Proposed Rezoning of the Site from "Other Specified Uses" annotated "Business" to "Other Specified Uses" annotated "Residential Care Home for the Elderly and Hotel"
for a Proposed Composite Development with RCHE and Hotel
at Nos. 107 – 109 Wai Yip Street, Kwun Tong

(Planning Application No. Y/K14S/4)

Response-to-Comment Table

Comments	Summary & Response/Action
Comments from Kowloon District Planning Office, Planning Department: **(Contact Person: Ms Charlotte NG Tel: 2231 4970)** General comments:	
1. The application involves rezoning of the application site (the Site) from "OU(B)" to "Other Specified Uses" Annotated "Residential Care Home for the Elderly and Hotel" ("OU(RCHE and Hotel)") to facilitate a composite development of RCHE and hotel. To effectuate the proposal, the applicant proposes to designate the Site as " OU(RCHE and Hotel)" and intensify the development restriction of the Site by stipulating a maximum total GFA of 16,586.323m^2 (equivalent to a plot ratio (PR) of 14.4 (+2.4, +20%) with a site area of 1,170.578m^2) comprises of 12,000m^2 for 'Social Welfare Facilities' (SWF) (RCHE) and 4,586.323m^2 for 'Hotel'; and a maximum building height (BH) of 115mPD (+15m, +15%). Subsequently, the Notes of "OU(B)" zone is amended by stipulation of SWF and hotel uses under Column 1 at land designated "OU(RCHE and Hotel)" on the OZP.	Noted.
2. To designate the site as "OU(RCHE and Hotel)" amid Kwun Tong Business Area where all the land are zoned "OU(B)" and "Commercial (1)" in which are "*intended primarily for general business uses. A mix of information technology and telecommunications industries, non-polluting industrial, office and other commercial uses are always permitted in new "business" buildings. Less fire hazard-prone office use that would not involve direct provision of customer services or goods to the general public*	The applicant understood that designation of a new "OU(RCHE and Hotel)" zone would limit the application site to only two uses. This demonstrates that the Applicant is determined to provide RCHE and Hotel uses at the Subject Site instead of a conventional commercial/office development. The Proposed Development not only could provide much-needed social welfare facility to the society, this also demonstrates how

Comments	Summary & Response/Action
is always permitted in existing industrial or industrial-office buildings". Your proposed designation of a new "OU(RCHE and Hotel)" zone, from "OU(B)", limits the application site to only two uses. This means commercial uses that are currently permitted as of right would no longer be allowed at the Site if the current application is approved. Besides, instead of providing flexibility for lot owners to modify commercial uses based on market demand, it constrains their options. Please provide strong justification for this designation. Since updated technical assessments could validate the feasibility of various commercial uses, explain why the applicant/consultant chose not to update these assessments. [It is observed that the applicant adopted *the indicative scheme as the ONLY scenario when conducting relevant technical assessments in the traffic, environmental and sewerage aspects*.]	the current landowner responds to the declining economic viability of commercial/office use in Kwun Tong. According to the Property Market Statistics on private office published by the Rating and Valuation Department in 2025, it should be highlighted that average rent of Grade A office in Kowloon Bay and Kwun Tong was decreased by about 20% in the past years, from \$397/m^2 per month in 2019 to \$316/m^2 per month in 2024 **(Table 1 refers)**. Table 1 Average Rents of Grade A Private Office in Kowloon Bay and Kwun Tong from 2019 to 2024 | Year | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | | --- | --- | --- | --- | --- | --- | --- | | Rent (\$/m^2 per month) | 397 | 366 | 350 | 355 | 331 | 316* | **Data available till November 2024* From a macroeconomic perspective, many business sectors worldwide have experienced a notable downward trend in occupancy rates of offices use in recent years, partly due to the increasing trend of flexible working practices such as "work from home". According to the Legislative Council's publication of "Promotion of the second core business district in selected cities" in 2024, the overall vacancy rate of global office space has surged from around 11% in 2019 to nearly 17% as at second quarter of 2024. In particular, the average office vacancy rate in London and New York has been on a steady uptrend over the past five years, rising to 9.7% and 14.6% respectively in 2023. All policy makers around the world are facing similar challenge to fill up vacant office space amidst changing pattern of working mode. It also suggested that the approach of building

Comments	Summary & Response/Action
	a business district with monotonous land use has been ditched and replaced by one focusing on creating more diversified uses. Table 2 Average office vacancy rates in major global cities *Sources: Rating and Valuation Department (HK), Knight Frank (UK and Shanghai), New York City Government, and Urban Redevelopment Authority of Singapore.* Apart from excess office supply, the location of the application site is not solely suitable for office use; it attracts development of other uses than new office buildings. Currently, the surrounding building cluster of the site are not mainly occupied/planned for office use (**Figure A** refers). Instead, two hotel developments were established (TPB Ref.: A/K14/686 and A/K14/713). Not least, Hong Kong Baptist Hospital (HKBH) has started operating the HKBH East Kowloon Medical Centre since 30 December 2024 in close proximity within the same street block, and take up the building directly located next to the application site for their operation use. As such, the proposed RCHE use could enjoy the synergy with the planned facilities of HKBH (**Figure A** refers). While the application site (near MTR Ngau Tau Kok Station) is geographically located at the 'centre' of the business area in Kowloon East (between MTR Kwun Tong Station and MTR Kowloon Bay Station),

	Hong Kong	London	Singapore	New York	Shanghai
2019	9.0%	5.7%	10.5%	7.8%	13.4%
2020	11.5%	7.4%	11.8%	9.8%	19.8%
2021	12.3%	7.9%	12.8%	12.2%	14.7%
2022	14.4%	8.7%	11.3%	13.3%	16.7%
2023	14.9%	9.7%	9.9%	14.6%	19.2%

Comments	Summary & Response/Action
	it is in fact located at the centre of a dumbbell bar that connects Kwun Tong Business Area and Kowloon Bay Business Area. Focuses have been given to these business areas and the Action Areas. **Figure B** has demonstrated this phenomenon; The application site is away from EKEO's project areas, such as the action areas in Kowloon Bay and Kwun Tong, Government Departments' Office, back-alley improvement projects, as well as new establishments for art, cultural and creative activities, the site and its surrounding area are relatively remote from the core business areas in Kwun Tong and Kowloon Bay. All the above reveal that the application site and its surrounding are not a prime location for business use and has the potential for a mixed land use, especially when there are excess office supplies in an economic downturn. As such, the rezoning proposal would not jeopardize intention of OU(B) zone for general business use, as it is located in the fringe of Kowloon Business Area and Kwun Tung Business Area. While the proposed "OU(RCHE and Hotel)" zone would only allow RCHE and hotel uses with a maximum gross floor area (GFA) of 12,000m^2 for RCHE and 4,586.323m^2 for hotel only, the applicant has undertaken various technical assessments to demonstrate the worst-case scenario for the Proposed Development (i.e. 644 RCHE beds (based on 9.5m^2 for each resident under the latest version of the Code of Practice for Residential Care Homes (Elderly Persons)) instead of 557 RCHE beds as proposed by the applicant). It is concluded that the Proposed Development is technically feasible in the aspect of traffic, environmental and sewerage aspects.

Comments	Summary & Response/Action
3. With reference to the draft Notes as submitted and the key parameters on Table 3.1, the application site will be limited to social welfare facility (RCHE) and hotel use, please clarify the proposed shop use facing Wai Yip Street according to the G/F floor plan.	Subject to later detail design stage, please note that the shop on G/F is ancillary to hotel use.
4. Paragraph 3.1.2 and Table 3.1 on Key Development Parameters and Paragraph 5.10.3 - it is noted that the proposed number of RCHE bed space is not less than 302 while 557 is the maximum number of RCHE bed spaces under the proposed scheme. It is very confusing to understand. Please clarify the rationale for adopting two scenarios, or if it is your intention to provide in a range so to allow flexibility for final design of the proposed development. Please specify how many rooms are provided at the RCHE portion. Additionally, please specify which scenario (302 or 557 beds) the submitted floor plans are based on, and provide the average space per resident (elderly) for both scenarios.	While the Applicant understands that the more beds the better in terms of meeting the strong demand for RCHE bed spaces, maximising the number of bed space can only be done by compromising the average space per resident. The Applicant intends to provide a quality living standard to the residents, therefore aims at providing 302 beds to allow an average of 20.3m^2 per resident. To allow future design flexibility and provide a range of different affordable types of services/bed spaces, the Applicant also states the absolute maximum number of bed (i.e. 557 beds with an average of 11m^2 per resident; still above the minimum required by SWD) to demonstrate the capability of the Site to hold this maximum number of bed. The floor plans submitted under the current rezoning application, as per the Guidance Notes on Applications for Amendment of Plan under Section 12A prepared by the Town Planning Board, "are for reference only.
5. Upon checking, a total of 644 beds have been assumed for sensitively testing for the submitted technical assessments, which is based on the minimum space per bed requirement for nursing home and attention home under the Residential Care Home (Elderly Persons) Regulation [while not specified but should be 9.5m^2 for each resident].	Correct. This is being adopted in the technical assessments to demonstrate a 'worst-case-scenario' only; at this stage, the Applicant has no intention to pursue a scheme that would provide 644 beds by compromising the average space per resident.

Comments	Summary & Response/Action
6. Furthermore, according to the Appendix 1 Indicative Development Scheme, it provides RCHE typical floor plans and hotel typical floor plans, please also provide the RCHE and hotel typical floor plan with room layout for our consideration. Please also supplement the number of elderly in each room.	Please refer to the revised drawing no. SK-7B for typical room layout for RCHE and number of elderly in each room. Please refer to the revised drawing no. SK-9 for typical room layout for hotel.
7. Please provider clarification to justify your claim for relaxation of PR and BH in warranting deviation from the development restrictions at the Site on the OZP. In this connection, please clarify your claim in paragraph 2.8 for the redevelopment of the application site is in line with the policy initiative of revitalization of industrial building and elaborate why is the current proposal, which is mainly for RCHE, is in line with the Policy which advocates eligible IBs to commercial and non-polluting industrial purposes.	Paragraph 2.8 has been removed. However, for the sake of better utilising land resource and to provide more RCHE bedspace to meet the imminent demand, the Applicant proposes to seek minor relaxation of PR and BH restrictions from TPB. With reference to the approved planning application (No. A/K14/780), the building height of 115mPD and plot ratio of 14.4 is considered acceptable by TPB considering its prominent location of the Site at the waterfront. Within the same street block bounded by Wai Yip Street and Tai Yip Street, some other approved planning applications (Nos. A/K14/822 and A/K14/809) were also approved for 119.5mPD. As such, the building height of the Proposed Development is considered compatible with the building height profile of the area. Moreover, as demonstrated in the Visual Impact Assessment, it is unlikely that the Proposed Development would induce significant adverse effects on the visual character of the townscape.
8. It is observed from the floor plans that two separate set of lifts and stairs provided at the northwest corner and southeast corner serving the hotel and RCHE uses respectively. In particular, it appears that the set of lifts at the northwest corner (connecting to the hotel entrance) can serve the RCHE floors well. Please clarify if those lifts are restrictive to serve their individual uses or they will be shared.	Subject to later detail design stage and future operation needs, the intended lifts arrangement is as follows: - 1. The three (3) lifts at southeast corner serve RCHE floors; 2. The two (2) lifts at northwest corner serve hotel floor; and 3. One lift at northwest corner serves as Fireman's Lift. Hence, it shall reach every floor in the building.

Comments	Summary & Response/Action
9. As it is proposed that GFA will be stipulate for RCHE and hotel uses, please revisit the proposed notional scheme and identity and annotate on the floor plans clearly the areas designated for RCHE and hotel respectively. Please also clarify the nature of the following facilities: (i) Shop (G/F) (ii) Dining hall and kitchen (1/F) RCHE (iii) Water feature, footbath, office, café, spa, meeting/multi-purpose room, clinic (3/F)	Please refer to drawings no. SK-3, SK-4, SK-5 and SK-6 for annotations showing the areas designated for RCHE and hotel from G/F to 3/F respectively. Subject to later detail design stage, please note that the shop (G/F) is ancillary to hotel, and the dining hall and kitchen (1/F), water feature, footbath, office, café, spa, meeting/multi-purpose room, and clinic (3/F) are intended to support RCHE.
10. Please clarify if bonus PR/GFA will be claimed for the setback areas subject to approval by the Building Authority (BA) under Building (Planning) Regulations (B(P)R) 22(1) or (2). Please also clarify the bonus GFA has been accounted for in the building bulk and the submitted technical assessments.	The applicant has not considered to claim bonus PR/GFA for the setback areas for the time being.
11. As the proposal involves hotel use. Please clarify the GFA for hotel use in the submission (i.e.4,856.322m^2). In particular, if it includes guest rooms, hotel floor circulation, hotel ancillary facilities, non-essential plant rooms, back of house (BOH) facilities, and etc. Please also clarify if BOH facilities, which might be eligible for GFA exemption, are taking into account when conducting technical assessments.	The proposed GFA for hotel use has included guest rooms, hotel floor circulation, hotel ancillary facilities, non-essential plant rooms, Back of House (BOH) facilities, and etc. Please note that BOH facilities, which might be eligible for GFA exemption according to PNAP-APP40, have been taken into account when conducting technical assessments.
12. Please also identify and clarify how the potential interface of the two proposed uses could be mitigated because the two uses do not appear to be segregated but intertwined, e.g. through building design or operational and management measures, etc.	The applicant has carefully considered the design of the proposed development (e.g. having separate accesses) to avoid potential interface problem. Except the lift at northwest corner serving as Fireman's Lift and

Comments	Summary & Response/Action
	accessible lift, which shall reach every floor in the building, please note that the hotel and RCHE use are separated.
13. As the hotel will co-locate with the RCHE, please clarify if the two uses would be operated by the same or separate operators. Furthermore, please clarify how the applicant intend to operate the RCHE and hotel. For example, will the whole development be under the single ownership? Will the applicant get invite separate operators to run the RCHE and hotel? Or the applicant intends to sell an individual RCHE unit to each elderly?	The Site is currently under single ownership and the applicant anticipates to continue to own the Proposed Development. If it happens to be under separate ownership in the future, a Deed of Mutual Covenant can be arranged to specify the obligations and rights of the owners. In any event, the applicant will not, and is unable to, sell strata-title of individual RCHE bed spaces to the elderlies. The applicant will look for suitable, qualified and experienced operator(s) to operate the RCHE, while hotel will be operated under separate licenses.
Specific comment:	
14. G/F Floor Plan Drawing No. SK-3- Please annotate the 3m wide public passage proposed on G/F on the drawing.	Please refer to drawing no. SK-3 for the annotation of 3m wide public passage (**Appendix II** refers).
15. RCHE 1/F Floor Plan Drawing No. SK-4 – Please clarify the restaurant use. According to the floor plan, 1/F is served by the lifts of both the RCHE and Hotel. Please clarify if hotel guest could dine at the restaurant. Similar to my comments at paragraph 3 above, eating place use is neither proposed in your scheme nor at the Notes.	Subject to later detail design stage, the dining hall is intended to serve RCHE. Please note that the lift at northwest corner is served as Fireman's Lift and accessible lift only.
16. Section Plan Drawing No. SK-14- please annotate the headroom for the canopy.	Please refer to the revised drawing no. SK-14 (**Appendix II** refers).

Comments	Summary & Response/Action
17. Section Plan Drawing No. SK-14- please annotate the maximum BH for the RCHE potion.	Please refer to the revised drawing no. SK-14 (**Appendix II** refers).
18. Bulletpoint 3 in Para. 3.4.1 of the SPS: As stated in the SPS, the landscape areas on 3/F and R/F are accessible to building users 24 hours a day. Please clarify whether all users are permitted to use both landscaped areas, particularly whether elderly residents in the lower portion of the composite building would have access to the landscaped area on R/F (which is logically a part of the hotel portion).	Subject to later detail design stage, please note that 3/F podium roof is intended to serve RCHE and R/F green roof is intended to serve the hotel during operating hours only.
Comments from Drainage Services Department: **(Contact Person: Ms Charlotte NG Tel: 2231 4970)**	
1. The applicant is required to incorporate a Drainage Impact Assessment (DIA) in the submission, to demonstrate no adverse impact to the public drainage system arising from the proposed development.	As there is no increase in paved area within the Application Site as compared to the existing condition, change in drainage discharge due to the proposed development should not be anticipated. Therefore, Drainage Impact Assessment (DIA) is not considered necessary at this stage. The Applicant is committed to prepare and submit a DIA based on the detailed layout of the development during the detailed design stage.
1.1 The DIA should include layouts showing existing and proposed modification / abandonment arrangement of all existing internal terminal manholes, connection pipes and proposed new connection works to downstream public network.	Noted and the information required will be included in the DIA to be submitted at detailed design stage.
1.2 Catchment of concerned site should be elaborated to clarify if there is any or nil change in the surface characteristics and drainage path arising from the proposal.	Noted and the information required will be included in the DIA to be submitted at detailed design stage.

Comments	Summary & Response/Action
1.3 Please observe <DSD's Practice Note 2/2023 - Guidelines on Flood Resilience> in your planning and detailed design. In particular, for proposed development at coastal areas, please pay attention to the potential increase of sea level and plan a higher design formation level as far as practical. Sufficient structural prevention should be planned to ensure the flood resilience of the development. Sufficient operation arrangement to ensure emergency preparedness should be proposed to ensure the flood resilience of the development if other structural measures were considered impractical.	Noted.
2. For your Sewerage Impact Assessment (SIA) and DIA, please indicate the following proposal with proper legends in your layouts for clarity:	The information required will be provided in the DIA Report to be submitted during detailed design stage. Please refer to response below for the SIA Report.
(i) all existing public drains and sewers maintained by DSD in the vicinity;	The existing public sewers maintained by DSD is shown in Figure 2.1 of the Sewerage Impact Assessment Report (SIA) (**Appendix III** refers).
(ii) existing and proposed internal drainage / sewerage connections, to be abandoned, constructed or modified by your development and handed over to DSD;	The Site has been cleared and is currently vacant. No sewers are required to be abandoned or modified. The indicative location of the new terminal sewer manhole (P1) is shown in Figure 2.1.
(iii) proposed modification / upgrading works if any on the public drainage / sewerage system, to be implemented by your development to be handed over to DSD for maintenance;	No modification / upgrading works are proposed.
(iv) proposed terminal manholes / internal drains or sewers to be maintained by future lot management office;	The indicative location of the new terminal sewer manhole (P1) is shown in Figure 2.1.

Comments	Summary & Response/Action
(v) proposed general layout of the development to demarcate road / footpath area if any; and	The block plan and ground floor layout plan are provided in the newly added Appendix 1.1 of the SIA Report (**Appendix III** refers).
(vi) boundary of the concerned land lot, area (e.g. set back) to be surrendered to the government, and proposed drainage reserve area inside the lot (if any)	There is no land proposed to be surrendered to the government or designated as drainage reserve at the Application Site.
• For any pipes (including existing connection pipes from the lot) proposed to be abandoned / modified / constructed, please present with proper legends/colors to distinguish for clarity.	The Site has been cleared and is currently vacant. No sewers are required to be abandoned or modified. The indicative location of the new terminal sewer manhole (P1) is shown in Figure 2.1.
• Please indicate pipe sizes and manhole details (ref nos., invert levels, etc.) in the layout.	The required information has been indicated in Figure 2.1.
3. Further to 2 above, you are reminded in particular to clarify in your report and illustrate clearly with layout, any existing terminal manholes and downstream connection pipes are proposed to be abandoned by the development at the cost of the developer, and any new ones proposed to be constructed by the development.	The construction of new manhole and connection to the public sewerage system will be at the cost of the developer. Such statement has been added to Section 2.3.2.
4. Please be reminded that the project proponent is responsible to verify and evaluate if there are existing drainage and sewerage connection(s) from the site to the public network, and if the connection pipes and downstream government drains and sewers are in normal working conditions and capable to take up the discharge from the proposed development. Condition survey of existing drain/sewer, covering at least two sections downstream of each proposed connection, should be conducted prior to works commencement. Pipe cleansing and rehabilitation works (if found necessary upon survey result) should be implemented by the project	Noted. Condition survey will be conducted during detailed design stage.

Comments	Summary & Response/Action
to secure satisfactory hydraulic performance arising from the development.	
Sewerage Impact Assessment (SIA)	
5. Your SIA is subject to the views and agreement of EPD as the planning authority of sewerage infrastructure. The submission has to meet the full satisfaction of EPD.	Noted. The Report has been circulated to EPD for review.
6. Section 2.4 Table 2.1 (2. Hotel) - Subject to EPD, please note that Hotels and Boarding Houses would be 3.2 Workers in 100m^2. Thus, please revise the estimated population and flow generated.	As the proposed hotel is providing basic housekeeping services without associated facilities, such as catering or swimming pool, the estimated number of workers in the SIA, ie 68, is already on the high side, which serves as a conservative estimate for the SIA.
7. Please supplement assessment to demonstrate sufficient capacity of further downstream public sewerage system till FMH4100299, to cater the discharge of the proposed development.	The revised assessment has been extended to cover the public sewerage system further downstream.
Comments from Urban Design and Landscape Section, Planning Department: **(Contact Person: Ms Rachel Yiu Tel: 3565 3944)**	
General Comment	
2. Please highlight all revisions in upcoming submission(s) for ease of reference.	Noted.
SPS	
3. Table 3.2 – It does not seem that the Landscape Area on 13/F is annotated on the Indicative Development Scheme (Appendix 1) and Landscape Proposal (Appendix 2).	Noted. Table 3.2 has been revised accordingly (**Appendix I** refers).

Comments	Summary & Response/Action
4. Figure 3.1, Point 6 – Mention of the 6/F refuge floor should be removed to tally with the VIA.	Noted. Figure 3.1 has been revised accordingly.
5. Para. 5.10.3 (a) The paragraph should be suitably updated as per Paras. 7.1.2 and 7.1.3 of the VIA, as it seems that expressions including inducing noticeable change of skyline for VP1 to VP4 and skyline not affected for VP5 to VP7 do not tally with the VIA.	Noted. Para 5.10.3 has been revised accordingly.
(b) The range of ratings of visual impact as identified from the viewing points in the VIA should be supplemented.	Noted. Para 5.10.3 has been revised accordingly.
(c) It should be supplemented that the 20% Building Free Zone would not be affected when viewing from Strategic Viewing Point at Quarry Bay Park, as per the submitted VIA.	Noted. Para 5.10.3 has been revised accordingly.
VIA 6. **Para. 5.1.2** – The last sentence should be revised as "…with restricted/exclusive accesses (e.g. school and office, etc.) **will ~~not~~ be identified**."	Noted. Para 5.1.2 has been revised accordingly (**Appendix VI** refers).
VP4 7. **Para. 6.5.1** – Please review if the redeveloped buildings for the former Maxwell Industrial Building and former Darton Tower are still under construction, and revise as appropriate. According to our record, the redevelopment of the former Maxwell Industrial Building has been completed.	Noted and revised accordingly. The redevelopment of the former Maxwell Industrial Building has been completed while the former Darton Tower is still under construction.

Comments	Summary & Response/Action
VP6 8. **Figure 6.6, Photomontage** – (a) Please indicate the BHR of 100mPD at the subject site for ease of reference. (b) Based on our internal checking, it seems that the BHs of the proposed development at 115mPD and the surrounding approved applications are slightly underestimated. Conclusion 9. **Para. 7.1.4** – The last sentence should be revised to read as "…of Manulife Place. **Visual impact of** the Proposed Development…when viewing from VP7 and ~~**completely**~~ **largely** blocked when viewing from VP4…" 10. **Para. 7.1.5** – (a) It does not seem that the rating from VP6 is slightly adverse as per Table 7.1. (b) It should be supplemented that the 20% Building Free Zone would not be affected when viewing from the Strategic Viewing Point at Quarry Bay Park.	 Noted. Figure 6.6 has been revised accordingly. Noted. Figure 6.6 has been revised accordingly. Noted. Para. 7.1.4 has been revised accordingly. Noted. The rating from VP6 has been revised accordingly. Noted. Para. 7.1.5 has been revised accordingly.
Comments from Energizing East Kowloon Office of the Development Bureau: **(Contact Person: Ms Carol CHEUK Tel: 3904 1226)** 1. While there are no particular justifications given to substantiate that the application site is particularly suitable for use as RCHE, approval of the current proposal may set a precedent case in the locality. The	 In light of the deficit of about 1,021 RCHE bed spaces provision in the K14S planning area, the applicant is committed to addressing this pressing need by providing additional RCHE beds through the Proposed Development at a site that has been idled for years. The Application Site

Comments	Summary & Response/Action
impact in respect of sustaining the Kwun Tong Business Area will have to be duly assessed.	has been strategically chosen for its suitability for RCHE use, benefiting from a convenient location that ensures accessibility for both residents and their families. It is well-served by a variety of public transport options, including road-based franchised buses and public light buses, as well as rail-based services. All of these transport options are within a 500-meter radius, which translates to about a 10-minute walk, making it easy for residents to access essential services and enabling families to visit frequently. In addition, Hoi Bun Road Park and Kwun Tong Promenade are located in front of the Site. It has an open vista with spectacular view towards the water, Kai Tak Runway Precinct and even towards Hong Kong Island. While the Application Site is located at the southern periphery of KTBA, it is expected that the problem of I/R interface would be limited as it is facing Hoi Bun Road Park and Kwun Tong Promenade is located in close proximity. According to the "2020 Area Assessments of Industrial Land in the Territory", majority (70.9%) of the GFA within the "OU(B)" zone in KTBA are occupied by office (39.9%) and warehouse/storage (31.0%) uses; whereas, only 8% of the total GFA is being used for manufacturing/workshop. As such, very limited nuisances from adjoining buildings would be anticipated (please also refer to the submitted Environmental Assessment). Notwithstanding, only non-polluting uses (e.g. information technology and telecommunications industries, non-polluting industrial, office and other commercial uses) are permitted as-of-right within "OU(B)" zone. Coupled with the increasing numbers of planning application for hotel and shop and services uses at the IB cluster north of Wai Yip Street, further restructuring of land use to general commercial and non-polluting uses

Comments	Summary & Response/Action
	would be anticipated. Chances of having conflict between the operation of the proposed RCHE and hotel uses would eventually be further reduced. More importantly, proximity to workplaces can reduce travel time and make it convenient for younger generation to visit their elderly family members during breaks or after work, fostering "Youth in Elderly". It also provides opportunities for social interaction and engagement for both the residents and the workers. Workers can visit during lunch breaks or after work, fostering a sense of community. At the same time, being located at an active and vibrant location, the elderlies may also be able to get a sense of the lively and energetic society that they previously devoted in so as to reduce social isolation. Not least, Hong Kong Baptist Hospital (HKBH) has started operating the HKBH East Kowloon Medical Centre since 30 December 2024 in close proximity within the same street block, and take up the building directly located next to the application site for their operation use. As such, the proposed RCHE use could enjoy the synergy with the planned facilities of HKBH (**Figure A** refers).
Comments from Labour and Welfare Bureau and Social Welfare Department: **(Contact Person: Mr Michael PANG Tel: 2116 5939)** **(i) Design of the proposal** In addition to our comments on the applicant's submission No. Y/K14S/3 conveyed to PlanD vide the email of 14.10.2024 at 14:21 hrs, our comments on the design of the RCHE as annexed to the fresh submission	Noted.

Comments	Summary & Response/Action
No. Y/K14S/4 are appended in the below-attached Response-to-Comment table.	
General	
1. Under the Incentive Scheme to Encourage Provision of Residential Care Homes for the Elderly Premises in New Private Development, SWD will only support development proposals that provide "Nursing Homes" or "Care and Attention Homes". While para. 3.1.2 (page 15) of the Supporting Planning Statement stated that a total of 302 Care and Attention Homes places would be operated on a self-financing basis, footnote 3 of the Supporting Planning Statement stated that the proposed development would provide not less than 302 bed spaces and not more than 557 bed spaces. While 302 bed spaces would be Care and Attention places, please clarify the nature of the proposed RCHE if a maximum of 557 bed spaces would be provided.	If a maximum of 557 bed spaces is proposed, all these spaces will be allocated for a combination of types of RCHE Care and Attention Homes places.
2. As observed in the layout plan, 4 isolation rooms were provided on 5/F, 8/F, 12/F & 17/F while nursing station would only be provided on 9/F, 14/F, 18/F. From service point of view, it is undesirable that only 3 nursing stations could be provided on certain floors to serve the whole RCHE. Nurse station/ nurse duty room should be provided on each floor in order to facilitate care delivery and supervision.	Noted, please refer to the revised drawings no. SK-7 and SK-7B for the provision of nursing station on each RCHE typical floor.
3. As stated in page 15 of the Supporting Planning Statement, the proposed development would provide not less than 302 bed spaces and not more than 557 bed spaces. The number of staff corresponding to the number of bed spaces should comply with the	The estimated number of staff would be 63 based on an assumption of 557 bed spaces to comply with the Code of Practice for Residential Care Homes (Elderly Persons).

Comments	Summary & Response/Action
requirement as stipulated in the Code of Practice for Residential Care Homes (Elderly Persons).	
Height Restriction 4. Assessment by the Fire Services Department on the building fire safety design of the proposed RCHE is being sought. Further comments could be given in due course.	Noted.
Funding Mode 5. Given the applicant's intention of providing self-financing places, the proposed RCHE shall be operated on privately financing mode with no financial implication, both capital and recurrent, on the Social Welfare Department.	Noted.
The above comments are by no means exhaustive. Detailed comments will be provided upon receipt of the applicant's Further Information, if any. Please note that design and construction of RCHE shall comply with all relevant licensing and statutory requirements including but not limited to the Residential Care Homes (Elderly Persons) Ordinance (Cap. 459) and its subsidiary legislation and the latest version of the Code of Practice for Residential Care Homes (Elderly Persons) (CoP).	Noted.
(ii) Other accommodation requirements	
Making reference to the requirements for setting up contract homes, parking spaces for private light buses of the RCHE and ambulances as well as loading/unloading areas may be necessary for meeting operational needs. Hence, the applicant is advised to make sure that there will be sufficient provision of parking spaces and loading/unloading areas.	As mentioned in the Traffic Impact Assessment Report (**Appendix V** refers), the internal transport facilities for the RCHE within the Proposed Development is provided based on the operational needs and also with reference to RCHEs in Kwun Tong. Hence, sufficient provision of parking spaces and loading/unloading areas have already been provided.

Comments	Summary & Response/Action
Comments from Transport Department: **(Contact Person: Mr Tom LAW Tel: 2399 2459)** TD's comments on the submitted Traffic Impact Assessment from the district traffic engineering viewpoint:	
1. Table 4.2- please confirm with PlanD whether the major/planned and committed developments have been taken into account.	Please refer to the response to Planning Department on Page 19.
2. Table 4.3- the trip generation rates for hotel derived in the TIA is lower than the lower limit of reference trip generation rates as suggested in TPDM Vol. 1 Ch. 3. Please carry out a sensitivity analysis using the lower limit trip generation rates for hotel.	An analysis using the lower limit trip generation rates for hotel is now adopted. Please refer to Table 4.3 of the revised Traffic Impact Assessment (TIA). The 2032 junction operational performance is also been re-calculated and are presented in Table 4.6 and 6.2. (**Appendix V** refers)
3. Figure 3.2- please consider maximizing utilization of space adjacent to PC-01 and MB-01 by providing an additional motorcycle parking space.	Two additional motorcycle spaces, i.e. MB-02 and MB-03 are added near EV charging room on B1/F. Please refer to Figure 3.2 of the revised TIA.
Comments from Kowloon District Planning Office of the Planning Department: **(Contact Person: Ms Charlotte NG Tel: 2231 4970)** With reference to Para. 1 of TD's comments above, to facilitate our checking, please provide a plan identifying the Area of Influence (AOI). The planning and committed developments that falls within the AOI should be indicated on the Plan. Besides, Table 4.2 should also supplemented with the proposed uses and the amount of GFA being considered in the TIA for checking.	The planned developments and AOI are shown in Figure 4.1 of the revised TIA. (**Appendix V** refers) The proposed uses and the development parameters have been updated and shown in Table 4.2 of the revised TIA. (**Appendix V** refers)

Comments	Summary & Response/Action
Comments from Environmental Protection Department: **(Contact Person: Ms Jolitta CHAN Tel: 2835 1112)** **EPD's comments on the EA** General Comment The EA did not address the water quality impact and waste management/land contamination issues of the proposed development. Please supplement.	The scope of this EA is detailed in Section 1.4 (**Appendix IV** refers). Potential water quality and waste management impacts arising from the construction activities can be controlled with the implementation of proper site practices and pollution control measures stipulated in the "Recommended Pollution Control Clauses for Construction Contracts" issued by the EPD. As such, no adverse water quality and waste management impact during the construction is anticipated and has been scoped out from this EA. The Application Site is currently vacant and was previously occupied by an office building. There is no anticipated land contamination from past or current land use at the site. Consequently, land contamination has been excluded. The future use of the Proposed Development, which includes an RCHE and a hotel, is non-polluting by nature. With proper connection of drainage and sewerage system and regular disposal of general refuse, no adverse water quality and waste management impacts are expected during the operation phase. Therefore, operation phase water quality and waste management impacts have been scoped out.

Comments	Summary & Response/Action
Air Quality	
1. Section 1.1.4: Construction phase impact should be assessed and supplemented in Section 2 with details. Please revise.	Construction phase air quality impact has been supplemented in Section 2.5 (**Appendix IV** refers).
2. Section 1.3.1: There is no Appendix 1.1. Please supplement.	Appendix 1.1 has been provided (**Appendix IV** refers).
3. The Air Quality Section should be supplemented with the following elements/information:	
• Relevant air quality legislations and guidelines and AQOs	Relevant air quality legislation, guidelines, and AQOs have been provided in Section 2.2.
• A table listing the details of representative ASRs and a corresponding figure indicating their locations	Details of representative ASRs have been provided in Section 2.4 and Figure 2.1.
• Background air quality of the project area by quoting the AQMS and PATH data which are available in SAMP v2.0.	Background air quality has been presented in Section 2.3.
• Detailed assessment of construction phase impact on ASRs and list of applicable mitigation measures.	Construction phase impact has been discussed in Section 2.5 while mitigation measures have been included in Section 2.6.
4. Please supplement if there is any emission associated with the operation of the development and provide relevant mitigation measures. Besides, it is noted that a carpark is proposed, please supplement the control of air pollution with reference to the ProPECC PN 2/96 - Control of Air Pollution in Car Parks.	Since the future use of the Proposed Development includes a RCHE and a hotel, there will be no particular air pollution sources anticipated during the operation. Please refer to Section 2.5.1 (**Appendix IV** refers). Control of air pollution in car park has been supplemented in Section 2.5.4.
5. Section 2.3.1: ATC 2023 is available. Please use the updated referenced report.	The reference report has been updated.

Comments	Summary & Response/Action
6. Section 2.4: Please check whether there are any chimneys at Lanton Industrial Building and Ocean Industrial Building. Please be reminded that it should be the responsibility of the proponent and their consultant to ensure the validity of the chimney data. They should confirm that the chimney emission data to be used in their assessment have been validated and updated by their own survey. If there are any errors subsequently found in their chimney data used, the assessment results may be invalidated.	During the site visit conducted in March 2024 and according to the management office, there is no chimney at Lanton Industrial Building. Besides, no chimney was sighted at Ocean Industrial Building during the site visit.
7. Please confirm the fulfillment of buffer distance requirement of odour sources.	No odour sources have been identified within the 200m buffer distance.
8. Please be reminded that if the HKPSG requirements could not be fulfilled, quantitative cumulative impact assessment would be required to evaluate the potential air quality impact to confirm the compliance of the prevailing AQOs criteria.	Noted.
<u>Comments on SIA</u> 1. Main Text Table 2.1 Note 2 and Appendix 2.1 Table 1 Note 2: Please review the calculations steps on estimating the number of health worker/nurse and care worker.	The breakdown of staff number has been revised (**Appendix III** refers).
2. Main Text Table 2.1 and Appendix 2.1 Table 1: Given the nature of the development involves Social Welfare Facilities, adopting the planned usage type as Private Commercials might not be appropriate, please review. Mitigation measures should be provided to the surcharged sewer sections where applicable.	The Private Commercials category is applied to the estimation of hotel worker density only. As the proposed hotel is providing basic housekeeping services without associated facilities, such as catering or swimming pool, the estimated number of workers in the SIA, ie 68, is already on the high side, which serves as a conservative estimate for the SIA.

Comments	Summary & Response/Action
3. Figure 2.2：Please review the legend for Catchment A, S2 should be referring to FMH4042669 instead of FMH4043669.	Figure 2.2 has been revised.
4. Please re-visit the assessment based on the above comments.	Noted and revised accordingly.
5. Please note that the implementation of sewerage works shall also meet the satisfaction of DSD.	Noted.

