of current site usage, with machinery maintenance, there is a potential for chemical spillage and considered as potential polluting evidence under the Practice Guide for Investigation and Remediation of Contaminated Land.

Review on "Hotspots"

8.7.5. As per the Practice Guide, it recommends to investigate the potential contaminated land in regular grid pattern to have a comprehensive study on the potential land contamination site. Apart from the regular grid pattern, Practice Guide also required attention should be paid to those locations where potential land contamination could occur. These are regarded as "hotspots" for investigation.

8.7.6. The site investigation for land contamination can therefore be focused on hotspots that have the potential for land contamination due to various previous site activities, locations of any leakage events, stains observed and former storage locations for chemicals and chemical wastes.

8.7.7. Improper storage of chemicals on paved ground, maintenance workshop, and stained surface were identified **on site, in particular, including at Machinery Maintenance/Chemical, Oil Drums Storage Area, Construction Material, Machinery Storage Area and Vehicle Access**, are considered as hotspots as shown in **Appendix 8.5**. A detailed site investigation is proposed **for the above mentioned area and** shall be carried out to investigate the potential land contamination issues of the Site following the "Practice Guide for Investigation and Remediation of Contamination Land" published by EPD in later stage. **The proposed sampling location is shown in Figure 8.2**. Should contamination levels exceed allowable limits for post-restoration land use scenario (i.e. Urban Residential) in the Guidance Manual for Use of Risk-

Based Remediation Goals (RBRGs) for Contaminated Land Management, a Remediation Action Plan (RAP) will be carried out, if needed.

8.7.8. Other than the hotspots mentioned above, upon the site visit of the Subject Site, no signs of obvious/ suspected contamination such as abnormal odour and/or distressed vegetation within the Subject Site were observed and there is no potential source of contamination listed below identified in the Subject Site, including:

- Entrance, Temporary Office and Village House Area and
- **Vegetated Area**

Further Site Investigation

8.7.9. In view of some of the activities carried out within the Application Site are considered as potential polluting activities under the Practice Guide for Investigation and Remediation of Contaminated Land. A site investigation and remediation works, if required, shall be carried out before the commencement of construction of the project within the machinery maintenance area as shown in **Figure 8.1**. A Contamination Assessment Plan (CAP) will be prepared and submitted to EPD for approval at later stage before the Site Investigation.

8.7.10. Further Site Investigation is proposed at

- **Construction Material, Machinery Storage Area, Vehicle Access; and**
- **Machinery Maintenance/Chemical, Oil Drums Storage Area**

8.7.11. Upon availability of the site investigation results, including field observation and laboratory analytical results, the Consultant will complete the land contamination assessment to ascertain the nature and extent of contamination, if any. All the site investigation results will be presented in the Contamination Assessment Report (CAR), for the submission to EPD for agreement. If land contamination is confirmed, a combined CAR and Remedial Action Plan (CAR-RAP) shall also be submitted to EPD for agreement to formulate necessary remedial measures. Moreover, the land contamination assessment and remediation works (if necessary) should be completed prior to the development of the Project according to the Practice Guide.

8.8. Conclusion

8.8.1. The Site Appraisal has been conducted to identify the potential land contamination impact at the Application Site. Based on the aerial photographs and responses from HKSAR Government Departments, the Application Site is currently used as open storage area for

Table 9-1 Summary of Quantities of Waste Generated

Type of Waste	Quantity	Handling Arrangement and Outlets	Remark
Inert C&D Materials Delivered to Public Fill Reception Facilities [1]	101,250 m ³	- Delivered to the public fill reception facilities	Area of Basement for carpark(6m): 3,375 m ² Area of Basement for Carpark (10.5m): 10,125 m ²
Reused Inert C&D Materials (or Public Fills) For Onsite Reused	25,313 m ³	- Recycled as much as practicable for onsite re-usage	Assumed 20% reused onsite
Non-inert C&D Materials (or C&D waste) Generated [2]	28,690 m ³	- Recycled and reused as much as practicable (e.g. Timber and Woody material to Y-Park etc.) - Disposed of at the landfill	GFA: 124,748 m ² Private Housing Projects 0.250m ³ /m ² GFA Hong Kong-wide proportion of inert C&D materials in construction waste:0.92 (Hong Kong –Waste Statistics 2022) Waste Index*: 0.92x0.25 per m ² GFA
Chemical Waste[3]	~ 0.1 m ³ (on a monthly basis)	- Collected by licensed chemical waste collector for the disposal of at licensed treatment facilities (e.g. Chemical Waste Treatment Centre (CWTC) at Tsing Yi)	/
General Refuse from Workforce[4]	227 kg/day	- Recycled as much as Practicable - Disposed of at the Landfill (i.e. NENT)	Assumed maximum of 350 workers working simultaneously at the Project Site - Assumed waste generation rate is 0.65 kg/person/day (per Monitoring Solid Waste in Hong Kong –Waste Statistics 2022)

Note:

[1] Includes, but not limited to excavated soil, broken concrete, granular materials etc.

[2] Includes, but not limited to, bamboo, timber, paper and plastic, etc.

[3] Includes, but not limited to, scrap batteries or acid/alkali from construction plant maintenance activities; used paints, engine oils, hydraulic fluids and waste fuel, etc.

[4] Includes, but not limited to, food waste, aluminum cans, waste paper, etc.

*Waste Index referenced to Section 3.2 of A Guide for Managing and Minimizing Building and Demolition Waste published by the Hong Kong Polytechnic University in May 2001

human contact, provision of adequate washing facilities and the use of licensed chemical waste collectors to ensure legal disposal of waste, etc.

General Refuse

- 9.4.8. Recycling bins should also be placed to encourage recycling. Enclosed and covered areas should be provided for general refuse collection to prevent waste materials from being blown around by the wind, flushed or leached into nearby waters, or creating an odour nuisance or pest and vermin problem. Also, routine cleaning for these areas should be implemented to keep areas clean, so that intentional or accidental release into the surrounding environment does not occur without proper management.
- 9.4.9. Particularly, food waste is the main source of generating unpleasant odour and causing environmental hygiene concerns. Team will explore the feasibility for providing separate recycling bins will be provided for food waste to facilitate the recycling of food waste on-site or off-site in a hygienic manner in detailed design stage.
- 9.4.10. With the implementation of good waste management practices at the Site, and the abovementioned mitigation measures at the Project Site, adverse environmental impacts are not expected to arise from the storage, handling and transportation of C&D materials, chemical waste and general refuse generated during construction phase.

9.5. Potential Impacts and Mitigation Measures during Operation Phase

- 9.5.1. The major type of waste generated from the operation phase is general refuse. Insignificant amount of Chemical wastes are anticipated to be produced during operations and maintenance of the proposed project. With reference to Monitoring of Solid Waste in Hong Kong - Waste Statistics for 2022 by EPD, the disposal rate of domestic waste and non-domestic waste were 0.93 kg/person/day and 0.59 kg/person/day. The estimated quantities of general refuse anticipated for domestic uses will be 4,630 kg/day, assuming a residential population of 4,978. The estimated general refuse generated by commercial uses will be 388 kg/day with an estimated population of 658 person.
- 9.5.2. General refuse will be removed on regular basis to minimize odour, pest and litter impacts. To promote the recycling of waste paper, aluminium cans and plastic bottles, the 3-coloured waste separation bins for the collection of recyclable municipal waste will be clearly labelled and placed at convenient locations. The recyclable materials will then be collected by reliable waste recycling agents on a regular basis. Refuse bins for Food waste will be provided to be collected by contracted collectors from site will be sent to the O-Park2 in Sha Ling (scheduled for commissioning in 2024). Waste generated will be disposed of at government waste disposal facilities such as NENT Landfill or refuse transfer station. **The Property Management**

will register with EPD as a chemical waste producer and handle and dispose of chemical waste in accordance with the Waste Disposal (Chemical Waste) (General) Regulation if any chemical waste produced. Hence, adverse waste management implication is not anticipated during the operation phase.

9.6. Conclusion

9.6.1. During the construction phase, the major waste types generated by the construction activities for this project will include C&D materials from the excavation and foundation works, substructure and superstructures work; chemical waste from maintenance and servicing of construction site and equipment; general refuse from the workforce. Provided that all these identified wastes are reused and recycled if appropriate, handled, transported and disposed of in strict accordance with the relevant legislative and recommended requirements and that the recommended good site practices and mitigation measures are properly implemented, no adverse environmental impact is expected during the construction phase.

9.6.2. During the operation phase, the key waste types generated will be general refuse. Provided that all these wastes are reused and recycled if appropriate, handled, transported and disposed of in strict accordance with the relevant legislative requirements and the recommended mitigation measures are properly implemented, no adverse environmental impact is expected during the operation phase.

10. Overall Conclusion

10.1.1. Air quality impact (including vehicular and chimney emission), traffic noise, fixed plant noise water quality, and land contamination are evaluated in this Environmental Assessment Report for the Application Site.

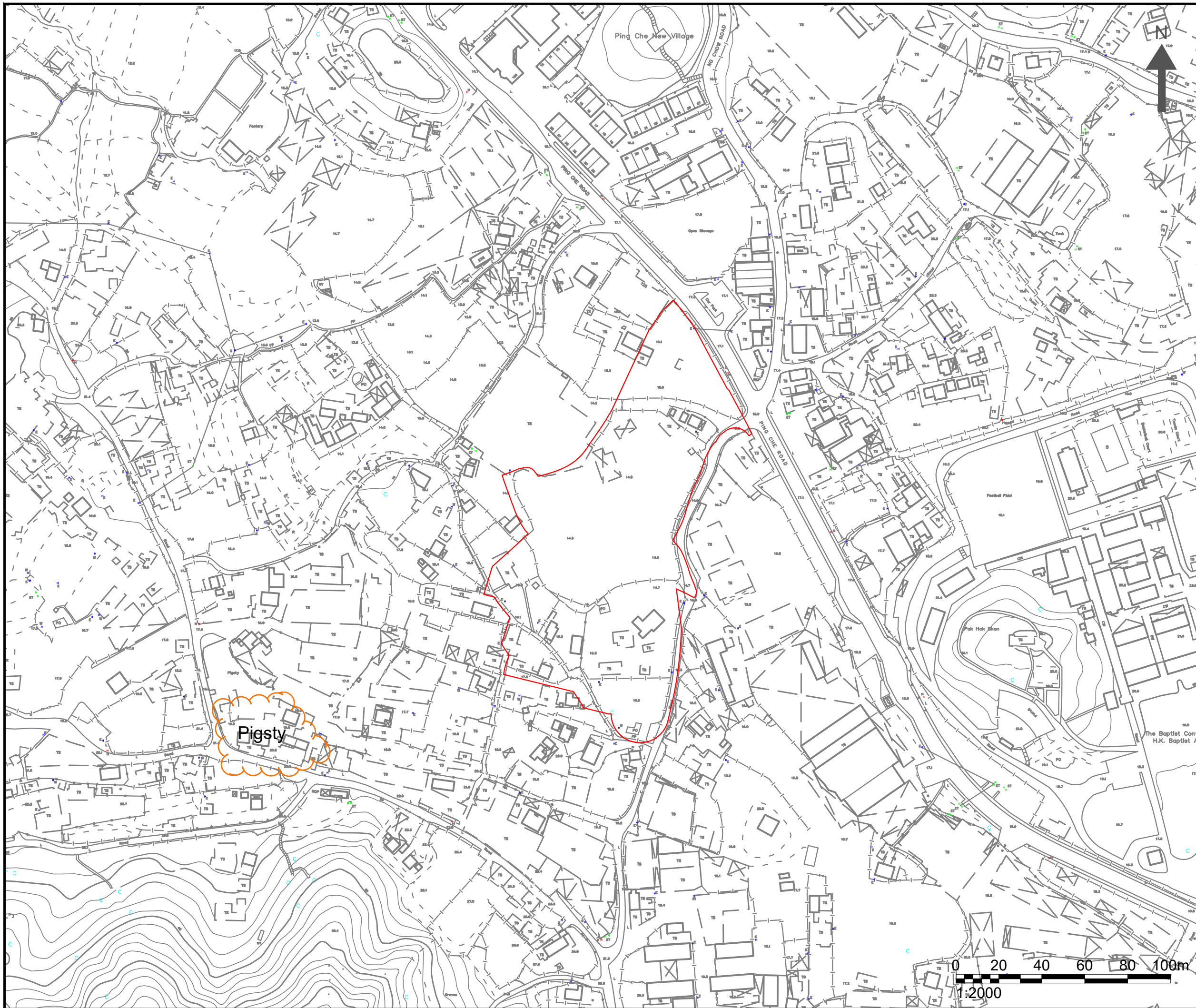
10.1.2. There is no active chimneys and SP License record identified within 200m from the Proposed Amendment. The setback from the proposed commercial tower and residential towers to the nearby roads, future fresh air intake location of the air conditioning system and openable windows for ventilation would comply with the recommended buffer distance in Table 3.1, Chapter 9 of the HKPSG regarding vehicular emission for air sensitive use. Therefore, it is anticipated that the Proposed Amendment would not subject to unacceptable air quality impact.