Consolidated by: **KTA Planning Limited**
Date: **12 February 2025**

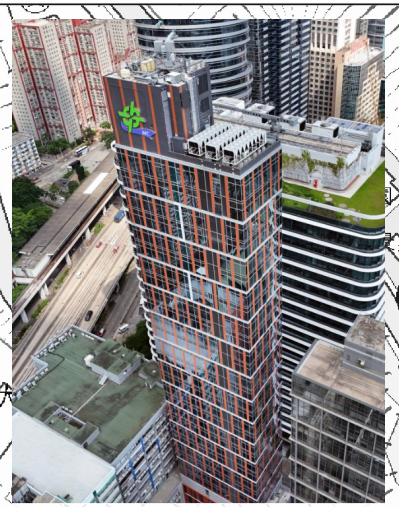
List of Figures

Figure A Land Use of the Surrounding Area
Figure B Projects under EKEO's Initiatives

List of Appendices

Appendix I Replacement Pages of the Supporting Planning Statement
Appendix II Updated Indicative Architectural Drawings
Appendix III Revised Sewerage Impact Assessment
Appendix IV Revised Environmental Impact Assessment
Appendix V Revised Traffic Impact Assessment
Appendix VI Replacement Pages of Visual Impact Assessment

1. HKBH Planned Development



2. HKBH East Kowloon Medical Centre

Legend

- Industrial Use
- Commercial/Office Use
- Medical Service Use
- Retail Use
- Hotel Use

The Site

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Land Use of the Surrounding Area

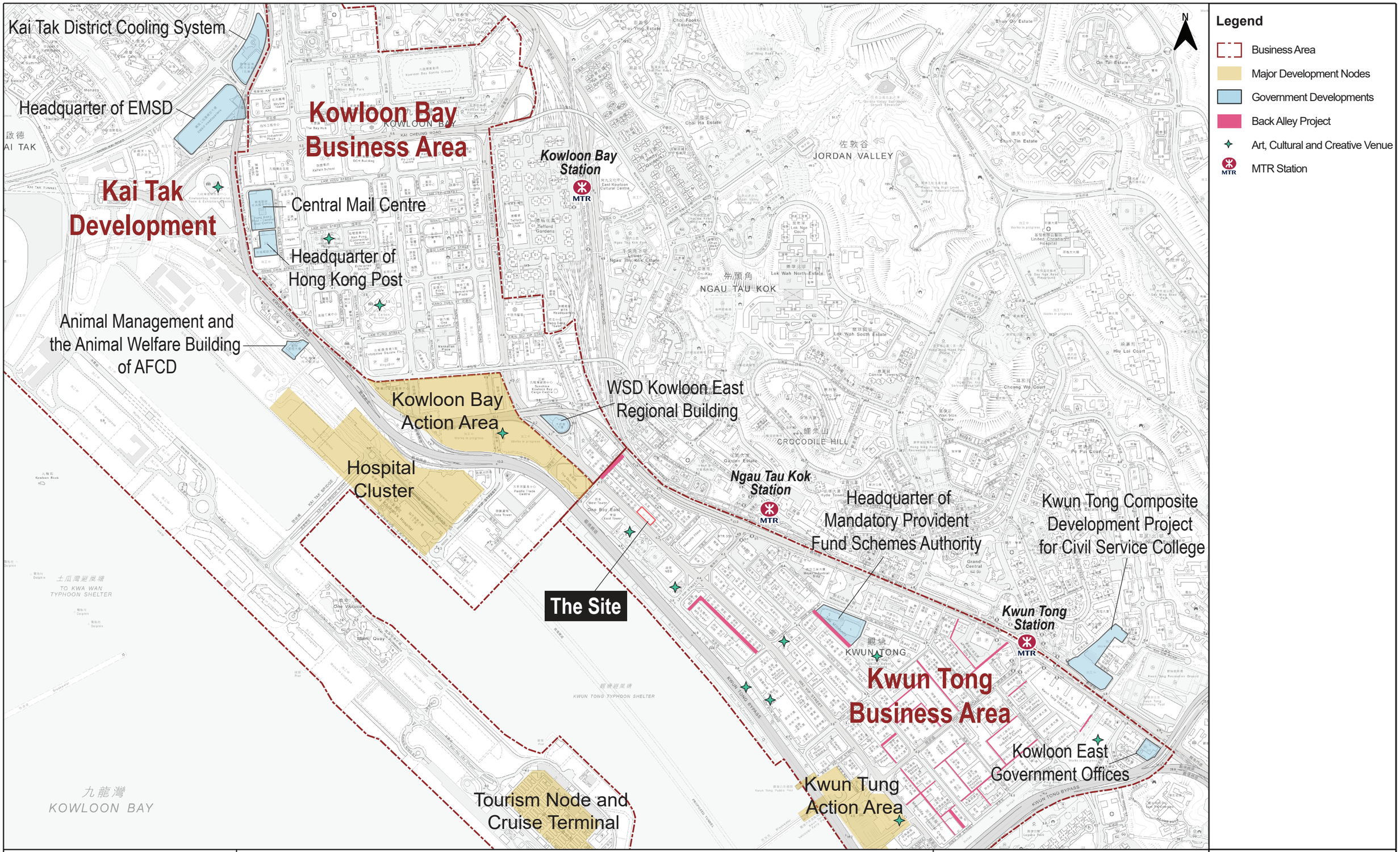
Proposed Rezoning of the Site from "OU(B)" to "OU(Residential Care Home for the Elderly and Hotel)" at Nos. 107 – 109 Wai Yip Street, Kwun Tong

S12A Rezoning Application

Figure A

Scale: 1:3,000 (A3)

Date: 10 February 2025



PLANNING LIMITED
規劃顧問有限公司

Projects under EKEO's Initiatives

Proposed Rezoning of the Site from "OU(B)" to "OU(Residential Care Home for the Elderly and Hotel)" at Nos. 107 – 109 Wai Yip Street, Kwun Tong

S12A Rezoning Application

Figure B

Scale: 1:13,000 (A3)

Date: 10 February 2025

Appendix I

Replacement Pages of the Supporting Planning Statement

TABLE OF CONTENTS

Table 3.1 Key Development Parameters

	Approved Scheme under Planning Application No. A/K14/780	**Proposed Scheme**
Total Site Area	About 1,170.578m^2	About 1,170.578m^2
Plot Ratio	14.4	14.4
Total GFA • RCHE • Hotel	Not more than 16,856.323m^2 N/A N/A	Not more than 16,856.323m^2 • 12,000m^2 • 4,856.323m^2
No. of Guestroom for Hotel	N/A	200 rooms
No. of RCHE Bed Space	N/A	Not less than 302[4]
Site Coverage • Below 15m • Above 15m	Not more than 60%	 Less than 100% Less than 60%
Class of Site	Class A	Class A
No. of Block	1	1
Maximum Building Height (Main Roof)	About +115mPD	About +115mPD
No. of Storeys	29 (including 3 levels of basement)	33 (including 1 level of basement)

Table 3.2 Proposed Floor Uses

Floor	**Proposed Uses**
22-31/F	Hotel
21/F	Hotel Reception
4-20/F	RCHE (13/F for Refuge Floor) (6/F for Refuge Floor / E&M)
3/F	Podium Roof, Water Feature, Clinic, Office, Meeting / Multi-purpose room, Gym / Physio, Café, SPA room, Staff Rest Room, E&M
2/F	RCHE, Nurse Station, E&M
1/F	Dining Hall, Kitchen, E&M
G/F	Lift Lobby, L/UL Bays, M&E, Public Passage
B1/F	Car Parking Spaces, M&E

3.1.3 Supportive facilities are proposed on 4-5/F, 7-12/F and 14-20/F and the preliminary function of the facilities are stated in **Table 3.3**. The proposed function will be further revised in later detail design stage.

[4] Ditto

3.4 Design Merits

3.4.1 In formulating the Indicative Development Scheme, the schematic design has taken into account the various site constraints as well as design considerations in order to ensure the Scheme is designed to create a high-quality development in harmony with the branding of CBD2.

- Provide 2.3m and 1.5m full-height building setbacks from Wai Yip Street and the back lane respectively. The Applicant is also providing an additional 1.5m setback with a clear height of 5.1m at the back lane to enhance the traffic circulation.

- Provide a 3m wide public passage at G/F to serve as a short-cut between Wai Yip Street and the back lane through to other existing buildings on Tai Yip Street. The public passageway will be opened for 24 hours daily.

- Maximise greening opportunities to enhance the amenity and visual quality, e.g. provide a veritable green wall on G/F that fronts onto Wai Yip Street, provide landscaped area with planter seat walls and water feature on 3/F, as well as rooftop garden with ornamental shurbs, multi-functional lawn and creeping plants on R/F. The 3/F podium roof is intended to serve RCHE and the R/F green roof is intended to serve the hotel during operation hours only.

- Provide a 1.5m wide canopy along the footpath of Wai Yip Street and a recessed covered area of about 8.5m^2 at the hotel entrance for sheltering.

- Refuge floors with cross ventilation at 13/F will be provided to improve air ventilation in the neighbourhood.

- Compliance with Sustainable Building Design Guidelines ("SBDG") including 1) provision of building setback; 2) continuous projected façade length is less than 60m and 3) greenery provision of not less than 20%.

13F

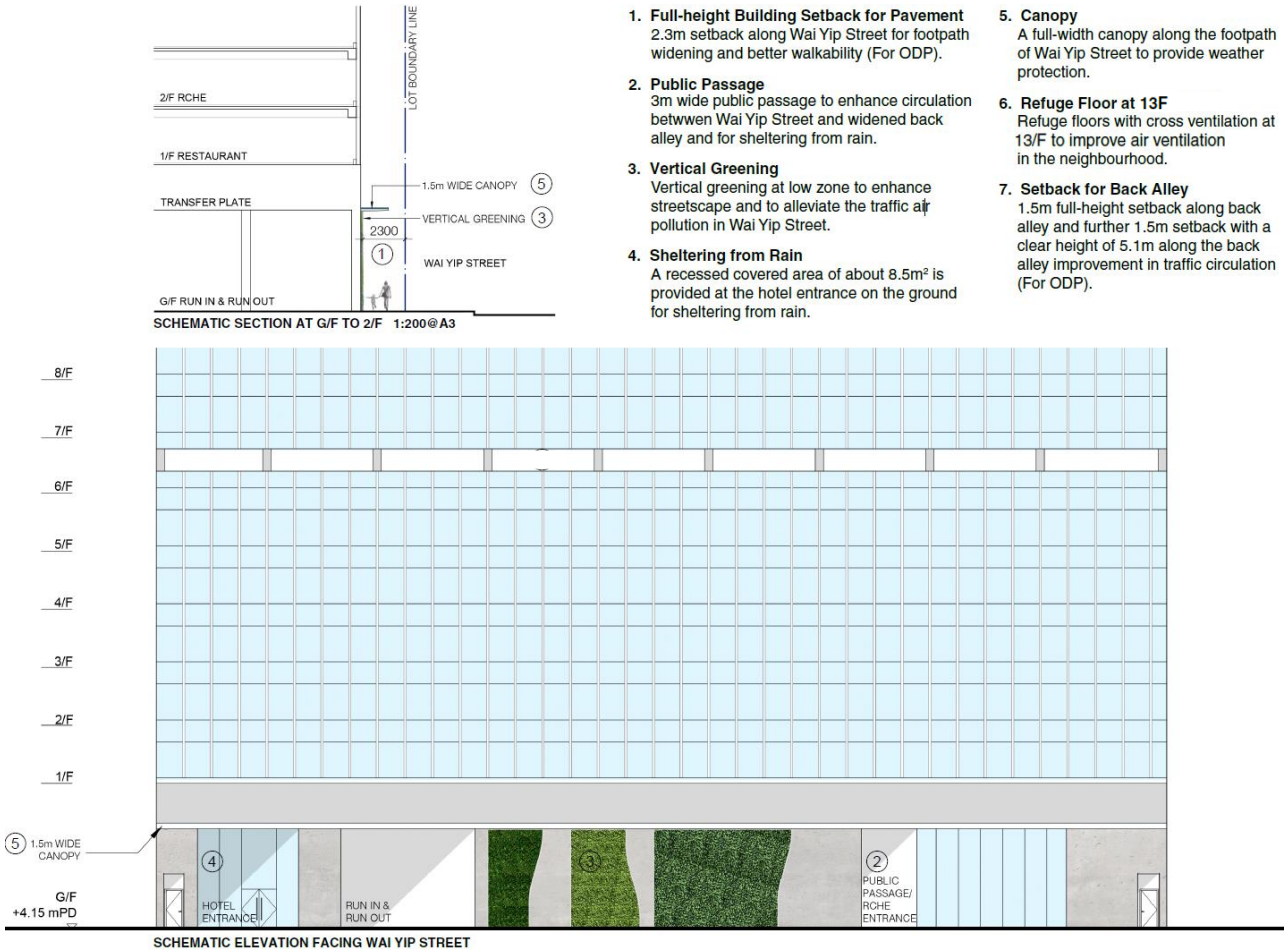


Figure 3.1 Summary of Planning and Design Merits

Figure 3.2 Proposed Development Viewed from Wai Yip Street

Bund Road/Lai Yip Street, which are estimated to be completed before 2032. In addition, swept path analysis was also conducted to ensure that all vehicles could enter and leave the development and the spaces provided with ease. Despite the maximum number of RCHE bed spaces of 557 under the proposed scheme, a sensitivity test has also been conducted for the scheme with 644 beds according to the minimum bed space requirement under the Residential Care Homes (Elderly Persons) Regulation for nursing home or care and attention home. The results concluded that the Proposed Development will result in no adverse traffic impact to the surrounding road network.

Visual Aspect (Appendix 4 refers)

5.10.3 A Visual Impact Assessment ("VIA") has been conducted to assess the visual impact associated with the Proposed Development. The resultant overall visual impact of the Proposed Development to the Visual Sensitive Receivers ("VSRs") represented by the selected Viewpoint ("VPs") would be negligible to slightly adverse. As seen from the photomontages, the Proposed Development with +115mPD would induce visual change for VSRs at VP1, VP3, VP4, VP5 and VP7. However, it would appear more comparable upon redevelopment of the nearby medium-rise buildings and the visual effect of the Proposed Development would be a lot less influential. The multi-level greenings on 3/F and R/F would echo with the greenery within Hoi Bun Road Park and help enhance the visual experience and add visual interest of VSRs. No obstruction of the Victoria Harbour and the major ridgeline with the 20% Building Free Zone would be anticipated when viewing from the strategic viewing point at VP6. Hence, there would be negligible and slight impact in the visual aspect.

Environmental Aspect (Appendix 5 refers)

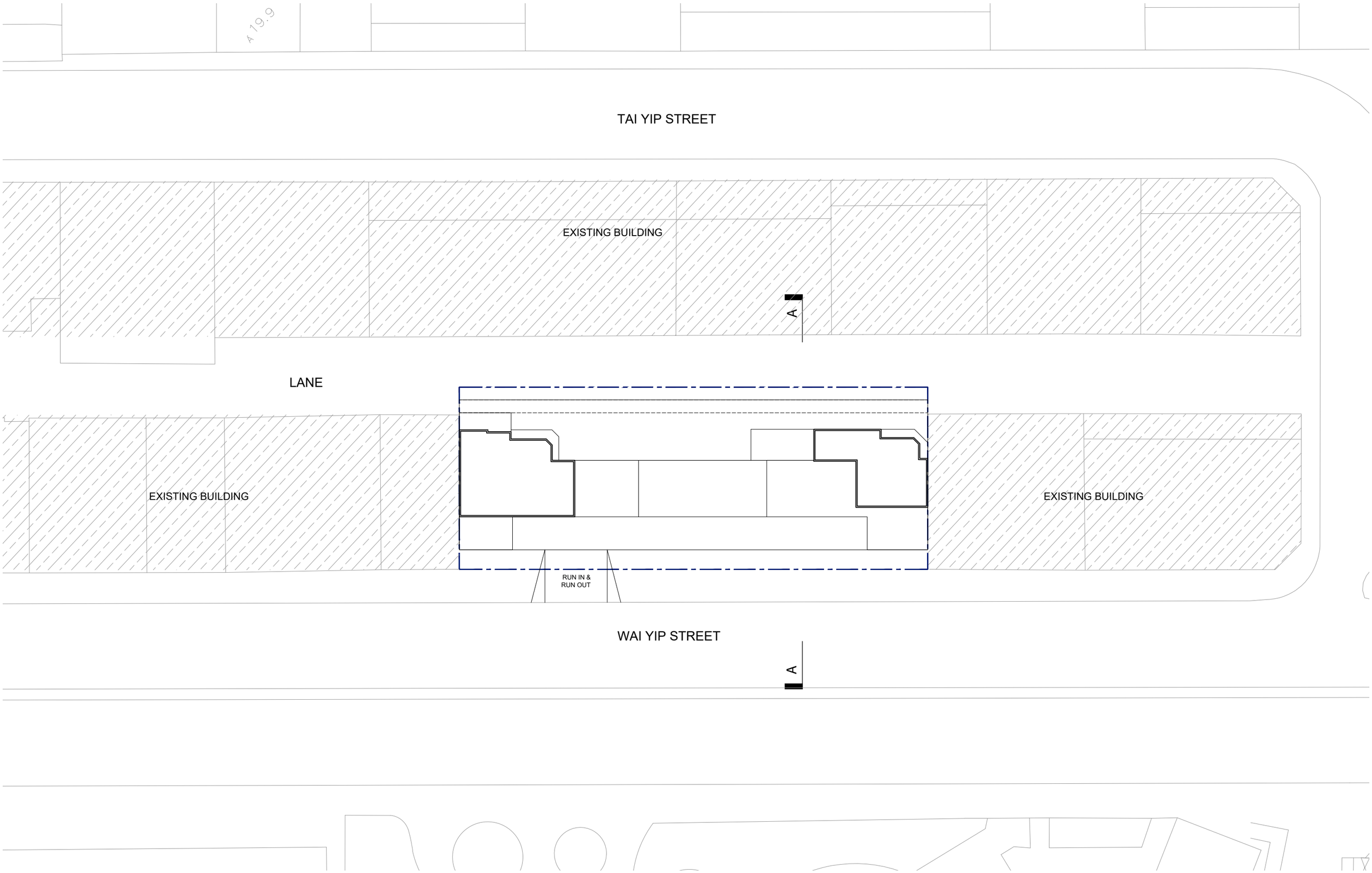
5.10.4 An Environmental Impact Assessment ("EA") has been conducted to assess the air quality and noise impacts associated with the Proposed Development. From the air quality perspective, while an active chimney is identified within 200m of the Site, the fresh air intake point for the central air-conditioning system is carefully positioned beyond 200m from the chimney and beyond 20m from Wai Yip Street. Adequate buffer distance from both the road and the chimney is provided in accordance with the requirements outlined in the HKPSG. Therefore, no adverse vehicular and chimney emission impacts are anticipated. In terms of noise impact, the Proposed Development will be equipped with central air-conditioning system and will not rely on openable windows for ventilation under normal circumstances. Prescribed windows requirement for rehabilitation rooms will be met in accordance with the Code of Practice for RCHE and Building (Planning) Regulations. The EA concluded that no adverse impact is anticipated from the air quality and noise perspectives.

Sewerage Aspect (Appendix 6 refers)

5.10.5 The Sewerage Impact Assessment ("SIA") has quantitatively assessed the potential sewerage impact by comparing the estimated sewage flow from the

Appendix II

Updated Indicative Architectural Drawings

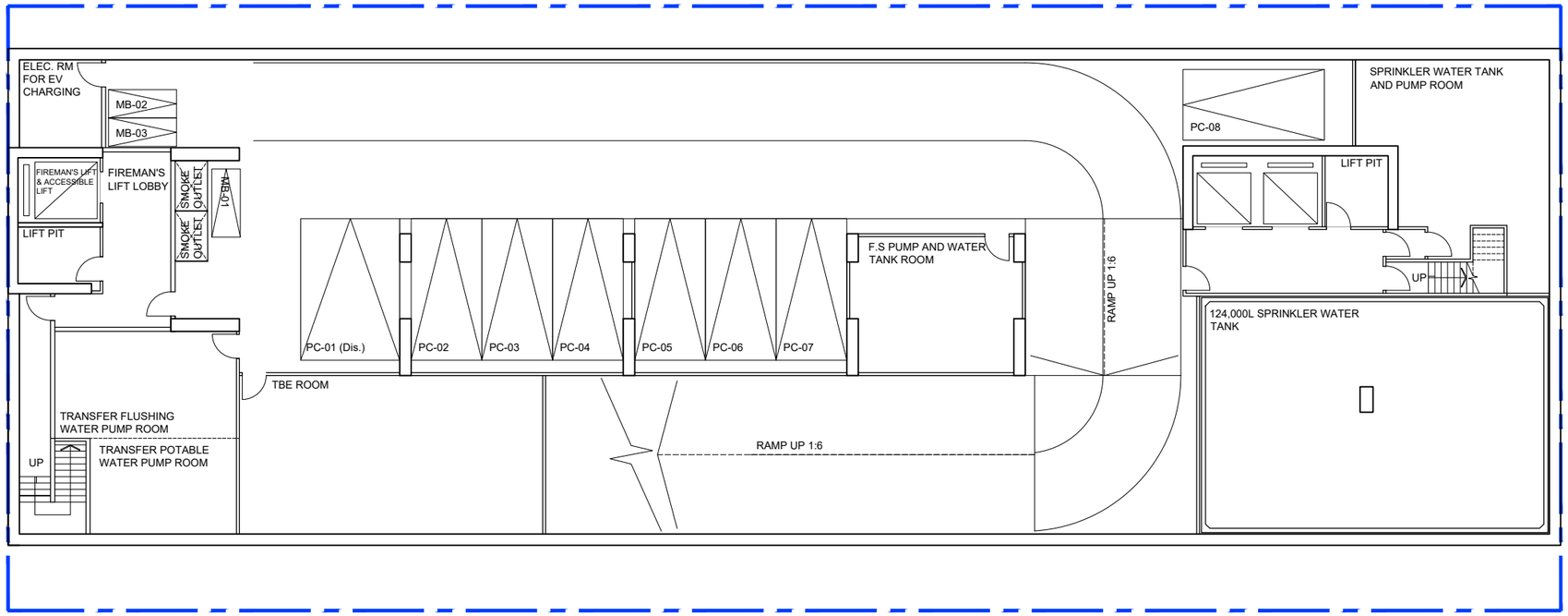


BLOCK PLAN SK-1 **19 MARCH 2024**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 4 8 20m

Singular Studio

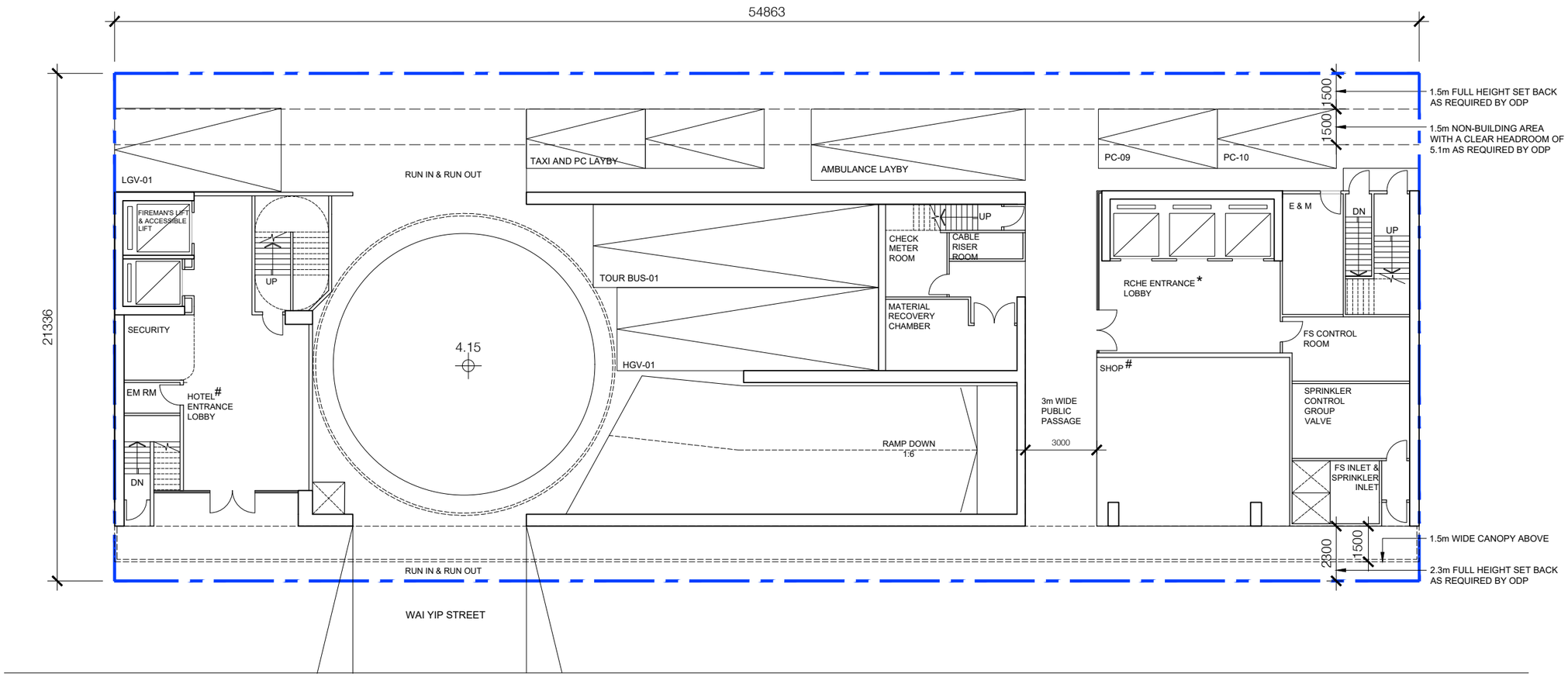


BASEMENT LEVEL 1 PLAN SK-2 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



Annotations:
* Area designated for RCHE
\# Area designated for hotel

GROUND FLOOR PLAN SK-3 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

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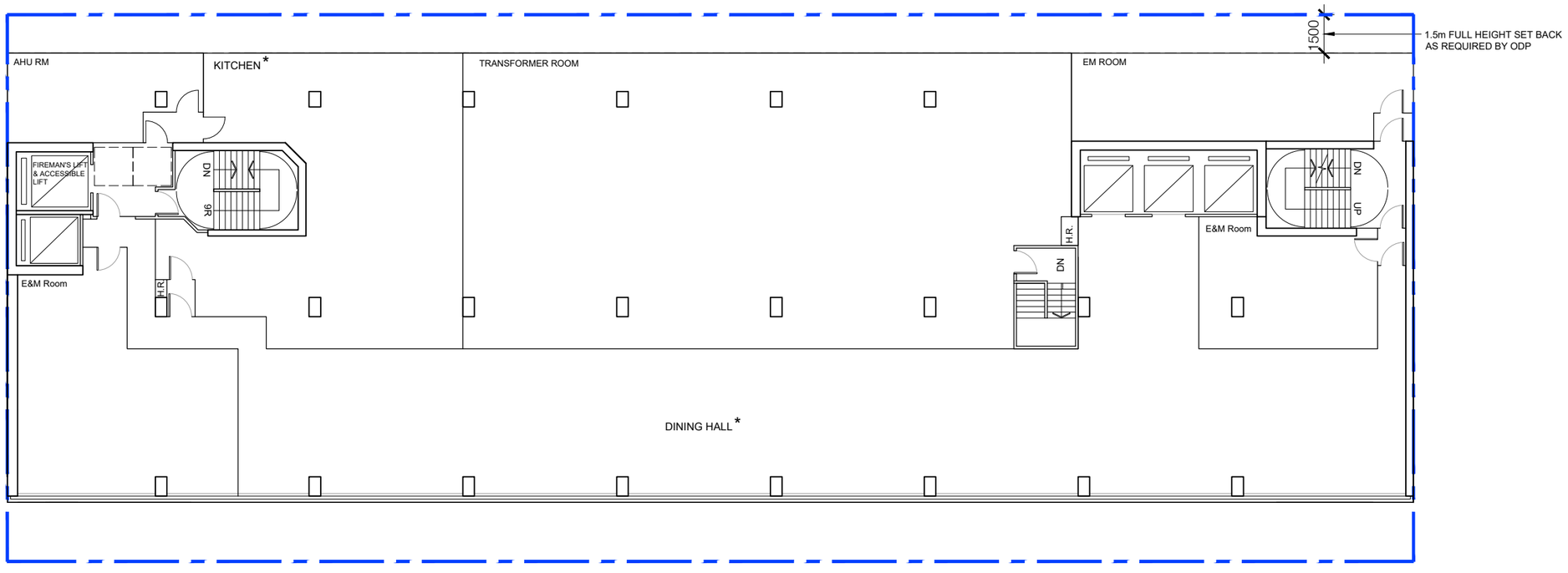
Singular Studio



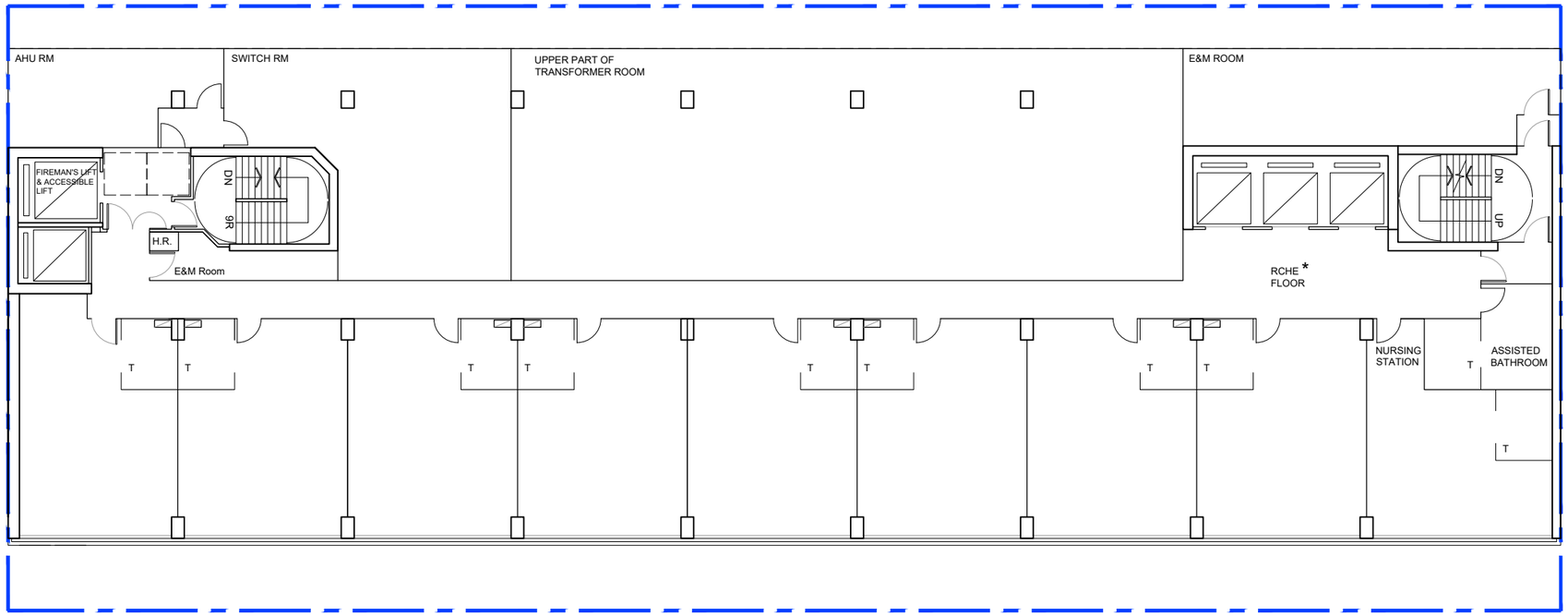
Annotation:
* Area designated for RCHE

RCHE FIRST FLOOR PLAN SK-4 **11 FEBRUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



NO. OF RCHE ROOMS: 8

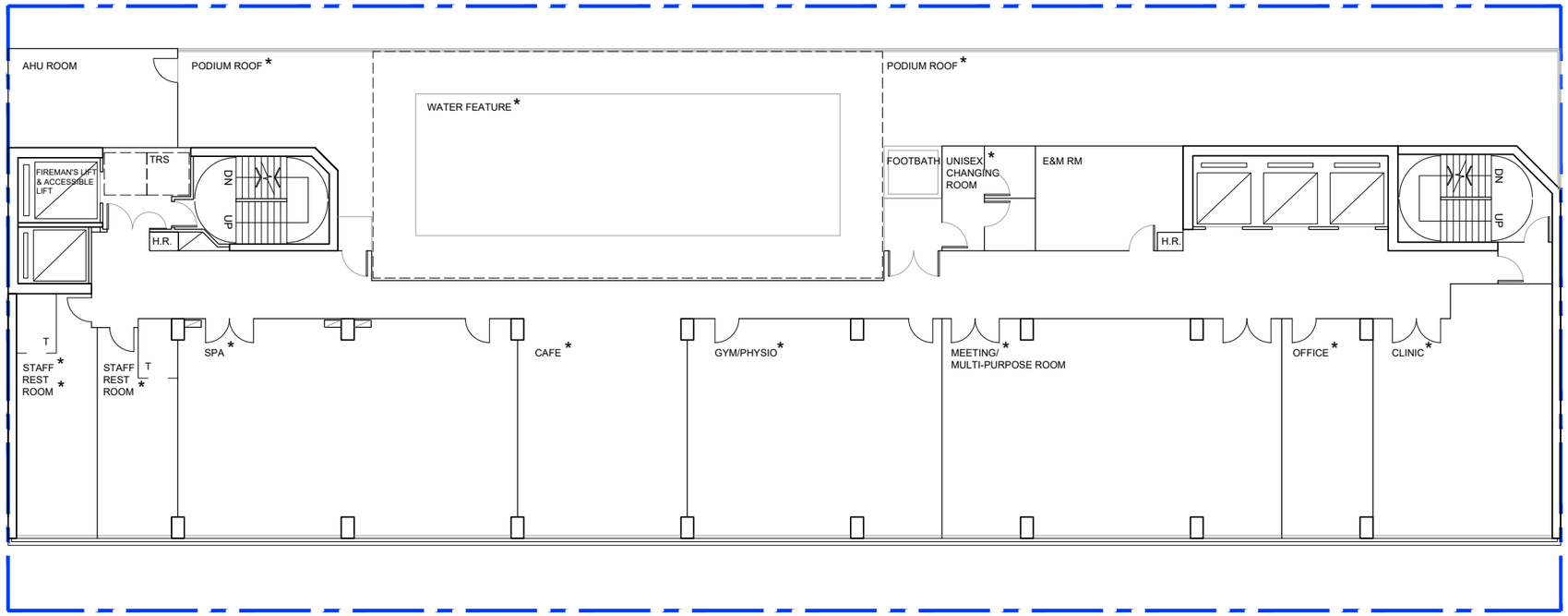
Annotation:
* Area designated for RCHE

RCHE SECOND FLOOR PLAN SK-5 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



Annotation:
* Area designated for RCHE

RCHE THIRD FLOOR PLAN SK-6 **11 FEBRUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

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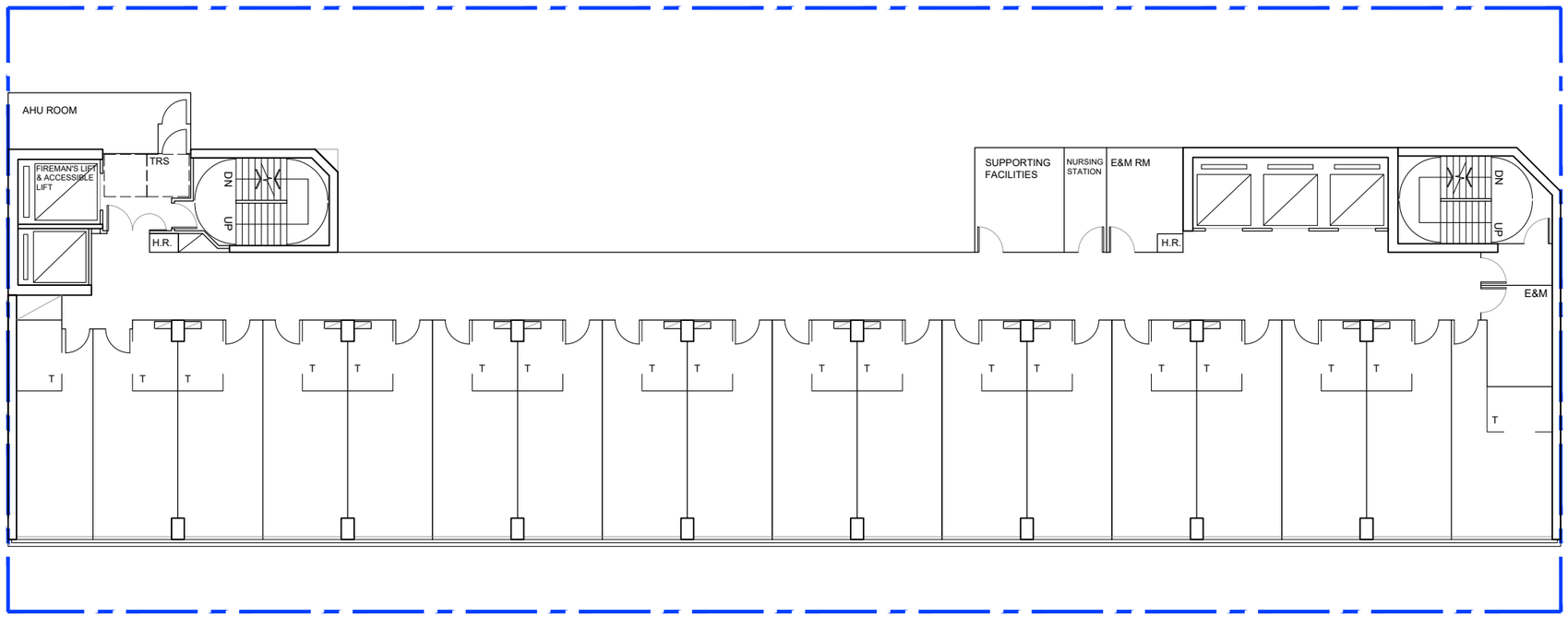

NO. OF RCHE ROOMS : 18

RCHE TYPICAL FLOOR (4-5, 7-12, 14-20/F) PLAN SK-7 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

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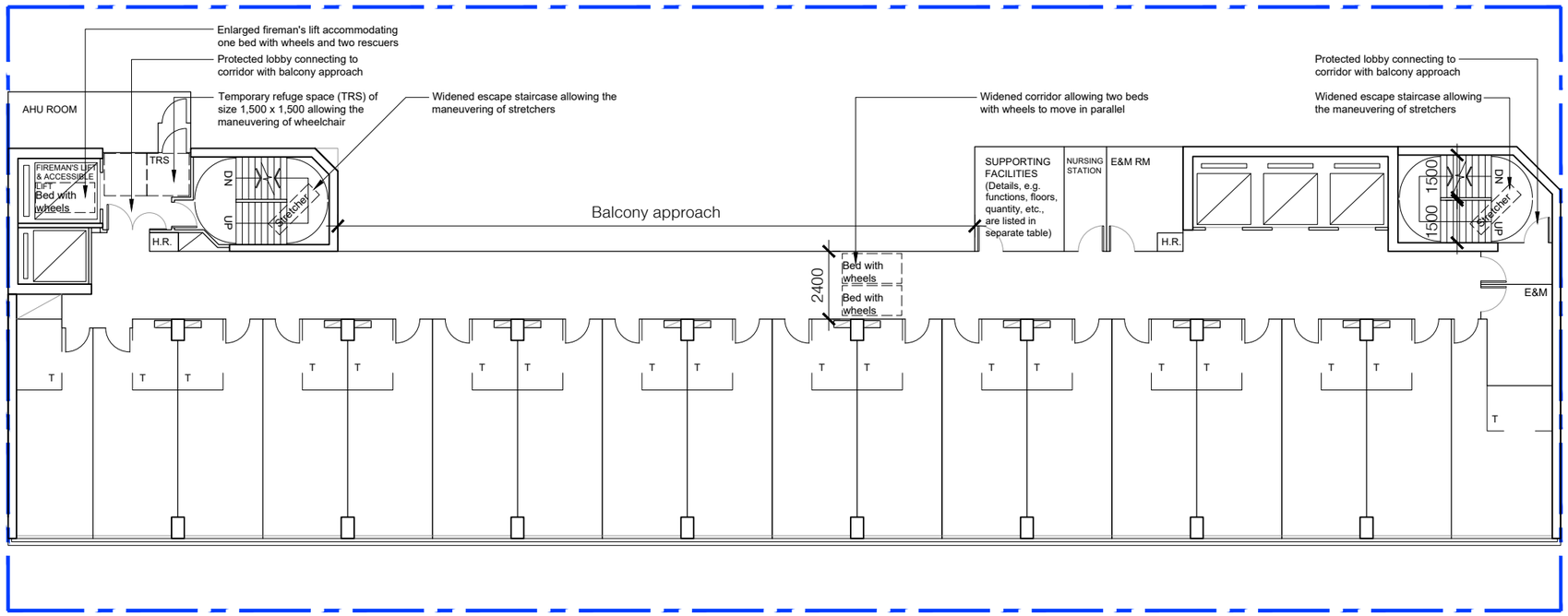


Reference Diagrams Extracted from Metric Handbook

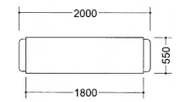


Diagram for stretcher/ hospital trolley

Diagram for bed with wheels

Proposed Function of Supporting Facilities at RCHE Typical Floor (4-5/F, 7-12/F and 14-20/F, 15 storeys)

Function	No. of Rooms	Location
Nursing Station	15	4-5/F, 7-12/F & 14-20/F
Isolation Room	4	5/F, 8/F, 12/F, 17/F
Pantry	3	11/F, 16/F, 20/F
Laundry	2	4/F, 7/F
Store	3	10/F, 15/F, 19/F
Total	15	

NO. OF RCHE ROOMS : 18

NO. OF BEDS : 18 - 35
(1-2 BEDS PER ROOM)

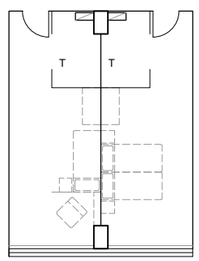


Diagram for Typical Room Layout
(for reference only)