10.1.3. The potential environmental noise impacts from nearby road traffic and fixed noise sources on the Proposed Amendment have been evaluated.

Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Figures



NOTES :

APPLICATION SITE

Consultant



Allied Environmental Consultants Limited

Project No. : 2127

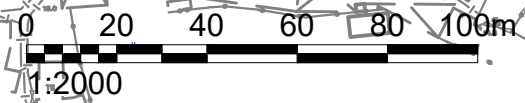
Drawing By : CS

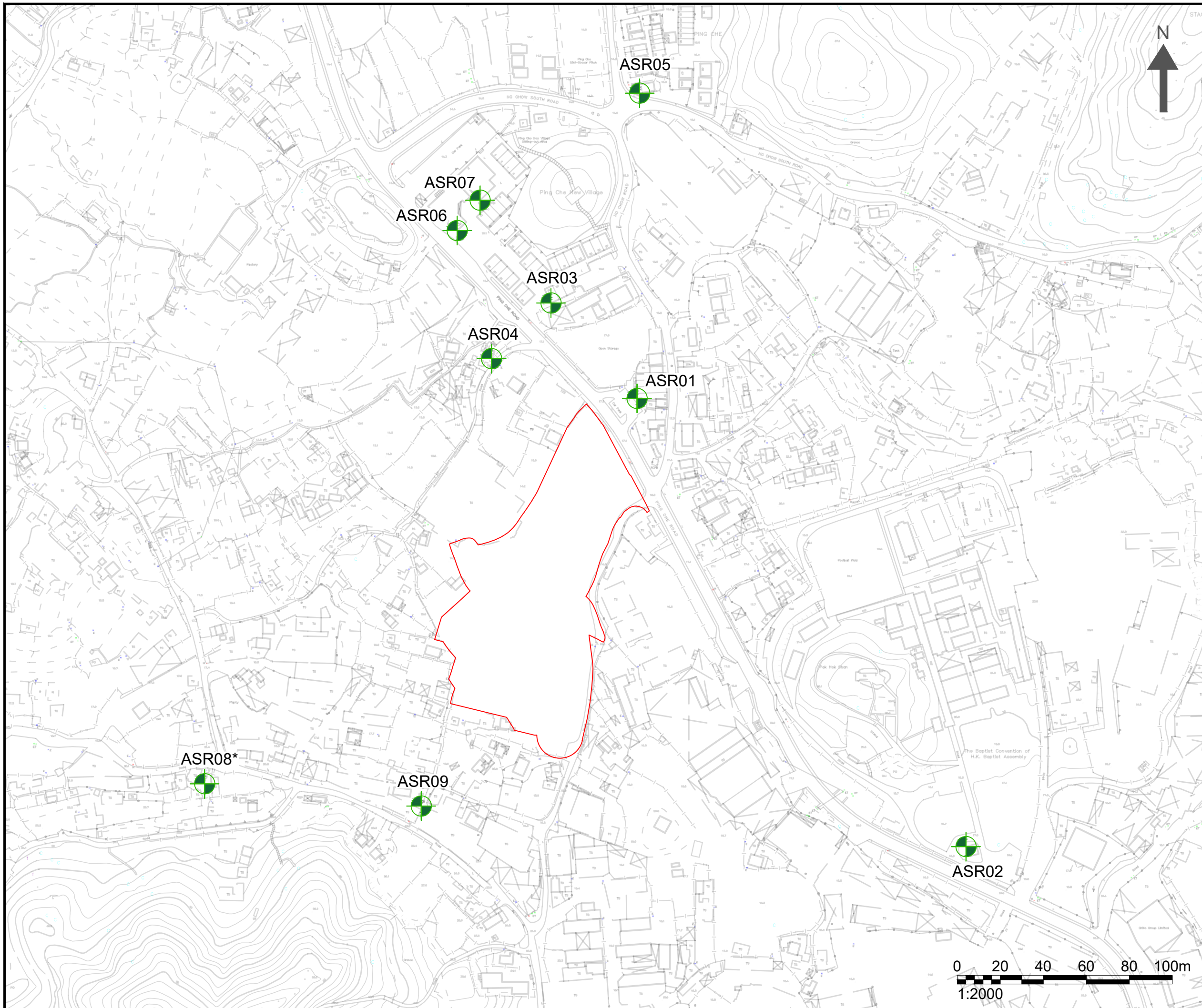
Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 APPLICATION SITE LOCATION & ITS ENVIRONS



Drawing No : FIGURE 3.1	Revision : 1
Scale : AS SHOWN	Date : OCT 2023

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NOTES :

-  APPLICATION SITE
-  REPRESENTATIVE AIR QUALITY SENSITIVE RECEIVERS

Consultant



Allied Environmental Consultants Limited

Project No. : 2127

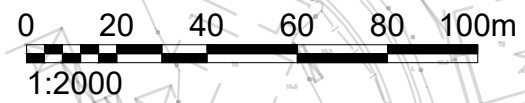
Drawing By : CS

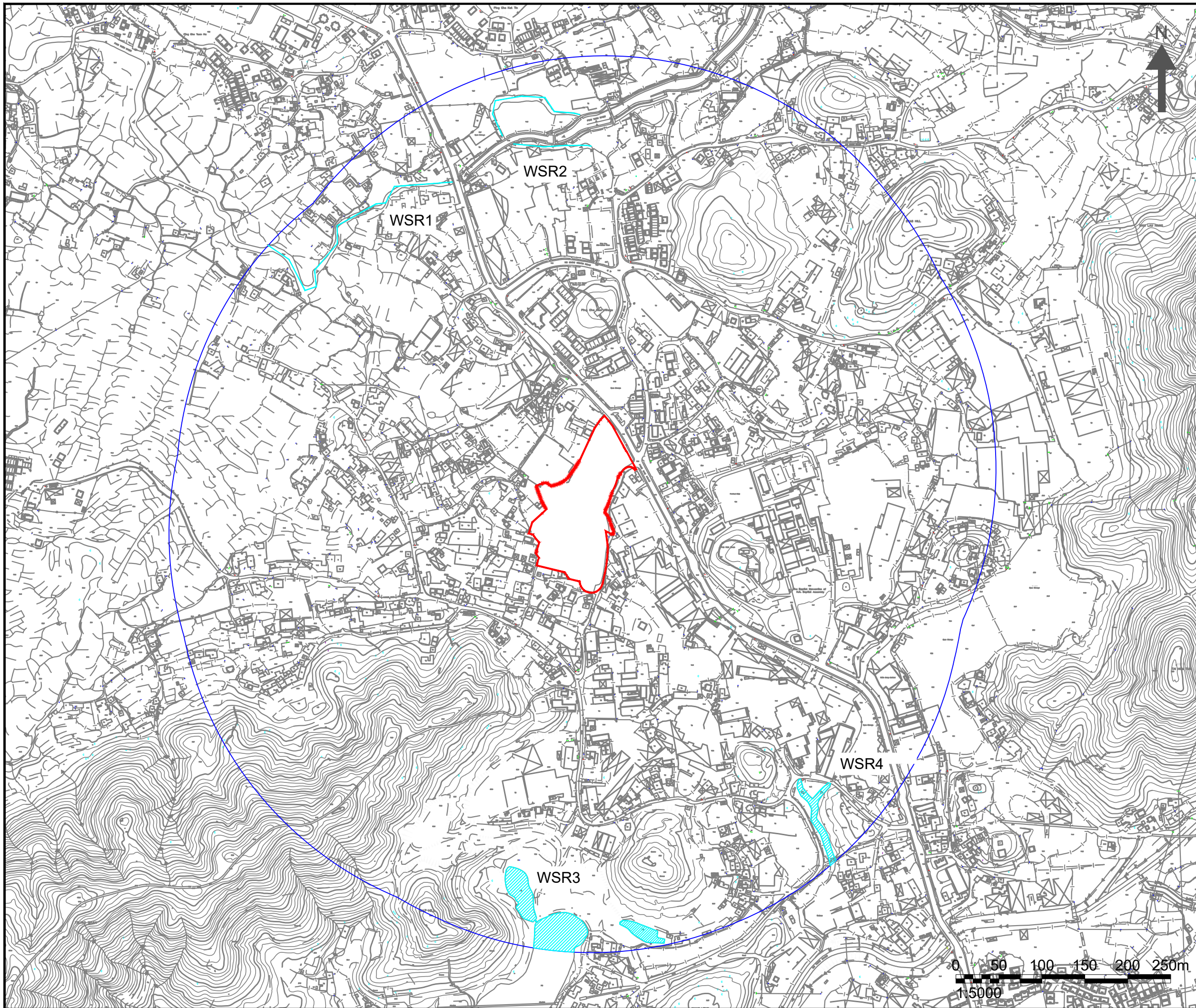
Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 LOCATION OF REPRESENTATIVE AIR QUALITY SENSITIVE RECEIVERS

Drawing No : FIGURE 5.1	Revision : 1
Scale : AS SHOWN	Date : JUN 2024

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- NOTES :
- APPLICATION SITE
 - 500M ASSESSMENT AREA
 - NATURAL WATERCOURSE

Consultant



Allied Environmental Consultants Limited

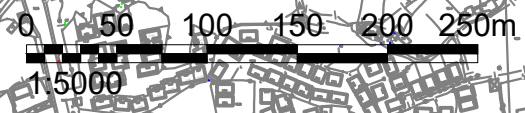
Project No. : 2127

Drawing By : CS

Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 500M ASSESSMENT AREA AND WATER SENSITIVE RECEIVERS

Drawing No : FIGURE 7.1	Revision : 1
Scale : AS SHOWN	Date : APR 2024



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NOTES :

- APPLICATION SITE
- MACHINERY STORAGE AREA
- MACHINERY MAINTENANCE AREA
- BUILDING MATERIAL STORAGE AREA
- POTENTIAL OFFSITE LAND CONTAMINATION SOURCE

Consultant



Allied Environmental Consultants Limited

Project No. : 2127
 Drawing By : LL

Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 INDICATIVE AIR DRONE DIAGRAM (ON SITE AND IMMEDIATE SURROUNDING)

Drawing No : FIGURE 8.1a	Revision : 1
Scale : AS SHOWN	Date : Apr 2024

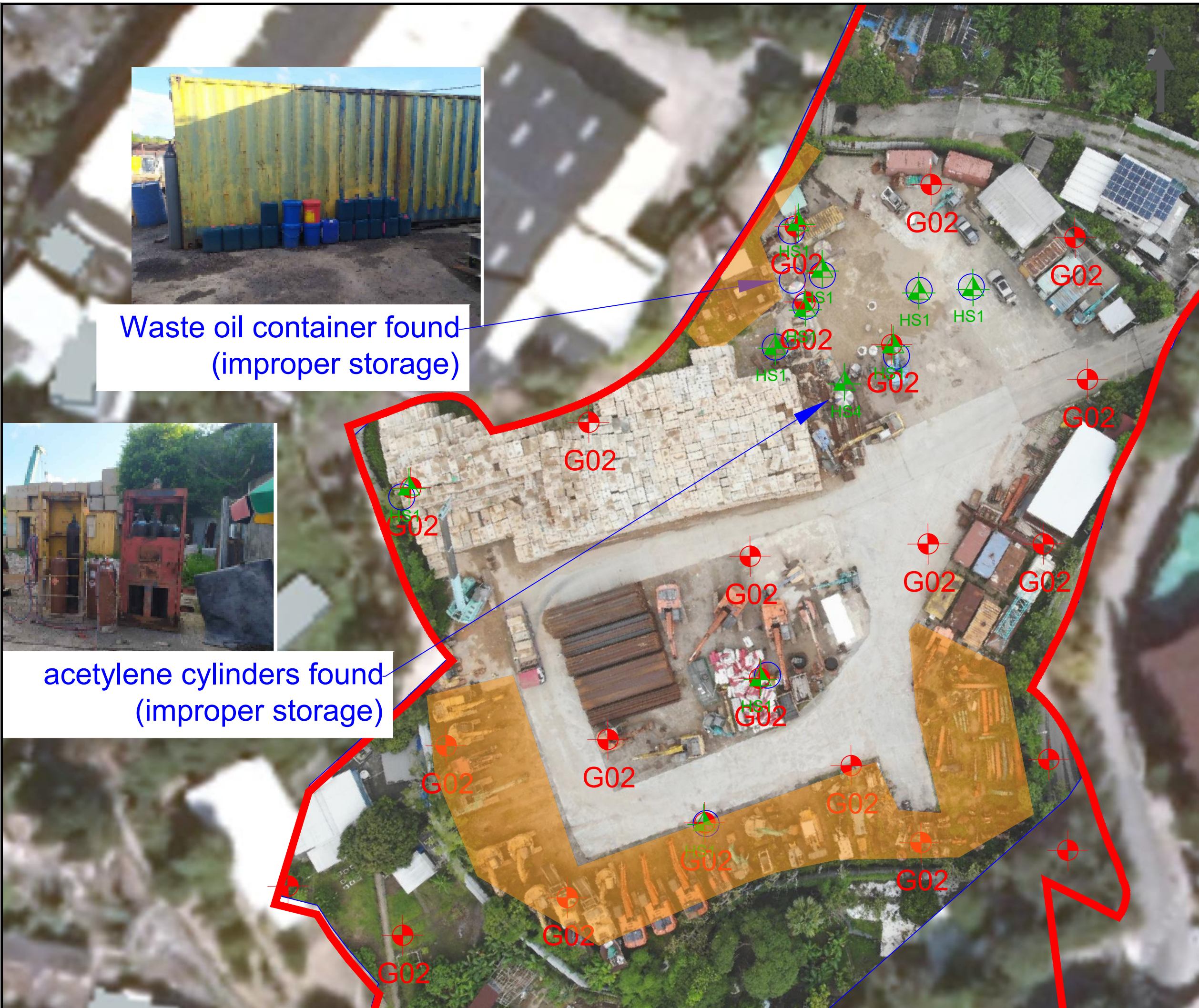
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Waste oil container found (improper storage)



acetylene cylinders found (improper storage)