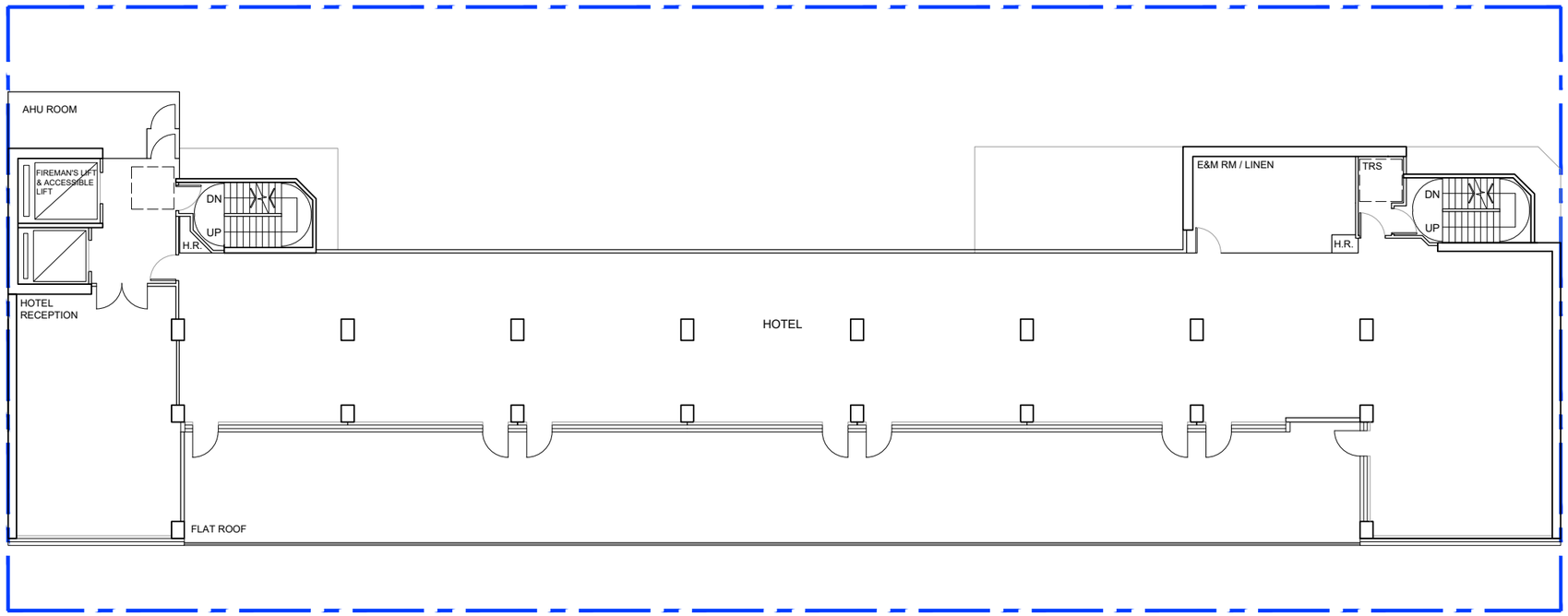
RCHE TYPICAL FLOOR (4-5, 7-12, 14-20/F) PLAN SK-7B 11 FEBRUARY 2025

(with annotations for additional requirements for building fire safety design and typical room layout)

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



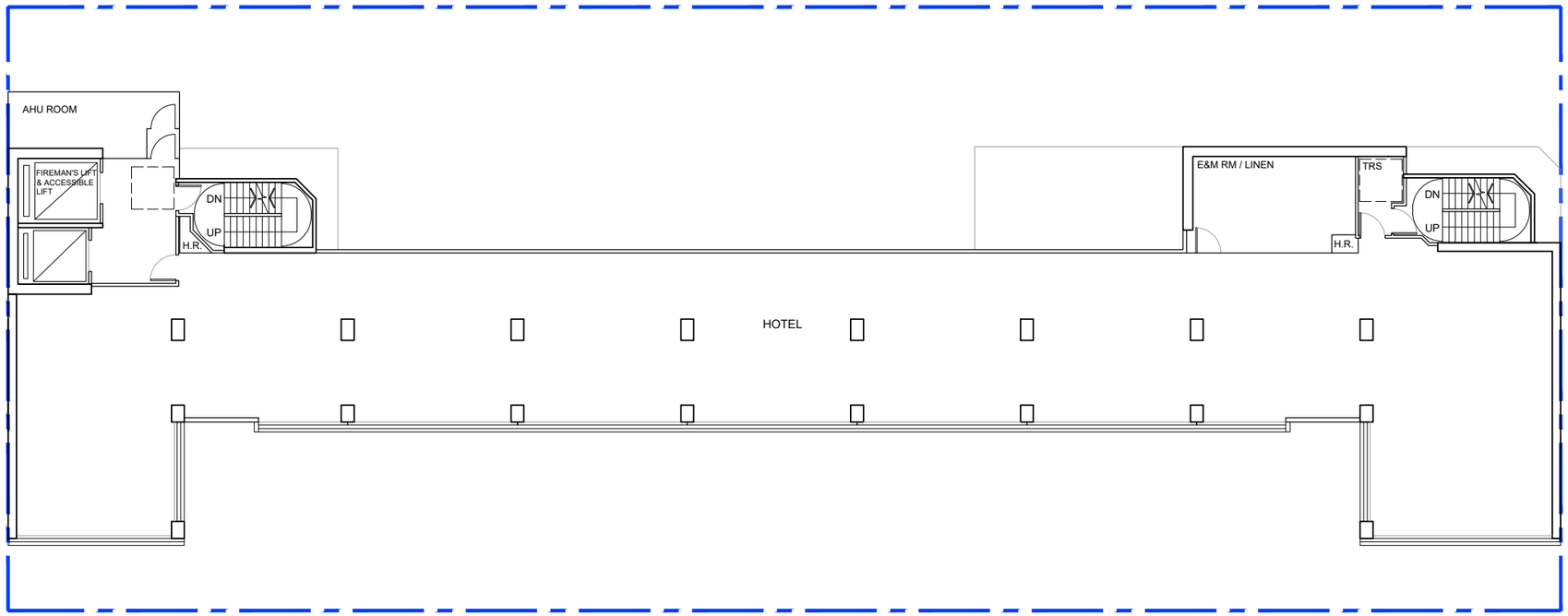
NO. OF GUESTROOMS: 16

HOTEL 21/F FLOOR PLAN SK-8 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



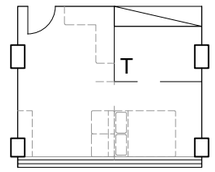


Diagram for Typical Room Layout
For Hotel (for reference only)

NO. OF GUESTROOMS PER TYPICAL FLOOR: 19
19 x 9 TYPICAL FLOORS = 171GUESTROOMS

HOTEL TYPICAL FLOOR PLAN SK-9 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

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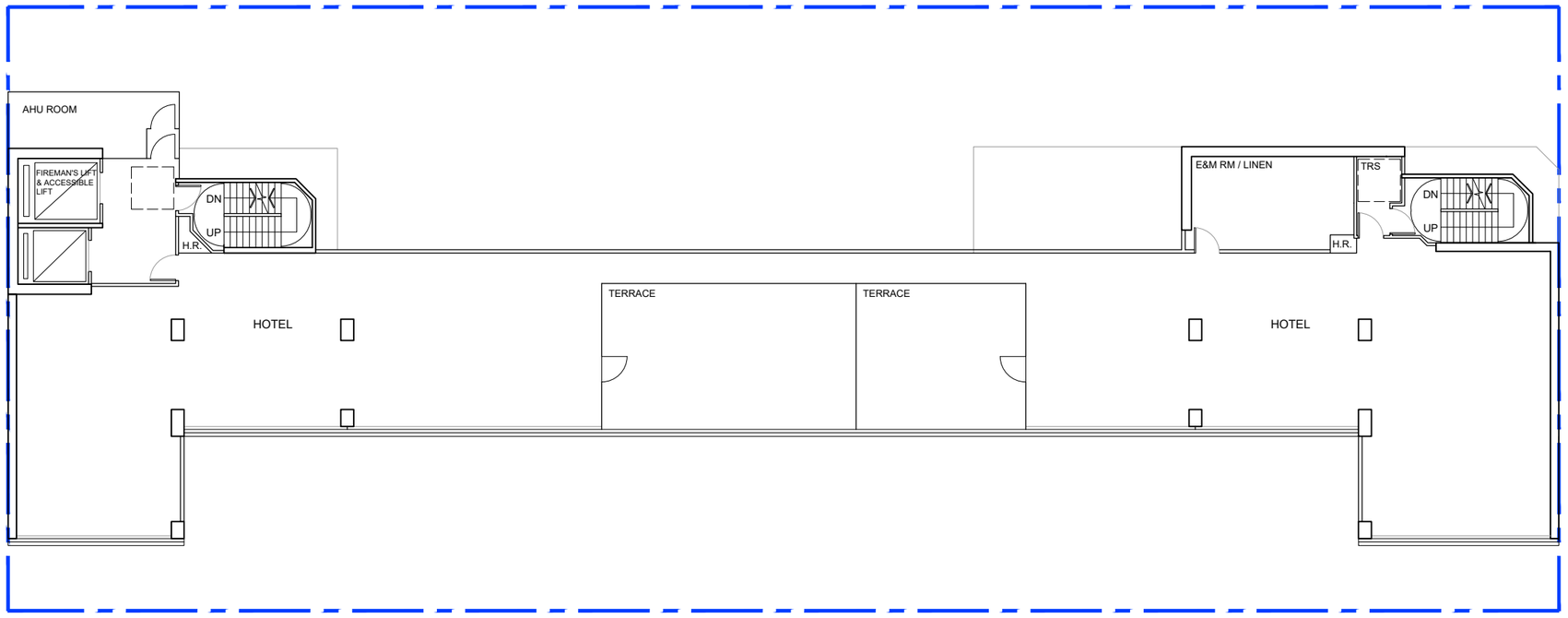


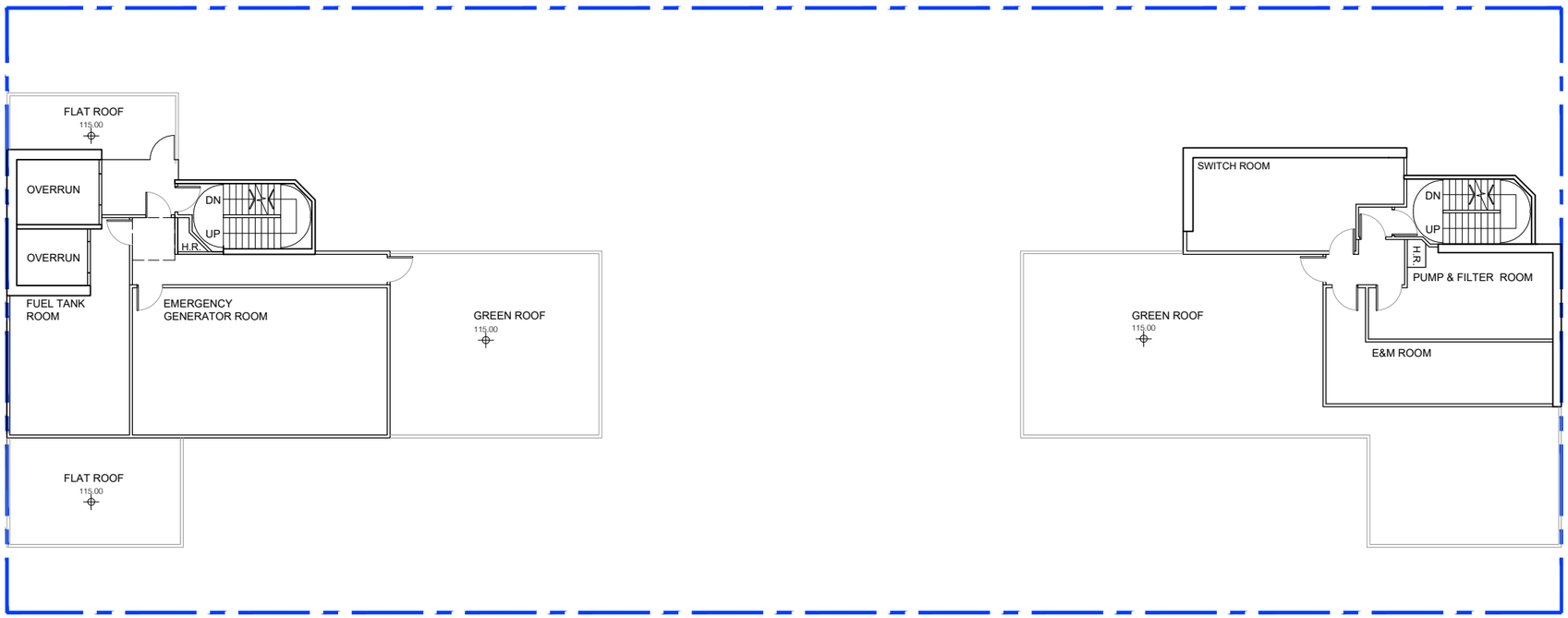
NO. OF GUESTROOMS: 13

HOTEL 31F FLOOR PLAN SK-10 11 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio

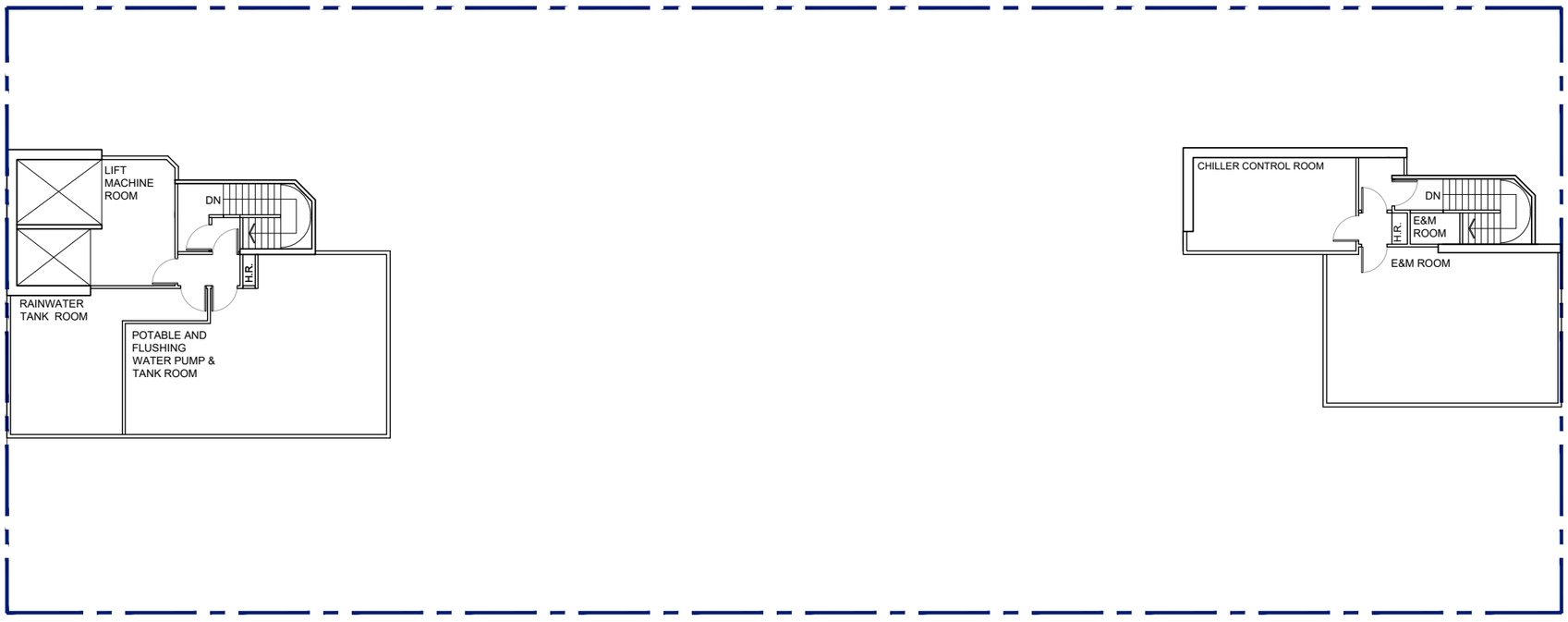


ROOF FLOOR PLAN SK-11 **21 JANUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio

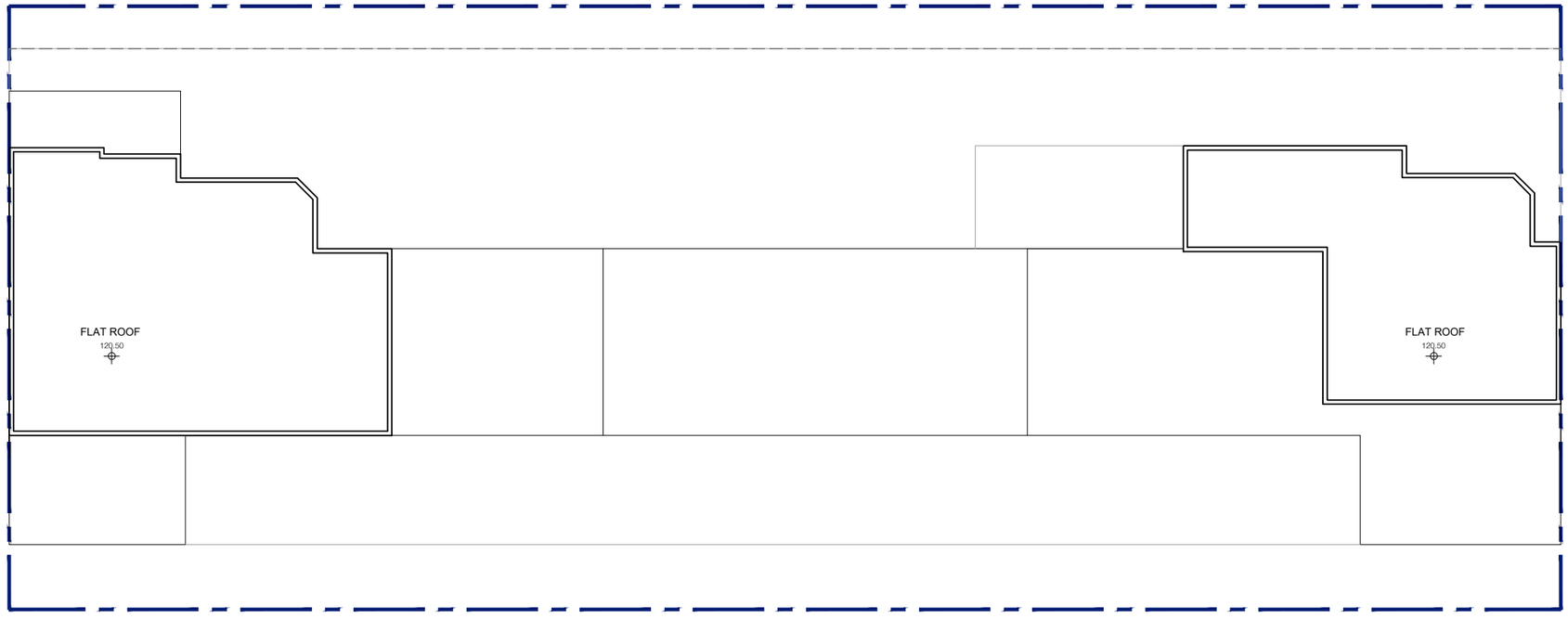


MECHANIC FLOOR PLAN SK-12 **19 MARCH 2024**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio

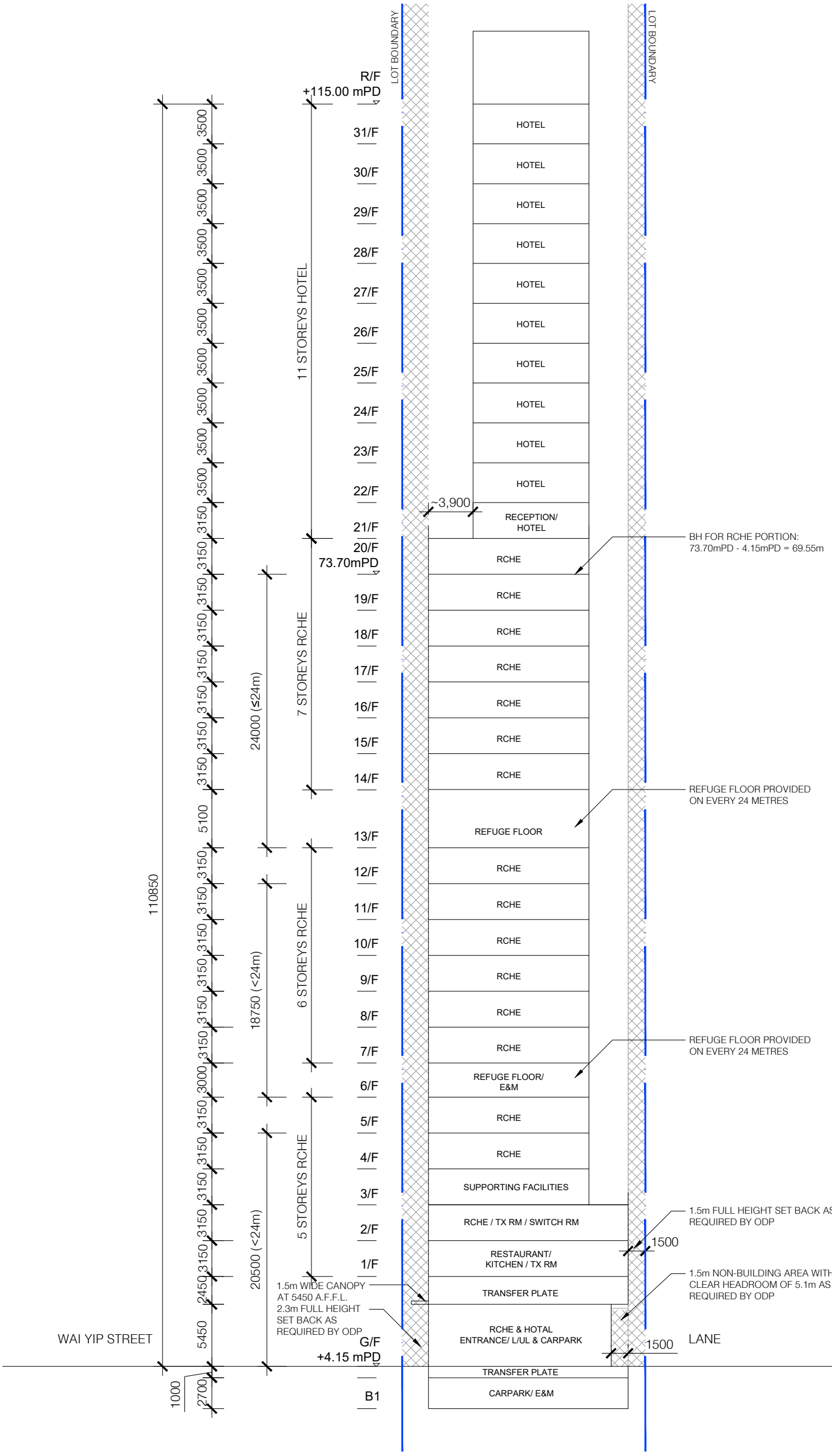


UPPER ROOF FLOOR PLAN SK-13 30 JULY 2024

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



SECTION A SK-14 21 JANUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

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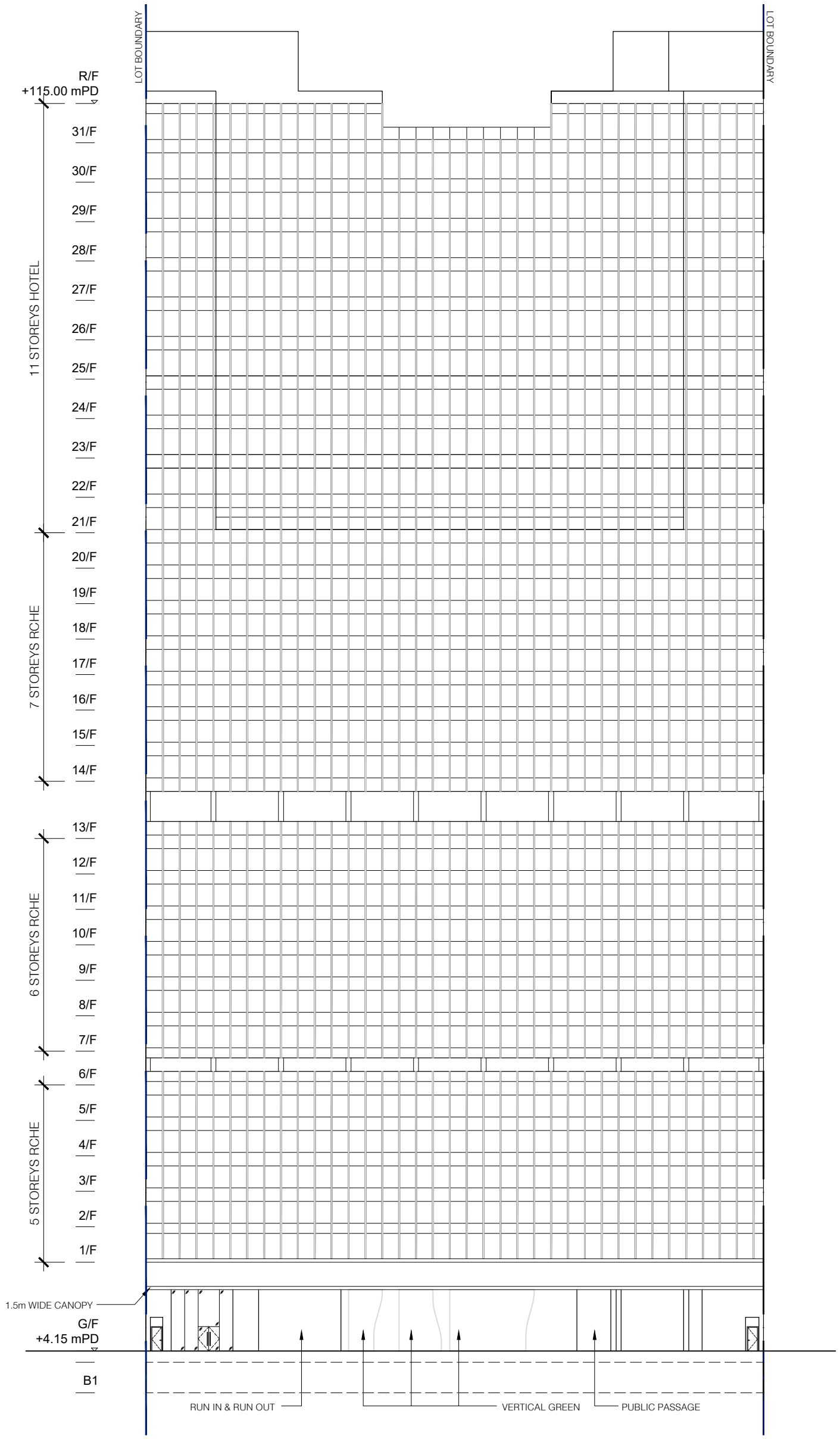

SOUTH-WEST ELEVATION SK-15 24 APRIL 2024

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

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Appendix III

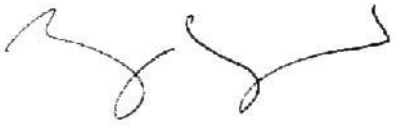
Revised Sewerage Impact Assessment

Prepared by

Ramboll Hong Kong Limited

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107-109 WAI YIP STREET, KWUN TONG, KOWLOON

SEWERAGE IMPACT ASSESSMENT

Date	05 February 2025
Prepared by	Crystal Lui Assistant Environmental Consultant
Signed	
Approved by	Katie Yu Senior Manager
Signed	
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CHAPTERS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

1.1 Background and Objectives

1.1.1 According to the Approved Kwun Tong (South) Outline Zoning Plan (OZP) No. S/K14S/25, the Application Site falls within an area zoned "Other Specified Uses (Business)". The purpose of this submission is to seek permission from the Town Planning Board (the Board) in support of the Proposed Development at 107-109 Wai Yip Street (hereafter referred to as the "Application Site").

1.1.2 Ramboll Hong Kong Limited has been appointed by the Applicant to conduct this Sewerage Impact Assessment (SIA) in support of the Planning Application under the Town Planning Ordinance.

1.2 Application Site and its Environ

1.2.1 The Application Site area is about 1,171 m^2. It is located at the Kwun Tong Industrial Area bounded by Wai Yip Street to the south and Tai Yip Street to the north. The Application Site is sandwiched between industrial and commercial buildings to the west and east. Figure 1.1 shows the location of the Application Site and its environ.

1.3 Proposed Development

1.3.1 The Proposed Development comprises a 33-storey building with 1 level of basement carpark. The building consists of 18 storeys of residential care home for the elderly (RCHE) and 11 storeys of hotel. It contains a GFA of about 16,856 m^2 for RCHE and hotel use. The development schedule of the proposed development is shown in Table 1.1.

Table 1.1 Development Schedule

Total Site Area	About 1,170.578m^2
Plot Ratio	14.4
Total GFA • RCHE • Hotel	Not more than 16,856.323m^2 • 12,000m^2 • 4,856.323m^2
No. of Guestroom for Hotel	200 rooms
No. of RCHE Bed Space	Not less than 302 and not more than 557
Site Coverage	Not more than 60%
Class of Site	Class A
No. of Block	1
Maximum Building Height (Main Roof)	About +115mPD
No. of Storeys	33 (including 1 level of basement)

1.3.2 Although the proposed maximum number of beds is 557, the RCHE GFA can accommodate up to 644 beds if adopting the minimum space per bed requirement for nursing home or care and attention home under Section 22(1) of the Residential Care Homes (Elderly Persons) Regulation. Therefore, the assessment assumption adopting 644 beds has been assumed as a worst case scenario in this SIA.

2. SEWERAGE IMPACT ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this SIA is to assess whether the capacity of the existing sewerage network serving the Application Site is sufficient to cope with the sewage flow from the Proposed Development.

2.2 Assessment Criteria and Methodology

2.2.1 The Commercial and Industrial Floor Space Utilization Survey (CIFSUS) conducted by the Planning Department has been used to determine the worker density for various economic activities and planned usage types.

2.2.2 Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, Version 1 (GESF) has been referred to for the purposes of estimating the quantity of the sewage generated from the Proposed Development and the existing catchment area. Sewage flow parameters and global peaking factors in this document have been adopted for this SIA.

2.2.3 According to the GESF, the overall unit flow is composed of flows due to residents, employees and the associated activities. The following unit flow factors have been adopted in the SIA calculation in accordance with Tables T-1, T-2 and T-3 of the GESF:

- Domestic: 0.19 m^3/day (Institutional and Special Class)
- Industrial: 0.53m^3/day (Industrial Employee and J1 Manufacturing in East Kowloon)
- Retail Trade: 0.28m^3/day (Commercial Employee and J4 Wholesale & Retail)
- Office: 0.08m^3/day (Commercial Employee and J6 Finance, Insurance, Real Estate & Business Services)
- Restaurant: 1.58m^3/day (Commercial Employee and J10 Restaurants & Hotels)
- Social Facilities: 0.28 m^3/day (Commercial Employee and J11 Community, Social & Personal Services)
- Storage: 0.18m^3/day (Commercial Employee and J3 Transport, Storage & Communication)

2.2.4 The catchment inflow factor, PCIF of 1.1 (East Kowloon), is adopted in catchment calculations.

2.3 Existing and Future Sewerage System

2.3.1 According to the Drainage Record obtained from DSD, there are Ø225mm sewer pipes running along Tai Yip Street and the back lane of the Proposed Development, and Ø225mm and Ø400mm sewer pipes running along Wai Yip Street. The existing sewers in the vicinity of the Application Site are shown in Figure 2.1.

2.3.2 A new terminal manhole FTMH-01 (P1) will be constructed within the Application Site to collect sewage from the Proposed Development. A new Ø225mm polyethylene sewer pipe is proposed to connect the Proposed Development and the existing government manhole FMH4042668(S1) along Wai Yip Street.

2.3.3 Invert levels and pipe size of the proposed terminal manhole and existing manholes are shown in Appendix 2.1.

2.4 Wastewater Generated by the Proposed Development

2.4.1 Wastewater arising from the Proposed Development will be contributed by residents of the RCHE and the hotel, as well as employees of the RCHE, the hotel, restaurants and RCHE communal facilities. In addition, backwash of the water feature is also considered when assessing the sewage system capacity. Backwash of the water feature will only be conducted in non-peak hours to avoid potential overflow.

2.4.2 Detailed calculation of sewage generation from the Proposed Development is given in Table 2.1 below.

Table 2.1 Estimated Peak Flow

Calculation for Sewage Generation Rate of the Proposed Development			
1. Residential Care Homes for the Elderly (RCHE)			
1a. Total no. of residents	=	644	residents (644 beds)
1b. Design flow of residents	=	190	litre/resident/day – (refer to Table T-1 of GESF – Domestic – Institutional and Special Class)
1c. Sewage generation rate from residents	=	122.4	m^3/day
1d. Total no. of employees [1]	=	148	Employees
1e. Design flow of employees	=	280	Litre/employee/day – (refer to Table T-2 of GESF – J11 Community, Social & Personal Services)
1f. Sewage generation rate from employees	=	41.4	m^3/day
2. Hotel			
2a. Assumed area	=	4856	m^2
2b. Assumed floor area per employee	=	71.4	m^2 per employee – (refer to Table 8 of CIFSUS – Hotels and Boarding Houses, Private Commercials)
2c. Total number of employees	=	68	employees
2d. Design flow	=	1580	litre/employee/day – (refer to Table T-2 of GESF – J10 Restaurants & Hotels)
2e. Sewage generation rate	=	107.4	m^3/day
3. RCHE F&B/ Restaurant			
3a. Assumed area	=	415	m^2
3b. Assumed floor area per employee	=	19.6	m^2 per employee – (refer to Table 8 of CIFSUS – Restaurants)
3c. Total number of employees	=	21	employees
3d. Design flow	=	1580	litre/employee/day – (refer to Table T-2 of GESF – J10 Restaurants & Hotels)
3e. Sewage generation rate	=	33.4	m^3/day
4. RCHE Communal Facilities			
4a. Assumed area	=	1338	m^2
4b. Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
4c. Total number of employees	=	44	employees
4d. Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J11 Community, Social & Personal Services)
4e. Sewage generation rate	=	12.4	m^3/day
5. Water Feature (Outdoor)			
5a. Volume of Water Feature	=	90.0	m^3
5b. Turnover Rate	=	6	hr
5c. Adopted Surface Loading Rate of Filter	=	50	$m^3/m^2/hr$
5d. Adopted Filter Area	=	0.3	m^2
5e. Backwash Duration	=	3	min/d
5f. Backwash flow rate	=	30	$m^3/m^2/hr$
5g. Design flow for Water Feature Backwashing	=	0.5	m^3/day

Calculation for Sewage Generation Rate of the Proposed Development

5h. Design flow for Water Feature Backwashing	=	2.5	litre/sec

Total Flow from the Proposed Development

Flow Rate	=	317.0	m^3/day
Flow Rate with P_{CIF} (East Kowloon – 1.1)	=	348.7	m^3/day (refer to Table T-4 of GESF – East Kowloon)
Contributing Population	=	1292	people
Peaking factor	=	6	refer to Table T-5 of GESF for a population of less than 5000 incl. stormwater allowance
Peak Flow (excluding backwash of water feature)	=	24.2	litre/sec
Peak Flow (including backwash of water feature)	=	26.7	litre/sec

Remark:
[1] Build-up of staff under Code of Practice for RCHE Section 9.1.1 for Care and Attention Home:
1) 1 health worker / nurse for every 30 residents, i.e. 644/30 = 22 nos.
2) 1 care worker for every 20 residents, i.e. 644/20 = 33 nos.
3) 1 ancillary worker for every 40 residents, i.e. 644/40 = 17 nos.
4) General staff = 2 nos.
Total staff = 74 nos.
Assuming there are two shifts of staff, i.e. daytime and night-time, the total daily number of employees at the RCHE is 148. It should be noted that night-time requires less staff than daytime. Therefore, the current assumption serves as a conservative scenario.

2.5 Assessment of Sewerage Impact

2.5.1 Sewage generated from the Application Site will be discharged from the terminal manhole FTMH-01 (P1) via a polyethylene (PE) pipe, to existing manhole FMH4042668 (S1) of the public sewerage system as shown in Figure 2.1. Catchments in the vicinity of the Application Site are shown in Figure 2.2.

2.5.2 The estimated sewage flow of the Proposed Development and nearby catchments under existing conditions have been compared with the capacity of the existing sewerage system as shown in Appendix 2.1 - Table 3a. For the estimated sewage flow of the Proposed Development and nearby catchments with approved planned developments, the results are shown in Appendix 2.1 – Table 3b.

2.5.3 In accordance with Section 5.11 of the Sewerage Manual, should the existing sewage system be under-capacity, the following shall be satisfied to demonstrate that no adverse sewerage impact will arise as a result of the proposed development:

- minimum freeboard of 1m at peak flow;
- A minimum factor of safety against overflowing of 1.15, i.e. overflow will not occur at a flow rate of (1.15 times peak flow)

2.6 Discussion

2.6.1 According to the calculation results presented in Tables 4a and 4b of Appendix 2.1, the sewage generated from the Application Site and surrounding catchment areas exceed the capacity of the existing sewerage network at segment S6-S7, S7-S8, S8-S9, S9-S10, S10-S11 and S11-S12 under both existing conditions and with approved planned developments. As spillage shown in existing condition is worse than that in planned conditions, backwash analysis is conducted with peak flow under existing conditions.

2.6.2 The results indicate that there are sufficient freeboards for all concerned manholes, i.e. over 1m. Taking into account the safety factor requirement, the peak flow rates are multiplied by 1.15 and no overflow is identified. With sufficient freeboards for the surcharged sewers, no unacceptable sewerage impact resulting from the Proposed Development is anticipated.

3. OVERALL CONCLUSION

3.1.1 The potential sewerage impact arising from the Application Site has been quantitatively assessed by comparing the estimated sewage flow from the Proposed Development and the capacity of the existing sewerage system in the vicinity.

3.1.2 Based on the assessment findings, the sewage generated from the Application Site and surrounding catchment areas exceed the capacity of the existing sewerage network at segment S6-S7, S7-S8, S8-S9, S9-S10, S10-S11 and S11-S12 under both existing conditions and with approved planned developments. A backwater analysis was conducted and revealed that there are sufficient freeboards for all concerned manholes and no overflow during peak flow rates. Therefore, with sufficient freeboards for the surcharged sewers, no unacceptable sewerage impact resulting from the Proposed Development is anticipated.

3.1.3 This SIA confirms the feasibility of the Proposed Development in terms of its sewerage impact.

Figures

Figure 1.1

Location of Application Site and its Environ

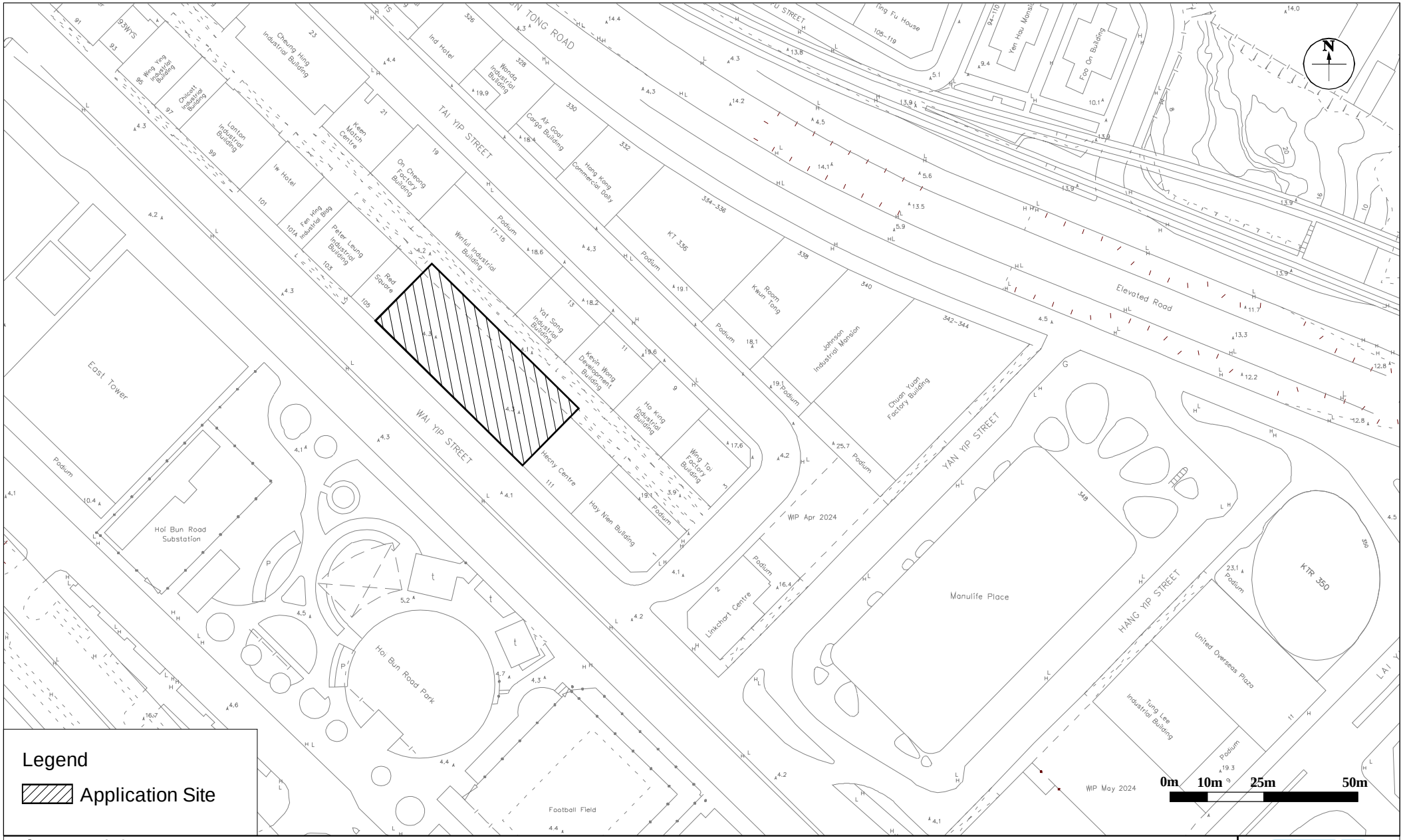

Figure: 1.1

Title: Location of the Application Site and its Environ

Project: Proposed Hotel Development and Social Welfare Facilities at 107-109 Wai Yip Street, Kwun Tong, Kowloon

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Drawn by: CL

Checked by: KY

Rev.: 1.0

Date: Feb 2025

Figure 2.1

Existing Sewerage System in the Vicinity of the Application Site

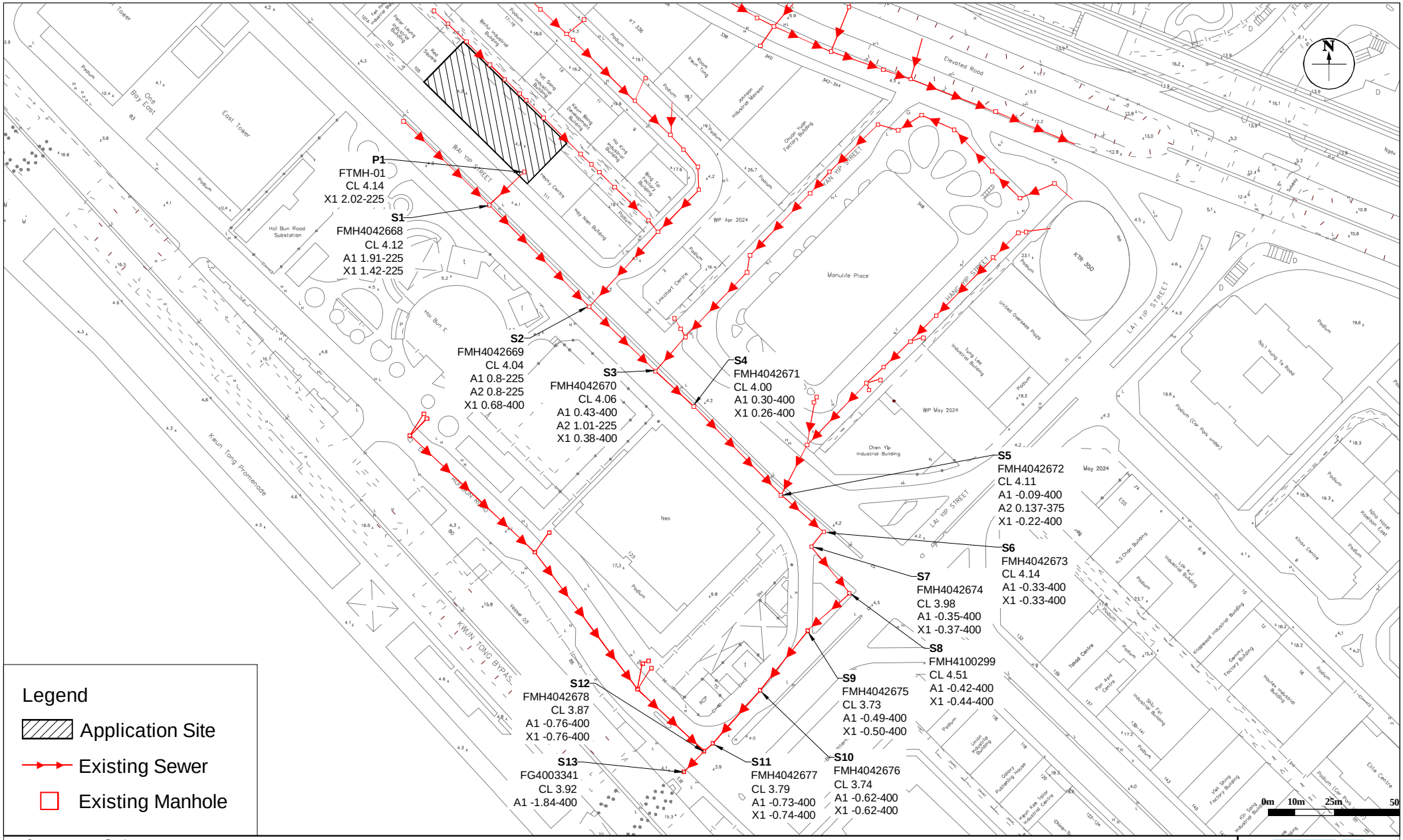

Figure: 2.1

Title: Existing Sewerage System in the Vicinity of the Application Site

Project: Proposed Hotel Development and Social Welfare Facilities at 107-109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by: CL

Checked by: KY

Rev.: 4.0

Date: Feb 2025

Figure 2.2

Existing Sewerage System and Catchment Area in the Vicinity of the Application Site

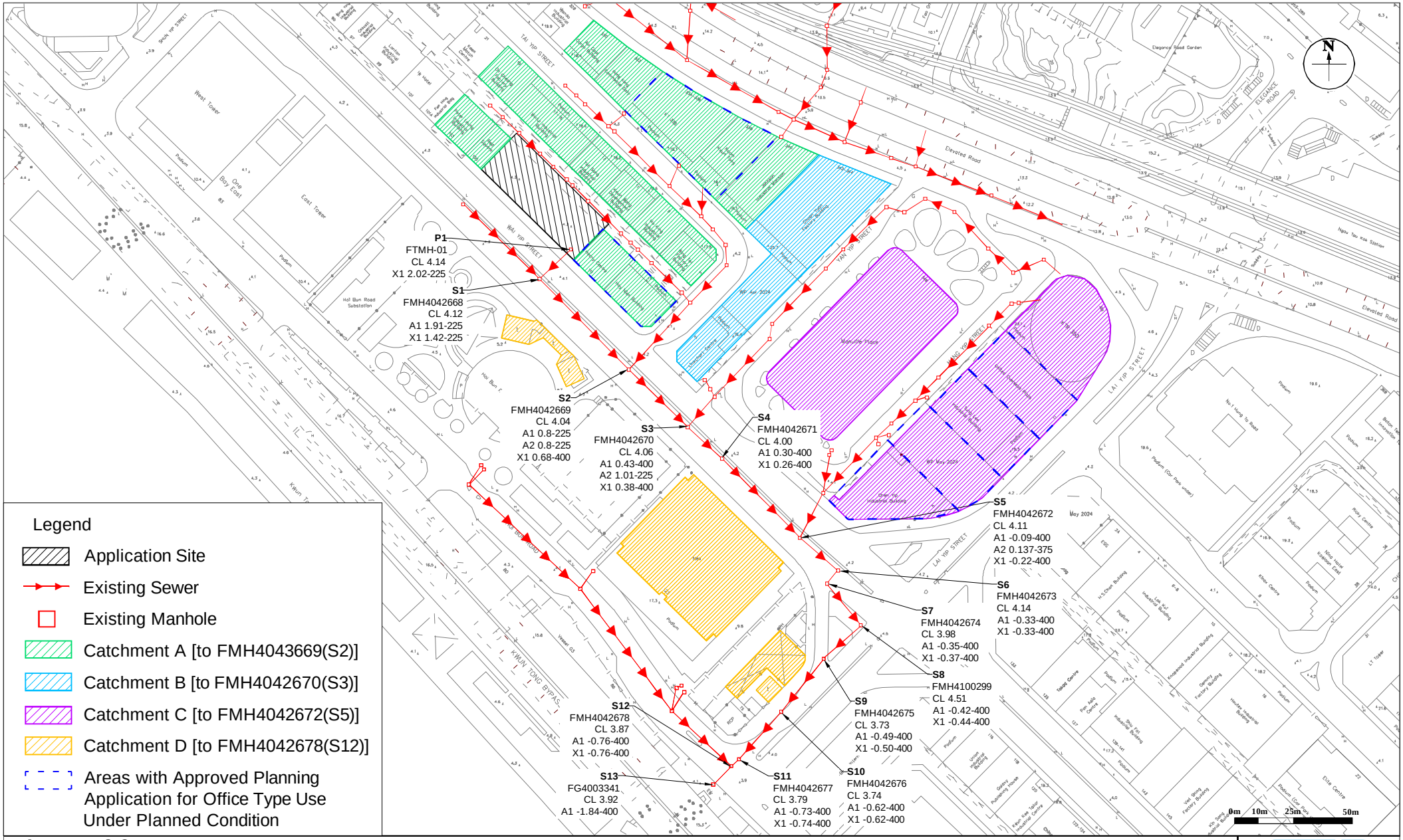

Figure: 2.2

Title: Existing Sewerage System and Catchment Area in the Vicinity of the Application Site

Project: Proposed Hotel Development and Social Welfare Facilities at 107-109 Wai Yip Street, Kwun Tong, Kowloon

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Checked by: KY

Rev.: 4.0

Date: Feb 2025

Appendix

Appendix 2.1

Detailed Sewerage Impact Assessment Calculations

Table 1 Calculation for Sewage Generation Rate of the Proposed Development at the Application Site

Residential Care Homes for the Elderly (RCHE)			
Total number of residents[1]	=	644	residents (644 beds)
Design flow of residents	=	190	litre/resident/day -- (refer to Table T-1 of GESF - Domestic - Institutional and Special Class)
Sewage generation rate	=	122.4	m^3/day
Total number of employees[2]	=	148	employees
Design flow of employees	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J11 Community, Social & Personal Services)
Sewage generation rate	=	41.4	m^3/day
Hotel			
Assumed area	=	4856	m^2
Assumed floor area per employee	=	71.4	m^2 per employee -- (refer to Table 8 of CIFSUS - Hotels and Boarding Houses, Private Commercials)
Total number of employees	=	68	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants & Hotels)
Sewage generation rate	=	107.4	m^3/day
F&B / restaurant			
Assumed area	=	415	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	21	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants & Hotels)
Sewage generation rate	=	33.4	m^3/day
RCHE Communal Facilities			
Assumed area	=	1338	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
Total number of employees	=	44	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J11 Community, Social & Personal Services)
Sewage generation rate	=	12.4	m^3/day
Water Feature (outdoor)			
Volume of Water Feature	=	90.0	m^3
Turnover Rate	=	6	hr
Adopted Surface Loading Rate of Filter	=	50	$m^3/m^2/hr$
Adopted Filter Area	=	0.3	m^2
Backwash Duration	=	3	min/d
Backwash flow rate	=	30	$m^3/m^2/hr$
Design flow for Water Feature Backwashing	=	0.5	m^3/day
Design flow for Water Feature Backwashing	=	2.5	litre/sec
Total Flow from the Proposed Development			
Flow rate (excluding backwash of water feature)	=	317.0	m^3/day
Flow rate with P_{CIF} (East Kowloon - 1.1)	=	348.7	m^3/day (refer to Table T-4 of GESF - East Kowloon - 1.1)
Contributing population	=	1292	people
Peaking factor	=	6	(refer to Table T-5 of GESF for a population of less than 5000 incl. stormwater allowance)
Peak flow (excluding backwash of water feature)	=	24.2	litre/sec
Peak flow (including backwash of water feature)	=	26.7	litre/sec

Note:
[1] As a conservative approach, the total number of elderly residents is assumed to be the maximum number of beds provided by the RCHE.
[2] Build-up of staff under Code of Practice for RCHE Section 9.1.1 for Care and Attention Home:
1) 1 health worker / nurse for every 30 residents, i.e. 644/30 = 22 nos.
2) 1 care worker for every 20 residents, i.e. 644/20 = 33 nos.
3) 1 ancillary worker for every 40 residents, i.e. 644/40 = 17 nos.
4) General staff = 2 nos.
Total staff = 74 nos.
Assuming there are two shifts of staff, i.e. daytime and night-time, the total daily number of employee at the RCHE is 148. It should be noted that night-time requires less staff than daytime. Therefore, the current assumption serves as a conservative scenario.
[3] For job types J10 and J11, the “per-employee” unit flow factor takes into account the flows of customers and/or tenants

Table 2a Hydraulic Capacity of Existing and Proposed Sewers - Free Flow Condition (Existing Condition)

Segment	Manhole Reference	Manhole Reference	Material	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	v	V	Area	Q	Estimated Capacity
				mm	m	mPD	mPD	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s
P1-S1	FTMH-01	FMH4042668	PE	225	16.37	2.02	1.91	9.81	0.0015	0.007	0.000001	0.94	0.04	0.04	37
S1-S2	FMH4042668	FMH4042669	clayware	225	53.49	1.42	0.80	9.81	0.0006	0.012	0.000001	1.41	0.04	0.06	56
S2-S3	FMH4042669	FMH4042670	clayware	400	34.30	0.68	0.43	9.81	0.0006	0.007	0.000001	1.61	0.13	0.20	202
S3-S4	FMH4042670	FMH4042671	clayware	400	19.14	0.38	0.30	9.81	0.0006	0.004	0.000001	1.22	0.13	0.15	153
S4-S5	FMH4042671	FMH4042672	clayware	400	46.50	0.26	-0.09	9.81	0.0006	0.008	0.000001	1.64	0.13	0.21	206
S5-S6	FMH4042672	FMH4042673	clayware	400	20.50	-0.22	-0.33	9.81	0.0006	0.005	0.000001	1.38	0.13	0.17	173
S6-S7	FMH4042673	FMH4042674	clayware	400	6.40	-0.33	-0.35	9.81	0.0030	0.003	0.000001	0.84	0.13	0.11	106
S7-S8	FMH4042674	FMH4100299	clayware	400	22.76	-0.37	-0.42	9.81	0.0030	0.002	0.000001	0.70	0.13	0.09	89
S8-S9	FMH4100299	FMH4042675	clayware	400	20.80	-0.44	-0.49	9.81	0.0030	0.002	0.000001	0.74	0.13	0.09	93
S9-S10	FMH4042675	FMH4042676	clayware	400	28.23	-0.50	-0.62	9.81	0.0030	0.004	0.000001	0.98	0.13	0.12	123
S10-S11	FMH4042676	FMH4042677	clayware	400	26.36	-0.62	-0.73	9.81	0.0030	0.004	0.000001	0.97	0.13	0.12	122
S11-S12	FMH4042677	FMH4042678	clayware	400	3.59	-0.74	-0.76	9.81	0.0030	0.006	0.000001	1.12	0.13	0.14	141
S12-S13	FMH4042678	FG4003341	clayware	400	10.11	-0.76	-1.84	9.81	0.0006	0.107	0.000001	6.20	0.13	0.78	779

Remarks: (1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity

(2) The values of ks = 0.6mm and 3mm are used for the calculation of slimed clayware sewer, poor condition @mean velocity = approximately 1.2m/s and 0.75m/s respectively (based on Table 5: Recommended Roughness Values in Sewerage Manual)

(3) The values of ks = 1.5mm is used for the calculation of proposed polyethylene sewer, poor condition @mean velocity = approximately 0.75m/s (based on Table 5: Recommended Roughness Values in Sewerage Manual)

(4) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

(5) Equation used: $V = -\sqrt{(8gDs)}\log\left(\frac{k_s}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

Catchment A, discharges to FMH4042669 (S2)

1. On Cheong Factory Building (19 Tai Yip Street)

Industrial - Manufacturing

Assumed area	=	2510	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	58	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	30.6	m^3/day

2. Winful Industrial Building (15-17 Tai Yip Street)

Industrial - Manufacturing

Assumed area	=	5280	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	174	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	92.3	m^3/day

3. Peter Leung Industrial Building (103 Wai Yip Street)

a) Industrial - Manufacturing

Assumed area	=	2827	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	93	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	49.4	m^3/day

b) Express delivery

Assumed area	=	201	m^2
Assumed floor area per employee	=	22.7	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services - I/O Buildings)
Total number of employees	=	9	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	0.7	m^3/day

4. Red Square (105 Wai Yip Street)

Office

Assumed area	=	1739	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	96	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	7.7	m^3/day

F&B

Assumed area	=	191	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurant)
Total number of employees	=	10	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	15.4	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

5. Yat Sang Industrial Building
Industrial - Manufacturing

Assumed area	=	2400	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	55	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	29.3	m^3/day

6. Kevin Wong Development Building (11 Tai Yip Street)
Industrial - Manufacturing

Assumed area	=	3080	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	102	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	53.9	m^3/day

7. Hecny Centre (111 Wai Yip Street)
a) Office

Assumed area	=	1772	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	97	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	7.8	m^3/day

b) Retail

Assumed area	=	253	m^2
Assumed floor area per employee	=	28.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Retail Trade)
Total number of employees	=	9	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	2.5	m^3/day

c) F&B

Assumed area	=	406	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	21	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	32.7	m^3/day

8. Ho King Industrial Building (9 Tai Yip Street)
Industrial - Manufacturing

Assumed area	=	2044	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	47	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	24.9	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

9. Wing Tai Factory Building (3 Tai Yip Street)

Industrial - Manufacturing

Assumed area	=	3144	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	104	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	55.0	m^3/day

Storage

Assumed area	=	147	m^2
Assumed floor area per employee	=	250.0	m^2 per employee -- (refer to Table 8 of CIFSUS - Storage)
Total number of employees	=	1	employees
Design flow	=	180	litre/employee/day -- (refer to Table T-2 of GESF - J3 Transport, Storage & Communication)
Sewage generation rate	=	0.1	m^3/day

10. Hay Nien Building (1 Tai Yip Street)

Industrial - Manufacturing

Assumed area	=	5842	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	193	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	102.2	m^3/day

11. Air Goal Cargo Building (330 Kwun Tong Road)

Industrial - Manufacturing

Assumed area	=	2309	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	53	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	28.2	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

12. Hong Kong Commercial Daily (332 Kwun Tong Road)			
Office			
Assumed area	=	2304	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	127	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	10.1	m^3/day
13. Far East Factory Building (334-336 Kwun Tong Road)			
Office			
Assumed area	=	7833	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	258	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	137.0	m^3/day
14. Room Kwun Tong (338 Kwun Tong Road)			
Storage			
Assumed area	=	6570	m^2
Assumed floor area per employee	=	250.0	m^2 per employee -- (refer to Table 8 of CIFSUS - Storage)
Total number of employees	=	26	employees
Design flow	=	180	litre/employee/day -- (refer to Table T-2 of GESF - J3 Transport, Storage & Communication)
Sewage generation rate	=	4.7	m^3/day
15. Johnson Industrial Mansion (340 Kwun Tong Road)			
Industrial - Manufacturing			
Assumed area	=	5772	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	190	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	101.0	m^3/day
Total Flow of Catchment A, discharges to FMH4042669 (S2)	=	785.4	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

Catchment B, discharges to FMH4042670 (S3)

16. Chuan Yuan Factory Building (342-344 Kwun Tong Road)			
Industrial - Manufacturing			
Assumed area	=	13344	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	307	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	162.7	m^3/day
17. Hong Kong Baptist Hospital (4 Tai Yip Street)	Reference: SIA report under Planning Application A/K14/782		
Sewage generation rate	=	181.6	m^3/day
18. Linkchart Centre (2 Tai Yip Street)	Reference: Online building profile (https://www.interasia.com.hk/en/Kowloon-Building/Kwun-Tong/1563/Linkchart-Centre)		
Office			
Assumed area	=	9109	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	501	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	40.1	m^3/day
24a. KTR 350 (65% of total discharge capacity)			
a) Office			
Assumed area	=	19223	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	1057	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	84.6	m^3/day
b) F&B			
Assumed area	=	1201	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	61	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	96.8	m^3/day
b) Retail			
Assumed area	=	1646	m^2
Assumed floor area per employee	=	28.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Retail Trade)
Total number of employees	=	58	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	16.1	m^3/day
65% of Total sewage generation rate		128.4	m^3/day
Total Flow of Catchment B, discharges to FMH4042670 (S3)	=	512.7	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)
Catchment C, discharges to FMH4042672 (S5)

19. Manulife Place
Office

Assumed area	=	42693	m^2
Assumed floor area per employee	=	18.2	m2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	2348	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	187.8	m^3/day

b) F&B

Total number of employees	=	28	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	44.2	m^3/day

b) Retail

Total number of employees	=	1	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	0.3	m^3/day

20. Chen Yip Industrial Building (5 Lai Yip Street)
Industrial - Manufacturing

Assumed area	=	7431	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	171	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	90.6	m^3/day

21. 7 Lai Yip Street
demolished

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

22. Tung Lee Industrial Building (9 Lai Yip Street)			
Industrial - Manufacturing			
Assumed area	=	9524	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	219	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	116.1	m^3/day
23. United Overseas Plaza (11 Lai Yip Street)			
Industrial - Manufacturing			
Assumed area	=	7272	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	167	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	88.6	m^3/day
24b. KTR 350 (35% of total discharge capacity)			
a) Office			
Assumed area	=	19223	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	1057	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	84.6	m^3/day
b) F&B			
Assumed area	=	1201	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	61	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	96.8	m^3/day
b) Retail			
Assumed area	=	1646	m^2
Assumed floor area per employee	=	28.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Retail Trade)
Total number of employees	=	58	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	16.1	m^3/day
35% of Total sewage generation rate		69.1	m^3/day
Total Flow of Catchment C, discharges to FMH4042672 (S5)	=	596.8	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)
Catchment D, discharges to FMH4042678 (S12)

25. NEO
Office

Assumed area	=	55390	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	3046	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	243.7	m^3/day

26. Cooked Food Stall

Assumed area	=	385	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	20	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	31.0	m^3/day

27. Lai Yip Street Public Toilet

Discharge from WC (Qty * DU)	=	19.8	L/s
Discharge from Basin (Qty * DU)	=	3.0	L/s
Discharge from Single Urinal with Cistern (Qty * DU)	=	2.4	L/s
Sum of DUs	=	25.2	L/s
Wastewater Flow Rate ($K\sqrt{\sum DU_i}$)	=	5.0	L/s

Frequency of use, K = 1, extracted from Table 6 of Plumbing Engineering Services Design Guide (PESDG)
Discharge Unit (DU) of WC = 1.8 L/s; DU of Basin = 0.3 L/s, DU of Single Urinal with Cistern = 0.4L/s, extracted from Table 5 of PESDG
Total number of WC = 11; Total number of Basin = 10; Total number of Single Urinal with Cistern = 6 (Site observation)

28. Hoi Bun Road Park Public Restroom

Discharge from WC (Qty * DU)	=	21.6	L/s
Discharge from Basin (Qty * DU)	=	2.7	L/s
Discharge from Single Urinal with Cistern (Qty * DU)	=	1.2	L/s
Discharge from Shower without Plug (Qty * DU)	=	2.4	L/s
Sum of DUs	=	27.9	L/s
Wastewater Flow Rate ($K\sqrt{\sum DU_i}$)	=	5.3	L/s

Frequency of use, K = 1, extracted from Table 6 of Plumbing Engineering Services Design Guide (PESDG)
Discharge Unit (DU) of WC = 1.8 L/s; DU of Basin = 0.3 L/s, DU of Single Urinal with Cistern = 0.4L/s, DU of Shower without Plug = 0.4L/s, extracted from Table 5 of PESDG
Total number of WC = 12; Total number of Basin = 9; Total number of Single Urinal with Cistern = 3; Total number of Shower without plug = 6 (Site observation)

Total Flow of Catchment D, excluding public toilet/restroom, discharges to FMH4042678 (S12)	=	274.7	m^3/day

Table 3a Calculation for Sewage generation rate of the Surrounding Building (Existing Condition)

Sub-total

Total Flow at P1 (including Proposed Development)	=	317.0 m^3/day
Total Flow at S1 (including Proposed Development)	=	317.0 m^3/day
Total Flow at S2 (including Proposed Development + Catchment A)	=	1,102.4 m^3/day
Total Flow at S3 (including Proposed Development + Catchment A)	=	1,102.4 m^3/day
Total Flow at S4 (including Proposed Development + Catchment A & B)	=	1,615.1 m^3/day
Total Flow at S5 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S6 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S7 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S8 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S9 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S10 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S11 (including Proposed Development + Catchment A & B & C)	=	2,212.0 m^3/day
Total Flow at S12 (including Proposed Development + Catchment A & B & C & D)	=	2,486.7 m^3/day
Total Flow at S13 (including Proposed Development + Catchment A & B & C & D)	=	2,486.7 m^3/day

Sub-total with Catchment Inflow Factor - East Kowloon = 1.1

Total Flow at P1 (including Proposed Development)	=	348.7 m^3/day
Total Flow at S1 (including Proposed Development)	=	348.7 m^3/day
Total Flow at S2 (including Proposed Development + Catchment A)	=	1,212.7 m^3/day
Total Flow at S3 (including Proposed Development + Catchment A)	=	1,212.7 m^3/day
Total Flow at S4 (including Proposed Development + Catchment A & B)	=	1,776.7 m^3/day
Total Flow at S5 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S6 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S7 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S8 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S9 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S10 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S11 (including Proposed Development + Catchment A & B & C)	=	2,433.1 m^3/day
Total Flow at S12 (including Proposed Development + Catchment A & B & C & D)	=	2,735.4 m^3/day
Total Flow at S13 (including Proposed Development + Catchment A & B & C & D)	=	2,735.4 m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)

Catchment A, discharges to FMH4042669 (S2)

1. On Cheong Factory Building (19 Tai Yip Street)

Industrial - Manufacturing

Assumed area	=	2510	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	58	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	30.6	m^3/day

2. Winful Industrial Building (15-17 Tai Yip Street)

Industrial - Manufacturing

Assumed area	=	5280	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	174	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	92.3	m^3/day

3. Peter Leung Industrial Building (103 Wai Yip Street)

a) Industrial - Manufacturing

Assumed area	=	2827	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	93	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	49.4	m^3/day

b) Express delivery

Assumed area	=	201	m^2
Assumed floor area per employee	=	22.7	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services - I/O Buildings)
Total number of employees	=	9	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	0.7	m^3/day

4. Red Square (105 Wai Yip Street)

Office

Assumed area	=	1739	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	96	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	7.7	m^3/day

F&B

Assumed area	=	191	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurant)
Total number of employees	=	10	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	15.4	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)

5. Yat Sang Industrial Building
Industrial - Manufacturing

Assumed area	=	2400	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	55	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	29.3	m^3/day

6. Kevin Wong Development Building (11 Tai Yip Street)
Industrial - Manufacturing

Assumed area	=	3080	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	102	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	53.9	m^3/day

7. Proposed Commercial Development at 111 Wai Yip Street and 1 Tai Yip Street (Planning Application No. A/K14/809)
Reference: Application No. - A/K14/809 (https://www.ozp.tpb.gov.hk/api/Perm/Gist?caseNo=A%2fK14%2f809&lang=EN&ext=pdf&dType=in)
Office

Assumed area	=	13349	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	734	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	58.7	m^3/day

8. Ho King Industrial Building (9 Tai Yip Street)
Industrial - Manufacturing

Assumed area	=	2044	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	47	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	24.9	m^3/day

9. Wing Tai Factory Building (3 Tai Yip Street)
Industrial - Manufacturing

Assumed area	=	3144	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	104	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	55.0	m^3/day

Storage

Assumed area	=	147	m^2
Assumed floor area per employee	=	250.0	m^2 per employee -- (refer to Table 8 of CIFSUS - Storage)
Total number of employees	=	1	employees
Design flow	=	180	litre/employee/day -- (refer to Table T-2 of GESF - Transport, Storage & Communication)
Sewage generation rate	=	0.1	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)

11. Air Goal Cargo Building (330 Kwun Tong Road)			
Industrial - Manufacturing			
Assumed area	=	2309	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	53	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	28.2	m^3/day
12. Hong Kong Commercial Daily (332 Kwun Tong Road)			
Office			
Assumed area	=	2304	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	127	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	10.1	m^3/day
13. Planned Development (334-336 & 338 Kwun Tong Road)	Reference: Application no. - A/K14/804 (https://www.ozp.tpb.gov.hk/api/Perm/Gist?caseNo=A%2fK14%2f804&lang=EN&ext=pdf&dType=in)		
Office			
Assumed area	=	23211	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	1277	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	102.1	m^3/day
14. Johnson Industrial Mansion (340 Kwun Tong Road)			
Industrial - Manufacturing			
Assumed area	=	5772	m^2
Assumed floor area per employee	=	30.3	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing - I/O Buildings)
Total number of employees	=	190	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	101.0	m^3/day
Total Flow of Catchment A, discharges to FMH4042669 (S2)	=	659.4	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)

Catchment B, discharges to FMH4042670 (S3)

16. Chuan Yuan Factory Building (342-344 Kwun Tong Road)			
Industrial - Manufacturing			
Assumed area	=	13344	m^2
Assumed floor area per employee	=	43.5	m^2 per employee -- (refer to Table 8 of CIFSUS - Manufacturing)
Total number of employees	=	307	employees
Design flow	=	530	litre/employee/day -- (refer to Table T-3 of GESF - J1 Manufacturing in East Kowloon)
Sewage generation rate	=	162.7	m^3/day
17. Hong Kong Baptist Hospital (4 Tai Yip Street)	Reference: SIA report under Planning Application A/K14/782		
Sewage generation rate	=	181.6	m^3/day
18. Linkchart Centre (2 Tai Yip Street)	Reference: Online building profile (https://www.interasia.com.hk/en/Kowloon-Building/Kwun-Tong/1563/Linkchart-Centre)		
Office			
Assumed area	=	9109	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	501	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	40.1	m^3/day
24a. KTR 350 (65% of total discharge capacity)			
a) Office			
Assumed area	=	19223	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	1057	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	84.6	m^3/day
b) F&B			
Assumed area	=	1201	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	61	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	96.8	m^3/day
b) Retail			
Assumed area	=	1646	m^2
Assumed floor area per employee	=	28.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Retail Trade)
Total number of employees	=	58	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	16.1	m^3/day
65% of Total sewage generation rate		128.4	m^3/day
Total Flow of Catchment B, discharges to FMH4042670 (S3)	=	512.7	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)
Catchment C, discharges to FMH4042672 (S5)

19. Manulife Place

a) Office

Assumed area	=	42693	m^2
Assumed floor area per employee	=	18.2	m2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	2348	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	187.8	m^3/day

b) F&B

Total number of employees	=	28	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	44.2	m^3/day

b) Retail

Total number of employees	=	1	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	0.3	m^3/day

20. Proposed Commercial Development at 5 Lai Yip Street (Planning Application No. A/K14/810)

Assumed area	=	14787	m^2
Assumed floor area per employee	=	18.2	m2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	813	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	65.1	m^3/day

21. Proposed Commercial Development at 7 Lai Yip Street (Planning Application No. A/K14/774)

a) Office

Assumed area	=	12375	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	681	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	54.5	m^3/day

b) F&B

Assumed area	=	1200	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	61	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	96.7	m^3/day

c) Retail

Assumed area	=	1200	m^2
Assumed floor area per employee	=	28.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Retail Trade)
Total number of employees	=	42	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	11.8	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)

21. Proposed Commercial Development at 9 Lai Yip Street (Planning Application No. A/K14/748)			
Office			
Assumed area	=	9524	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	524	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	89.0	m^3/day
23. Proposed Commercial Development at 11 Lai Yip Street (Planning Application No. A/K14/806)			
Office			
Assumed area	=	15050	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	828	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	66.2	m^3/day
24b. KTR 350 (35% of total discharge capacity)			
a) Office			
Assumed area	=	19223	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	1057	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	84.6	m^3/day
b) F&B			
Assumed area	=	1201	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	61	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	96.8	m^3/day
b) Retail			
Assumed area	=	1646	m^2
Assumed floor area per employee	=	28.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Retail Trade)
Total number of employees	=	58	employees
Design flow	=	280	litre/employee/day -- (refer to Table T-2 of GESF - J4 Wholesale & Retail)
Sewage generation rate	=	16.1	m^3/day
35% of Total sewage generation rate		69.1	m^3/day
Total Flow of Catchment C, discharges to FMH4042672 (S5)	=	576.3	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)
Catchment D, discharges to FMH4042678 (S12)

25. Neo
Office

Assumed area	=	55390	m^2
Assumed floor area per employee	=	18.2	m^2 per employee -- (refer to Table 8 of CIFSUS - Financial, Insurance, Real Estate & Business Services)
Total number of employees	=	3046	employees
Design flow	=	80	litre/employee/day -- (refer to Table T-2 of GESF - J6 Finance, Insurance, Real Estate & Business Services)
Sewage generation rate	=	243.7	m^3/day

26. Cooked Food Stall

Assumed area	=	385	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurants)
Total number of employees	=	20	employees
Design flow	=	1580	litre/employee/day -- (refer to Table T-2 of GESF - J10 Restaurants and Hotels)
Sewage generation rate	=	31.0	m^3/day

27. Lai Yip Street Public Toilet

Discharge from WC (Qty * DU)	=	19.8	L/s
Discharge from Basin (Qty * DU)	=	3.0	L/s
Discharge from Single Urinal with Cistern (Qty * DU)	=	2.4	L/s
Sum of DUs	=	25.2	L/s
Wastewater Flow Rate ($K\sqrt{\sum DU_i}$)	=	5.0	L/s

Frequency of use, K = 1, extracted from Table 6 of Plumbing Engineering Services Design Guide (PESDG)
Discharge Unit (DU) of WC = 1.8 L/s; DU of Basin = 0.3 L/s, DU of Single Urinal with Cistern = 0.4L/s, extracted from Table 5 of PESDG
Total number of WC = 11; Total number of Basin = 10; Total number of Single Urinal with Cistern = 6 (Site observation)

28. Hoi Bun Road Park Public Restroom

Discharge from WC (Qty * DU)	=	21.6	L/s
Discharge from Basin (Qty * DU)	=	2.7	L/s
Discharge from Single Urinal with Cistern (Qty * DU)	=	1.2	L/s
Discharge from Shower without Plug (Qty * DU)	=	2.4	L/s
Sum of DUs	=	27.9	L/s
Wastewater Flow Rate ($K\sqrt{\sum DU_i}$)	=	5.3	L/s

Frequency of use, K = 1, extracted from Table 6 of Plumbing Engineering Services Design Guide (PESDG)
Discharge Unit (DU) of WC = 1.8 L/s; DU of Basin = 0.3 L/s, DU of Single Urinal with Cistern = 0.4L/s, DU of Shower without Plug = 0.4L/s, extracted from Table 5 of PESDG
Total number of WC = 12; Total number of Basin = 9; Total number of Single Urinal with Cistern = 3; Total number of Shower without plug = 6 (Site observation)

Total Flow of Catchment D, excluding public toilet/restroom, discharges to FMH4042678 (S12)	=	274.7	m^3/day

Table 3b Calculation for Sewage generation rate of the Surrounding Building (Planned Condition)

Sub-total

Total Flow at S0 (including Proposed Development)	=	317.0 m^3/day
Total Flow at S1 (including Proposed Development)	=	317.0 m^3/day
Total Flow at S2 (including Proposed and Planned Development + Catchment A)	=	976.4 m^3/day
Total Flow at S3 (including Proposed and Planned Development + Catchment A)	=	976.4 m^3/day
Total Flow at S4 (including Proposed and Planned Development + Catchment A & B)	=	1,489.1 m^3/day
Total Flow at S5 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S6 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S7 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S8 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S9 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S10 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S11 (including Proposed and Planned Development + Catchment A & B & C)	=	2,065.4 m^3/day
Total Flow at S12 (including Proposed and Planned Development + Catchment A & B & C & D)	=	2,340.1 m^3/day
Total Flow at S13 (including Proposed and Planned Development + Catchment A & B & C & D)	=	2,340.1 m^3/day

Sub-total with Catchment Inflow Factor - East Kowloon = 1.1

Total Flow at S0 (including Proposed Development)	=	348.7 m^3/day
Total Flow at S1 (including Proposed Development)	=	348.7 m^3/day
Total Flow at S2 (including Proposed and Planned Development + Catchment A)	=	1,074.0 m^3/day
Total Flow at S3 (including Proposed and Planned Development + Catchment A)	=	1,074.0 m^3/day
Total Flow at S4 (including Proposed and Planned Development + Catchment A & B)	=	1,638.0 m^3/day
Total Flow at S5 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S6 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S7 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S8 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S9 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S10 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S11 (including Proposed and Planned Development + Catchment A & B & C)	=	2,271.9 m^3/day
Total Flow at S12 (including Proposed and Planned Development + Catchment A & B & C & D)	=	2,574.1 m^3/day
Total Flow at S13 (including Proposed and Planned Development + Catchment A & B & C & D)	=	2,574.1 m^3/day

Table 4a Comparision of the Hydraulic Capacity of Existing Sewers for Sewerage generated from the Proposed Development and Surrounding Catchment Areas (Existing Condition)

Hydraulic Capacity of Existing Sewers

Segment	Manhole Reference	Manhole Reference	Pipe Dia. (mm)	Pipe Length (m)	Gradient	Estimated Capacity (L/s)	Peak Flow from the Proposed Development only (L/s)	Contribution from the Proposed Development only (%)	Status	Included Catchment	Daily Flow (m^3/day)	Contributing Population	Peaking Factor	Public Toilet/ Restroom (L/s)	Peak Flow from the Proposed Development and Catchment Areas (Without Water Feature Backwash) (L/s)	Water Feature Backwash (L/s)	Peak Flow from the Proposed Development and Catchment Areas (With Water Feature Backwash) (L/s)	Contribution from the Proposed Development and the Surrounding Catchment Areas (%)	Status
P1-S1	FTMH-01	FMH4042668	225	16.4	0.007	37	24.2	64.8%	OK	-	348.7	1,292	6	-	24.2	2.5	26.7	71.5%	OK
S1-S2	FMH4042668	FMH4042669	225	53.5	0.012	56	24.2	43.2%	OK	-	348.7	1,292	6	-	24.2	2.5	26.7	47.7%	OK
S2-S3	FMH4042669	FMH4042670	400	34.3	0.007	202	24.2	12.0%	OK	A	1212.7	4,491	6	-	84.2	2.5	86.7	42.9%	OK
S3-S4	FMH4042670	FMH4042671	400	19.1	0.004	153	24.2	15.9%	OK	A	1212.7	4,491	6	-	84.2	2.5	86.7	56.8%	OK
S4-S5	FMH4042671	FMH4042672	400	46.5	0.008	206	24.2	11.8%	OK	A + B	1776.7	6,580	5	-	102.8	2.5	105.3	51.2%	OK
S5-S6	FMH4042672	FMH4042673	400	20.5	0.005	173	24.2	14.0%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	82.7%	OK
S6-S7	FMH4042673	FMH4042674	400	6.4	0.003	106	24.2	22.9%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	135.6%	Spill
S7-S8	FMH4042674	FMH4100299	400	22.8	0.002	89	24.2	27.3%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	161.8%	Spill
S8-S9	FMH4100299	FMH4042675	400	20.8	0.002	93	24.2	26.1%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	154.7%	Spill
S9-S10	FMH4042675	FMH4042676	400	28.2	0.004	123	24.2	19.6%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	116.2%	Spill
S10-S11	FMH4042676	FMH4042677	400	26.4	0.004	122	24.2	19.8%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	117.3%	Spill
S11-S12	FMH4042677	FMH4042678	400	3.6	0.006	141	24.2	17.2%	OK	A + B + C	2433.1	9,012	5	-	140.8	2.5	143.3	101.5%	Spill
S12-S13	FMH4042678	FG4003341	400	10.1	0.107	779	24.2	3.1%	OK	A + B + C + D	2735.4	10,131	4	10.3	136.9	2.5	139.4	17.9%	OK