NOTES :

- APPLICATION SITE
- UNPAVED
- STAINED SURFACE

Consultant



Allied Environmental Consultants Limited

Project No. : 2127

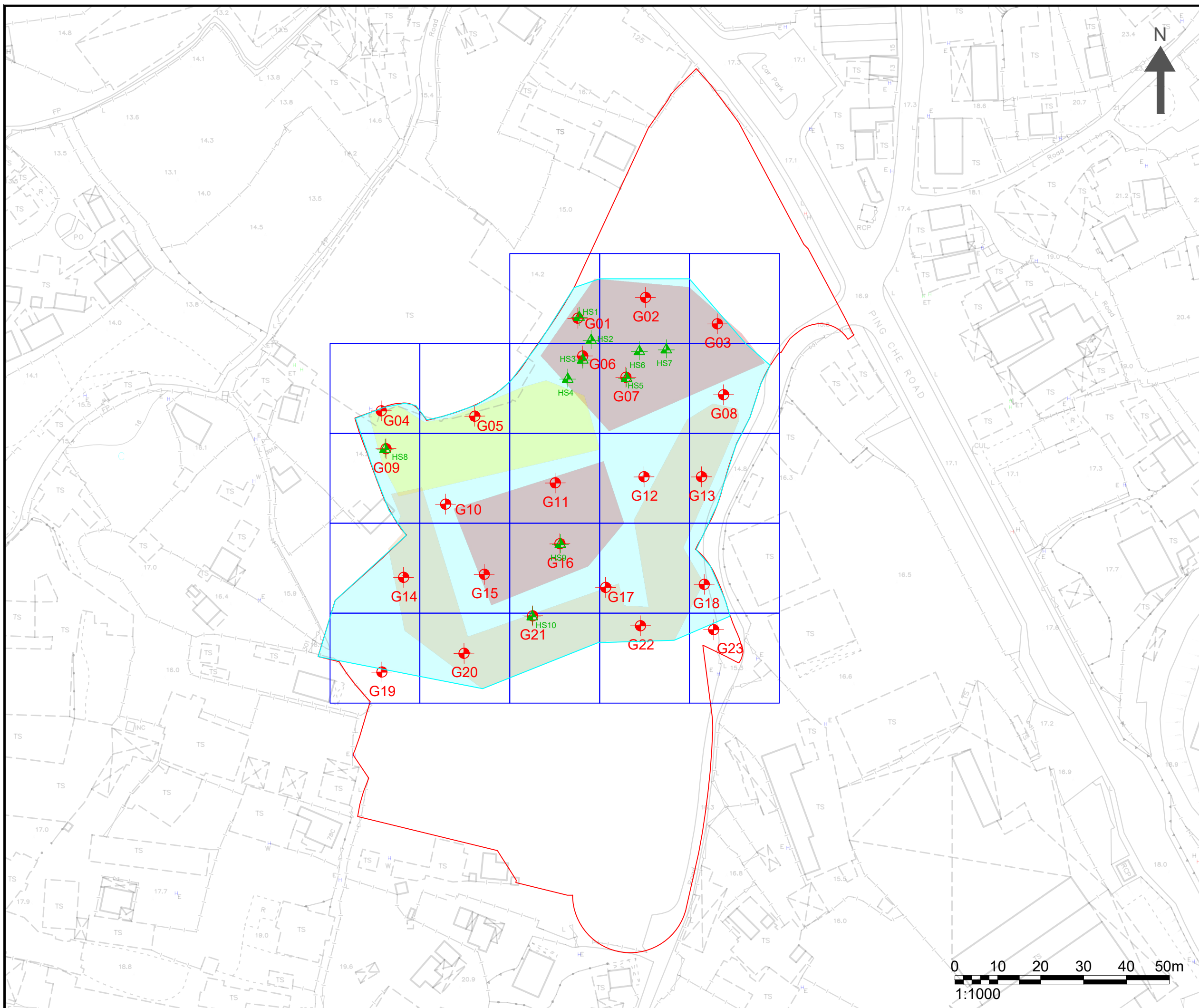
Drawing By : LL









Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 INDICATIVE AIR DRONE DIAGRAM (PAVING CONDITION OF OPEN STORAGE AREA)

Drawing No : FIGURE 8.1b	Revision : 1
Scale : AS SHOWN	Date : FEB 2024

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- NOTES :
-  APPLICATION SITE
 -  25M X 25M SAMPLING GRID
 -  PROPOSED SAMPLING LOCATION (REGULAR GRID)
 -  PROPOSED SAMPLING LOCATION (HOT SPOT)
 -  WORKS AREA
 -  MACHINERY STORAGE AREA
 -  MACHINERY MAINTENANCE AREA
 -  BUILDING MATERIAL STORAGE AREA

Consultant



Allied Environmental Consultants Limited

Project No. : 2127
 Drawing By : CS

Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 LAND CONTAMINATION ASSESSMENT PROPOSED SAMPLING LOCATION

Drawing No : FIGURE 8.2	Revision : 1
Scale : AS SHOWN	Date : JUN 2024

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Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 2.1

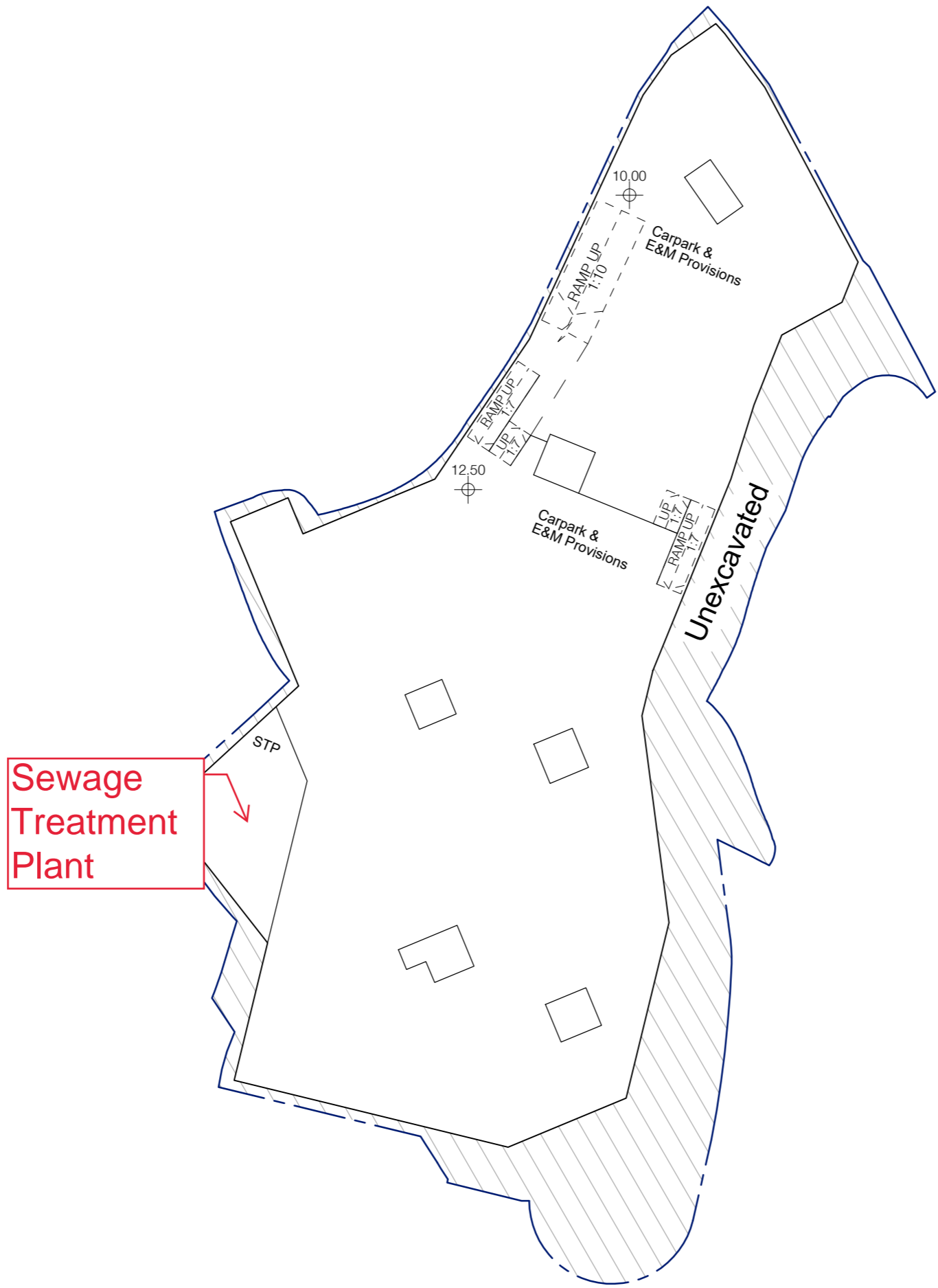
Tentative Programme of the Project

Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 3.1

Master Layout Plan of the Proposed Amendment



Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 5.1

Replies from Government Department on Concerned Pigsty

Leanna Lei

From: astonccccheung@epd.gov.hk
Sent: Monday, May 27, 2024 5:47 PM
To: Leanna Lei
Cc: whhui@epd.gov.hk
Subject: Fw: [2127/819.4463 Ping Che Land Contamination] Request for Information for Air Impact Assessment

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Leanna,

According to our records, the concerned pig farm has ceased business for many years. Therefore, I believed there are no odour complaints record against the pig farm for your concerned time frame.

Please let me know if there any questions. Thanks.

Best Regards,

Aston CHEUNG / E(RN)74

1

Regional Office (North)
Environmental Compliance Division
Environmental Protection Department

Tel: 3162 8396

----- Forwarded by Aston CC CHEUNG/EPD/HKSARG on 27/05/2024 17:36 -----

From: Alice WY TANG/EPD/HKSARGE[RN]34
To: Aston CC CHEUNG/EPD/HKSARG@EPD
Date: 27/05/2024 14:32
Subject: Fw: [2127/819.4463 Ping Che Land Contamination] Request for Information for Air Impact Assessment

Dear Aston,

Re the request of complaint info of pigsty in the preceding email. Grateful for your follow up and reply to the consultant. Many thanks!

Regards,

Alice TANG
E(RN)34 / EPD
2158 5842

----- Forwarded by Alice WY TANG/EPD/HKSARG on 27/05/2024 14:26 -----

2

From: Leanna Lei <leannalei@aechk.com>
To: "alicewytang@epd.gov.hk" <alicewytang@epd.gov.hk>
Cc: Cathy Man <cm@aechk.com>, NGAN Chun Sang <nganchunsang@aecasia.io>
Date: 27/05/2024 12:22
Subject: RE: [2127/819.4463 Ping Che Land Contamination] Request for Information for Air Impact Assessment

Dear Alice,

**S16 Application for A/DPA/NE-TKL/31 Ping Che DD77 Lot 796 & 1008RP,
Ta Kwu Ling, North District, Hong Kong
Request for Information for Air Impact Assessment**

We are conducting an S16 Application for A/DPA/NE-TKL/31 Ping Che DD77 Lot 796 & 1008RP, Ta Kwu Ling, North District, Hong Kong which is shown in the enclosed Site Location Plan. As refer to EPD comments, information pertaining to odour emission of a nearby pigsty is required. Of particular interest we would like to check on the odour complaint records of the mentioned odour source and any information you could provide which might be useful for our study. We enclosed herewith a site map showing the location of the Project Site for your reference.

Due to the tight schedule, it is highly appreciated if the above information could be available and returned to us via either fax (Fax No. 2815 5399) or email **by 10 June 2024**. Thank you very much for your kind attention and assistance.

Yours Sincerely,

Leanna

3



Leanna Lei – Assistant Consultant
Environmental Consultancy | Green & Healthy Building
T: (852) 2815 7028 | D: (852) 3915 7178 | F: (852) 2815 5399 | E: leannalei@aechk.com

Allied Environmental Consultants Limited *Member of AEC Group (HKEX Stock Code: 8320.HK)*

27/F, Overseas Trust Bank Building, 160 Gloucester Road, Wan Chai, Hong Kong

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[attachment "Fig 3.1 Site Location_Issue 2.pdf" deleted by Aston CC CHEUNG/EPD/HKSARG] [attachment "20240521_Y_NE_TKL_5_FI_RtC table_extract.docx" deleted by Aston CC CHEUNG/EPD/HKSARG]

4

Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 6.7

Fixed Plant Noise Impact Assessment Calculation

Fixed Plant Noise Impact Assessment Calculation

Project No.: 2127
 Project: Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

NSR ID T5-E-1

Daytime Criterion: 70 dB(A)

Fixed Plant Noise Source													Correction										Resultant Noise Level	
ID	Name	X-coordinate	Y-coordinate	Height of FPN (mPD)	SWL dB(A)	Remark	Quantity (nos.)	X-coordinate	Y-coordinate	Height of NSR (mPD)	Horizontal Distance (m)	Vertical Distance (m)	Slant Distance (m)	% on time over 30mins	Distance (dB)	Quantity (dB)	Façade (dB)	Tonality (dB)	Impulsive (dB)	Intermittency (dB)	Barrier (dB)	% on time (dB)		dB(A)
S01	Tin Wing Vehicle Services	834558.207	842842.2468	16	99	[4]	3	834620.5	842435.5	24.58	411.5	8.6	411.6	100%	60	5	3	0	0	0	0	10	0	20.9
S02	Ho Cheung Scrap metal recycling	834573.2434	842849.3084	16	100.3	[1]	1	834620.5	842435.5	24.58	416.5	8.6	416.6	100%	60	0	3	0	0	0	0	10	0	26.9
S03	Chewy Logistics	834696.614	842687.133	16	99	[4]	4	834620.5	842435.5	24.58	262.9	8.6	263.0	100%	56	6	3	0	0	0	0	10	0	23.6
S04	Open storage	834710.5102	842659.2478	16	99	[4]	1	834620.5	842435.5	24.58	241.2	8.6	241.3	100%	56	0	3	0	0	0	0	10	0	30.3
S04	Open storage	834710.5102	842659.2478	16	112	[6]	1	834620.5	842435.5	24.58	241.2	8.6	241.3	100%	56	0	3	0	0	0	0	10	0	43.3
S05	Laundry Workshop	834873.8386	842704.2574	16	98.7	[1]	1	834620.5	842435.5	24.58	369.3	8.6	369.4	100%	59	0	3	0	0	0	0	10	0	26.3
S09	Fat Lee Company Limited	834773.0303	842407.9832	16	91	[3]	1	834620.5	842435.5	24.58	155.0	8.6	155.2	100%	52	0	3	0	0	0	0	10	0	26.2
S11	Wo Lee Steel logistic & distribution centre	834850.7133	842332.2819	16	91	[3]	1	834620.5	842435.5	24.58	252.3	8.6	252.4	100%	56	0	3	0	0	0	0	10	0	22.0
S12	Hong Kong United Recycling Company Limited	834692.2714	842332.7136	16	83.8	[2]	1	834620.5	842435.5	24.58	125.4	8.6	125.7	100%	50	0	3	0	0	0	0	10	0	20.8
S13	Bosa Technology (Manufacturing & warehouse)	834686.2596	842227.8035	16	88	[1]	1	834620.5	842435.5	24.58	217.9	8.6	218.0	100%	55	0	3	0	0	0	0	0	0	30.2
S14	Shun Cheong Warehouse	834715.3179	842277.4956	16	91	[3]	1	834620.5	842435.5	24.58	184.3	8.6	184.5	10%	53	0	3	0	0	0	0	10	10	14.7
S15	Chewy warehouse	834640.7939	842303.5789	16	73	[1]	1	834620.5	842435.5	24.58	133.5	8.6	133.7	100%	51	0	3	0	0	0	0	10	0	9.5
S17	Vehicle repair shop	834567.9762	842335.0342	16	100	[5]	1	834620.5	842435.5	24.58	113.4	8.6	113.7	16%	49	0	3	0	0	0	0	10	8	29.9
S18	Castco Warehouse	834480.9689	842425.8793	16	94.1	[2]	1	834620.5	842435.5	24.58	139.9	8.6	140.1	100%	51	0	3	0	0	0	0	0	0	40.2
S19	Wei Cheng Bus Engineering Company	834415.9141	842407.886	16	100	[5]	2	834620.5	842435.5	24.58	206.4	8.6	206.6	16%	54	3	3	0	0	0	0	0	8	31.7
S20	Swire Motors repair and maintenance workshop	834566.5368	842643.8691	16	99	[4]	2	834620.5	842435.5	24.58	215.2	8.6	215.4	20%	55	3	3	0	0	0	0	10	7	21.3
S21	Bang Jie Company (Warehouse / Logistics)	834593.6443	842693.2713	16	91	[3]	1	834620.5	842435.5	24.58	259.2	8.6	259.3	100%	56	0	3	0	0	0	0	0	0	31.7
Overall																						46		

Night-time Criterion: 60 dB(A)

Fixed Plant Noise Source													Correction										Resultant Noise Level		
ID	Name	X-coordinate	Y-coordinate	Height of Noise Source (mPD)	SWL dB(A)	Remark	Quantity (nos.)	X-coordinate	Y-coordinate	Height of NSR (mPD)	Horizontal Distance (m)	Vertical Distance (m)	Slant Distance (m)	% on time over 30mins	Distance (dB)	Quantity (dB)	Façade (dB)	Tonality (dB)	Impulsive (dB)	Intermittency (dB)	Barrier (dB)	% on time (dB)		dB(A)	
S15	Chewy warehouse	834640.7939	842303.5789	16	73	[1]	1	834620.5	842435.5	24.58	133.4729149	8.58	133.7484034	100%	51	0	3	0	0	0	0	10	0	9.5	
S21	Bang Jie Company (Warehouse / Logistics)	834593.6443	842693.2713	16	91	[3]	1	834620.5	842435.5	24.58	259.1664942	8.58	259.3084806	100%	56	0	3	0	0	0	0	0	0	0	31.7
Overall																						31.7			

Remarks for SWLs:

- SWLs of S02, S05, S13 and S15 are based on site measurement, as refer to Appendix 6.6.
- SWLs of S12 and S19 are referred to the S12A Planning Application for Proposed Amendments to the Ping Che and Ta Kwu Ling Outline Zoning Plan from "ARG" and "GB" Zones to "R(A)", "R(A)1" and "G/C" Zones at Various Lots in D.D. 77 and 84 and Adjoining Government Land in Ping Che, Fanling
- SWL of loading and unloading using forklift (91 dB(A)) is referred to the approved EIA report "AEIAR-182/2014 - Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T." (website: https://www.epd.gov.hk/eia/register/report/eiareport/eia_2202014/EIA%20Report/Html/Appndices/App%204-7.pdf)
- SWL of movement of lorry (99 dB(A)) is referred to the approved EIA report "AEIAR-182/2014 - Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T." (website: https://www.epd.gov.hk/eia/register/report/eiareport/eia_2202014/EIA%20Report/Html/Appndices/App%204-7.pdf)
- SWL of hand-held pneumatic tool (100dB(A)) is referred to the approved EIA report "AEIAR-191/2015 - Chai Wan Government Complex and Vehicle Depot" (website: https://www.epd.gov.hk/eia/register/report/eiareport/eia_2302015/Web/PDF/EIA%20Report%20-%20Appendices.pdf)
- SWL of CNP 948 Crane, mobile/barge mounted (diesel) (112dB(A)) is referred to Technical Memorandum on Noise from Construction Work Other Than Percussive Piling
- Correction factor for quantity = 10 log (quantity)
- Distance correction for SWL = 20 log (distance) + 8
- Correction for percentage on-time over 30 mins = 10 log (on-time %)
- Barrier correction: While NSR with no direct line of sight to the source/opening, a 10dB(A) attenuation would be applied. While NSR is partially screened, a 5dB(A) attenuation would be applied.
- The following formula was used for calculating the SPLs at NSRs =
 $SPL = SWL + QC + DC + FC + BC + OC + TC + IMC + ITC$
 SPL Sound Pressure Level (dB(A))
 SWL Sound Power Level (dB(A))
 QC Correction factor for quantity (dB(A))
 DC Distance Attenuation (dB(A))
 FC Façade Correction (dB(A))
 BC Barrier Correction (dB(A))
 OC Percentage on-time Correction (dB(A))
 TC Correction for Tonality (dB(A))
 IMC Correction for Impulsiveness (dB(A))
 ITC Correction for Intermittency (dB(A))

Fixed Plant Noise Impact Assessment Calculation

Project No.: 2127
 Project: Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

NSR ID T6-F-5

Daytime Criterion: 70 dB(A)

Fixed Plant Noise Source													Correction										Resultant Noise Level	
ID	Name	X-coordinate	Y-coordinate	Height of FPN (mPD)	SWL dB(A)	Remark	Quantity (nos.)	X-coordinate	Y-coordinate	Height of NSR (mPD)	Horizontal Distance (m)	Vertical Distance (m)	Slant Distance (m)	% on time over 30mins	Distance (dB)	Quantity (dB)	Façade (dB)	Tonality (dB)	Impulsive (dB)	Intermittency (dB)	Barrier (dB)	% on time (dB)		dB(A)
S01	Tin Wing Vehicle Services	834558.207	842842.2468	16	99	[4]	3	834682.2	842413.5	24.58	446.3	8.6	446.4	100%	61	5	3	0	0	0	0	10	0	20.2
S02	Ho Cheung Scrap metal recycling	834573.2434	842849.3084	16	100.3	[1]	1	834682.2	842413.5	24.58	449.2	8.6	449.3	100%	61	0	3	0	0	0	0	10	0	26.2
S03	Chewy Logistics	834696.614	842687.133	16	99	[4]	4	834682.2	842413.5	24.58	274.0	8.6	274.1	100%	57	6	3	0	0	0	0	10	0	23.2
S04	Open storage	834710.5102	842659.2478	16	99	[4]	1	834682.2	842413.5	24.58	247.4	8.6	247.5	100%	56	0	3	0	0	0	0	10	0	30.1
S04	Open storage	834710.5102	842659.2478	16	112	[6]	1	834682.2	842413.5	24.58	247.4	8.6	247.5	100%	56	0	3	0	0	0	0	10	0	43.1
S05	Laundry Workshop	834873.8386	842704.2574	16	98.7	[1]	1	834682.2	842413.5	24.58	348.2	8.6	348.3	100%	59	0	3	0	0	0	0	10	0	26.9
S09	Fat Lee Company Limited	834773.0303	842659.9832	16	91	[3]	1	834682.2	842413.5	24.58	91.0	8.6	91.4	100%	47	0	3	0	0	0	0	0	0	40.8
S11	Wo Lee Steel logistic & distribution centre	834850.7133	842332.2819	16	91	[3]	1	834682.2	842413.5	24.58	187.1	8.6	187.3	100%	53	0	3	0	0	0	0	0	0	34.6
S12	Hong Kong United Recycling Company Limited	834692.2714	842332.7136	16	83.8	[2]	1	834682.2	842413.5	24.58	81.4	8.6	81.9	100%	46	0	3	0	0	0	0	0	0	34.5
S13	Bosa Technology (Manufacturing & warehouse)	834686.2596	842227.8035	16	88	[1]	1	834682.2	842413.5	24.58	185.7	8.6	185.9	100%	53	0	3	0	0	0	0	0	0	31.6
S14	Shun Cheong Warehouse	834715.3179	842277.4956	16	91	[3]	1	834682.2	842413.5	24.58	140.0	8.6	140.2	10%	51	0	3	0	0	0	0	10	10	17.1
S15	Chewy warehouse	834640.7939	842303.5789	16	73	[1]	1	834682.2	842413.5	24.58	117.5	8.6	117.8	100%	49	0	3	0	0	0	0	10	0	10.6
S17	Vehicle repair shop	834567.9762	842335.0342	16	100	[5]	1	834682.2	842413.5	24.58	138.6	8.6	138.8	16%	51	0	3	0	0	0	0	10	8	28.1
S18	Castco Warehouse	834480.9689	842425.8793	16	94.1	[2]	1	834682.2	842413.5	24.58	201.6	8.6	201.8	100%	54	0	3	0	0	0	0	10	0	27.0
S19	Wei Cheng Bus Engineering Company	834415.9141	842407.886	16	100	[5]	2	834682.2	842413.5	24.58	266.3	8.6	266.5	16%	57	3	3	0	0	0	0	10	8	19.5
S20	Swire Motors repair and maintenance workshop	834566.5368	842643.8691	16	99	[4]	2	834682.2	842413.5	24.58	257.8	8.6	257.9	20%	56	3	3	0	0	0	0	10	7	19.8
S21	Bang Jie Company (Warehouse / Logistics)	834593.6443	842693.2713	16	91	[3]	1	834682.2	842413.5	24.58	293.5	8.6	293.6	100%	57	0	3	0	0	0	0	10	0	20.6
Overall																						46.4		