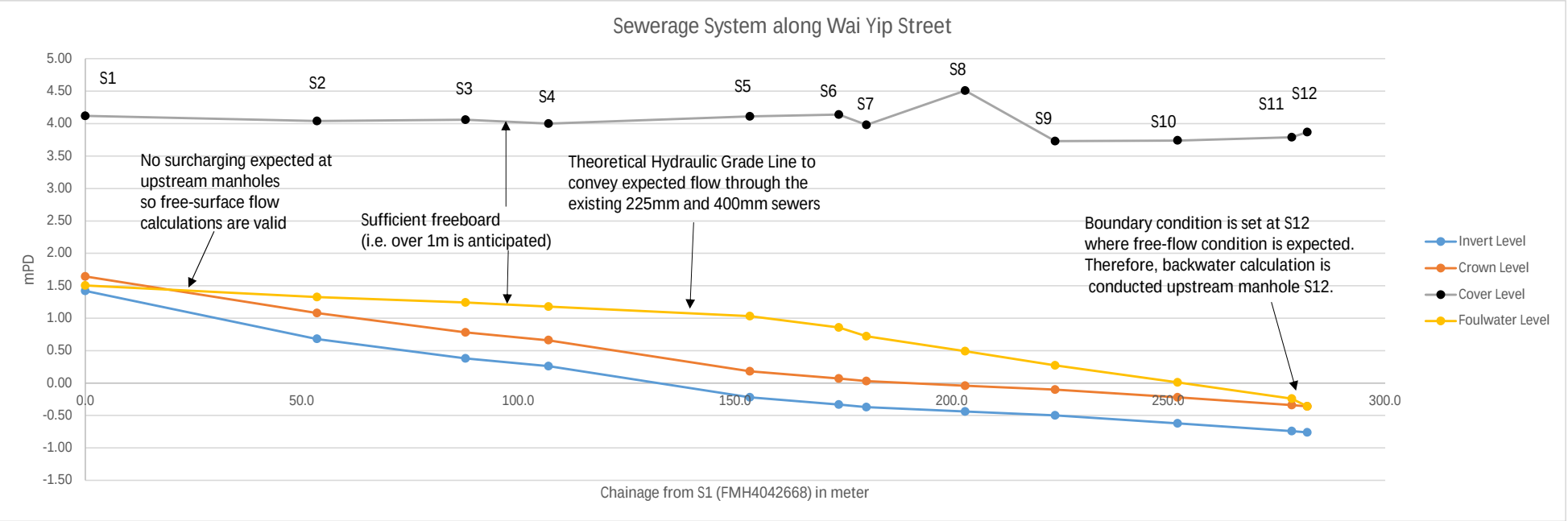
Table 4b Comparision of the Hydraulic Capacity of Existing Sewers for Sewerage generated from the Proposed Development and Surrounding Catchment Areas (Planned Condition)

Hydraulic Capacity of Existing Sewers

Segment	Manhole Reference	Manhole Reference	Pipe Dia. (mm)	Pipe Length (m)	Gradient	Estimated Capacity (L/s)	Peak Flow from the Proposed Development only (L/s)	Contribution from the Proposed Development only (%)	Status	Included Catchment	Daily Flow (m^3/day)	Contributing Population	Peaking Factor	Public Toilet/ Restroom (L/s)	Peak Flow from the Proposed Development and Catchment Areas (Without Water Feature Backwash) (L/s)	Water Feature Backwash (L/s)	Peak Flow from the Proposed Development and Catchment Areas (With Water Feature Backwash) (L/s)	Contribution from the Proposed Development and the Surrounding Catchment Areas (%)	Status
P1-S1	FTMH-01	FMH4042668	225	16.4	0.007	37	24.2	64.8%	OK	-	348.7	1,292	6	-	24.2	2.5	26.7	71.5%	OK
S1-S2	FMH4042668	FMH4042669	225	53.5	0.012	56	24.2	43.2%	OK	-	348.7	1,292	6	-	24.2	2.5	26.7	47.7%	OK
S2-S3	FMH4042669	FMH4042670	400	34.3	0.007	202	24.2	12.0%	OK	A	1074.0	3,978	6	-	74.6	2.5	77.1	38.1%	OK
S3-S4	FMH4042670	FMH4042671	400	19.1	0.004	153	24.2	15.9%	OK	A	1074.0	3,978	6	-	74.6	2.5	77.1	50.5%	OK
S4-S5	FMH4042671	FMH4042672	400	46.5	0.008	206	24.2	11.8%	OK	A + B	1638.0	6,067	5	-	94.8	2.5	97.3	47.3%	OK
S5-S6	FMH4042672	FMH4042673	400	20.5	0.005	173	24.2	14.0%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	77.3%	OK
S6-S7	FMH4042673	FMH4042674	400	6.4	0.003	106	24.2	22.9%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	126.8%	Spill
S7-S8	FMH4042674	FMH4100299	400	22.8	0.002	89	24.2	27.3%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	151.3%	Spill
S8-S9	FMH4100299	FMH4042675	400	20.8	0.002	93	24.2	26.1%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	144.6%	Spill
S9-S10	FMH4042675	FMH4042676	400	28.2	0.004	123	24.2	19.6%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	108.7%	Spill
S10-S11	FMH4042676	FMH4042677	400	26.4	0.004	122	24.2	19.8%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	109.7%	Spill
S11-S12	FMH4042677	FMH4042678	400	3.6	0.006	141	24.2	17.2%	OK	A + B + C	2271.9	8,414	5	-	131.5	2.5	134.0	94.9%	Spill
S12-S13	FMH4042678	FG4003341	400	10.1	0.107	779	24.2	3.1%	OK	A + B + C + D	2574.1	9,534	5	10.3	159.3	2.5	161.8	20.8%	OK

Table 5a Hydraulic Capacity of Existing Sewers along Wai Yip Street - surcharge condition with 1m freeboard

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Chainage	Invert Level 1	Invert Level 2	Foulwater Level 1	Foulwater Level 2	Cover Level 1	Cover Level 2	Freeboard 1	Freeboard 2	Friction Loss	Entry and Exit Loss	g	k_s	Required $S_{hydraulic}$	v	V	Area	Q	Required Peak Flow
			mm	m	m	mPD	mPD	mPD	mPD	mPD	mPD	m	m	m	m	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s
S1-S2	FMH4042668	FMH4042669	225	53.5	0.0	1.42	0.80	1.50	1.33	4.12	4.04	2.62	2.71	0.14	0.03	9.81	0.0006	0.0027	1E-06	0.67	0.04	0.03	26.7
S2-S3	FMH4042669	FMH4042670	400	34.3	53.5	0.68	0.43	1.33	1.24	4.04	4.06	2.71	2.82	0.05	0.04	9.81	0.0006	0.0014	1E-06	0.69	0.13	0.09	86.7
S3-S4	FMH4042670	FMH4042671	400	19.1	87.8	0.38	0.30	1.24	1.18	4.06	4.00	2.82	2.82	0.03	0.04	9.81	0.0006	0.0014	1E-06	0.69	0.13	0.09	86.7
S4-S5	FMH4042671	FMH4042672	400	46.5	106.9	0.26	-0.09	1.18	1.03	4.00	4.11	2.82	3.08	0.09	0.05	9.81	0.0006	0.0020	1E-06	0.84	0.13	0.11	105.3
S5-S6	FMH4042672	FMH4042673	400	20.5	153.4	-0.22	-0.33	1.03	0.86	4.11	4.14	3.08	3.28	0.08	0.10	9.81	0.0006	0.0037	1E-06	1.14	0.13	0.14	143.3
S6-S7	FMH4042673	FMH4042674	400	6.4	173.9	-0.33	-0.35	0.86	0.72	4.14	3.98	3.28	3.26	0.04	0.10	9.81	0.0030	0.0057	1E-06	1.14	0.13	0.14	143.3
S7-S8	FMH4042674	FMH4100299	400	22.8	180.3	-0.37	-0.42	0.72	0.49	3.98	4.51	3.26	4.02	0.13	0.10	9.81	0.0030	0.0057	1E-06	1.14	0.13	0.14	143.3
S8-S9	FMH4100299	FMH4042675	400	20.8	203.1	-0.44	-0.49	0.49	0.27	4.51	3.73	4.02	3.46	0.12	0.10	9.81	0.0030	0.0057	1E-06	1.14	0.13	0.14	143.3
S9-S10	FMH4042675	FMH4042676	400	28.2	223.9	-0.50	-0.62	0.27	0.01	3.73	3.74	3.46	3.73	0.16	0.10	9.81	0.0030	0.0057	1E-06	1.14	0.13	0.14	143.3
S10-S11	FMH4042676	FMH4042677	400	26.4	252.1	-0.62	-0.73	0.01	-0.24	3.74	3.79	3.73	4.03	0.15	0.10	9.81	0.0030	0.0057	1E-06	1.14	0.13	0.14	143.3
S11-S12	FMH4042677	FMH4042678	400	3.6	278.5	-0.74	-0.76	-0.24	-0.36	3.79	3.87	4.03	4.23	0.02	0.10	9.81	0.0030	0.0057	1E-06	1.14	0.13	0.14	143.3
S12-S13	FMH4042678	FG4003341	400	10.1	282.1	-0.76	-1.84	-0.36	-	3.87	3.97	4.23	-	0.04	0.09	9.81	0.0006	0.0035	1E-06	1.11	0.13	0.14	139.4



Note:
1. Boundary condition is set at S12 where free-flow condition is expected . Therefore, backwater calculation is conducted upstream manhole S12.
Foulwater level at S12 is assumed to be: -0.76 (IL) + 0.400 (pipe dia.) = -0.36mPD as a conservative approach
2. For this assessment, the Colebrook-White Equation has been used to calculate the friction loss. (Sewerage Manual section 5.2.1)
3. According to DSD's Sewerage Manual (Part 1) section 5.2.2, Local losses are usually small in relation to the pipeline head losses and are not normally considered. However, as a conservative approach, further allowances have been included for local losses at pipe entry (K=0.5) and exit (K = 1), with a total local loss coefficient of 1.5
4. Comparing the cover levels and foulwater levels at each manhole, the freeboards are found sufficient (>1m). Therefore, no unacceptable adverse sewerage impacts are identified.
5. Friction loss is deduced by required hydraulic gradient x pipe length, while the local loss is deduced by the equation:

$$h_f = K\frac{V^2}{2g}$$

Table 5b Hydraulic Capacity of Existing Sewers along Wai Yip Street - surcharge condition with 1.15 safety factor

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Chainage	Invert Level 1	Invert Level 2	Foulwater Level 1	Foulwater Level 2	Cover Level 1	Cover Level 2	Freeboard 1	Freeboard 2	Friction Loss	Entry and Exit Loss	g	k_s	Required $S_{hydraulic}$	v	V	Area	Q	Required Peak Flow
			mm	m	m	mPD	mPD	mPD	mPD	mPD	mPD	m	m	m	m	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s
S1-S2	FMH4042668	FMH4042669	225	53.5	0.0	1.42	0.80	1.81	1.57	4.12	4.04	2.31	2.47	0.19	0.05	9.81	0.0006	0.0035	1E-06	0.77	0.04	0.03	30.7
S2-S3	FMH4042669	FMH4042670	400	34.3	53.5	0.68	0.43	1.57	1.46	4.04	4.06	2.47	2.60	0.06	0.05	9.81	0.0006	0.0018	1E-06	0.79	0.13	0.10	99.7
S3-S4	FMH4042670	FMH4042671	400	19.1	87.8	0.38	0.30	1.46	1.38	4.06	4.00	2.60	2.62	0.03	0.05	9.81	0.0006	0.0018	1E-06	0.79	0.13	0.10	99.7
S4-S5	FMH4042671	FMH4042672	400	46.5	106.9	0.26	-0.09	1.38	1.19	4.00	4.11	2.62	2.92	0.12	0.07	9.81	0.0006	0.0026	1E-06	0.96	0.13	0.12	121.1
S5-S6	FMH4042672	FMH4042673	400	20.5	153.4	-0.22	-0.33	1.19	0.95	4.11	4.14	2.92	3.19	0.10	0.13	9.81	0.0006	0.0049	1E-06	1.31	0.13	0.16	164.8
S6-S7	FMH4042673	FMH4042674	400	6.4	173.9	-0.33	-0.35	0.95	0.79	4.14	3.98	3.19	3.19	0.03	0.13	9.81	0.0006	0.0049	1E-06	1.31	0.13	0.16	164.8
S7-S8	FMH4042674	FMH4100299	400	22.8	180.3	-0.37	-0.42	0.79	0.55	3.98	4.51	3.19	3.96	0.11	0.13	9.81	0.0006	0.0049	1E-06	1.31	0.13	0.16	164.8
S8-S9	FMH4100299	FMH4042675	400	20.8	203.1	-0.44	-0.49	0.55	0.32	4.51	3.73	3.96	3.41	0.10	0.13	9.81	0.0006	0.0049	1E-06	1.31	0.13	0.16	164.8
S9-S10	FMH4042675	FMH4042676	400	28.2	223.9	-0.50	-0.62	0.32	0.05	3.73	3.74	3.41	3.69	0.14	0.13	9.81	0.0006	0.0049	1E-06	1.31	0.13	0.16	164.8
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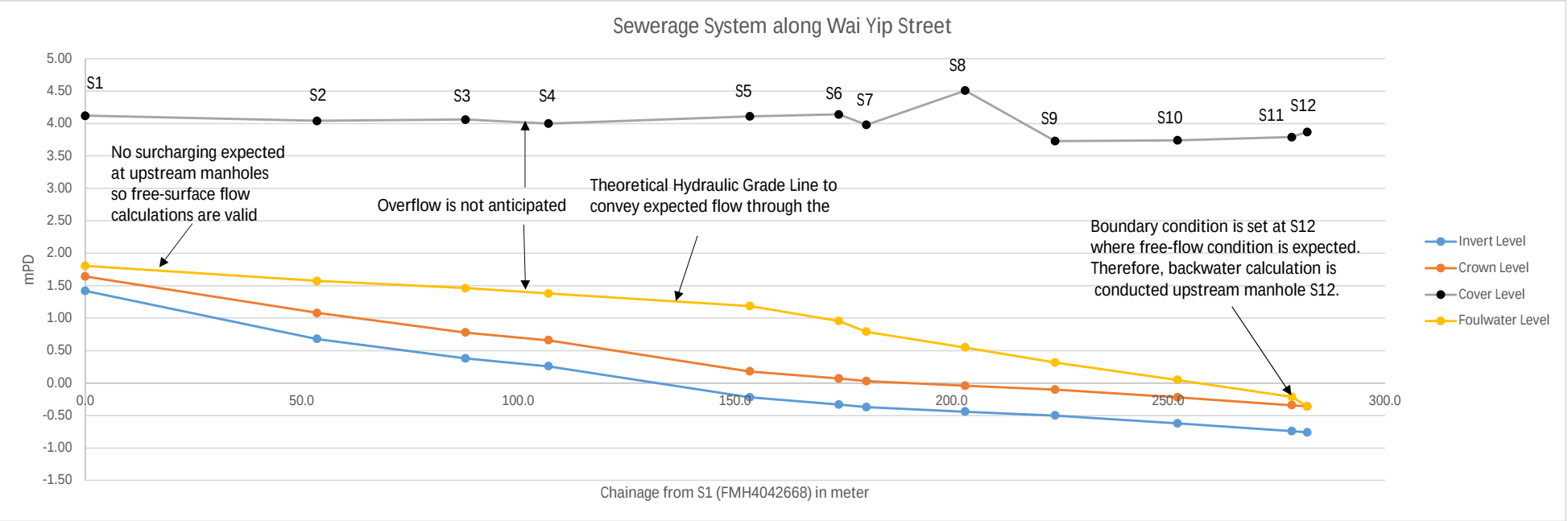
S12-S13	FMH4042678	FG4003341	400	10.1	282.1	-0.76	-1.84	-0.36	-	3.87	3.97	4.23	-	0.05	0.12	9.81	0.0006	0.0046	1E-06	1.28	0.13	0.16	160.4



Note:
1. Boundary condition is set at S12 where free-flow condition is expected . Therefore, backwater calculation is conducted upstream manhole S12.
Foulwater level at S12 is assumed to be: -0.76 (IL) + 0.400 (pipe dia.) = -0.36mPD as a conservative approach
2. For this assessment, the Colebrook-White Equation has been used to calculate the friction loss. (Sewerage Manual section 5.2.1)
3. According to DSD's Sewerage Manual (Part 1) section 5.2.2, Local losses are usually small in relation to the pipeline head losses and are not normally considered. However, as a conservative approach, further allowances have been included for local losses at pipe entry (K=0.5) and exit (K = 1), with a total local loss coefficient of 1.5
4. Comparing the cover levels and foulwater levels at each manhole, no overflowing is found (freeboard >0m). Therefore, no unacceptable adverse sewerage impacts are identified.
5. Friction loss is deduced by required hydraulic gradient x pipe length, while the local loss is deduced by the equation:

$$h_f = K\frac{V^2}{2g}$$

Appendix IV

Revised Environmental Impact Assessment

Prepared for

Diamond Ocean Investments Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 – 109 WAI YIP STREET, KWUN TONG, KOWLOON

ENVIRONMENTAL ASSESSMENT (AIR QUALITY & NOISE)

Date	**05 February 2025**
Prepared by	**Nelly Tang** **Environmental Consultant**
Signed	
Approved by	**Katie Yu** **Senior Manager**
Signed	
Project Reference	**KTAWY107EI00**
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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

1.1 Project Background

1.1.1 The Application Site at 107-109 Wai Yip Street, Kwun Tong, is zoned as "Other Specified Uses (Business)" (OU(B)) under the Kwun Tong (South) Outline Zoning Plan (OZP) No. S/K14S/25, with site area of about 1,171 m^2. This planning application is to seek permission from the Town Planning Ordinance (the Board) in support of the proposed development, which will be developed into a residential care home for the elderly (RCHE) and hotel (hereafter referred to as the "Proposed Development").

1.1.2 Ramboll Hong Kong Limited has been commissioned by the Applicant to conduct this Environmental Assessment (EA) for the subject planning application.

1.2 Application Site and its Environs

1.2.1 The Application Site is bounded by Tai Yip Street to the north and Wai Yip Street to the south. It is surrounded by industrial buildings to the north, west and east.

1.2.2 **Figure 1.1** shows the location of the Application Site and its environs. The Application Site is currently vacant and was occupied by an office building, Hsin Chong Centre, previously.

1.3 Proposed Development

1.3.1 The Proposed Development comprises a 33-storey (including one basement level) RCHE and hotel with a total GFA of about 16,856 m^2. The maximum building height is at 115 mPD. The indicative layout plan of the Proposed Development is shown in **Appendix 1.1**.

1.4 Scope

1.4.1 The Project will involve excavation, foundation and superstructure construction works. Potential noise, water quality and waste management impacts arising from the construction activities are expected. Although detailed construction programme and plant inventory are not available at this early planning stage, for project of this scale, these potential environmental impacts can be controlled with the implementation of proper site practices and pollution control measures stipulated in the "Recommended Pollution Control Clauses for Construction Contracts" issued by the EPD. As such, no adverse noise, water quality and waste management impact during the construction of the Proposed Development is anticipated and have been scoped out in this EA Report.

1.4.2 As mentioned in **Section 1.2**, the Application Site is currently vacant and was previously occupied by an office building. There is no anticipated land contamination from past or current land use at the site. According to the aerial photos from the Lands Department, the site was occupied by an office building since 1973 until it turned into an open carpark for private vehicle in 2020, after which the site has remained vacant. The selected aerial photos showing the historical conditions of the Application Site are presented in **Appendix 1.2**. Consequently, there are no concerns regarding land contamination for the Proposed Development, and land contamination has been excluded from this EA Report.

1.4.3 The future use of the Proposed Development, which includes a RCHE and a hotel, is non-polluting by nature. With proper connection of drainage and sewerage system and regular disposal of general refuse, no adverse water quality and waste management impacts are expected during the operation phase. Therefore, operation phase water quality and waste management impacts have been scoped out in this EA report.

1.4.4 This EA will focus on the assessment of air quality (including construction dust) and noise impacts associated with the Proposed Development.

2. AIR QUALITY

2.1 Introduction

2.1.1 The aim of this study is to assess the potential air quality impact arising from traffic emissions along the road carriageways surrounding the Application Site and the chimney emission from industrial stack in the vicinity of the Application Site, if identified, during the operation of the Proposed Development.

2.2 Legislation, Standards, Guidelines and Criteria

Air Pollution Control Ordinance (Cap.311)

2.2.1 The Air Pollution Control Ordinance (APCO) and its subsidiary regulations provide the statutory control on air pollutants from a variety of sources. The APCO makes provision for abating, prohibiting and controlling emissions of any solid, particulate, liquid, vapour, objectionable odours or gaseous substances into the atmosphere. The whole of the HKSAR has been covered by Air Control Zones. The Hong Kong Air Quality Objectives (AQOs) stipulate maximum acceptable concentration of air pollutants. The Air Pollution Control (Amendment) Ordinance 2021 has come into operation since 1 January 2022 to tighten three AQOs. The prevailing AQOs is shown in **Table 2.1**.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Averaging Time	Concentration Limit (µg/m3) [a]	Number of Exceedances allowed per year
Sulphur dioxide, SO_2	10-minute	500	3
	24-hour	50	3
Respirable suspended particulates, RSP (PM_{10}) [b]	24-hour	100	9
	Annual	50	Not applicable
Fine suspended Particulates, FSP ($PM_{2.5}$) [c]	24-hour	50	35
	Annual	25	Not applicable
Nitrogen dioxide, NO_2	1-hour	200	18
	Annual	40	Not applicable
Ozone, O_3	8-hour	160	9
Carbon monoxide, CO	1-hour	30,000	0
	8-hour	10,000	0
Lead	Annual	0.5	Not applicable

Notes:
(a) All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature at 293 K and 101.325 kPa
(b) Respirable suspended particulates in air with a nominal aerodynamic diameter of 10 µm or less
(c) Fine suspended particulates in air with a nominal aerodynamic diameter of 2.5 µm or less

Air Pollution Control (Construction Dust) Regulation

2.2.2 Notifiable and regulatory works are controlled under the Air Pollution Control (Construction Dust) Regulation. Notifiable works include site formation, reclamation, demolition, foundation works and superstructure construction for buildings and road construction. Regulatory works concern building renovation, road opening and resurfacing, slope stabilisation, and other activities including stockpiling, dusty material handling, excavation, concrete works, etc.

2.2.3 The construction works implemented for the Project are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as

potential sources of fugitive dust emissions as detailed in Part I to IV of the Schedule on Dust Control Requirements.

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

2.2.4 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

2.2.5 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, starting from 1 September 2015. It restricts specified activities and locations including construction sites, designed waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Recommended Pollution Control Clauses for Construction Contracts

2.2.6 The Recommended Pollution Control Clauses (RPCC) are generally good engineering practice to minimize inconvenience and environmental nuisance to nearby residents and other sensitive receivers. The Contractor shall undertake environmental protection measures to reduce the environmental impacts arising from the execution of the Works and to minimise the effects on the air, noise, water quality as well as nuisance of waste within and outside the Site, on transport routes and at the loading, dredging and dumping areas.

Hong Kong Planning Standards and Guidelines (HKPSG)

2.2.7 Table 3.1 of the Chapter 9 (Environment) of the Hong Kong Planning Standards and Guidelines (HKPSG) shows the minimum horizontal buffer distance between kerb side of roads and sensitive uses for various types of roads, and also shows the recommended buffer distance between industrial sites with chimneys and sensitive uses. The mentioned recommendations are extracted and shown in **Table 2.2** below.

Table 2.2 Guidelines on Usage of Air Sensitive Uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	*Type of Road*		
	Trunk Road and Primary Distributor	>20m	Active and passive recreational uses
		3 – 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational uses
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational uses
		<5m	Passive recreational uses
	Under Flyovers		Passive recreational uses
Industrial Areas	*Difference in Height between Industrial Chimney Exit and the Site*		
	<20m	>200m	Active and passive recreational uses
		5 – 200m	Passive recreational uses
	20 – 30m (*)	>100m	Active and passive recreational uses
		5 – 100m	Passive recreational uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
	30 – 40m	>50m	Active and passive recreational uses
		5 – 50m	Passive recreational uses
	>40m	>10m	Active and passive recreational uses
Construction and earth moving Activities	-	<50m	Passive recreational uses
		>50m	Active and passive recreational uses

Remarks:

(a) In situations where the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary purpose and refine as and when more information is available.

(b) The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.

(c) The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishments which are likely to be significant air pollution sources. Consult EPD when planning open space sites close to such establishments.

(d) Amenity areas are permitted in any situation.

2.2.8 Section 3.3.9 of the HKPSG recommends that a buffer distance of at least 200m from air sensitive uses should be provided for odour sources.

2.3 Review of Baseline Air Quality

Historical Ambient Air Quality

2.3.1 The nearest Air Quality Monitoring Station (AQMS) to the Proposed Development is the Kwun Tong AQMS. The ambient air quality measured at Kwun Tong AQMS in Year 2019 to Year 2023 is shown in **Table 2.3**. The data is analysed and presented to align with the averaging periods and provide statistics of the number of exceedances against those allowed in the prevailing AQOs. The comparison has enabled a check of the compliance status from the perspective of the prevailing AQOs.

2.3.2 The 5-year arithmetic mean of the background air quality levels in different averaging periods (10-min, 1-hour, 8-hour, 24-hour and 1-year) have been computed and are taken to be representative of the area where the Proposed Development is situated.

Table 2.3 Air Pollutant Concentrations Measured at EPD's Kwun Tong AQMS

Pollutant	Averaging time	Parameter	Prevailing AQO (μg/m³)	Concentration [1] (μg/m³)				
				2019	2020	2021	2022	2023
RSP (PM_{10})	24-hour	10th highest	100	73	67	72	49	57
	Annual	Maximum	50	38	32	31	24	26
FSP ($PM_{2.5}$)	24-hour	36th highest	50	34	27	28	26	25
	Annual	Maximum	25	21	16	17	14	15
NO_2	1-hour	19th highest	200	184	153	164	145	147
	Annual	Maximum	40	**45**	**43**	**49**	**45**	**41**
SO_2	10-minute	4th highest	500	41	24	24	19	29
	24-hour	4th highest	50	11	8	7	11	10

Pollutant	Averaging time	Parameter	Prevailing AQO ($\mu g/m^3$)	Concentration [1] ($\mu g/m^3$)				
				2019	2020	2021	2022	2023
O_3	8-hour	10th highest	160	150	126	136	148	136

Note:

[1] Bolded and underlined values exceed the relevant AQO.

[2] CO is not measured at the Kwun Tong AQMS.

2.3.3 The concentration of all air pollutants was within the relevant AQOs, except the annual NO_2 level, which was exceeded in the past five years. NO_2 is mainly formed from the oxidation of nitric oxide (NO) emitted from fuel combustion. The high NO_2 level is likely due to the emission from road traffic.

Simulated Background Air Quality

2.3.4 The simulated background levels available from EPD's PATH v3.0 model at Grid (44,33) that coincide with the Application Site have also been compared. Background air quality levels from the Year 2030 are considered applicable since the Proposed Development is expected to be completed by 2029.

2.3.5 The simulated background air quality in Year 2030 has been analysed similarly and presented in **Table 2.4**.

Table 2.4 Future Predicted Background Air Quality in Year 2030

Air Pollutant	Averaging Period	Path Grid 44,33	Prevailing AQOs
SO_2	10-min (4th highest)	21	500 (a)
	24-hour (4th highest)	7	50 (a)
NO_2	1-hour (19th highest)	88	200 (b)
	Annual	17	40
RSP	24-hour (10th highest)	52	100 (c)
	Annual	20	50
FSP	24-hour (36th highest)	26	50 (d)
	Annual	12	25
O_3	8-hour (10th highest)	**170**	160 (c)
CO	1-hour (1st highest)	527	30,000
	8-hour (1st highest)	503	10,000

Notes:

(a) Not to exceed more than 3 times per year.

(b) Not to exceed more than 18 times per year.

(c) Not to exceed more than 9 times per year.

(d) Not to exceed more than 35 times per year.

(e) Bolded and underlined values exceed the relevant AQO.

2.3.6 The predicted PATH ambient air quality level of most pollutants would be below the AQOs limit, except for the daily 8-hour moving average O_3. Ozone is a product of photochemical reactions of NO_x and volatile organic compounds (VOCs) instead of being emitted directly from human activities. In the presence of NO_x (a common roadside pollutant), ozone will be broken down into oxygen. Since NO_x concentration is low, the ozone scavenging effect is small and results in a generally high level, exceeding the AQOs.

2.4 Air Sensitive Receivers (ASRs)

2.4.1 Air Sensitive Receivers (ASRs) have been identified in accordance with the HKPSG and Annex 12 of the EIAO-TM.

2.4.2 The existing ASRs are identified with reference to the latest information provided on the survey maps, Outline Zoning Plan, topographic maps, aerial photos and land status. The first layer of existing ASRs located closest to the Application Site have been identified as the representative ASRs. Details of the representative ASRs are summarised in **Table 2.5** and indicated in **Figure 2.1**.

Table 2.5 Summary of Representative ASRs

ASR ID	Descriptions	Use	No. of Storeys	Approximate Minimum Horizontal Distance to Project Site (m)
Existing ASRs				
A01	Red Square	Industrial	11	<1
A02	Peter Leung Industrial Building	Industrial	12	9
A03	On Cheong Factory Building	Industrial	8	12
A04	Winful Industrial Building	Industrial	13	6
A05	Yat Sang Industrial Building	Industrial	11	6
A06	Kevin Wong Development Building	Industrial	12	6
A07	Ho King Industrial Estate	Industrial	7	9
A08	Wing Tai Factory Building	Industrial	14	26
A09	Hay Nien Building	Industrial	14	18
A10	Hecny Centre	Industrial/ Commercial	11	<1
A11	Hoi Bun Road Park	Recreational	1	29
A12	Citi Tower	Commercial	21	36

ASR ID	Descriptions	Use	No. of Storeys	Approximate Minimum Horizontal Distance to Project Site (m)
Planned ASRs				
A_P01	Proposed Development	RCHE/ Hotel	33	N/A

2.5 Air Quality Impact Assessment

Construction Phase

2.5.1 During the construction of the Proposed Development, the potential air quality impact on the nearby existing ASRs is related to dust nuisance from material handling, wind erosion of exposed area, gaseous emissions (sulphur dioxide (SO_2) and nitrogen dioxide (NO_2)) and PM emissions (respirable suspended particulates (PM_{10}) and fine suspended particulates ($PM_{2.5}$)) from construction equipment and vehicles.

2.5.2 The total area of the Application Site is only about 1,171m^2. As the project is still in the early planning stage, detailed construction information is not available at this stage. Construction dust control measures listed in the Air Pollution Control (Construction Dust) Regulation of the APCO and the proposed mitigation measures as presented in **Section 2.6** should be closely followed during the construction period in order to ensure fugitive dust and gaseous emission would be controlled and no adverse air quality impact is anticipated at the identified ASRs considering the site is relatively small.

2.5.3 For construction plants to be used on-site, requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will be followed to control potential emissions from non-road mobile machinery during the construction phase. Therefore, the air quality impact arising from gaseous and PM emissions by construction plants is considered minimal.

Operation Phase

2.5.4 Given that the future use of the Proposed Development includes a RCHE and a hotel, no specific air pollution sources are anticipated during the operation. A carpark is proposed in the basement of the development. The proposed carpark will accommodate private vehicles and will be designed and operated in accordance with the requirements outlined in EPD's ProPECC PN 2/96 on Control of Air Pollution in Car Parks. As it is still in the early planning stage, the exhaust outlet of the carpark has not yet been determined. The exhaust outlet shall be located away from any nearby ASRs as far as possible to minimize the air quality impact.

2.5.5 The presence of any off-site air pollution sources that can affect the Proposed Development are discussed below.

Vehicular Emission

2.5.6 With reference to Annual Traffic Census 2023 published by Transport Department, Wai Yip Street, located to the south of the Application Site, is classified as a Primary Distributor. According to **Table 2.2**, a buffer separation of at least 20m is recommended between the kerb side of a Primary Distributor and the air sensitive uses.

2.5.7 **Figure 2.2** shows the buffer distance from Wai Yip Street to the Application Site. Most part of the building will be located within the 20m buffer zone, except the façade facing the back lane. The Proposed Development will adopt centralised air-conditioning

system with fresh air supply, which can ensure adequate ventilation in the building without relying on openable windows. It has been confirmed that there will be no air sensitive use/ fresh air intake/ openable window[1] within the buffer zone. The fresh air intake point will be positioned outside the buffer zone, at about 24m from the kerb side of Wai Yip Street. As such, the fresh air intake point location complies with the HKPSG requirement and no adverse vehicular emission impact is anticipated.

Industrial Emission

2.5.8 A site visit was carried out in March 2024 and two chimneys have been identified within 200m of the Application Site, which are located at Wing Tai Factory Building and United Overseas Plaza, respectively. The chimney at Wing Tai Factory Building belongs to a laundry shop. As advised by the owner of the laundry shop, the chimney at Wing Tai Factory Building is abandoned and no longer in use.

2.5.9 The chimney at United Overseas Plaza is reported to be still active according to the management office of United Overseas Plaza. As shown in **Figure 2.2**, the location of the fresh air intake point is located beyond 200m from the chimney, satisfying HKPSG's recommended buffer distance for industrial uses of 200m as presented in **Table 2.2**. With the provision of adequate buffer distance for chimneys, adverse air quality impacts from chimney emissions are not anticipated at the Proposed Development.

Odour Emission

2.5.10 No odour sources were identified within 200m of the Application Site during the site visit. Air quality impact related to odour emission is not anticipated.

2.6 Mitigation Measures and Recommendations

Construction Phase

2.6.1 Air quality control measures stipulated under the Air Pollution Control (Construction Dust) Regulation, together with proper site management/practice and good housekeeping are required to mitigate the potential air quality impacts on the nearby ASRs. Requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will also be followed to control potential emissions from non-road mobile machinery during the construction phase. "Recommended Pollution Control Clauses for Construction Contracts" available on EPD website also contains the recommended control measures to be implemented during construction. The control measures detailed below shall also be incorporated into the Contract Specification where practicable as an integral part of good construction practices:

- All demolished items (including trees, shrubs, vegetation, boulders, poles, pillars, structures, debris, rubbish and other items arising from site clearance) that may dislodge dust particles shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides within a day of demolition;
- Where a site boundary adjoins a road, streets or other accesses to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit;
- The working area of any excavation or earth-moving operation shall be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;
- Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;

[1] Windows are not opened under normal circumstances, except for maintenance purpose.

- Use of frequent watering for particularly dusty construction areas and areas close to ASRs;
- Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines;
- Open stockpiles (if any) shall be avoided or covered. Prevent placing dusty material storage piles near ASRs;
- Any stockpile of dusty materials shall be either covered entirely by impervious sheeting; placed in an area sheltered on the top and the 3 sides; or sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.
- Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;
- Establishment and use of vehicle wheel and body washing facilities at the exit points of the Site;
- Imposition of speed controls for vehicles on unpaved site roads, 8 km per hour is the recommended limit;
- Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs;
- Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;
- Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high-level alarm which is interlocked with the material filling line and no overfilling is allowed;
- Cement, PFA or any other dusty materials collected by fabric filters or other air pollution control system or equipment shall be disposed of in totally enclosed containers;
- Silos used for the storage of cement or dry pulverized fuel ash shall not be overfilled;
- Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system;
- The electric power supply shall be provided for on-site machinery as far as practicable and diesel generators shall be avoided to minimize the gaseous and PM emissions;
- Avoid using exempted NRMMs as far as practicable;
- Locate all the dusty activities away from any nearby ASRs as far as practicable; and
- Erection of higher hoarding at the locations with ASRs in immediate proximity to the Application Site boundary.

Operation Phase

As the fresh air intake point of the Proposed Development has incorporated adequate buffer distance from the nearby roads and active chimneys, no further mitigation measures are proposed. The proposed carpark shall be designed and operated in

accordance with the requirements outlined in EPD's ProPECC PN 2/96 on Control of Air Pollution in Car Parks.

3. NOISE

3.1 Potential Noise Source

3.1.1 The Proposed Development is surrounded by clusters of industrial and commercial buildings. The traffic road network in the vicinity of the Proposed Development and the ventilation equipment at the nearby industrial and commercial buildings have been identified as the major noise source. However, as the Proposed Development will have a centralised air-conditioning system and do not rely on openable windows for ventilation, adverse traffic noise and fixed noise impact on the Proposed Development are not anticipated.

3.1.2 On the other hand, as the Proposed Development will have a centralised air-conditioning system, potential fixed plant noise source i.e. cooling towers/ chillers, will be installed at the Proposed Development. The location of the cooling towers/chillers is not confirmed yet, which can be located at the podium, inside the plant room or at the rooftop. As the Proposed Development is surrounded by industrial and commercial buildings, locating the cooling towers/ chillers at the rooftop with sightline to noise sensitive receivers is assumed for conservative assessment.

3.2 Nearby Noise Sensitive Receivers

3.2.1 There are mainly industrial and commercial development in the vicinity of the Application Site. The nearest noise sensitive receiver (NSR) which will have a line of sight to the cooling towers/ chillers of the Proposed Development is the Foo Yue Building at Ting Fu Street, which is located about 140m to the north of the Proposed Development as shown in **Figure 3.1**. This NSR is chosen for fixed noise impact assessment.

3.3 Fixed Noise Impact Assessment

3.3.1 The IND-TM sets out the appropriate Acceptable Noise Level (ANL) for fixed noise source which are dependent on the Area Sensitivity Ratings (ASRs) of the NSRs. According to Table 4.1 of HKPSG Chapter 9, the planned fixed noise source shall comply with 5dB(A) below the ANL shown in **Table 3.1** or the prevailing background noise level, whichever lower.

3.3.2 Considering that the nearest NSR is close to Kwun Tong Road and Kai Fuk Road with busy traffics as well as MTR Kwun Tong Line, the prevailing background noise levels is very likely to be higher than ANL-5. Therefore, ANL-5 is adopted as the noise criteria for the assessment.

Table 3.1 Acceptable Noise Levels (ANLs)

Time Period	ANL on Different Area Sensitivity Rating (Leq, 30min, dB(A))		
	ASR A	ASR B	ASR C
Day (0700 to 1900 hours)	**60**	**65**	**70**
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	**50**	**55**	**60**

3.3.3 According to the Annual Traffic Census 2023, Kwun Tong Road and Kai Fuk Road with annual average daily traffic flow (AADT) lower than 30,000 are not considered as an influencing factor. Foo Yue Building is located in urban area and is not affected by the influencing factor, an ASR of "B" has been assumed and adopted for this NSR in the assessment.

3.3.4 Based on standard acoustic principle for attenuation ($20 \times \log(distance) + 8$) and façade correction (+3 dB(A)), the maximum allowable sound power levels of the ventilation equipment of the Proposed Development are back calculated as 102 dB(A) for daytime and evening time (0700 – 2300 hours) and 92 dB(A) for night time (2300 – 0700 hours), assuming no screening correction applied. Calculations of maximum allowable sound power levels is provided in **Appendix 3.1**. Depending on the detailed design of the Proposed Development, should screening structure be incorporated into the design, the maximum allowable sound power levels could be adjusted. Provided that the future design on ventilation equipment of the centralised air-conditioning system is designed in compliance with the requirement of the IND-TM and the HKPSG, no adverse fixed noise impact is anticipated at Foo Yue Building.

3.4 Discussion

3.4.1 The Proposed Development will be equipped with central air-conditioning system and will not rely on openable windows for ventilation under normal circumstances. Therefore, traffic noise and industrial noise from the surroundings would not cause adverse noise impact on the Proposed Development.

3.4.2 The cooling towers/ chillers of the Proposed Development may cause potential fixed noise impact to the surrounding NSRs. The equipment will be designed to meet the relevant noise criteria stipulated in the HKPSG and the IND-TM and incorporate at-source noise mitigation measures as necessary. As such, potential fixed noise impact due to the proposed development is not anticipated.

4. OVERALL CONCLUSION

4.1.1 With the implementation of mitigation measures as defined in the Air Pollution Control (Construction Dust) regulation and good site practices as stated in **Section 2.6**, no adverse construction air quality impact is anticipated.

4.1.2 The Application Site is bounded by Wai Yip Street and an active chimney is identified within 200m of the Site. The fresh air intake point for the central air-conditioning system is carefully positioned beyond 200m from the chimney and beyond 20m from Wai Yip Street. Adequate buffer distance from both the road and the chimney is provided in accordance with the requirements outlined in the HKPSG. Therefore, no adverse vehicular and chimney emission impacts are anticipated. Additionally, no odour sources were identified within 200m of the Application Site, so no odour emission impact is expected.

4.1.3 The Proposed Development will be equipped with central air-conditioning system and will not rely on openable windows for ventilation under normal circumstances. Therefore, traffic noise and industrial noise from the surroundings would not cause adverse noise impact on the Proposed Development. The cooling towers/ chillers on the rooftop of the Proposed Development will be appropriately designed to meet the relevant noise criteria stipulated in the HKPSG and the Noise Control Ordinance.

4.1.4 In conclusion, this EA confirms the overall acceptability from the air quality and noise perspectives.

Figures

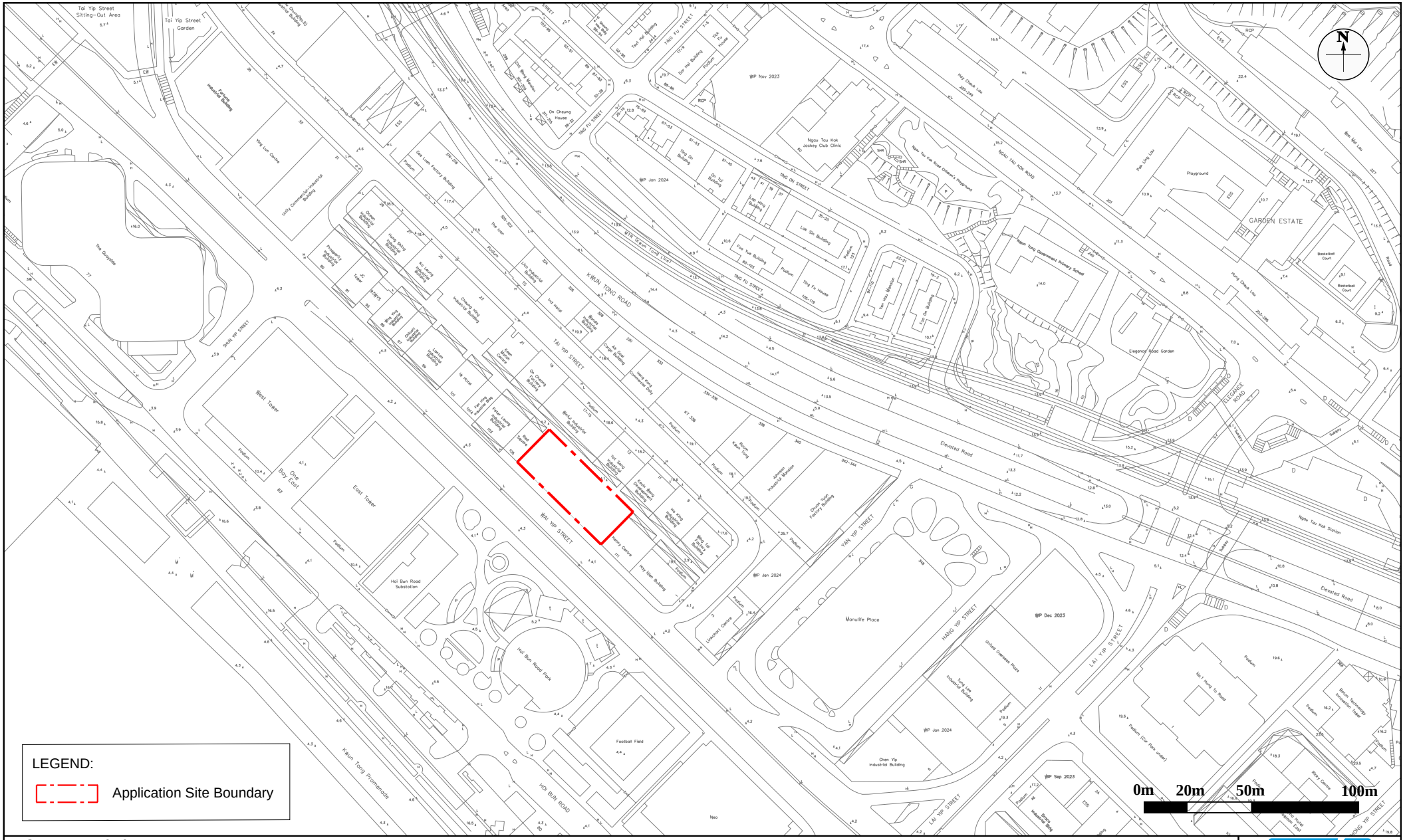


Figure: 1.1	RAMBOLL
Title: Location of Application Site and Its Environs	Drawn by: NT
	Checked by: KY
Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon	Rev.: 1.0
	Date: Mar 2024

Q:\Projects\KTAWY107EI00\04 Deliverables\01 EA Report\01 Figures\v1.0\Source\Figure 1.1 Loation of Application Site.dwg

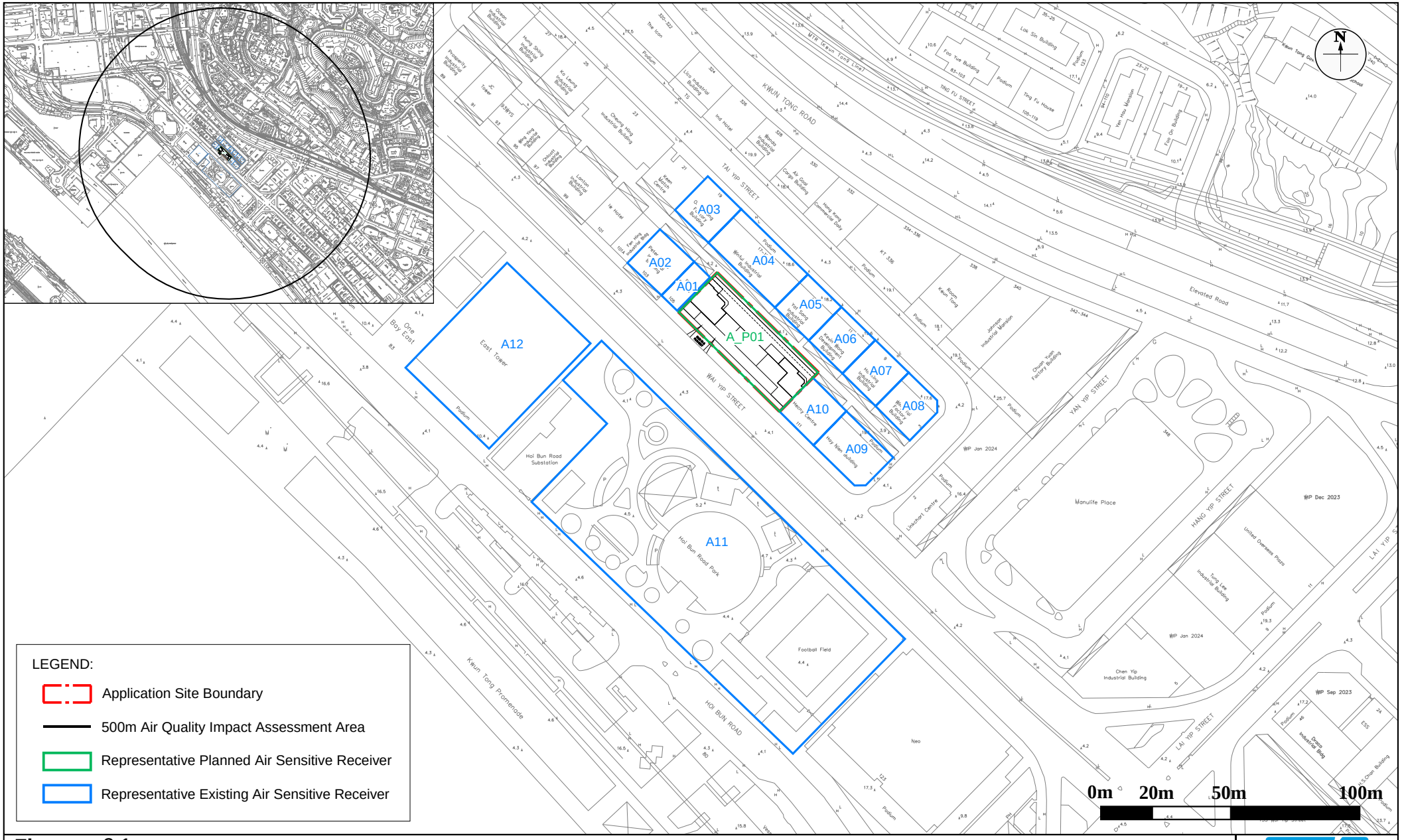


Figure: 2.1	RAMBOLL
Title: Location of Representative Air Sensitive Receivers	Drawn by: NT Checked by: KY
Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon	Rev.: 1.0 Date: Jan 2025

Q:\Projects\KTAWY107EI00\04 Deliverables\01 EA Report\01 Figures\v2.0\Source\Figure 2.1 Location of ASR.dwg

Wing Tai Factory Building

United Overseas Plaza

LEGEND:

- Application Site Boundary
- 20m Buffer Zone for Primary Distributor
- Identified Abandoned Chimney
- Identified Active Chimney
- 200m from Active Chimney
- Indicative Fresh Air Intake Location

0m 20m 50m 100m

Figure: 2.2

Title: HKPSG's Recommended Buffer Distance for Road and Chimney

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by: NT

Checked by: KY

Rev.: 1.0

Date: Mar 2024

Q:\Projects\KTAWY107EI00\04 Deliverables\01 EA Report\01 Figures\v1.0\Source\Figure 2.1 HKPSG's Buffer Distance Requirement.dwg

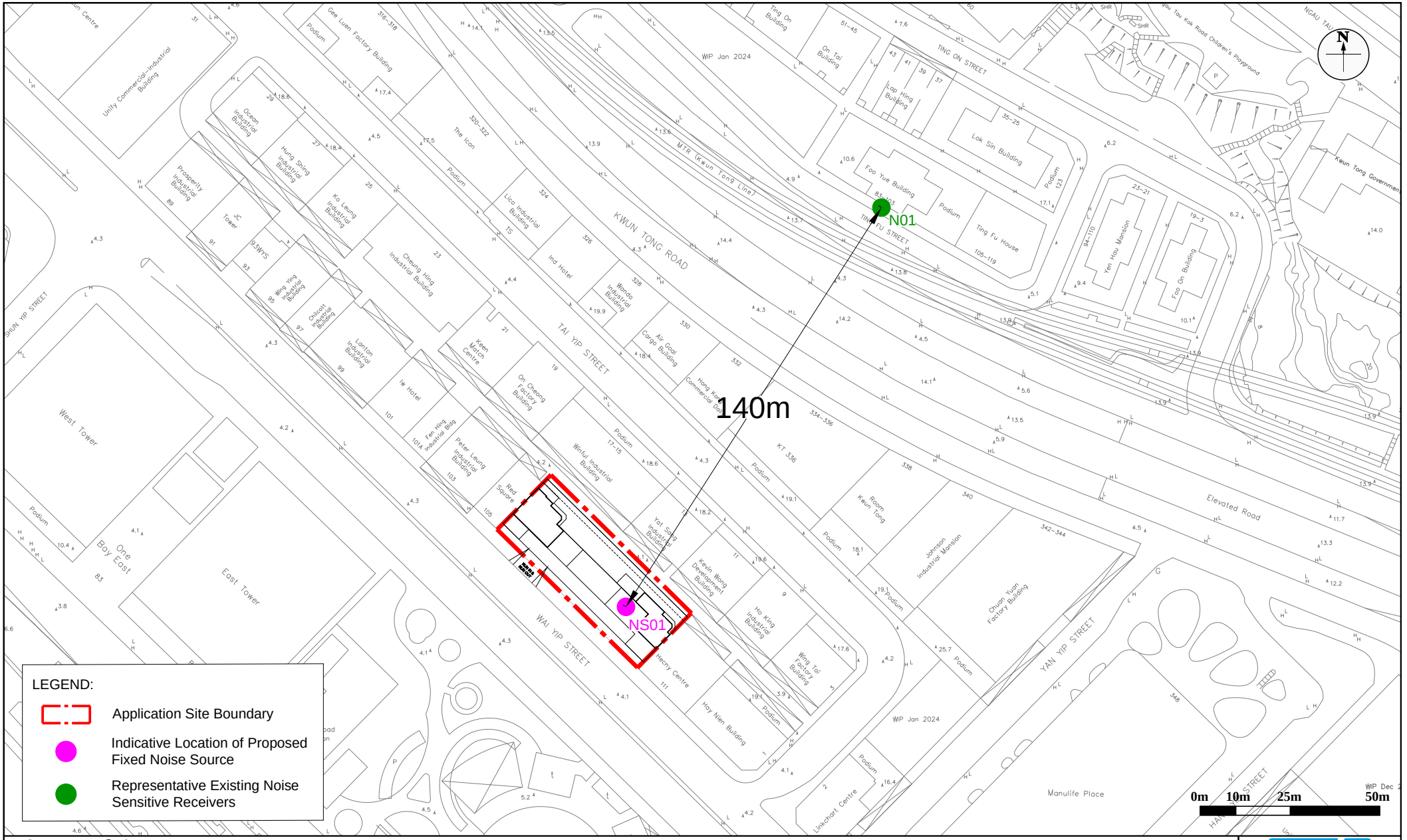


Figure: 3.1

Title: Location of Representative Noise Sensitive Receiver

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by: NT

Checked by: KY

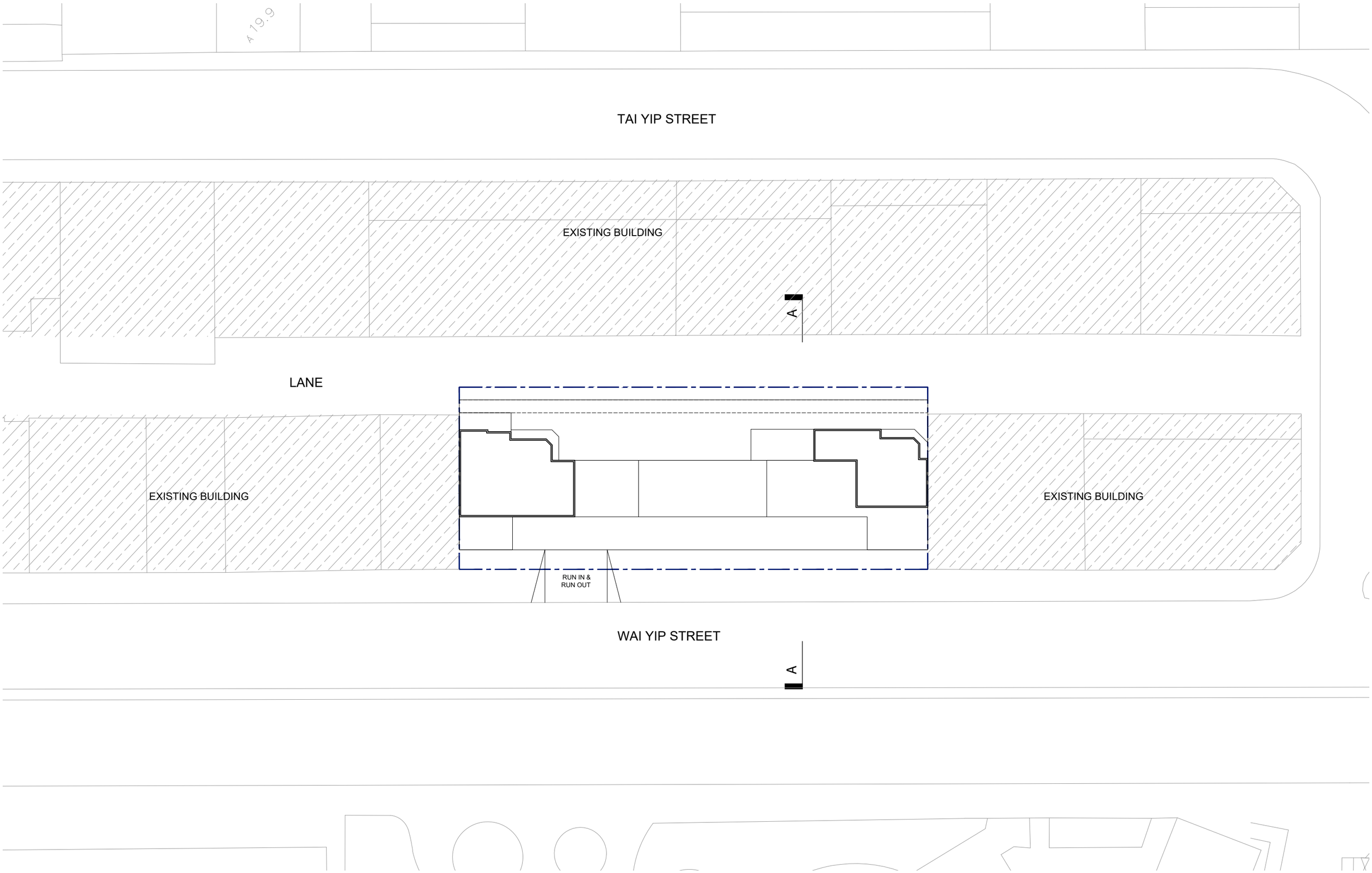
Rev.: 2.0

Date: Jul 2024

Q:\Projects\KTAWY107EI00\04 Deliverables\01 EA Report\01 Figures\v2.0\Source\Figure 3.1 Location of NSR.dwg

Appendix

Appendix 1.1 Indicative Layout Plan of the Proposed Development

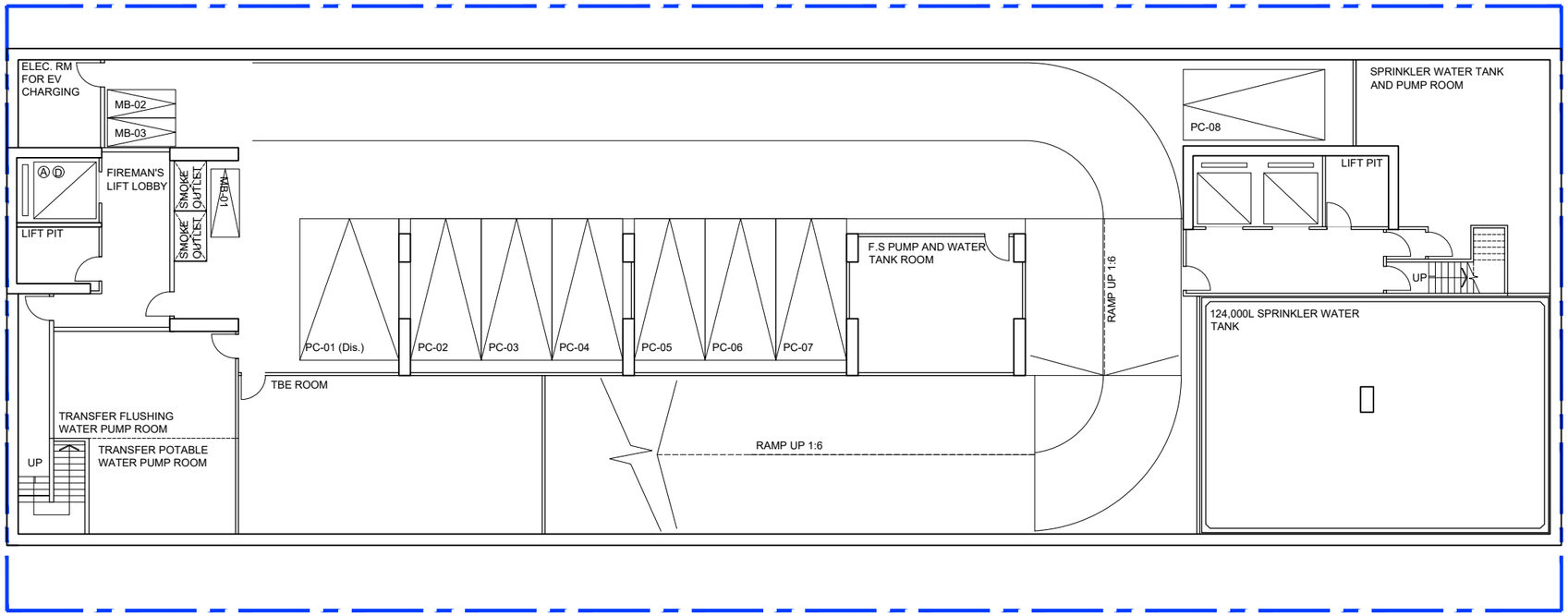


BLOCK PLAN SK-1 **19 MARCH 2024**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 4 8 20m

Singular Studio

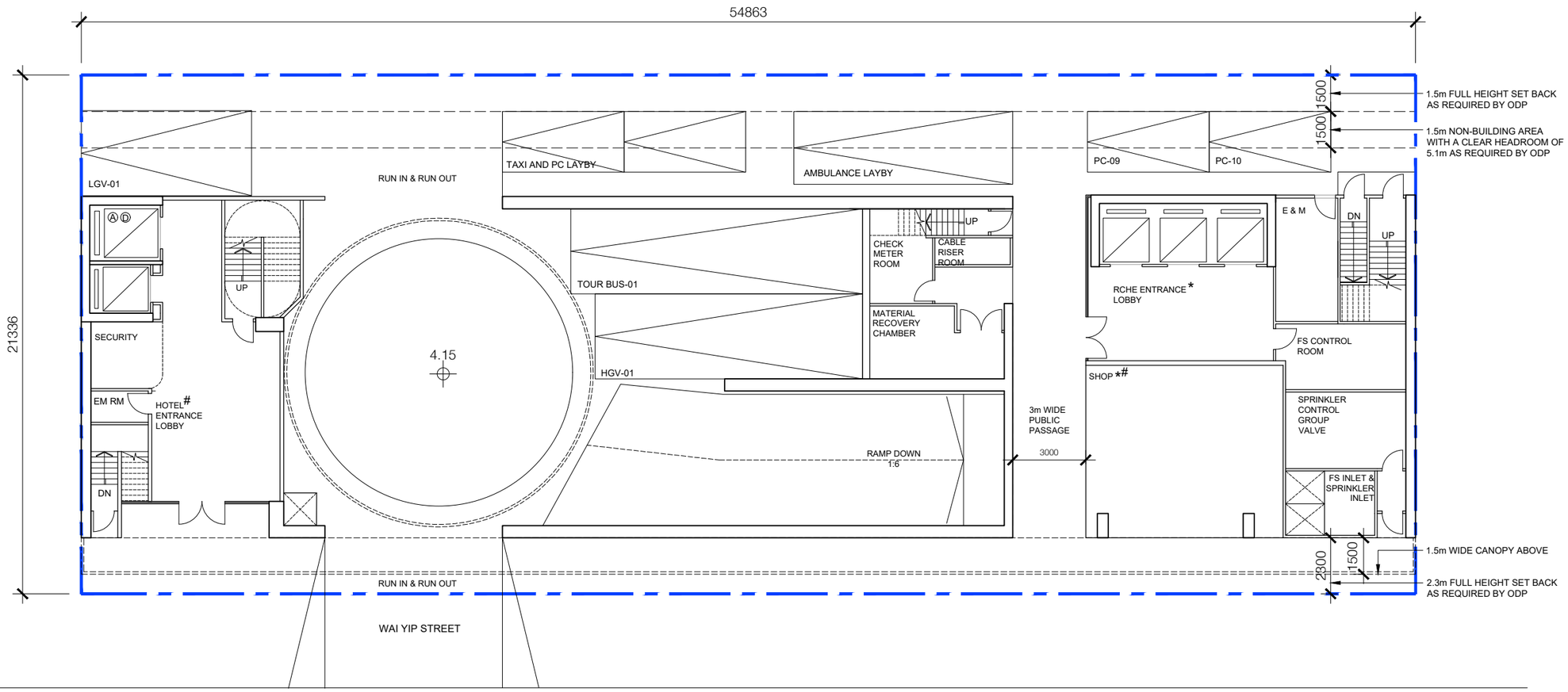


BASEMENT LEVEL 1 PLAN SK-2 21 JANUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



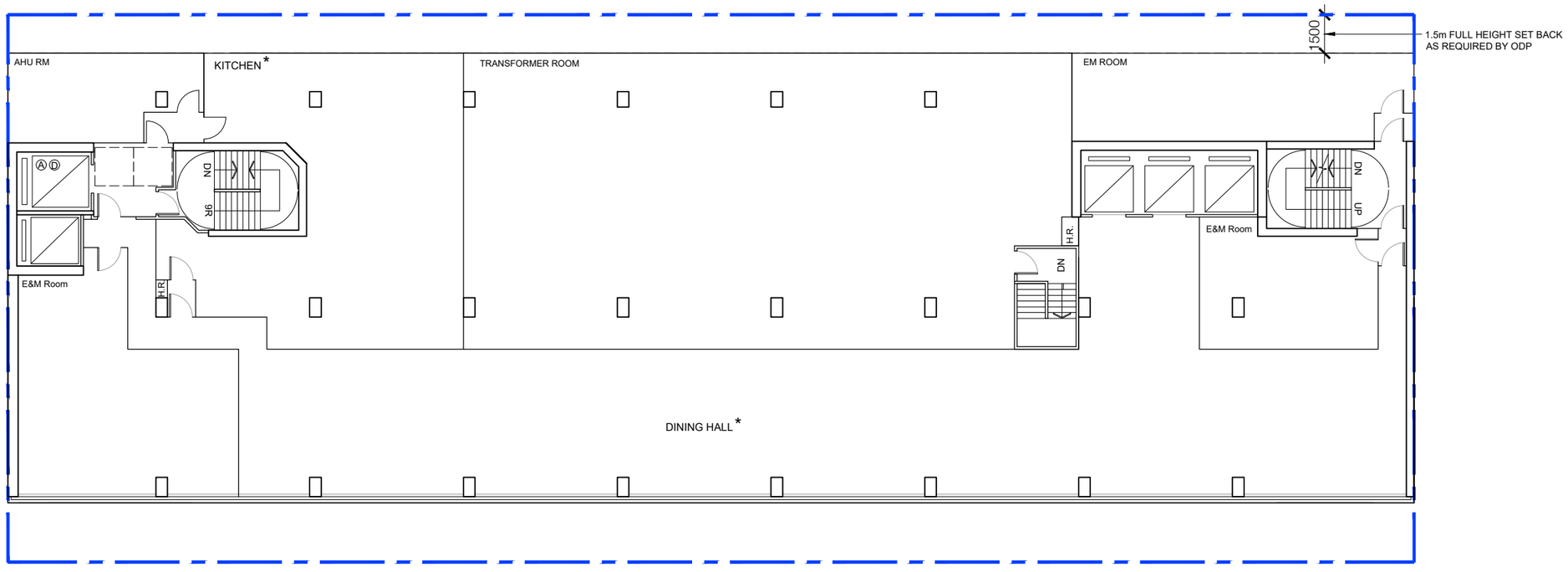
Annotations:
* Area designated for RCHE
\# Area designated for hotel
*# Area for both RCHE and hotel

GROUND FLOOR PLAN SK-3 21 JANUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



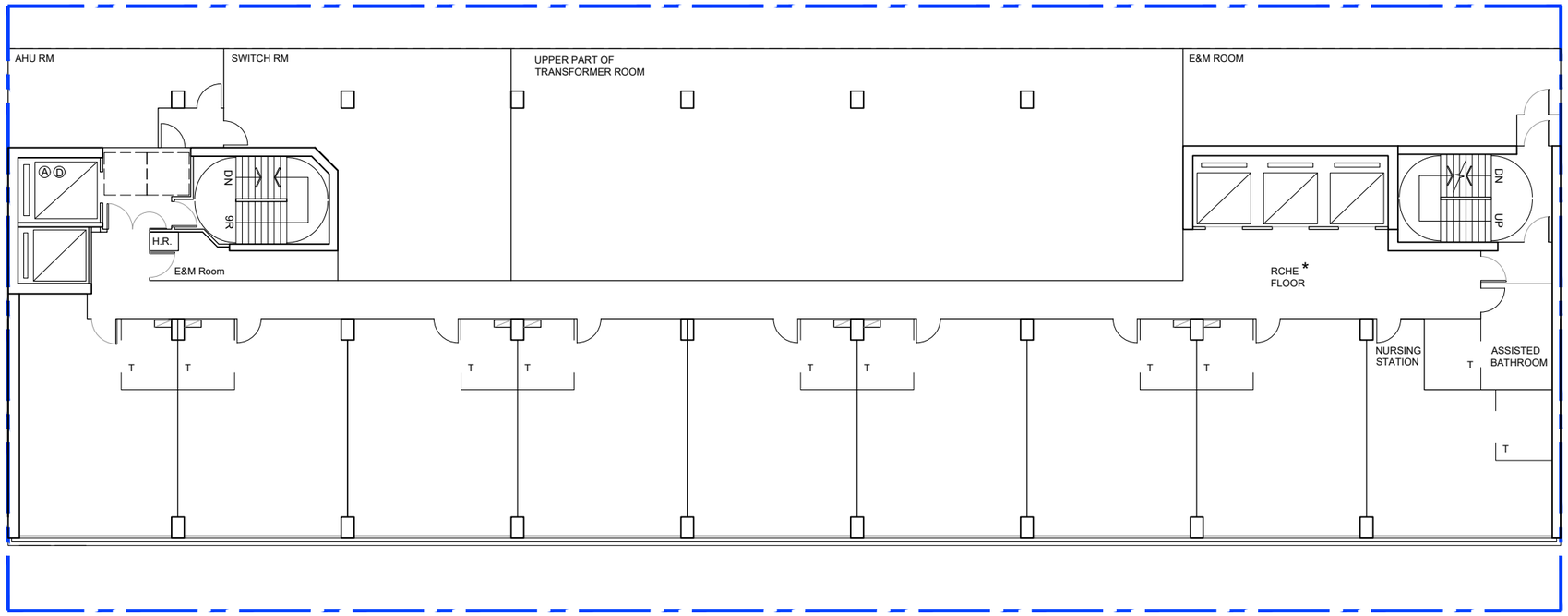
Annotation:
* Area designated for RCHE

RCHE FIRST FLOOR PLAN SK-4 **21 JANUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



NO. OF RCHE ROOMS: 8

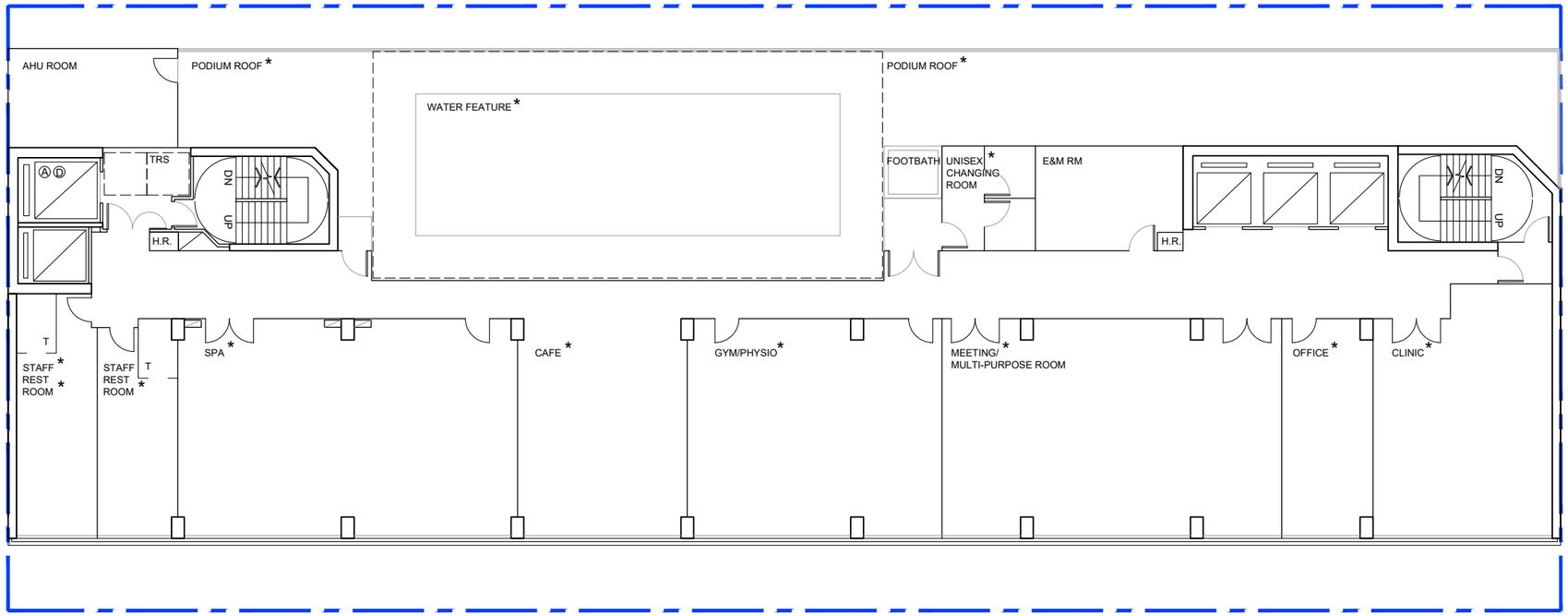
Annotation:
* Area designated for RCHE

RCHE SECOND FLOOR PLAN SK-5 5 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



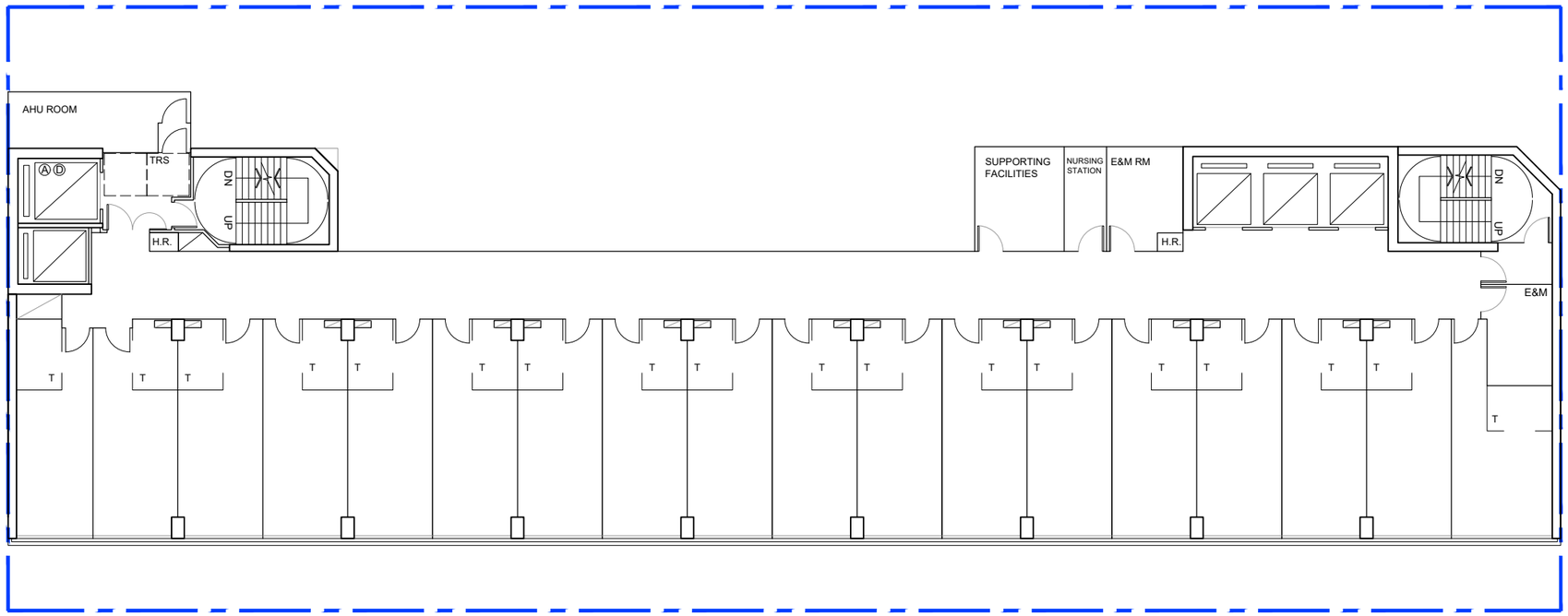
Annotation:
* Area designated for RCHE

RCHE THIRD FLOOR PLAN SK-6 **5 FEBRUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



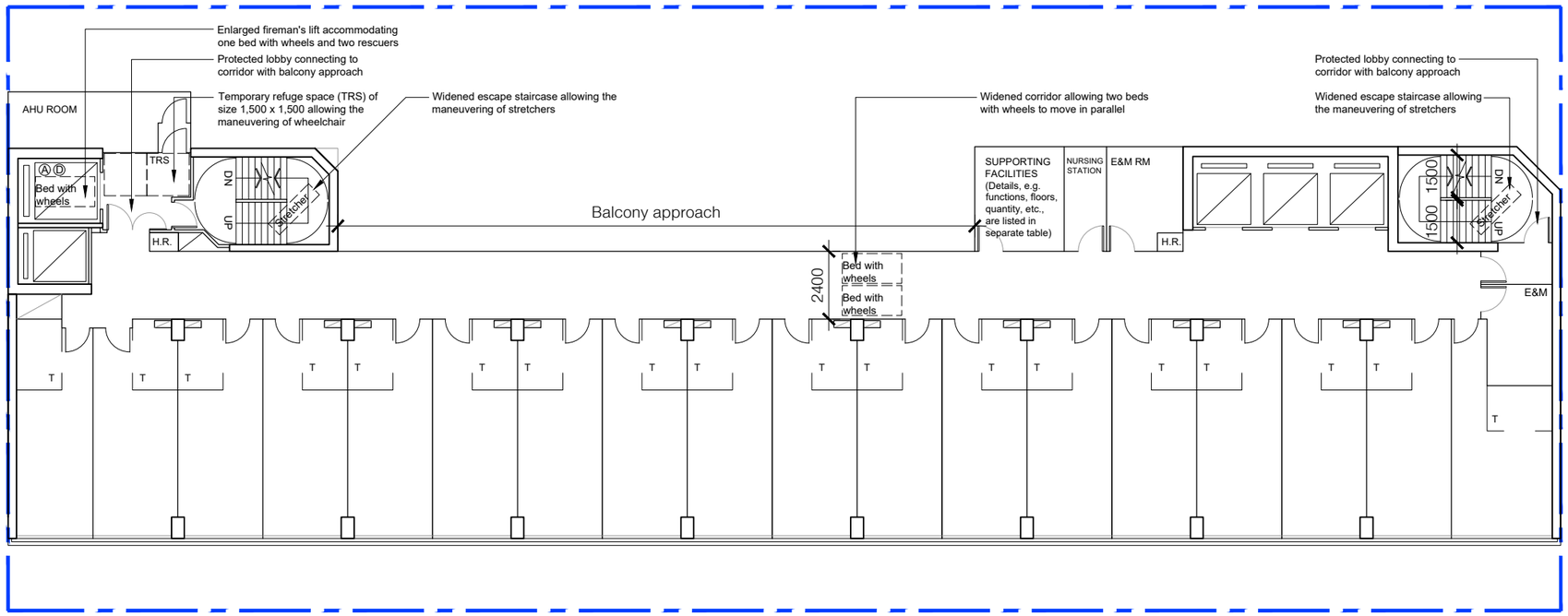
NO. OF RCHE ROOMS : 18

RCHE TYPICAL FLOOR (4-5, 7-12, 14-20/F) PLAN SK-7 **5 FEBRUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