Night-time Criterion: 60 dB(A)

Fixed Plant Noise Source													Correction										Resultant Noise Level	
ID	Name	X-coordinate	Y-coordinate	Height of Noise Source (mPD)	SWL dB(A)	Remark	Quantity (nos.)	X-coordinate	Y-coordinate	Height of NSR (mPD)	Horizontal Distance (m)	Vertical Distance (m)	Slant Distance (m)	% on time over 30mins	Distance (dB)	Quantity (dB)	Façade (dB)	Tonality (dB)	Impulsive (dB)	Intermittency (dB)	Barrier (dB)	% on time (dB)		dB(A)
S15	Chewy warehouse	834640.7939	842303.5789	16	73	[1]	1	834682.2	842413.5	24.58	117.4611142	8.58	117.7740623	100%	49	0	3	0	0	0	0	10	0	10.6
S21	Bang Jie Company (Warehouse / Logistics)	834593.6443	842693.2713	16	91	[3]	1	834682.2	842413.5	24.58	293.4520273	8.58	293.5774322	100%	57	0	3	0	0	0	0	10	0	20.6
Overall																						21		

Remarks for SWLs:

- SWLs of S02, S05, S13 and S15 are based on site measurement, as refer to Appendix 6.6.
- SWLs of S12 and S19 are referred to the S12A Planning Application for Proposed Amendments to the Ping Che and Ta Kwu Ling Outline Zoning Plan from "ARG" and "GB" Zones to "R(A)", "R(A)1" and "G/C" Zones at Various Lots in D.D. 77 and 84 and Adjoining Government Land in Ping Che, Fanling
- SWL of loading and unloading using forklift (91 dB(A)) is referred to the approved EIA report "AEIAR-182/2014 - Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T." (website: https://www.epd.gov.hk/eia/register/report/eiareport/eia_2202014/EIA%20Report/Html/Appendices/App%204-7.pdf)
- SWL of movement of lorry (89 dB(A)) is referred to the approved EIA report "AEIAR-182/2014 - Proposed Residential Cum Passive Recreation Development within "Recreation" Zone and "Residential (Group C)" Zone at Various Lots in DD 104, Yuen Long, N.T." (website: https://www.epd.gov.hk/eia/register/report/eiareport/eia_2202014/EIA%20Report/Html/Appendices/App%204-7.pdf)
- SWL of hand-held pneumatic tool (100dB(A)) is referred to the approved EIA report "AEIAR-191/2015 - Chai Wan Government Complex and Vehicle Depot" (website: https://www.epd.gov.hk/eia/register/report/eiareport/eia_2302015/Web/PDF/EIA%20Report%20-%20Appendices.pdf)
- SWL of CNP 948 Crane, mobile/barge mounted (diesel) (112dB(A)) is referred to Technical Memorandum on Noise from Construction Work Other Than Percussive Piling
- Correction factor for quantity = 10 log (quantity)
- Distance correction for SWL = 20 log (distance) + 8
- Correction for percentage on-time over 30 mins = 10 log (on-time %)
- Barrier correction: While NSR with no direct line of sight to the source/opening, a 10dB(A) attenuation would be applied. While NSR is partially screened, a 5dB(A) attenuation would be applied.
- The following formula was used for calculating the SPLs at NSRs =
 SPL = SWL+QC+DC+FC+BC+OC+TC+IMC+INTC
 SPL Sound Pressure Level (dB(A))
 SWL Sound Power Level (dB(A))
 QC Correction factor for quantity (dB(A))
 DC Distance Attenuation (dB(A))
 FC Façade Correction (dB(A))
 BC Barrier Correction (dB(A))
 OC Percentage on-time Correction (dB(A))
 TC Correction for Tonality (dB(A))
 IMC Correction for Impulsiveness (dB(A))
 INTC Correction for Intermittency (dB(A))

Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 8.1

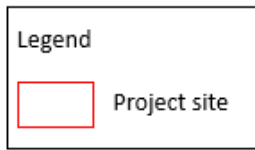
Aerial Photo

Project No. 2127

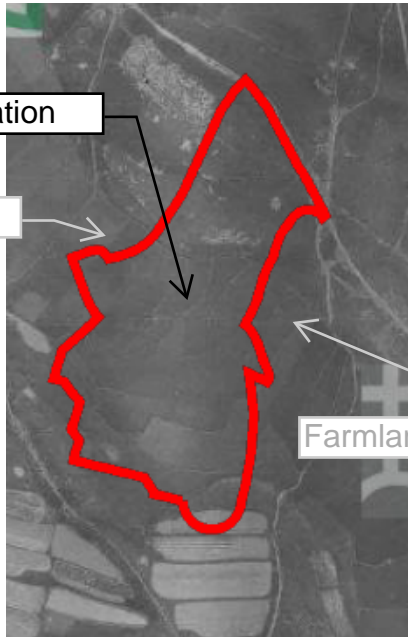
Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