Reference Diagrams Extracted from Metric Handbook

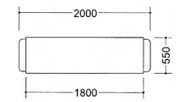


Diagram for stretcher/ hospital trolley

Diagram for bed with wheels

Proposed Function of Supporting Facilities at RCHE Typical Floor (4-5/F, 7-12/F and 14-20/F, 15 storeys)		
Function	**No. of Rooms**	**Location**
Nursing Station	15	4-5/F, 7-12/F & 14-20/F
Isolation Room	4	5/F, 8/F, 12/F, 17/F
Pantry	3	11/F, 16/F, 20/F
Laundry	2	4/F, 7/F
Store	3	10/F, 15/F, 19/F
Total	15	

NO. OF RCHE ROOMS : 18

NO. OF BEDS : 18 - 35
(1-2 BEDS PER ROOM)

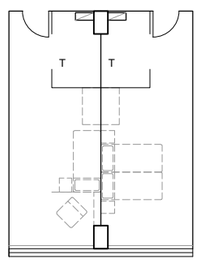


Diagram for Typical Room Layout
(for reference only)

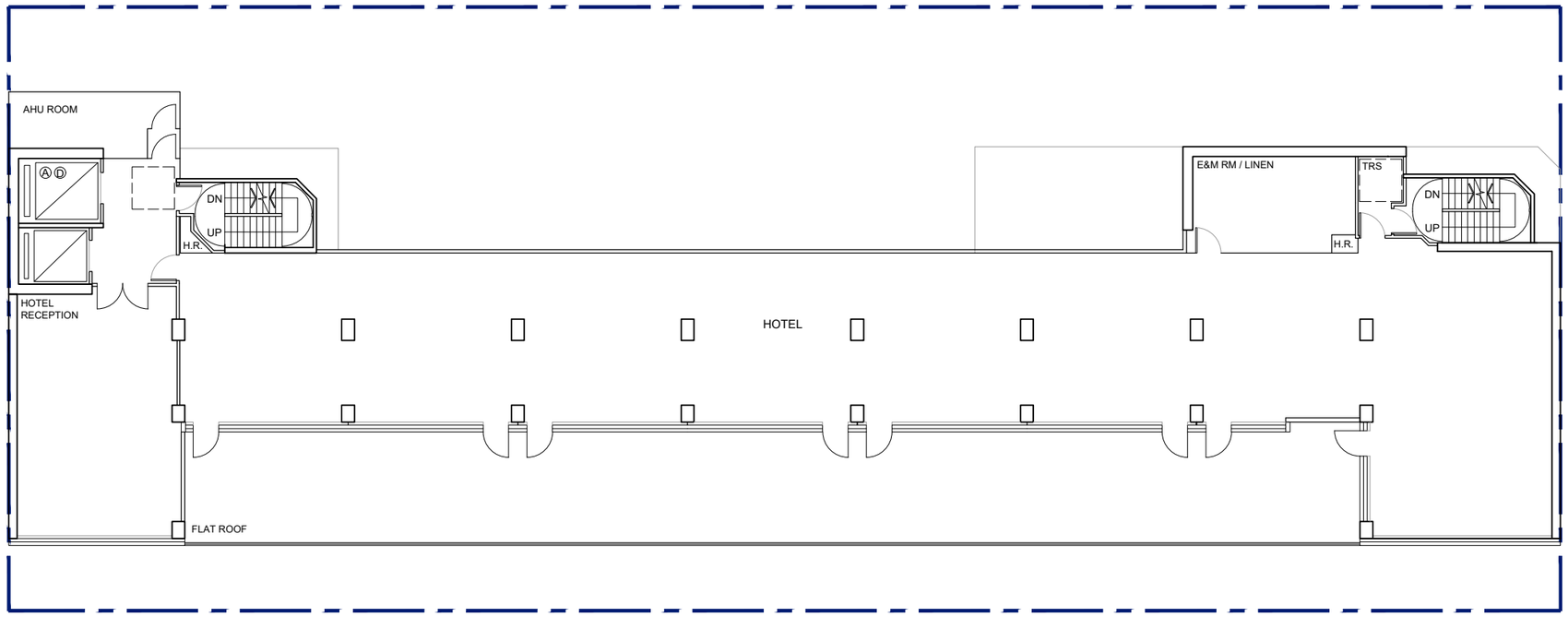
RCHE TYPICAL FLOOR (4-5, 7-12, 14-20/F) PLAN SK-7B 5 FEBRUARY 2025

(with annotations for additional requirements for building fire safety design and typical room layout)

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



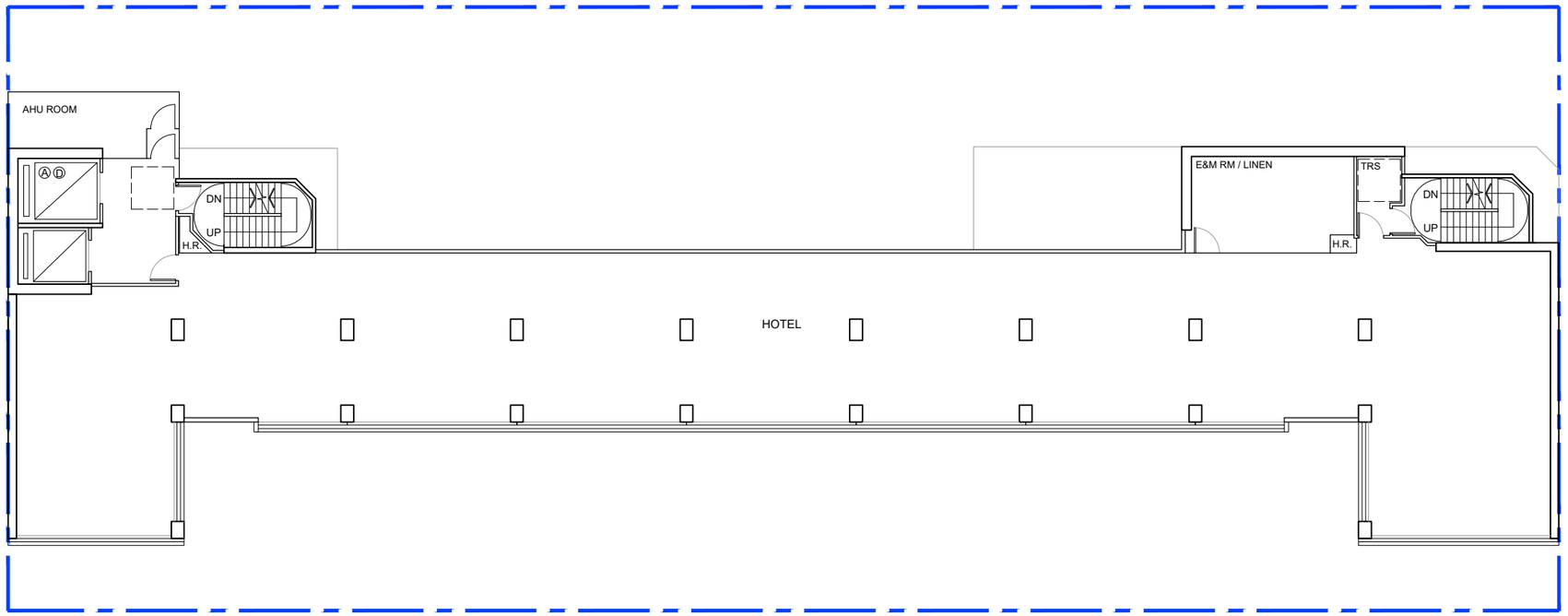
NO. OF GUESTROOMS: 16

HOTEL 21/F FLOOR PLAN SK-8 3 MAY 2024

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



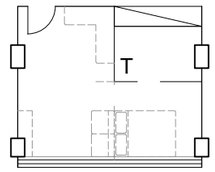


Diagram for Typical Room Layout
For Hotel (for reference only)

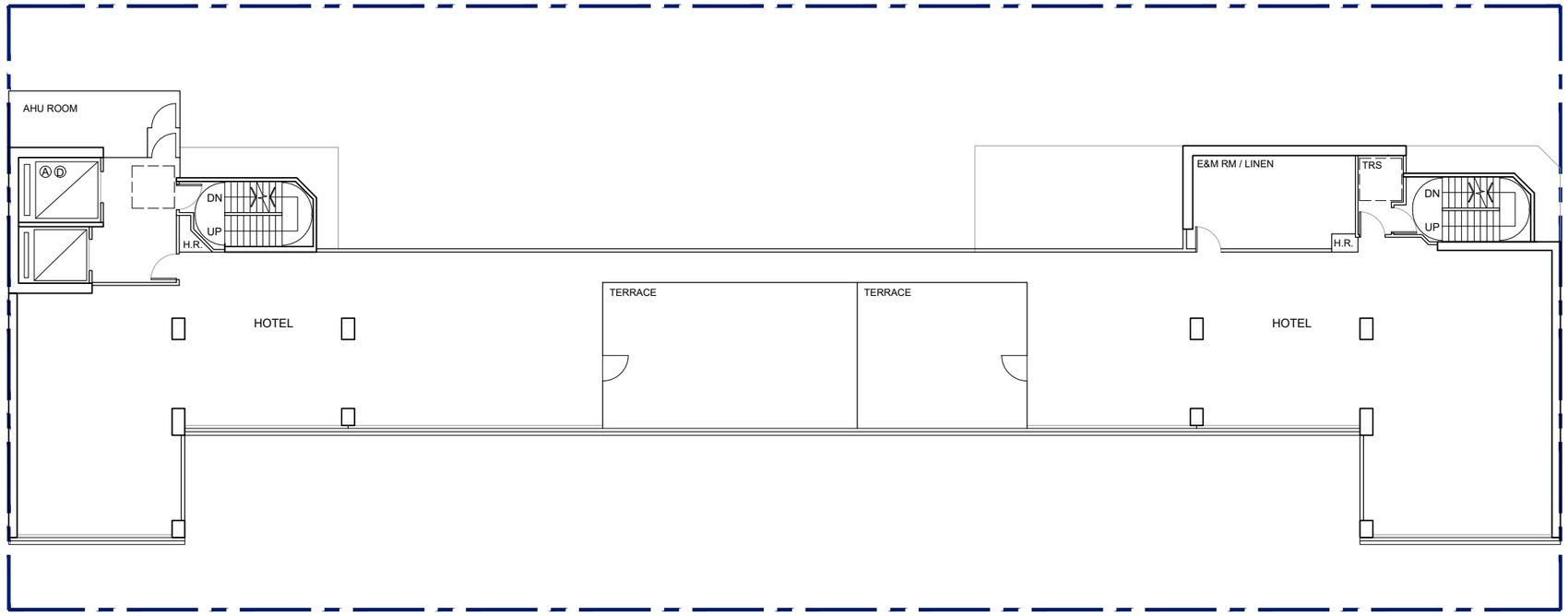
NO. OF GUESTROOMS PER TYPICAL FLOOR: 19
19 x 9 TYPICAL FLOORS = 171GUESTROOMS

HOTEL TYPICAL FLOOR PLAN SK-9 6 FEBRUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



NO. OF GUESTROOMS: 13

HOTEL 31F FLOOR PLAN SK-10 3 MAY 2024

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

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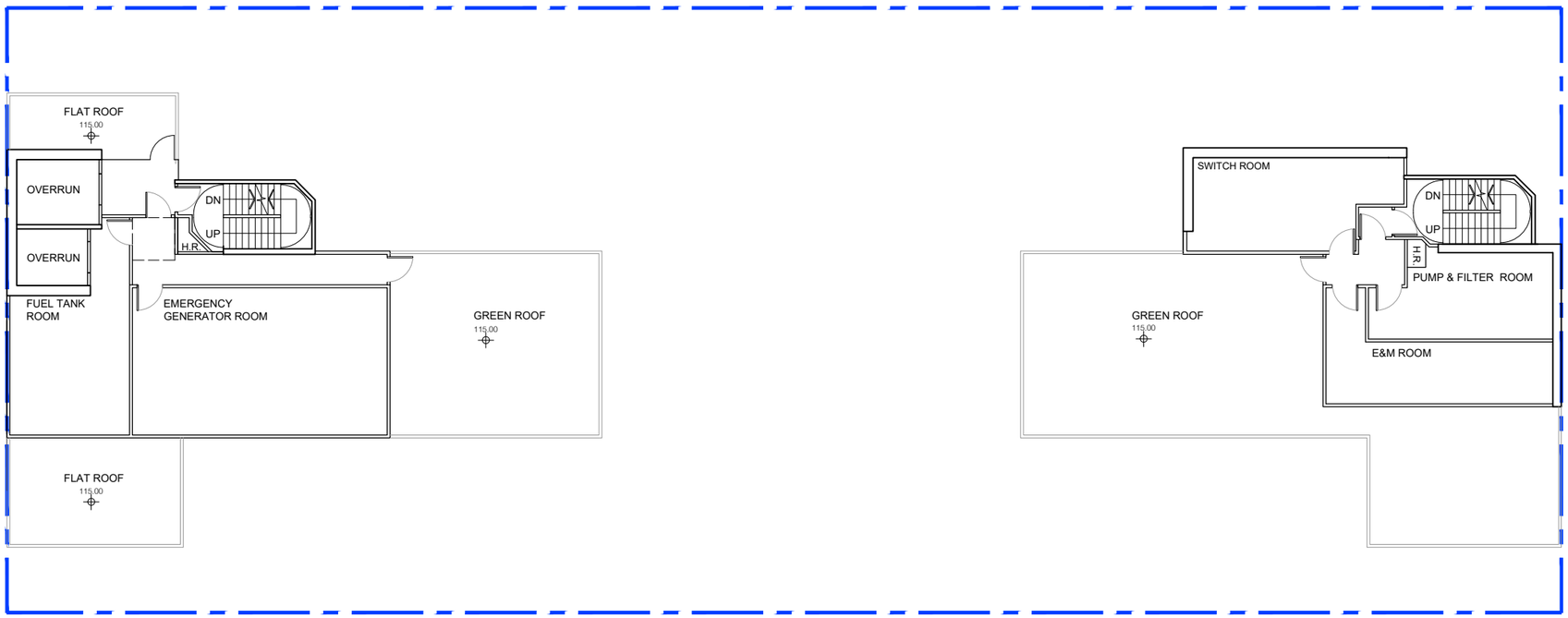
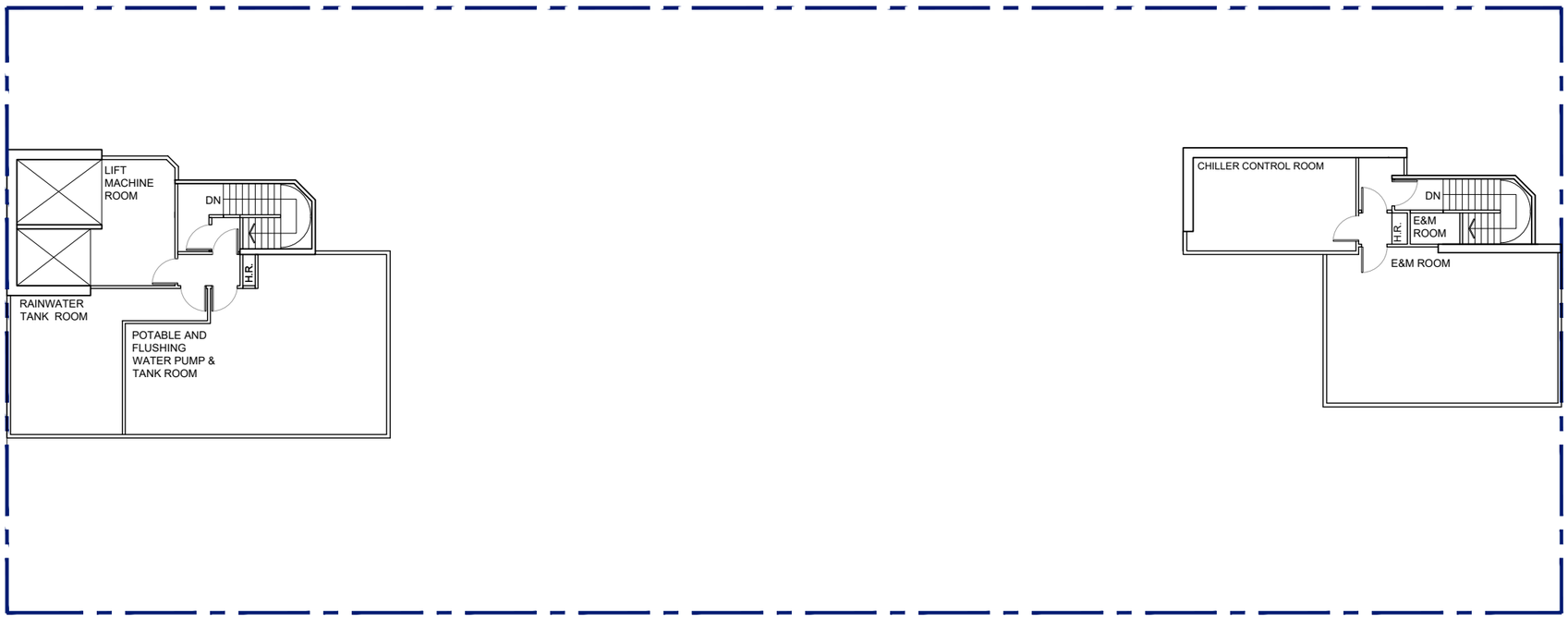


ROOF FLOOR PLAN SK-11 **21 JANUARY 2025**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio

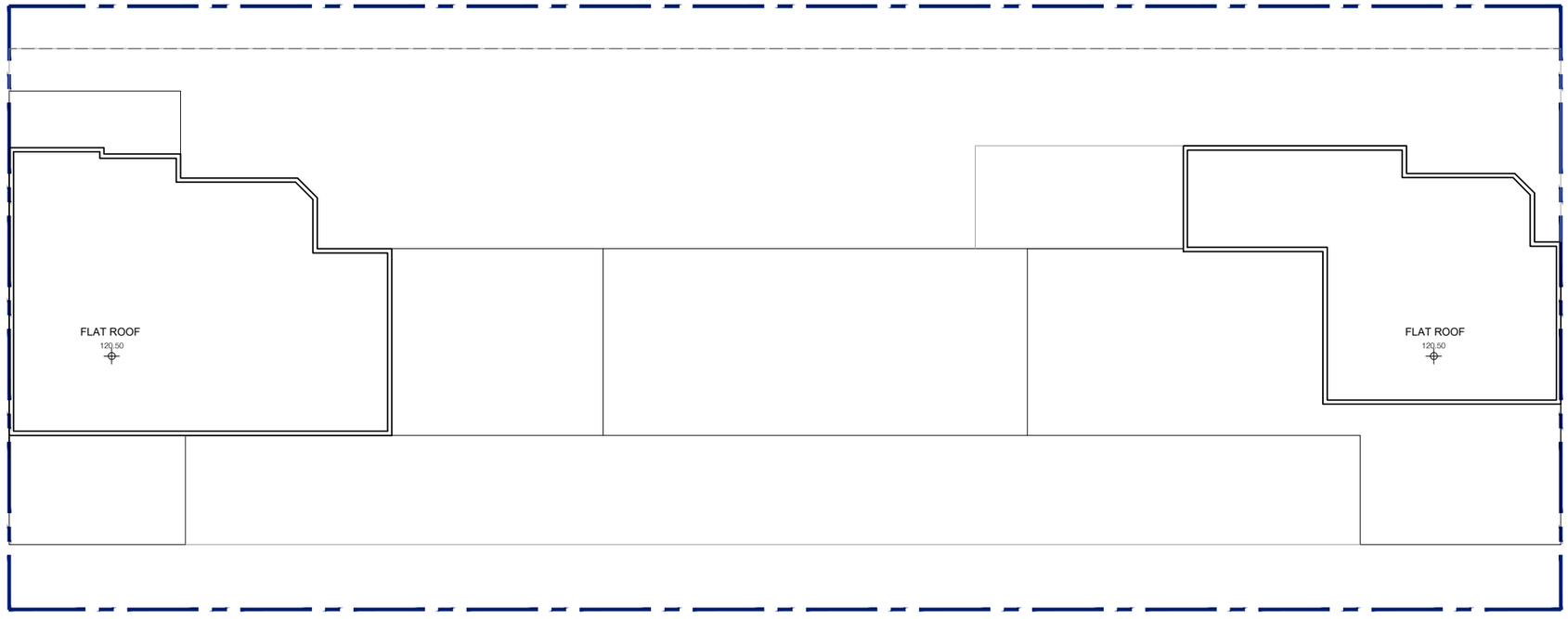


MECHANIC FLOOR PLAN SK-12 **19 MARCH 2024**

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

Singular Studio



UPPER ROOF FLOOR PLAN SK-13 30 JULY 2024

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT
107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 2 4 10m

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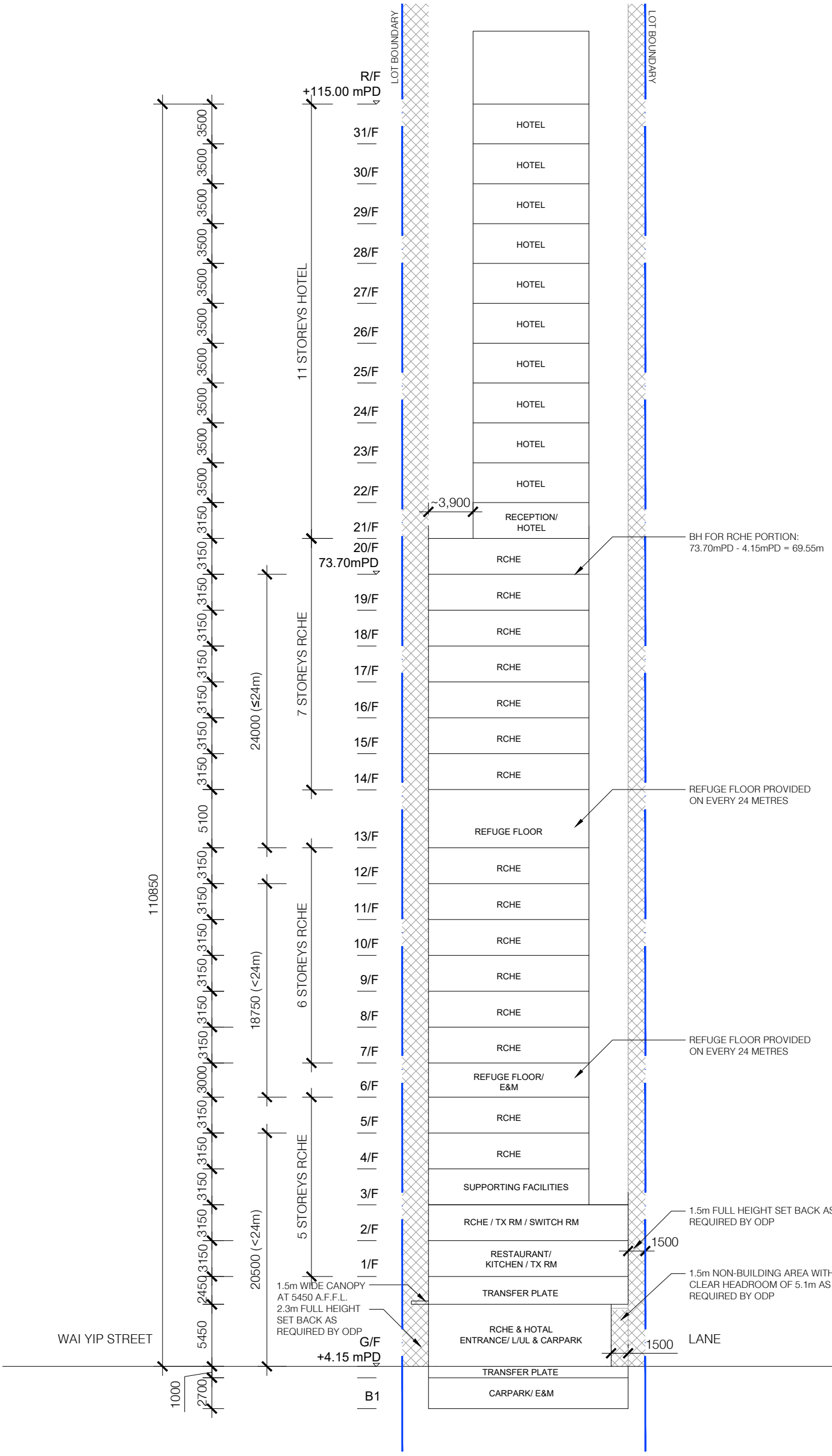
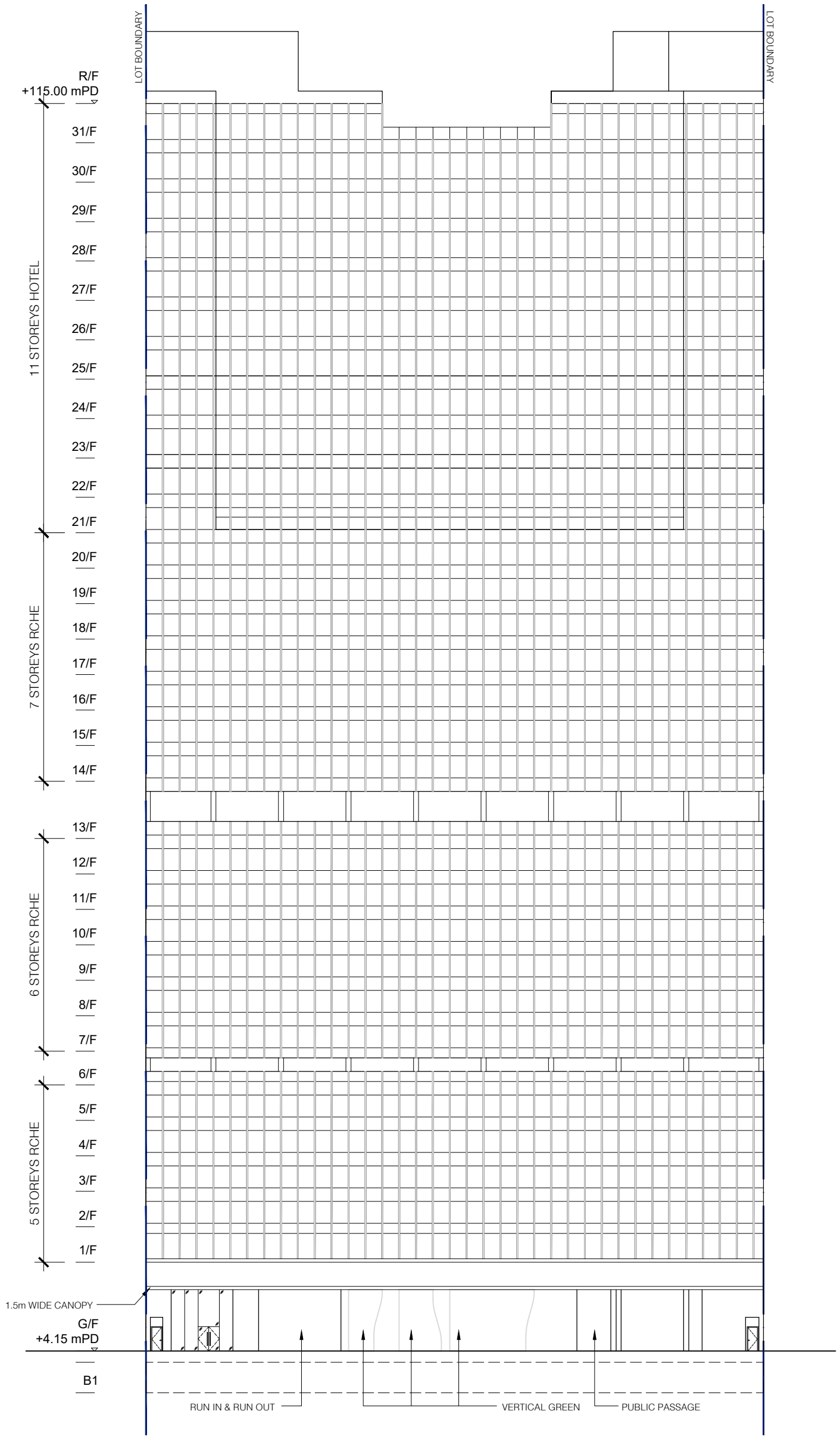


SECTION A SK-14 21 JANUARY 2025

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 4 8 20m

Singular Studio



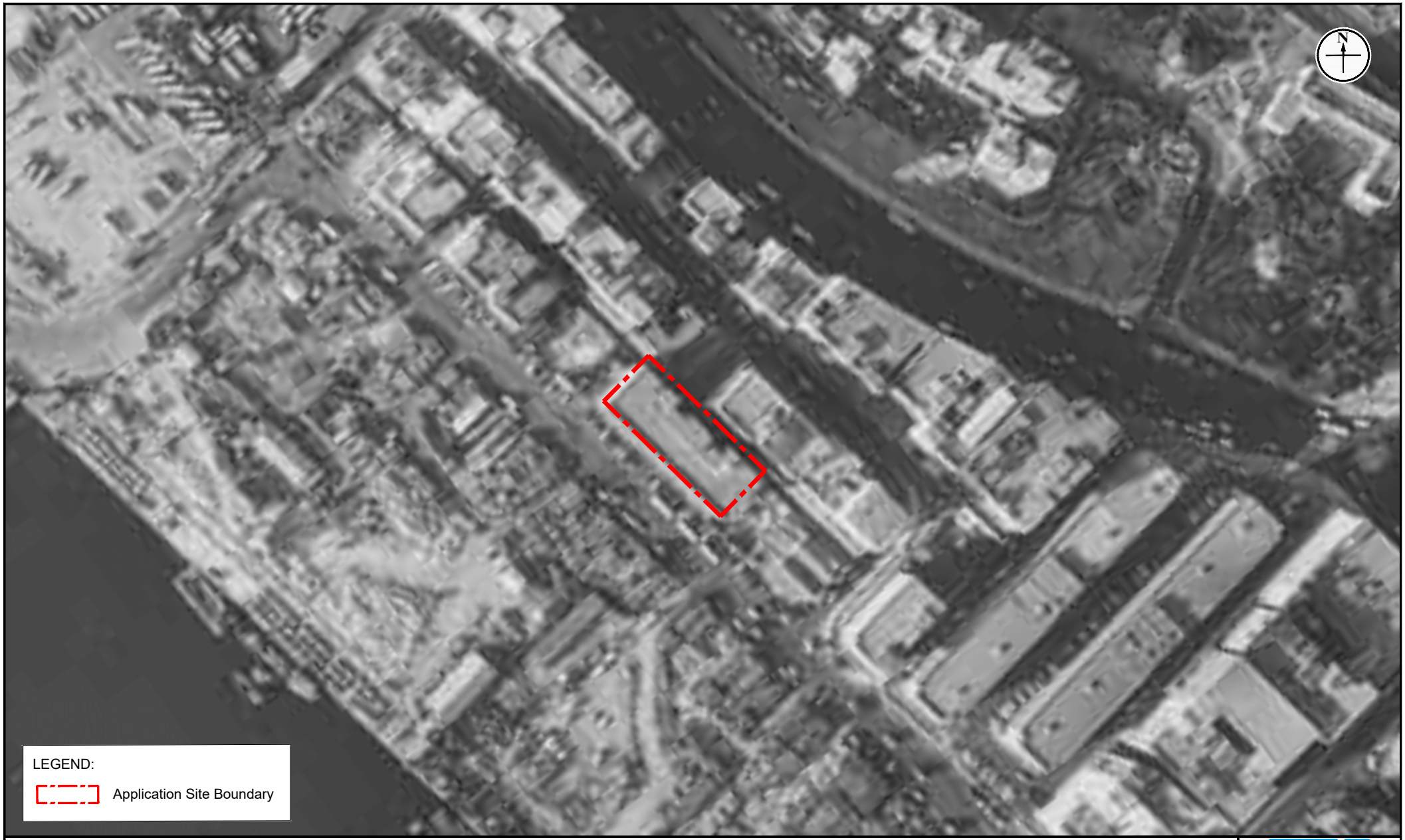
SOUTH-WEST ELEVATION SK-15 24 APRIL 2024

PROPOSED HOTEL DEVELOPMENT AND SOCIAL WELFARE FACILITIES AT 107 - 109 WAI YIP STREET, KWUN TONG, KOWLOON

0 4 8 20m

Singular Studio

Appendix 1.2 Aerial Photos



Appendix: 1.2

Title: Aerial Photo 1973

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by:	NT
Checked by:	KY
Rev.:	1.0
Date:	Jan 2025

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Appendix: 1.2

Title: Aerial Photo 1993

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by:	NT
Checked by:	KY
Rev.:	1.0
Date:	Jan 2025

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Appendix: 1.2

Title: Aerial Photo 2003

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by:	NT
Checked by:	KY
Rev.:	1.0
Date:	Jan 2025

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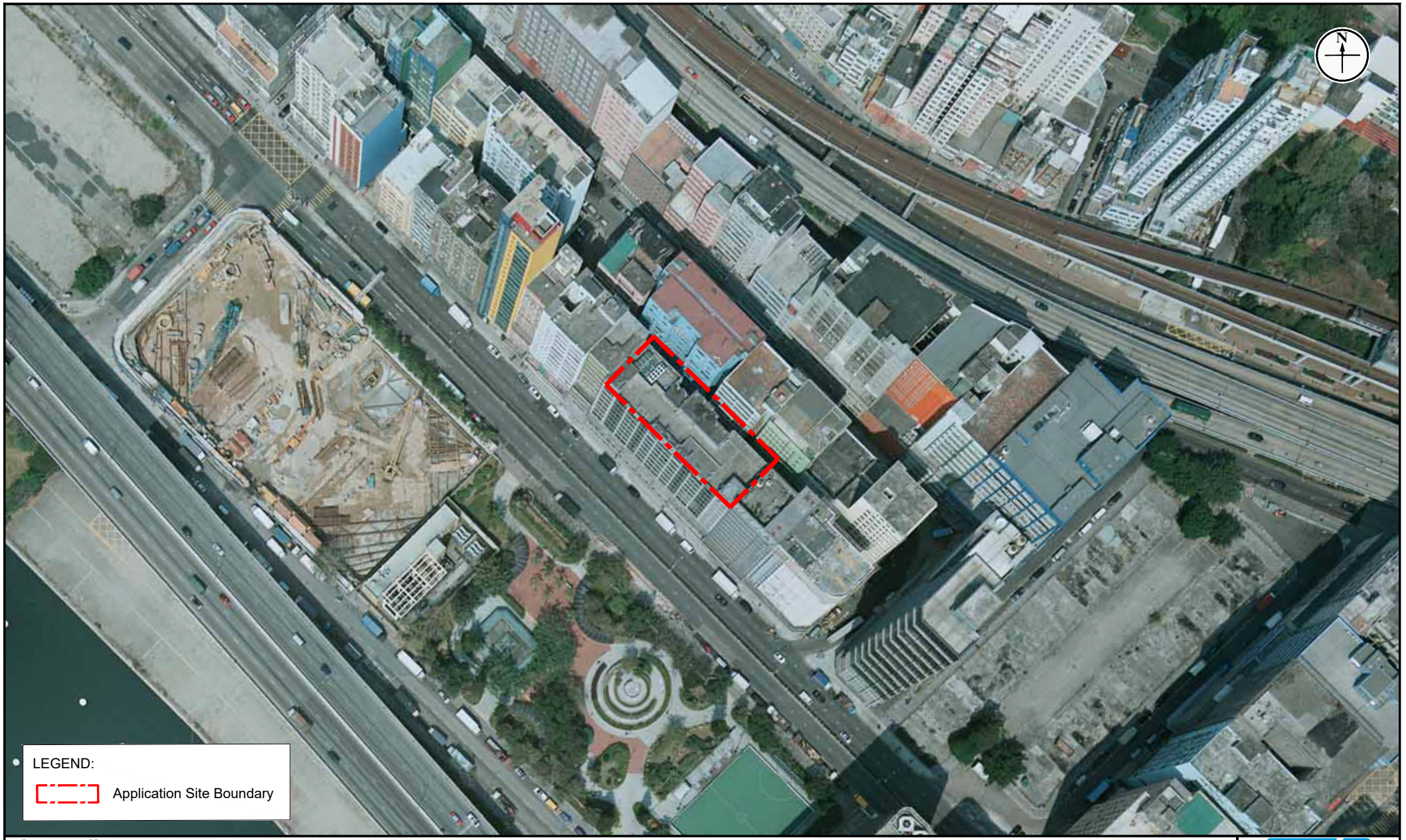

Appendix: 1.2

Title: Aerial Photo 2013

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by:	NT
Checked by:	KY
Rev.:	1.0
Date:	Jan 2025

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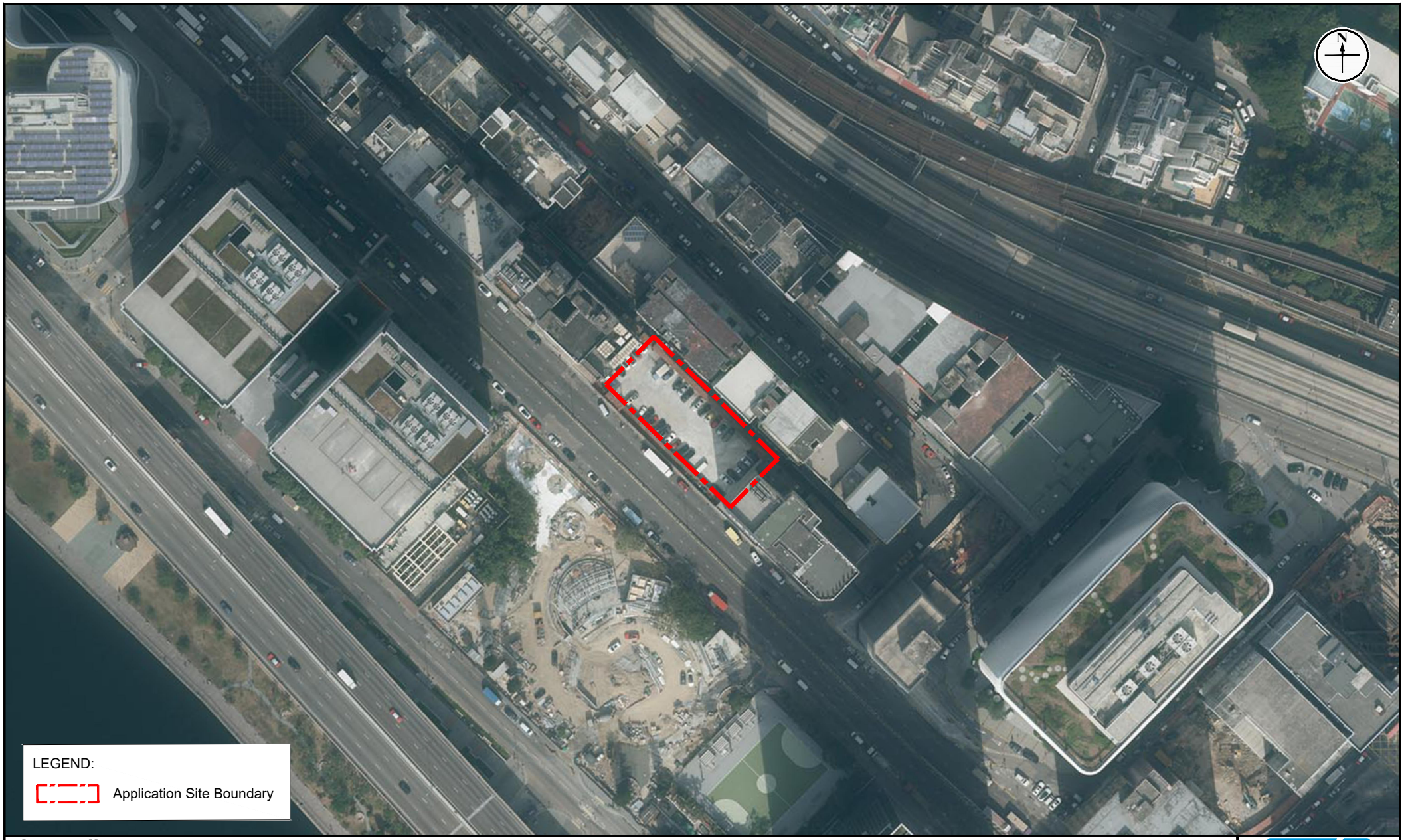

Appendix: 1.2

Title: Aerial Photo 2020

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by:	NT
Checked by:	KY
Rev.:	1.0
Date:	Jan 2025

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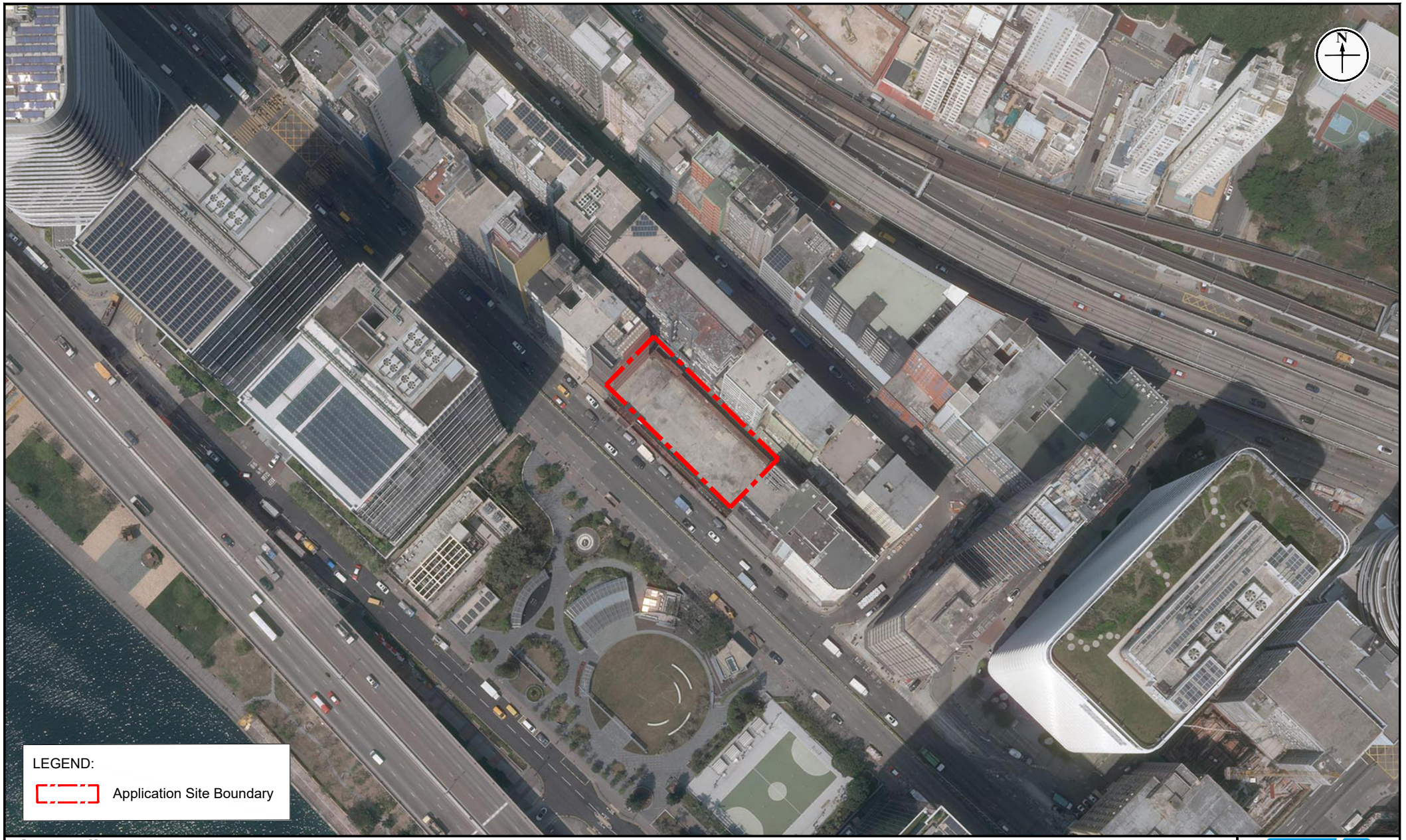

Appendix: 1.2

Title: Aerial Photo 2024

Project: Proposed Hotel Development and Social Welfare Facilities at 107 - 109 Wai Yip Street, Kwun Tong, Kowloon

RAMBOLL

Drawn by:	NT
Checked by:	KY
Rev.:	1.0
Date:	Jan 2025

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Aerial Photo No.	Year	Description
1973_03433	1973	The Application Site was occupied by the office building.
1993_A35606	1993	The Application Site was occupied by the office building.
2003_CW53145	2003	The Application Site was occupied by the office building.
2013_CW103001	2013	The Application Site was occupied by the office building.
2020_E116283C	2020	The office building was demolished, and the site was used as a temporary car park for private vehicle.
2024_E221322C	2024	The Application Site is vacant.