Appendix 8.1

Legend



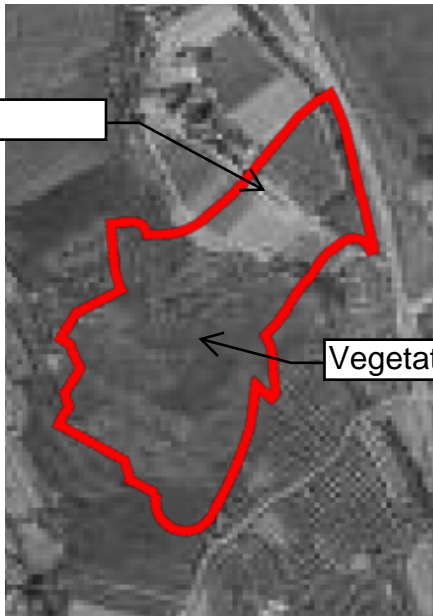
Project site



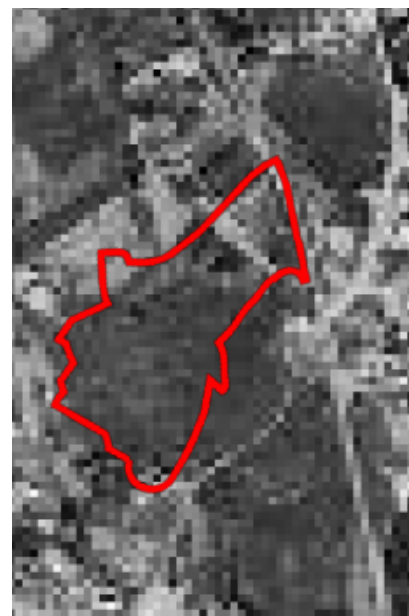
1949



1956



1961

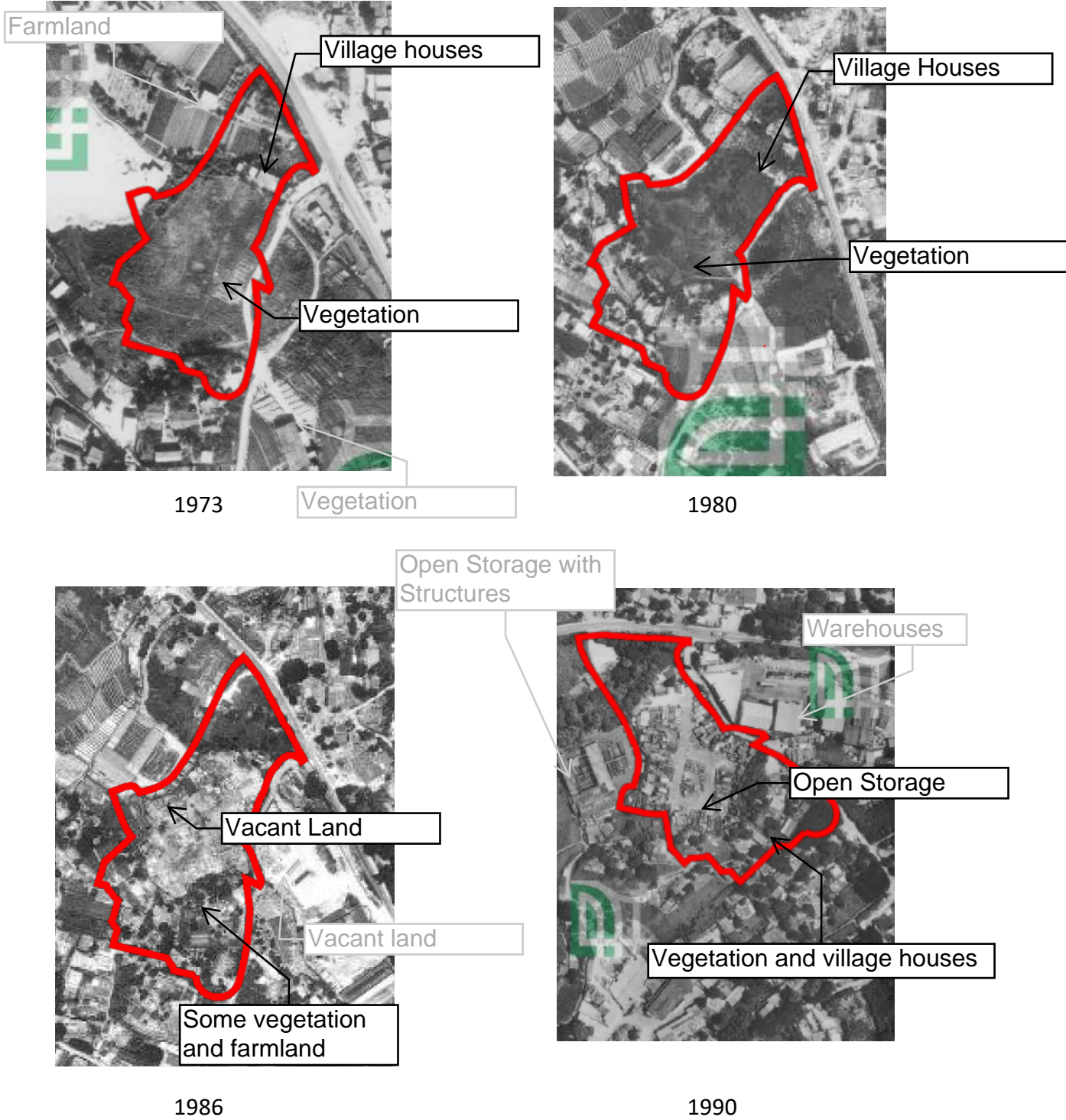


1964

Project No. 2127

Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

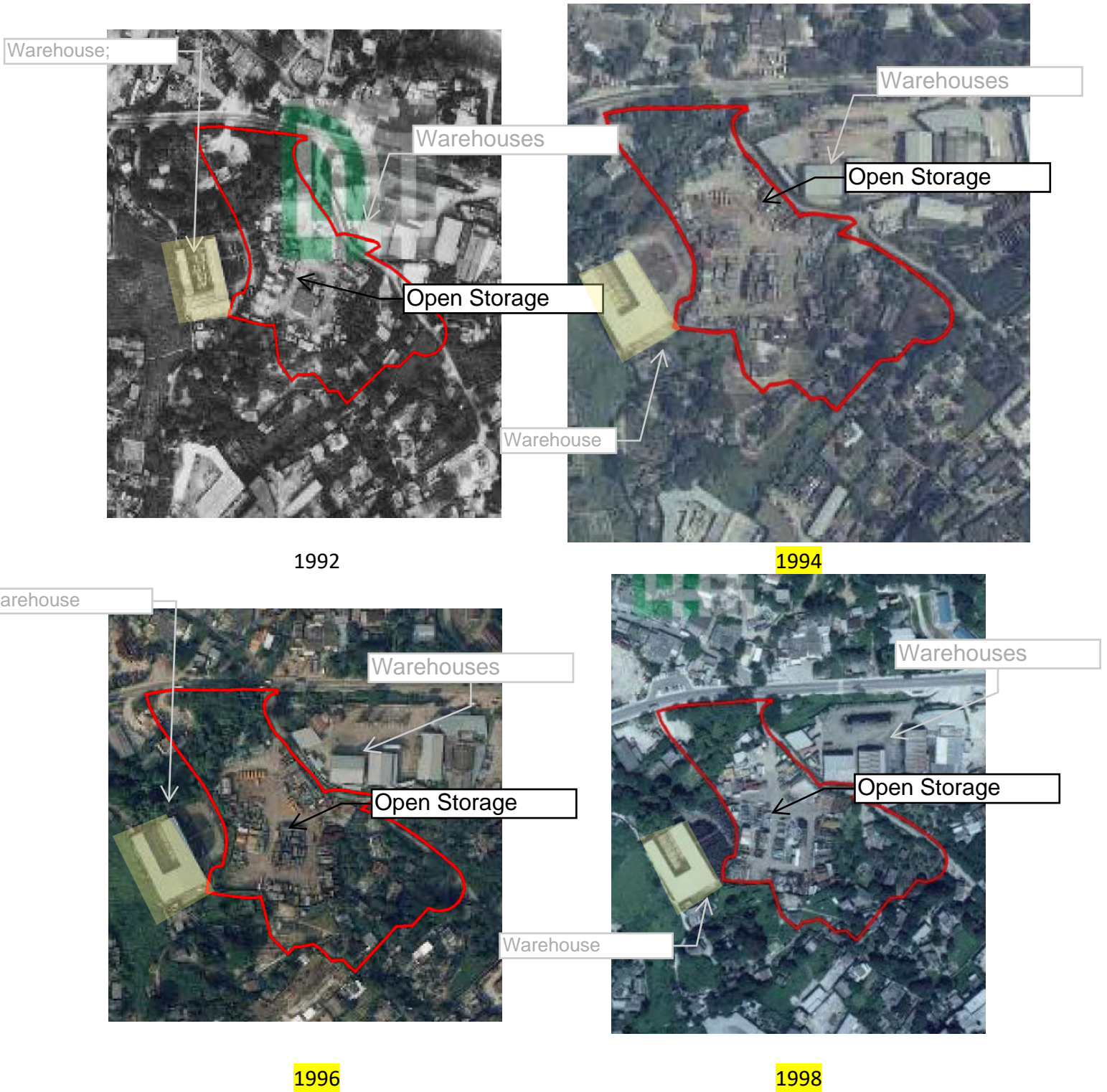
Appendix 8.1



Project No. 2127

Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

Appendix 8.1



Project No. 2127

Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

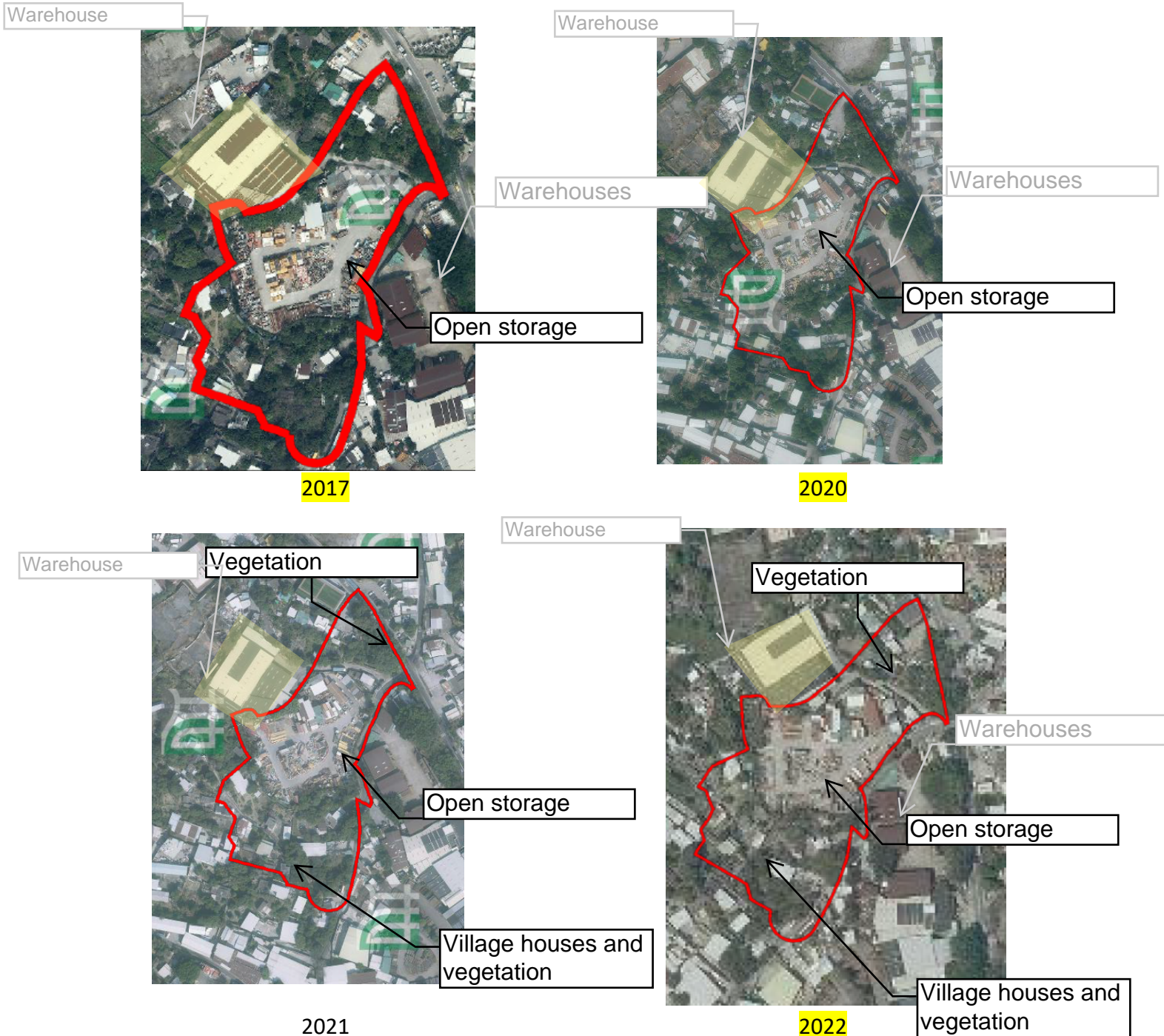
Appendix 8.1



Project No. 2127

Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Mix Use Development (Residential & Commercial) at Lot 796 & 1008 RP and Adjoining Government land in Ping Che, Ta Kwu Ling, New Territories

Appendix 8.1



Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 8.4

Site Walkover Checklist

Annex C1 – Site Walkover Checklist (Page 43)

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

Flat land

State the size and location of the nearest residential communities.

One village house in the north with approximately 30m, one tin house in the east with approximately 18m and around three tin houses in the south with approximately 17m.

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

No

Questionnaire with Existing/Previous Site Owner or Occupier

Ref.		Yes/No	Notes
1.	What are the main activities/operations at the above address?	Yes	Open storage area for construction material (e.g. noise barriers, water barriers, construction brick) and machinery, temporary storage for containers.
2.	How long have you been occupying the site?	Since April 2023 - present	Before the entrance, the land was vacant and mostly paved with concrete. (Air drone photo provided by the existing site occupier)
3.	Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy?)	No	The land has been occupied since 1982. It used as open storage from 1990 onwards.
4.	Prior to your occupancy, who occupied the site?	Yes	Unknown
5.	What were the main activities/operations during their occupancy?	Yes	The open storage area for construction materials and some machinery.
6.	Have there been any major changes in operations carried out at the site in the last 10 years?	No	-
7.	Have any polluting activities been carried out in the vicinity of the site in the past?	No	-
8.	To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	No	-
9.	Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	No	-

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Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 8.5

Site Visit Photo Records



NOTES :

- APPLICATION SITE
- MACHINERY STORAGE AREA
- MACHINERY MAINTENANCE AREA
- BUILDING MATERIAL STORAGE AREA
- PHOTOLOG TAKEN DIRECTION
- PHOTOLOG TAKEN DIRECTION (WITH CONTAMINATION POTENTIAL)
- STAINED SURFACE

Consultant



Allied Environmental Consultants Limited

Project No. : 2127

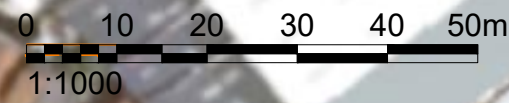
Drawing By : LL

Project :
 APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A FOR THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT AT LOT 796 AND 1008RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES

Drawing Title :
 PHOTOLOG MAP INDICATION

Drawing No : FIGURE 8.5a	Revision : 1
Scale : AS SHOWN	Date : FEB 2024

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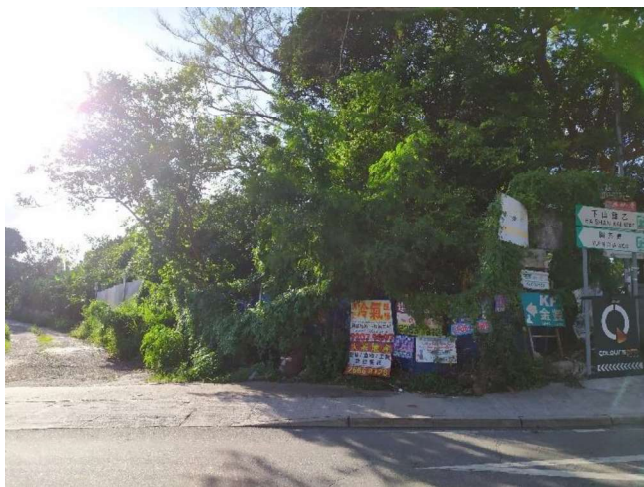


Photo1

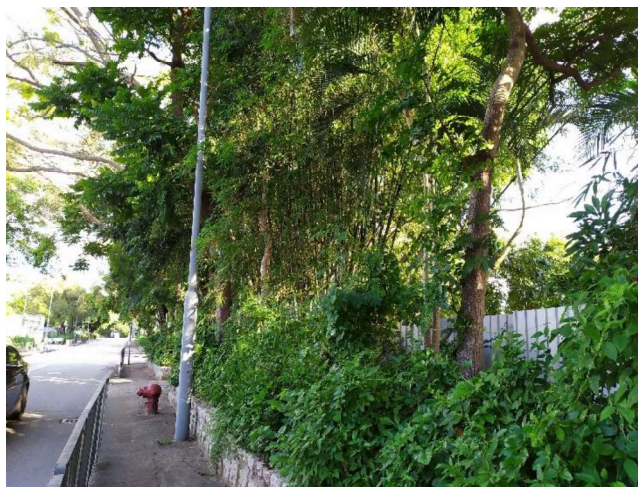


Photo2



Photo3



Photo4

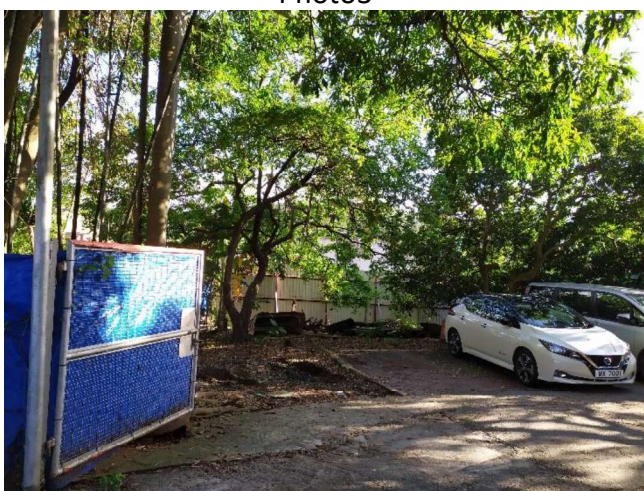


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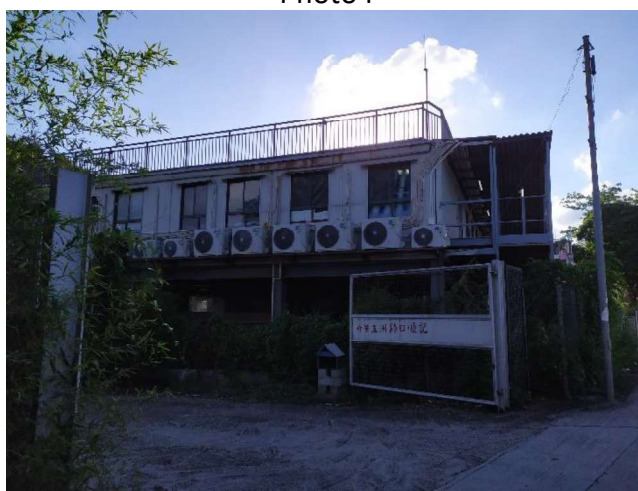


Photo6



Photo7



Photo8



Photo9



Photo10



Photo11



Photo12



Photo13

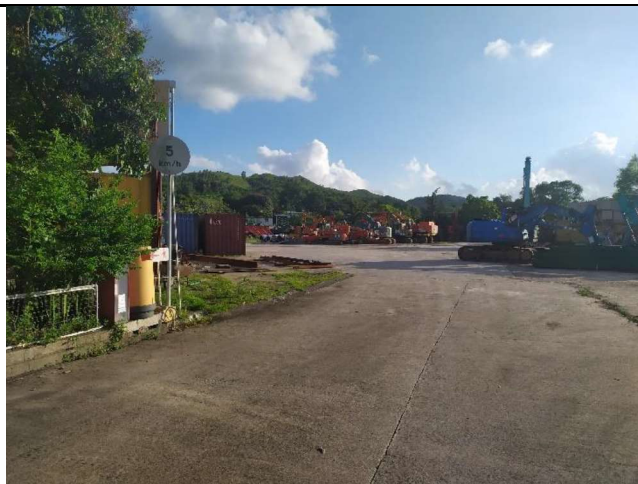


Photo14



Photo15



Photo16



Photo17



Photo18



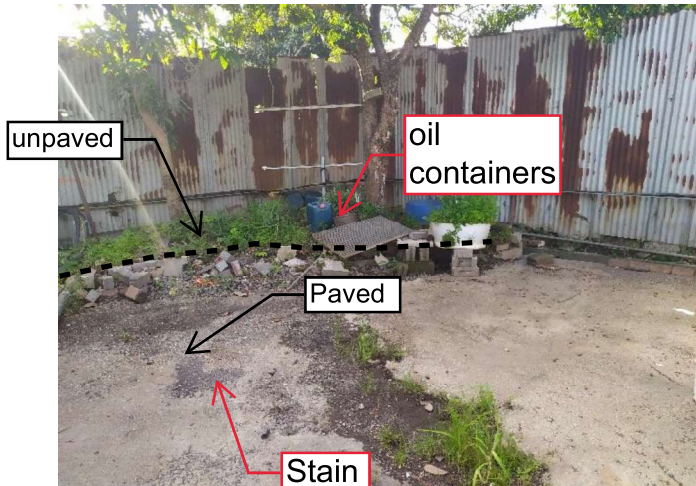
Stain

Photo19



Stain

Photo20



unpaved

oil containers

Paved

Stain

Photo21



oil drum

Stain

Photo22



oil containers

Stain

Photo23



oil drums

Paved

Stain

Photo24



Photo25



Photo26



Photo27



Photo28



Photo29



Photo30

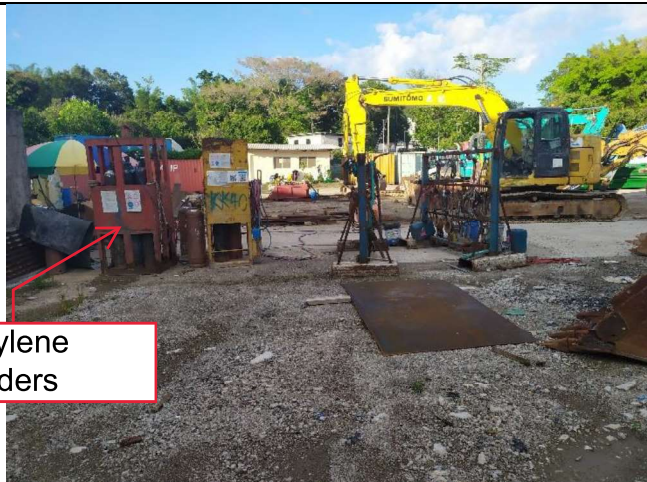


Photo31



Photo32



Photo33



Photo34

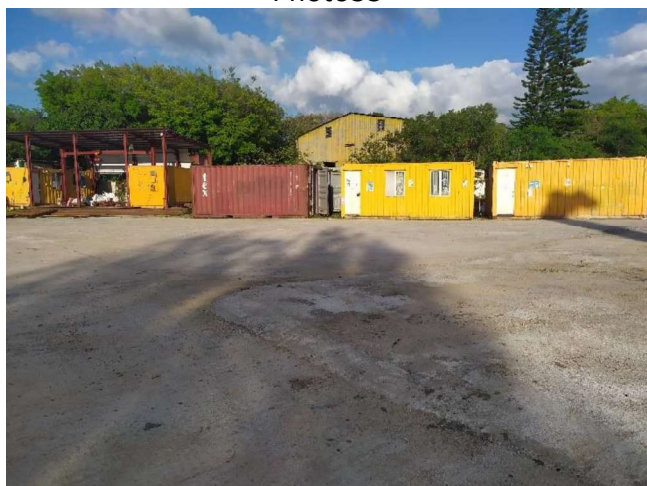


Photo35



Photo36

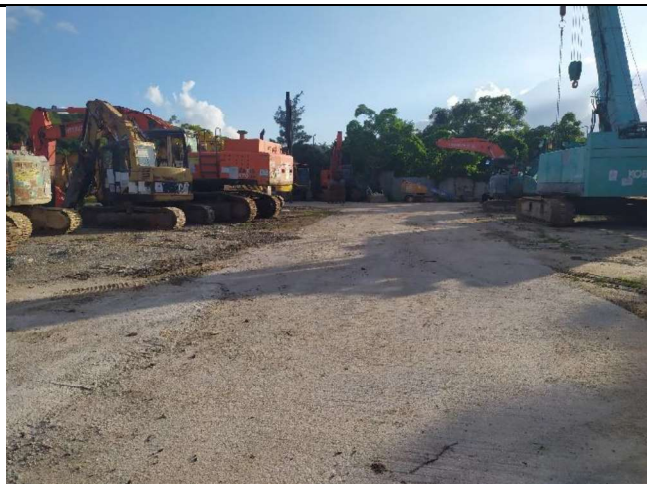


Photo37



Photo38



Photo39



Photo40



Photo41



Photo42



Photo43



Photo44



Photo45



Photo46



Photo47



Photo48

Stain



Photo49



Photo50



Photo51

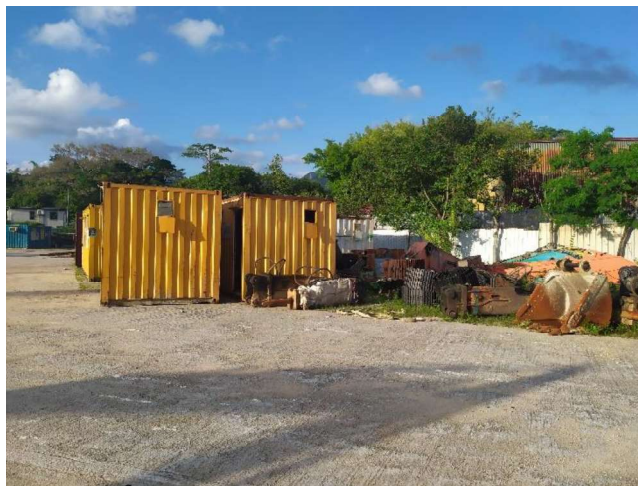


Photo52



Photo53

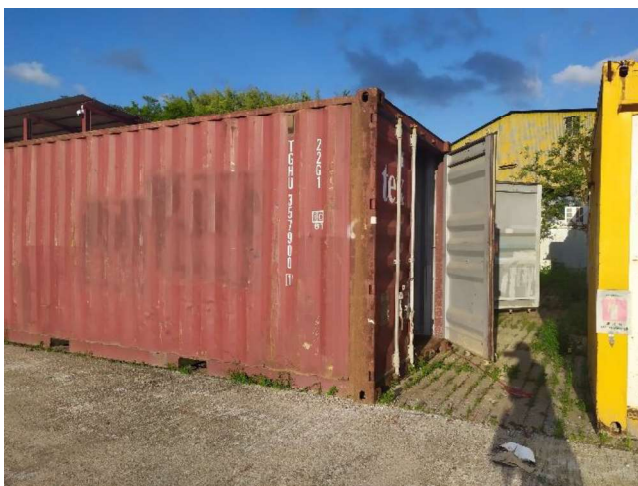


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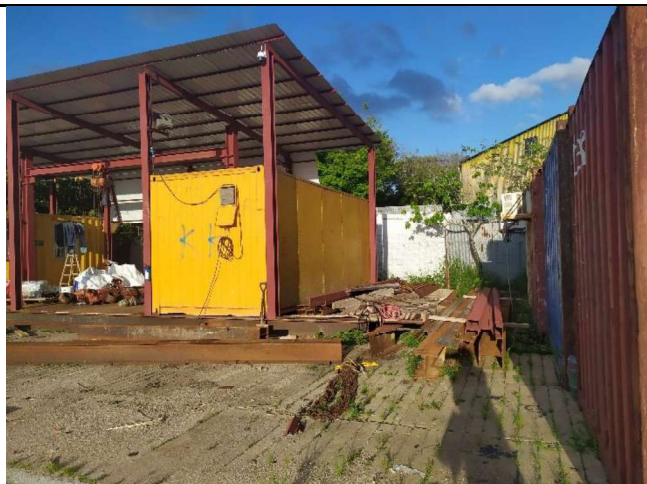


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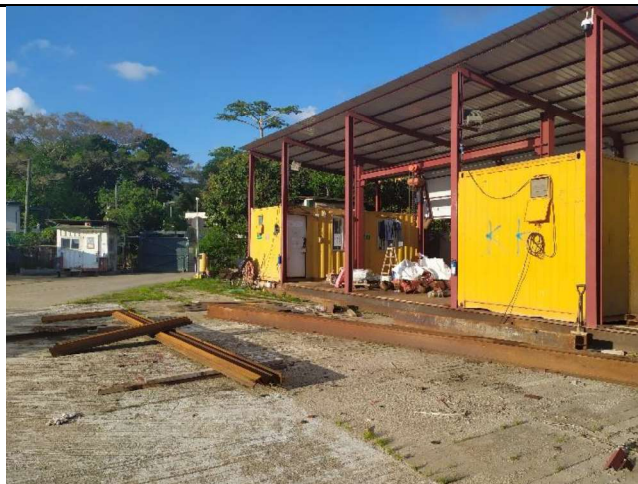


Photo56



Photo57

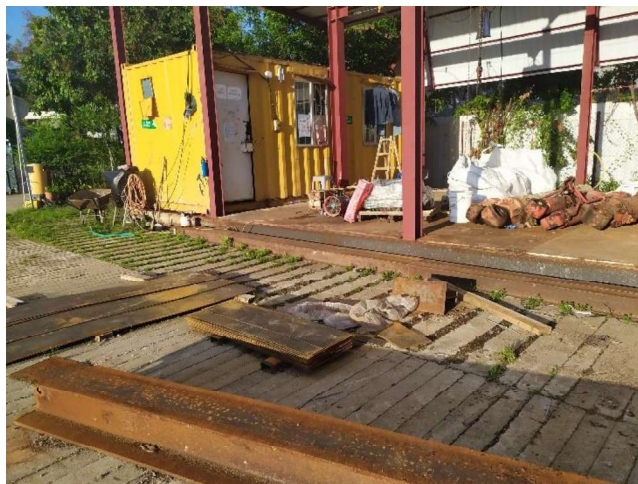


Photo58

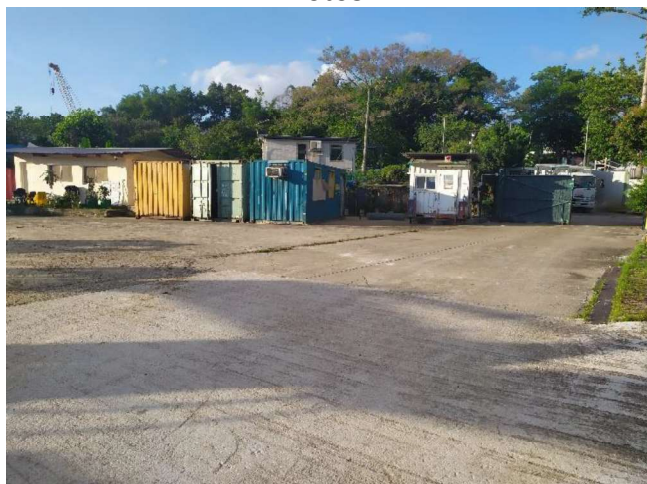


Photo59



Photo60

OLC-3



Photo61



Photo62



Photo63



Photo64

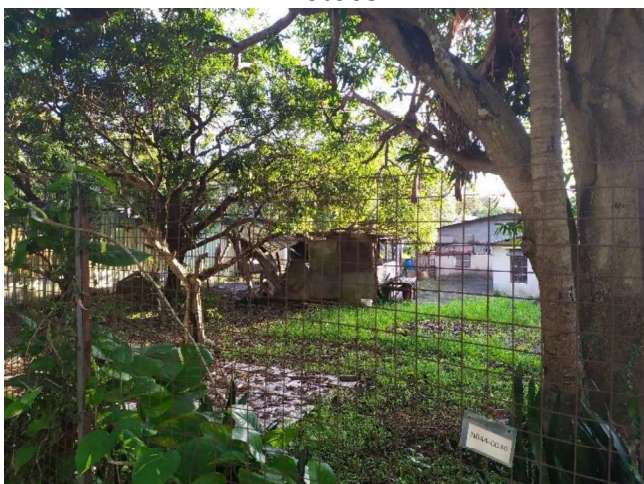


Photo65



Photo66



Photo 67



Photo68



Photo69

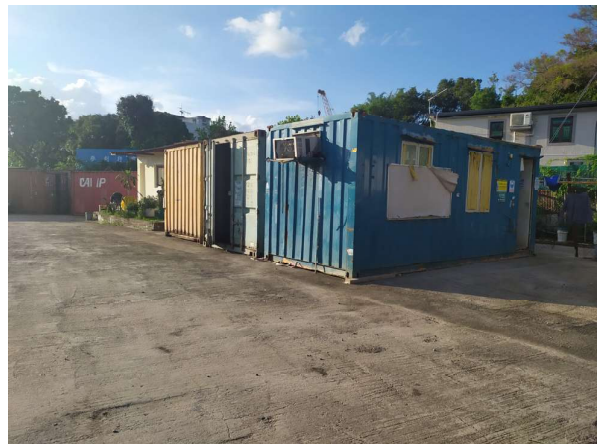


Photo70

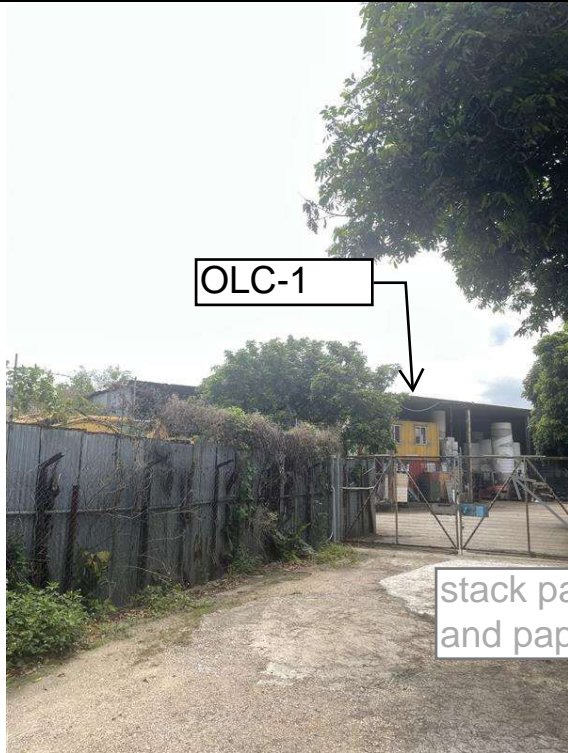


Photo 71



Photo 72



Photo 73

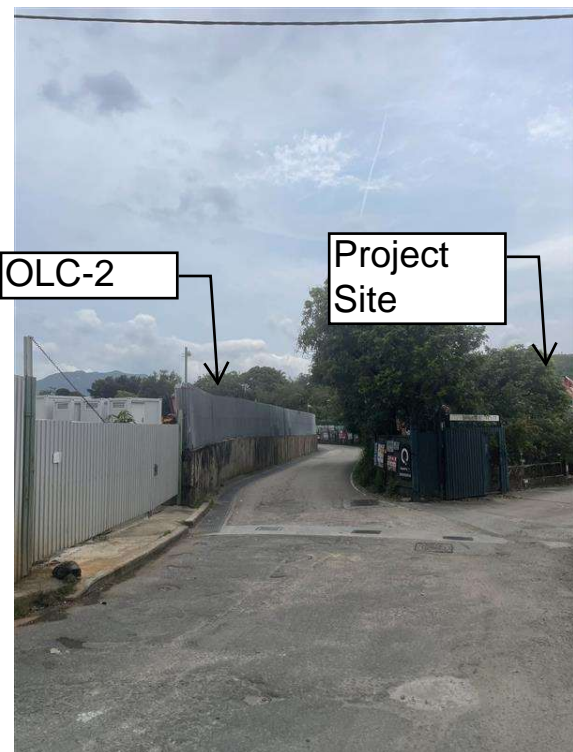


Photo 74

Project No. 2127

Environmental Assessment for Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lots 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

Appendix 9.1

Extract of Reference for Waste Index

- Practice Guide for Investigation and Remediation of Contaminated Land

5.2 Potential Impacts

Construction Phase

5.2.1 The key potential waste sources during the construction phase are:

- Inert Construction and Demolition (“C&D”) materials (e.g. waste concrete, surplus soil, waste asphalt etc.)
- Non-inert C&D Waste (e.g. wood and plastics)
- Chemical wastes such as waste battery and waste lubricating oil from vehicles/plant maintenance
- General refuse generated by site workers

Inert C&D Materials

5.2.2 Inert C&D materials are those which do not decompose, such as debris, rubble, earth and concrete, and which are suitable for land reclamation and site formation.

5.2.3 The major source of inert C&D materials during construction includes excavation for removal of paving. The Site area is approx. 9,705m² and approx. 20% of the Site area with concrete paving will be removed, i.e., 1,941m². Assuming the paving density is 2 tonnes/m³ and the thickness of paving is 100mm, approx. 194 tonnes waste paving will be generated from the removal of paving.

5.2.4 As advised by the Applicant, excavation will be minimal and the amount of C&D material due to excavation is therefore assumed to be negligible.

5.2.5 Construction waste will also be generated during construction of the Proposed Development. This will comprise inert C&D materials, such as concrete waste, waste from blockwork and brickwork; and non-inert C&D materials (or C&D waste) from timber formwork, packaging waste and other non-inert wastes.

5.2.6 In accordance with Section 3.2 of *A Guide for Managing and Minimizing Building and Demolition Waste* published by the Hong Kong Polytechnic University in May 2001 (“the Guide”), it provides a “waste index” for building waste generation in Hong Kong based on the Gross Floor Area (“GFA”) of three different building types as follows:

- | | |
|-------------------------------|---|
| • Private Housing Projects | 0.250m ³ /m ² GFA |
| • Government Housing Projects | 0.174m ³ /m ² GFA |
| • Commercial Office Projects | 0.200m ³ /m ² GFA |

5.2.7 In order to properly estimate building waste from the Proposed Development, the “waste index” also include C&D wastes such as timber formwork, packaging waste and other wastes. On the other hand, the Guide does not identify what proportion of building waste is inert C&D materials and what proportion is C&D wastes.

5.2.8 With reference to Plate 2.12 of EPD’s *Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2021*, in 2021 94% of construction wastes was either reused on-site or sent to

the public fill reception facilities, implying that such construction wastes should be inert C&D materials. The proportion of inert C&D materials in the “waste index” can therefore be estimated by applying the Hong Kong-wide proportion of inert C&D materials in construction waste, i.e. 94%, to the “waste index” as follows:

$$\begin{aligned} \text{Waste Index}_{\text{Inert C\&D materials (Commercial Office Projects)}} &= 0.94 \times 0.200\text{m}^3/\text{m}^2 \text{ GFA} \\ &= 0.188\text{m}^3/\text{m}^2 \text{ GFA} \end{aligned}$$

5.2.9 The inert C&D materials component of building waste from the Proposed Development with a total floor area of approx. 2,025m² has therefore been estimated below:

$$\begin{aligned} \text{Building Waste} &= \text{Waste Index}_{\text{Inert C\&D materials (Commercial Office Projects)}} \times \text{GFA} \\ &= 0.188 \times 2,025 \\ &= 381\text{m}^3 \end{aligned}$$

5.2.10 Assuming the density of inert C&D materials is 1.8 tonnes/m³, approx. 686 tonnes of building waste would be generated by the Proposed Development.

Table 5-1 Total Estimated Inert C&D Materials Generated During Construction

INERT C&D MATERIAL TYPE	ESTIMATED NON-INERT C&D MATERIAL GENERATION (TONNES)
STAGE: SITE CLEARANCE AND FORMATION	
Paving	194
Excavated Material	Negligible
STAGE: INFRASTRUCTURE CONSTRUCTION	
Building Waste	686
Total	880

5.2.11 In total, approx. 880 tonnes of inert C&D materials may be generated throughout the construction period. Assuming the construction period to be nine months with six working days a week and four weeks a month, the daily inert C&D material generation rate will be approx. 4 tonnes/day (i.e. 880 tonnes/(6 x 4) x 9 months)).

5.2.12 Inert C&D materials should be reused on-site as far as practicable. Good site practice and mitigation measures recommended in **Section 5.3** should be provided and implemented. Surplus inert C&D materials, if any, should be reused or recycled off-site as far as practicable. If there will still be any remaining materials, they should be delivered to public fill reception facilities such as Fill Bank at Tuen Mun Area 38.

5.2.13 With the provision and implementation of the recommended mitigation measures, no adverse waste impact from the handling, transportation or disposal of inert C&D materials during construction of the Proposed Development is anticipated.

Non-Inert C&D Materials (or C&D Waste)

5.2.14 Non-inert C&D materials (or C&D waste), are those which can decompose such as bamboo, timber, vegetation, packaging waste and other organic material, and which are therefore unsuitable for land reclamation.

- 5.2.15 The major source of non-inert C&D materials during construction will be building waste including non-inert C&D materials such as timber formwork, packaging waste.
- 5.2.16 The building waste are included in the “waste index” provided in the Guide, discussed above, however, this also includes inert C&D materials.
- 5.2.17 As shown in Plate 2.12 of Waste Statistics for 2021, in 2021 6% of C&D waste was disposed of at landfills. The proportion of non-inert C&D materials (or C&D waste) in the “waste index” can therefore be estimated by applying the Hong Kong-wide proportion of non-inert C&D materials (or C&D waste) in construction waste, i.e. 6%, to the “waste index” as follows:

$$\begin{aligned} \text{Waste Index}_{\text{Non-Inert C\&D materials (Commercial Office Projects)}} &= 0.06 \times 0.200\text{m}^3/\text{m}^2 \text{ GFA} \\ &= 0.012\text{m}^3/\text{m}^2 \text{ GFA} \end{aligned}$$

- 5.2.18 Hence, the non-inert C&D materials (or C&D waste) components in building waste can therefore be estimated as follows:

$$\begin{aligned} \text{Building Waste} &= \text{Waste Index}_{\text{Non-Inert C\&D materials (Commercial Office Projects)}} \times \text{GFA} \\ &= 0.012 \times 2,025 \\ &= 24.3\text{m}^3 \end{aligned}$$

- 5.2.19 Assuming the density of non-inert C&D materials is 1.0 tonnes/m³, approx. 24.3 tonnes of C&D waste will be arising from the Proposed Development. Assuming the construction period to be nine months with six working days a week and four weeks a month, the daily C&D waste generation rate will be approx. 0.11 tonnes/day (i.e. 24.3 tonnes/(6 x 4) x 9 months)).
- 5.2.20 The non-inert C&D waste is summarised in **Table 5-2**.

Table 5-2 Total Estimated Non-Inert C&D Materials Generated During Construction

NON-INERT C&D MATERIAL TYPE	ESTIMATED NON-INERT C&D MATERIAL GENERATION (TONNES)
STAGE: INFRASTRUCTURE CONSTRUCTION	
Building Waste	24.3
Total	24.3 or 24

- 5.2.21 On-site sorting should be carried out for non-inert C&D materials generated from the works. Recyclable materials, such as metal, paper product, timber and plastics, should be collected by local recyclers for recycling. All non-inert C&D materials should be recycled as far as possible and landfill disposal should be adopted as the last resort.
- 5.2.22 The quantity of the generated non-inert building waste could be recycled/reused is expected to be no more than 10% of the generated amount in view of the scale of the Proposed Development. Therefore, no more than 2 tonnes C&D waste may be reused or recycled on-site.
- 5.2.23 If 10% C&D waste can be reused/recycled on-site, the surplus C&D waste mainly comprising building waste will be approx. 22 tonnes in total. Assuming the construction