Appendix 3.1 Calculations of Maximum Allowable Sound Power Levels

Calculation of Maximum Allowable SWLs for Planned Fixed Noise Sources (Day & Evening Time Period)

NSR					Fixed Plant Noise Source								Correction, dB(A)				SPL at NSR, dB(A)	Day and Evening Time Noise Criterion, dB(A). ANL - 5 db(A)
ID	Description	Location			ID	Description	Location			Max. allowable SWL LAeq, dB(A)	No. of Plants	Distance to NSR, m	Distance	Screening	Tonality	Facade		
		X	Y	Elevation (mPD)			X	Y	Elevation (mPD)									
N01	Foo Yue Building	840357	819722	70	NS01	Chillers/ Cooling Towers	840293	819605	116	102	1	140	-51	0	6	3	60	60

Notes
[1] Day and evening time is defined as 0700 to 2300 hours.
[2] Assume no screening correction
[3] Noise levels are rounded to the nearest dB(A).

Calculation of Maximum Allowable SWLs for Planned Fixed Noise Sources (Night Time Period)

NSR					Fixed Plant Noise Source								Correction, dB(A)				SPL at NSR, dB(A)	Night Time Noise Criterion, dB(A). ANL - 5 dB(A)
ID	Description	Location			ID	Description	Location			Max. allowable SWL LAeq, dB(A)	No. of Plants	Distance to NSR, m	Distance	Screening	Tonality	Facade		
		X	Y	Elevation (mPD) [5]			X	Y	Elevation (mPD)									
N01	Foo Yue Building	840357	819722	70	NS01	Chillers/ Cooling Towers	840293	819605	116	92	1	140	-51	0	6	3	50	50

Notes
[1] Night time is defined as 2300 to 0700 hours.
[2] Assume no screening correction
[3] Noise levels are rounded to the nearest dB(A).

Appendix V

Revised Traffic Impact Assessment

S12A Amendment of Plan Application for the Proposed Residential Care Homes for the Elderly and Hotel at 107-109 Wai Yip Street, Kwun Tong

Traffic Impact Assessment
Final Report
February 2025

Prepared by: CKM Asia Limited

S12A Amendment of Plan Application for the Proposed Residential Care Homes for the Elderly and Hotel at 107-109 Wai Yip Street, Kwun Tong

CONTENTS

CONTENTS (Continued)

S12A Amendment of Plan Application for the Proposed Residential Care Homes for the Elderly and Hotel at 107-109 Wai Yip Street, Kwun Tong

TABLES

NUMBER

S12A Amendment of Plan Application for the Proposed Residential Care Homes for the Elderly and Hotel at 107-109 Wai Yip Street, Kwun Tong

TABLES (Continued)

NUMBER

S12A Amendment of Plan Application for the Proposed Residential Care Homes for the Elderly and Hotel at 107-109 Wai Yip Street, Kwun Tong

FIGURES

NUMBER

S12A Amendment of Plan Application for the Proposed Residential Care Homes for the Elderly and Hotel at 107-109 Wai Yip Street, Kwun Tong

FIGURES (Continued)

NUMBER

1.0 INTRODUCTION

Background

1.1 The Subject Site is located at Nos. 107 – 109 Wai Yip Street in Kwun Tong, which is now vacant. **Figure 1.1** shows the location of the Subject Site.

1.2 On 29th May 2020, the Town Planning Board ("TPB") approved the S16 Planning Application for Office, Shop and Services & Eating Place Uses at 107-109 Wai Yip Street (TPB ref: A/K14/780) ("Approved S16 Scheme"). The Applicant has the intention to rezone the Subject Site and construct residential care home for the elderly ("RCHE") and a hotel (together known as "Proposed Development").

1.3 CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned by the Applicant, to conduct a traffic impact assessment ("TIA") in support of Proposed Development. This report describes the traffic study undertaken.

Scope of the Assessment

1.4 The main objectives of this TIA are as follows:

- To assess the existing traffic issues in the vicinity of the subject site;
- To quantify the traffic and pedestrians generated by the Proposed Development; and
- To examine the traffic and pedestrian impact on the local road network in the vicinity of the subject site.

Contents of the Report

1.5 After this introduction, the remaining chapters contain the following:

Chapter Two	-	describes the existing situation;
Chapter Three	-	outlines the development proposal;
Chapter Four	-	presents the traffic impact analysis;
Chapter Five	-	presents the pedestrian impact analysis
Chapter Six	-	presents the traffic and pedestrian sensitivity test; and
Chapter Seven	-	summarises the overall conclusion.

2.0 THE EXISTING SITUATION

The Subject Site

2.1 The Subject Site fronts onto Wai Yip Street to the south, and is bounded by a service lane to the north. The section of Wai Yip Street fronting the Subject Site is a dual carriageway 3-lane road.

Traffic Survey

2.2 To quantify the traffic flows at the junctions chosen for the capacity analysis, manual classified counts were conducted on Friday, 15th March 2024 during the AM and PM peak periods. The locations of the surveyed junctions are presented in **Figure 2.1** and their layout is shown in **Figures 2.2 to 2.11**.

2.3 The surveyed junctions include the following:

- J1: Hoi Bun Road / Shun Yip Street;
- J2: Wai Yip Street / Shun Yip Street;
- J3: Tai Yip Street / Service Lane;
- J4: Hong Tak Road / Tai Yip Street;
- J5: Tai Yip Street / Tai Yip Lane;
- J6: Kwun Tong Road / Hong Tak Road;
- J7: Wai Yip Street / Lai Yip Street;
- J8: Kwun Tong Road / Lai Yip Street;
- J9: Hoi Bun Road / Lai Yip Street and;
- J10: Lai Yip Street / Hung To Road

2.4 The counts were classified by vehicle type to enable traffic flows in passenger car units ("pcu") to be calculated. From the survey, the AM and PM peak hours were found to be between 0845 – 0945 and 1730 – 1830 hours respectively.

Adjustment of the traffic flows obtained from the traffic survey

2.5 The traffic flows obtained from the traffic surveys conducted in March 2024 were reviewed against the traffic flows of the Traffic Impact Assessment of other approved planning applications and found to be of similar order. Nevertheless, adjustment of the traffic flows obtained from the traffic survey is made based on the Annual Average Daily Traffic ("AADT") of Annual Traffic Census ("ATC") station 3020 Wai Yip Street (from Lai Yip Street to Hoi Yuen Road), in order to produce adjusted annual average traffic flows.

2.6 AADT is only available up to 2023. However, the AADT for 2019 is not considered due to the impact of the social events, and the AADT for 2020 to 2023 are also not considered due to the impact of the COVID-19 pandemic. Hence, reference is made to 2018 AADT. The 2018 monthly variation in the AADT for ATC station 3020 – Wai Yip Street in Kwun Tong, is found in **Chart A**.

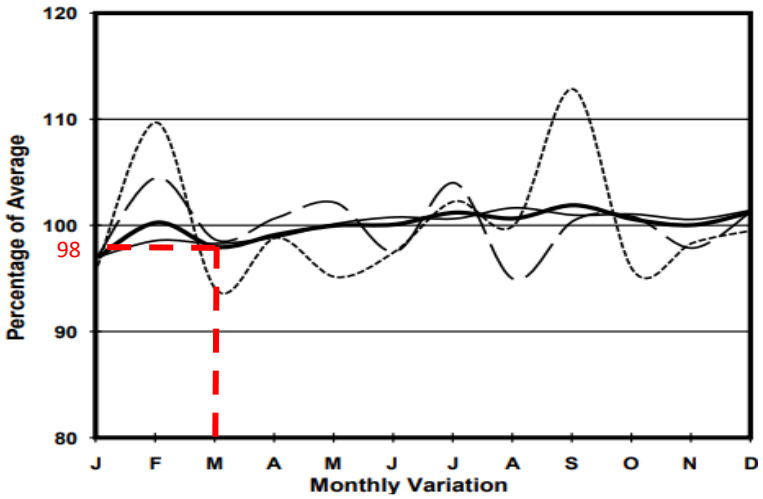


CHART A: 2018 Monthly AADT Variation for ATC Station 3020

2.7 **Chart A** shows that the AADT for the month of March, is around 2% lower than the annual average. In view that the traffic survey for the captioned project was conducted in March, the monthly variation factor of 1.02 (*Calculation: 1 / 0.98 = 1.02)* is applied to the traffic flows. The adjusted peak hour traffic flows are presented in **Figure 2.12**.

Operational Performance of the Surveyed Junctions

2.8 The existing operational performance of the surveyed junctions is calculated based on the observed traffic counts and the analysis is undertaken using the methods outlined in Volume 2 of Transport Planning and Design Manual ("TPDM"). The existing operational performance of the surveyed junctions are summarised in **Table 2.1** and the detailed calculations are found in **Appendix 1**.

TABLE 2.1 EXISTING JUNCTION OPERATIONAL PERFORMANCE

Ref	Junction	Type of Junction	Parameter[1]	AM Peak	PM Peak
J1	Hoi Bun Road / Shun Yip Street	Signal	RC	56%	43%
J2	Wai Yip Street / Shun Yip Street	Signal	RC	66%	62%
J3	Tai Yip Street / Service Lane	Priority	RFC	0.016	0.010
J4	Hong Tak Road / Tai Yip Street	Priority	RFC	0.226	0.181
J5	Tai Yip Street / Tai Yip Lane	Priority	RFC	0.058	0.025
J6	Kwun Tong Road / Hong Tak Road	Priority	RFC	0.365	0.454
J7	Wai Yip Street / Lai Yip Street	Signal	RC	69%	87%
J8	Kwun Tong Road / Lai Yip Street	Signal	RC	58%	43%
J9	Hoi Bun Road / Lai Yip Street	Signal	RC	81%	87%
J10	Lai Yip Street / Hung To Road[2]	Signal	RC	85%	104%

Notes: [1] RC – Reserve Capacity RFC – Ratio of Flow to Capacity
[2] Kerbside on-street activities are reflected in the junction performance

2.9 The results in **Table 2.1** indicate that the junctions now operate with capacities during the AM and PM peak hours.

Pedestrian Facilities

2.10 There are good pedestrian facilities provided in the vicinity of the Subject Site, including footpaths, and at-grade pedestrian crossings are provided at the signalised road junctions.

Availability of Public Transport Facilities

2.11 The Subject Site is well-served by various types of public transport services, including road-based franchised bus and public light bus. These services operate along Kwun Tong Road and Wai Yip Street within 500m or about 10 minutes' walk away. The Subject Site is located closest to the Ngau Tau Kok MTR Station and the nearest entrance is at Lai Yip Street, which is some 500 metres or 10 minutes' walk away.

2.12 Details of the road-based public transport services operating in the vicinity of the Subject Site are shown in **Figure 2.13** and **Table 2.2**.

TABLE 2.2 FRANCHISED BUS AND GMB SERVICES OPERATING CLOSE TO THE SUBJECT SITE

Route	Routing	Frequency (minutes)
KMB 1A	Sau Mau Ping (Central) – Star Ferry	5 – 15
KMB 3D	Tsz Wan Shan (Central) – Kwun Tong (Yue Man Square)	4 – 16
KMB 5R	Kai Tak Cruise Terminal – Kwun Tong (apm) (Circular)	30
KMB 6P	Cheung Sha Wan (So Uk Estate) – Lei Yue Mun Estate	AM, PM Peak
KMB 11B	Kwun Tong (Tsui Ping Road) – Kowloon City Ferry	10 – 25
KMB 11C	Chuk Yuen Estate – Sau Mau Ping (Upper)	15 – 25
KMB 11D	Lok Fu – Kwun Tong Ferry	15 – 30
KMB 13D	Po Tat – Island Harbourview	15 – 25
KMB 13M	Kwun Tong (Elegance Road) – Po Tat (Circular)	15 – 30
KMB 14	Lei Yue Mun Estate – China Ferry Terminal	12 – 25
KMB 14B	Ngau Tau Kok – Lam Tin (Kwong Tin Estate)	15 – 25
KMB 14X	Yau Tong (Shung Tak Wai) – Tsim Sha Tsui (Circular)	15 – 30
KMB 15	Ping Tin – Hung Hom (Hung Luen Road)	12 – 20
KMB 15A	Ping Tin – Tsz Wan Shan (North)	20 – 30
KMB 15X	Lam Tin (Kwong Tin Estate) – Hung Hom Station	AM, PM Peak
KMB 16	Lam Tin (Kwong Tin Estate) – Mong Kok (Park Avenue)	8 – 20
KMB 16P	Kwun Tong Ferry – Mong Kok (Park Avenue)	AM, PM Peak
KMB 17	Kwun Tong (Yue Man Square) – Ho Man Tin (Oi Man Estate)	5 – 20
KMB 23M	Lok Wah – Shun Lee (Circular)	12 – 20
KMB 28B	Choi Fook – Kai Tak (Kai Ching Estate)	15 – 25
KMB 28S	Kwun Tong (Yue Mun Square) – Lok Wah	AM Peak
KMB 33	Tsuen Wan West Station – Yau Tong	15 – 30
KMB 33B	Tsuen Wan West Station – Yau Tong	20 – 25
KMB 38	Kwai Shing (East) – Ping Tin	5 – 20
KMB 38P	Kwai Shing (Central) – Ping Tin	AM Peak
KMB 40	Tsuen Wan (Belvedere Garden) – Laguna City	12 – 25
KMB 40A	Ping Tin – Kwai Hing Station	AM, PM Peak
KMB 40B	Kwai Chung Estate – Ping Tin	AM Peak
KMB 40P	Kwun Tong Ferry – Tsuen Wan (Shek Wai Kok)	AM, PM Peak
KMB 42C	Tsing Yi (Cheung Hang Estate) – Lam Tin Station	5 – 15
KMB 49	Ching Fu Court – Tseung Kwan O Industrial Estate	AM, PM Peak
KMB 62P	Tuen Mun Central – Lei Yue Mun Estate	8 – 25
KMB 62X	Tuen Mun Central – Lei Yue Mun Estate	8 – 25
KMB 69C	Tin Yan Estate – Kwun Tong Ferry	AM, PM Peak
KMB 74C	Kau Lung Hang – Kwun Tong Ferry	AM Peak
KMB 74D	Kau Lung Hang – Kwun Tong Ferry	25 – 60
KMB 74E	Tai Mei Tuk – Kwun Tong Ferry	AM, PM Peak
KMB 74F	Kwun Tong Ferry – Education University of Hong Kong	AM Peak
KMB 74P	Kwun Tong Ferry – Tai Po Central	AM Peak
KMB 74X	Tai Po Central – Kwun Tong Ferry	3 – 15
KMB 80	Mei Lam – Kwun Tong Ferry	5 – 20
KMB 80A	Mei Lam – Kwun Tung Ferry	AM Peak
KMB 80P	Hin Keng – Kwun Tong Ferry	AM Peak

Route	Routing	Frequency (minutes)
KMB 80X	Chun Shek – Kwun Tong Ferry	8 – 25
KMB 83A	Shui Chuen O – Kwun Tong Ferry	AM Peak
KMB 83X	Shui Chuen O – Kwun Tong Ferry	8 – 30
KMB 88X	Fo Tan Chung Yeung Estate – Ping Tin (Circular)	20 – 30
KMB 89	Lek Yuen – Kwun Tong Station	8 – 20
KMB 89B	Shatin Wai – Kwun Tong Station	10 – 25
KMB 89C	Heng On – Kwun Tong (Tsui Ping Road)	12 – 30
KMB 89D	Wu Kai Sha Station – Lam Tin Station	3 – 20
KMB 89P	Ma On Shan Town Centre – Lam Tin Station Bus Terminus	AM Peak
KMB 89X	Shatin Station – Kwun Tong (Tsui Ping Road)	7 – 20
KMB 93K	Po Lam – Mong Kok East Station	15 – 30
KMB 95M	Tsui Lam – Kwun Tong Road (Elegance Road)	20 – 30
KMB 98	Tseung Kwan O Industrial Estate – Ngau Tau Kok Station (Circular)	15 – 20
KMB 98A	Hang Hau (North) (Tseung Kwan O Hospital) – Ngau Tau Kok Station (Circular)	8 – 20
KMB 98B	Hang Hau (North) (Tseung Kwan O Hospital) – Kwun Tong Station	AM Peak
KMB 213B	On Tai – Ting Fu Street (Circular)	AM Peak
KMB 215X	Lam Tin (Kwong Tin Estate) – Kowloon Station	5 – 20
KMB 234C	Sham Tseng – Kwun Tong Station	AM, PM Peak
KMB 234D	Tsing Lung Tau – Kwun Tong Station	AM, PM Peak
KMB 252X	Handsome Court – Lam Tin Station	AM, PM Peak
KMB 258A	Hung Shui Kiu (Hung Fuk Estate) – Lam Tin Station	AM Peak
KMB 258D	Tuen Mun (Po Tin Estate) – Lam Tin Station	5 – 20
KMB 258P	Hung Shui Kiu (Hung Fuk Estate) – Lam Tin Station	AM, PM Peak
KMB 258S	Tuen Mun (Shan King Estate) – Lam Tin Station	AM Peak
KMB 258X	Tuen Mun (Po Tin Estate) – Kwun Tong Ferry	AM, PM Peak
KMB 259D	Tuen Mun (Lung Mun Oasis) – Lei Yue Mun Estate	7 – 25
KMB 259X	Lung Mun Oasis – Kwun Tong Ferry	AM, PM Peak
KMB 267X	Tuen Mun (Siu Hong Court) – Lam Tin Station	AM, PM Peak
KMB 268A	Long Ping Estate – Kwun Tong Ferry	AM, PM Peak
KMB 268C	Long Ping Station – Kwun Tong Ferry	5 – 20
KMB 268P	Ma Wang Road (Shan Shui House) – Kwun Tong Ferry Kwun Tong Ferry – Long Ping Station	AM, PM Peak
KMB 269C	Tin Shui Wai Town Centre – Kwun Tong Ferry	5 – 20
KMB 269S	Tin Shui Wai Town Centre – Kwun Tong Ferry	AM, PM Peak
KMB 274X	Kwun Tong Ferry – Tai Po Central	PM Peak
KMB 277A	Sha Tau Kok – Lam Tin Station	AM, PM Peak
KMB 277E	Lam Tin Station – Sheung Shui (Tin Ping)	15 – 30
KMB 277P	Sheung Shui (Tin Ping) – Lam Tin Station	AM, PM Peak
KMB 277X	Fanling (Luen Wo Hui) – Lam Tin Station	5 – 30
KMB 296A	Sheung Tak – Ngau Tau Kok Station (Circular)	7 – 15
KMB 296C	Sheung Tak – Cheung Sha Wan (Hoi Ying Estate)	15 – 30
KMB N3D	Kwun Tong (Yue Man Square) – Tsz Wan Shan (Central)	Overnight
KMB N293	Sheung Yak – Mong Kok East Station	Overnight
KMB T74	Tai Po (Tai Wo) – Kwun Tong Ferry	AM Peak
KMB T277	Sheung Shui – Lam Tin Station	AM, PM Peak
KMB W2	Jordan (West Kowloon Station) – Kwun Tong (Circular)	30 – 60
KMB X42C	Tsing Yi (Cheung Hang Estate) – Yau Tong	7-30
KMB X42P	Tsing Yi (Cheung On Estate) – Lam Tin Station	AM Peak
KMB X89D	Nai Chung – Kwun Tong Ferry	AM, PM Peak
KMB/CTB 101	Kwun Tong (Yue Man Square) – Kennedy Town	3 – 20
KMB/CTB 101X	Kwun Tong (Yue Man Square) – Kennedy Town	AM, PM Peak
KMB/CTB 606	Siu Sai Wan (Island Resort) – Choi Wan (Fung Shing Street)	20 – 25
KMB/CTB 606A	Shau Kei Wan (Yiu Tung Estate) – Choi Wan (Fung Shing Street)	AM Peak
KMB/CTB 606X	Siu Sai Wan (Island Resort) – Kowloon Bay	AM, PM Peak

Route	Routing	Frequency (minutes)
KMB/CTB 619	Shun Lee – Central (Macau Ferry)	4 – 25
KMB/CTB 619P	Shun Lee – Central (Macau Ferry)	AM Peak
KMB/CTB 641	Kai Tak (Kai Ching Estate) – Central (Macau Ferry)	AM, PM Peak
KMB/CTB 671	Diamond Hill Station – Ap Lei Chau Lee Lok Street	15 – 45
KMB/CTB 671X	Ap Lei Chau Lee Lok Street – Diamond Hill Station	AM Peak
KMB/CTB N619	Shun Lee – Central (Macau Ferry)	Overnight
CTB 55	Ching Tin and Wo Tin – Kwun Tong Ferry Pier	AM, PM Peak
CTB 61R	Lam Tin Station – City One Shatin	12 – 20
CTB 78C	Queen's Hill Fanling – Kai Tak	AM, PM Peak
CTB 78P	Queen's Hill Fanling – Kwun Tong	AM Peak
CTB 78X	Queen's Hill Fanling – Kai Tak	30 – 60
CTB 796S	Tseung Kwan O Station – Ngau Tau Kok Station (Circular)	Overnight
CTB 797	Lohas Park – Kowloon Bay (Circular)	15 – 20
CTB A22	Lam Tin Station – Airport	15 – 40
CTB A29	Tseung Kwan O (Po Lam) – Airport / HZMB Hong Kong Port	20 – 60
CTB E22	Lam Tin (North) – AsiaWorld-Expo	8 – 20
CTB E22A	Tseung Kwan O (Hong Sing Garden) – AsiaWorld-Expo	25 – 30
CTB E22C	Tiu Keng Leng Station – Aircraft Maintenance Area	AM, PM Peak
CTB E22S	Tung Chung (Mun Tung Estate) – Tseung Kwan O (Po Lam)	AM, PM Peak
CTB E22X	Yau Tong – AsiaWorld-Expo	AM, PM Peak
CTB N29	Tseung Kwan O (Hong Sing Garden) – Tung Chung Station	Overnight
CTB NA29	Tseung Kwan O (Po Lam) – Airport / HZMB Hong Kong Port	Overnight
GMB 22A	Lok Wah Estate – Cheung Yip Street / Kwun Tong Ferry Pier (Circular)	20
GMB 35	Choi Ha Estate – Hong Lee Court	5 – 7
GMB 36A	Crocodile Hill (Hong Lee Court) To Yue Man Square Public Transport Interchange (Circular)	4 – 5
GMB 56	Richland Gardens – Kwun Tong (Shung Yan St)	10 – 20
GMB 62S	Kwong Tin Estate – Tsim Sha Tsui (Haiphong Road)	Overnight
GMB 68	Choi Wan Estate – Kowloon Bay (Enterprise Square)	8 – 12
GMB 86	Kai Tak Cruise Terminal – Telford Gardens	8 – 20
GMB 90A	Yau Lai Estate – HK Children's Hospital	20
GMB 90B	Sau Mau Ping Estate Phase 5 – HK Children's Hospital	15 – 20
GMB 102	Hang Hau Station – San Po Kong (Hong Keung Street)	2 – 15
GMB 102B	Hang Hau (Yuk Ming Court) – Choi Hung	12 – 20
GMB 102S	Hang Hau Station – San Po Kong (Hong Keung Street)	Overnight
GMB 104	The HK University of Science and Technology – Ngau Tau Kok Station	12 – 25
GMB 106	Tseung Kwan O (Po Lam) – Kowloon Bay (Enterprise Square)	7 – 25
GMB 501S	Sheung Shui Station – Kwun Tong (Yue Man Square)	Overnight

Note: KMB – Kowloon Motor Bus CTB – City Bus GMB – Green Minibus

3.0 THE PROPOSED DEVELOPMENT

Development Parameters

3.1 The Proposed Development has a RCHE with: (i) no less than 302, but not more than 557 beds ("RCHE within the Proposed Development"), and (ii) a Hotel with 200 guest rooms ("Hotel within the Proposed Development").

3.2 The internal transport facilities and traffic assessment below assume that the RCHE within the Proposed Development has 557 beds, and the Hotel within the Proposed Development has 200 guest rooms.

Provision of Internal Transport Facilities

(a) RCHE within the Proposed Development

3.3 The HKPSG has no recommendation on the provision of internal transport facilities for RCHE, hence, the provision for the RCHE within the Proposed Development, is provided based on the operational needs and also with reference to similar type RCHE in Kwun Tong.

3.4 Provision of internal transport facilities for RCHE within the Proposed Development are shown in **Table 3.1**.

TABLE 3.1 PROVISION OF INTERNAL TRANSPORT FACILITIES FOR RCHE WITHIN THE PROPOSED DEVELOPMENT

Item	Proposed Provision
Car Parking Space	**8 nos.** car parking spaces provided based on operational needs: (i) 5 parking spaces @ 5m (L) x 2.5m (W) x 2.4m (H) for senior management staff of RCHE; (ii) 3 parking spaces for RCHE visitors, including - 2 nos. @ 5m (L) x 2.5m (W) x 2.4m (H) ; and - 1 no accessible car parking space @ 5m (L) x 3.5m (W) x 2.4m (H)
Motorcycle Parking Space	**2 nos.** motorcycle parking spaces @ 2.4m (L) x 1.0m (W) x 2.4m (H) are provided
Loading / Unloading Bay	**1 no.** Heavy Goods Vehicles loading / unloading bay @ 11.0m (L) x 3.5m (W) x 4.7m (H) are provided for shared use, i.e., for RCHE and Hotel use
Ambulance lay-by	**1 no.** ambulance lay-by @ 9.0m (L) x 3.0m (W) x 3.6m (H) shared use by ambulance and mini-coach is provided based on the operational needs.

3.5 **Table 3.1** shows the provision of 8 car parking spaces, 2 motorcycle parking spaces and 1 ambulance lay-by shared use by ambulance and mini-coach. In addition, 1 HGV loading/unloading bay is also provided which is for shared used with the Hotel within the Proposed Development.

3.6 Most RCHEs in Hong Kong are located within buildings where there are other uses, and access to the RCHE is shared with other uses. Therefore, it is not possible to distinguish traffic generated by the RCHE from other uses for these type of RCHEs, i.e., those located within in a multi-use building. Nevertheless, several RCHEs located in a single use building were identified for the conduct of traffic surveys, and the surveyed RCHEs have similar characteristic as the Proposed Development, in terms of: (i) location; (ii) scale; (iii) accessibility to Public Transport Services, and (iv) availability of internal transport facilities.

3.7 The utilisation surveys were conducted from 0800 – 1959 hours on a weekday. Details of the surveyed RCHE are given in **Table 3.2**, and the survey results are presented in **Table 3.3**.

TABLE 3.2 DETAILS OF RCHES SURVEYED

Location of Elderly Home	No. of Beds	Accessibility to Public Transport Services	Car Park
(A) 8 Kung Lok Road, Kwun Tong	266	Access to public transport services from this RCHE is convenient with numerous bus and GMB routes operate in the vicinity. The nearest MTR Ngau Tau Kok Station is located within 500m from this RCHE.	Yes
(B) 88 Kung Lok Road, Kwun Tong	226	Access to public transport services from this RCHE is convenient with numerous bus and GMB routes operate in the vicinity. The nearest MTR Ngau Tau Kok Station is located within 500m from this elderly home.	Yes

TABLE 3.3 SURVEY RESULTS OF THE 2 SURVEYED RCHES

Time Period (hours)	Maximum Number of Vehicles Observed at any time				
	Private car and taxi	Light goods vehicle[(1)]	Medium / heavy goods vehicle	Mini coach	Ambulance
(A) 8 Kung Lok Road, Kwun Tong (266 beds)					
0800 – 0859	1	0	0	0	0
0900 – 0959	0	1	0	0	0
1000 – 1059	0	0	0	1	0
1100 – 1159	0	0	0	0	0
1200 – 1259	0	1	0	0	0
1300 – 1359	0	1	0	0	0
1400 – 1459	0	0	0	1	0
1500 – 1559	0	0	0	0	1
1600 – 1659	0	0	0	1	0
1700 – 1759	0	0	0	1	0
1800 – 1859	1	0	0	0	0
1900 – 1959	0	0	0	0	0
Maximum (0800 – 1959)	**1**	**1**	**0**	**1**	**1**
(B) 88 Kung Lok Road, Kwun Tong (226 beds)					
0800 – 0859	0	0	0	0	0
0900 – 0959	0	1	0	0	0
1000 – 1059	0	0	0	1	0
1100 – 1159	0	0	0	1	0
1200 – 1259	0	1	0	0	0
1300 – 1359	0	0	0	1	0
1400 – 1459	1	0	0	0	0
1500 – 1559	1	0	0	0	0
1600 – 1659	1	0	0	0	0
1700 – 1759	1	0	0	0	0
1800 – 1859	0	0	0	0	0
1900 – 1959	0	0	0	0	0
Maximum (0800 – 1959)	**1**	**1**	**0**	**1**	**0**

Note: [(1)] including goods van, light goods vehicle

3.8 **Table 3.3** shows the number of vehicles observed within the same hour but these vehicles are not present at the same time. For example, at Location (A) 8

Kung Lok Road, Kwun Tong, during the period 0800 – 0859 hours, the Private car and taxi were not observed at the same time as the Light goods vehicle.

3.9 **Table 3.3** also shows the following:

(ai) Private car parking spaces

3.10 The maximum number of private car and taxi observed at both surveyed RCHEs at the same time was 1. Based on this rate, the RCHE within the Proposed Development is estimated to generate a maximum of 3 vehicles at the same time only. *[Calculation: 1 vehicle / 226 beds x 557 beds = 2.46, say, 3]*

3.11 Taxis stop momentarily to pick-up and drop-off. Therefore, taxis can use the private car parking spaces PC-09 or PC-10 on G/F as shown in **Figure 3.1**.

3.12 Hence, the provision of 8 car parking spaces is more than sufficient to serve the RCHE within the Proposed Development.

(aii) Goods Vehicle Loading / Unloading Bay

3.13 As shown in **Table 3.3**, no more than 1 goods vehicle was observed at any one time. Hence, the provision of 1 HGV loading/unloading bay for shared use by RCHE and Hotel is sufficient to serve the RCHE within the Proposed Development.

(aiii) Layby for shared use by ambulance and mini-coach

3.14 As shown in **Table 3.3**, no ambulance and mini-coach arrived at the same time. Hence, 1 ambulance layby which is for shared use with mini-coach is sufficient to serve the RCHE within the Proposed Development.

(b) Hotel within the Proposed Development

3.15 The internal transport facilities for Hotel within the Proposed Development are provided in accordance to the recommendations of the HKPSG, and are presented in **Table 3.4**.

TABLE 3.4 COMPARISON OF THE HKPSG RECOMMENDATIONS AND PROPOSED INTERNAL TRANSPORT FACILITIES FOR HOTEL WITHIN THE PROPOSED DEVELOPMENT

HKPSG Recommendation for a Hotel with 200 guest rooms	**Proposed Provision**
Car Parking Space	
1 car parking space per 100 rooms. 200/100 = **2 nos.**	**2 nos.** @ 5m (L) x 2.5m (W) x 2.4m (H) **= HKPSG recommendation**
Motorcycle Parking Space	
5 to 10% of the total provision for private cars Minimum = 2 x 5% = 0.1, **say 1 no.** Maximum = 2 x 10% = 0.2, **say 1 no.**	**1 no.** @ 2.4m (L) x 1m (W) x 2.4m (H) **= HKPSG recommendation**
Taxi and Private Car Layby	
Minimum 2 lay-by for taxi and private cars for ≤ 299 rooms **= 2 nos.**	**2 nos.** @ 5m (L) x 2.5m (W) x 2.4m (H) **= HKPSG recommendation**
Single-Deck Tour Bus Layby	

HKPSG Recommendation for a Hotel with 200 guest rooms	**Proposed Provision**
Minimum 1 lay-by for single-deck tour buses for ≤ 299 rooms **= 1 no.**	**1 no.** @ 12m (L) x 3.5m (W) x 3.8m (H) **= HKPSG recommendation**
Goods Vehicle Loading / Unloading Bay	
0.5 - 1 goods vehicle bay per 100 rooms Minimum = 200 / 100 x 0.5 = **1 no.** Maximum = 200 / 100 x 1 = **2 nos.**	**1 no.** @ 7m (L) x 3.5m (W) x 3.6m (H) for Light Goods Vehicles **= HKPSG recommendation**

3.16 For ease of reference, the internal transport facilities for the Proposed Development presented in **Tables 3.1** and **3.4,** are summarised in **Table 3.5**.

TABLE 3.5 SUMMARY OF INTERNAL TRANSPORT FACILITIES PROVIDED FOR THE PROPOSED DEVELOPMENT

Item	**Use**	**Proposed Provision**
Car Parking Space	RCHE	8
	Hotel	2
	Total	**10**
Ambulance Parking Space	RCHE	**1**
Motorcycle Parking Space	Hotel	1
	RCHE	2
	Total	**3**
Taxi and Private Car Layby	Hotel	**2**
Single-Deck Tour Bus Layby	Hotel	**1**
LGV Goods Vehicle Loading / Unloading Bay	Hotel	1
HGV Goods Vehicle Loading / Unloading Bay	Shared use by RCHE and Hotel	1
	Total	**2**

Reasons for Deviation from the HKPSG Maximum Recommendation for Hotel within the Proposed Development

(a) Site Constraint

3.17 The only internal transport facility for the Hotel within the Proposed Development, which deviates from the HKPSG maximum recommendation is the provision of 1 goods vehicles loading / unloading bay, instead of 2. However, a second goods vehicle loading / unloading bay is provided, which is for shared use with the RCHE within the Proposed Development.

3.18 The provision of an additional goods vehicle loading / unloading bay on the ground floor was considered, but not found to be possible due site constraint, and is explained as follows:

(1) The Outline Development Plan no. D/K14A/1H require setback along Wai Yip Street of 2.3m, and (ii) 1.5m setback and 1.5m non-building area along the service lane and;

(2) With the above setback requirements, the length of the subject site (i.e. measured from Wai Yip Street to the service lane) which is only 21.3m is further reduced to only 17.5m (reduction of length of 17.8%, which is substantial).

3.19 After accommodating the essential facilities such as, structural columns, staircases, escalators, lift lobby and vehicle ramp to the basement car park, etc, the provision of another goods vehicle loading / unloading bay is not possible. The Authorised Person has used his utmost effort to ensure the layout is arranged and utilised in good order.

(b) Limited Goods Vehicles Generated

3.20 Goods vehicles generated are mostly related to room cleaning services, and the deliveries of toiletry and beverages. The expected goods vehicle trip generated for the Hotel within the Proposed Development is summarised in **Table 3.6**.

TABLE 3.6 GOODS VEHICLE TRIP GENERATION FOR HOTEL WITHIN THE PROPOSED DEVELOPMENT

Item	Activity	Expected goods vehicles generated
Room cleaning service	Replenish cleaning material	4 trips per month
Toiletry	Restock toiletries, eg, shampoo, lotion, etc.	1 trip per month
Beverages	Deliver distilled water	8 trips per month
	Total goods vehicle trips =	**13 trips per month**

3.21 **Table 3.6** shows that the Hotel within the Proposed Development is expected to generate 13 goods vehicle trips per month, or 1 vehicle trip every 2.3 days, which is low. Hence, the provision of 1 LGV goods vehicle loading/unloading bay and 1 HGV loading/unloading bay which is for shared use by RCHE and Hotel, is sufficient to serve the loading / unloading activities of the Hotel.

Layout Plans

3.22 The carpark layout plans for G/F and B1/F are found in **Figures 3.1 – 3.2**. Similar to the Approved S16 Planning Application (TPB ref: A/K14/809), two vehicular access points are provided for the Proposed Development, and these are located at:

(i) The service lane at the northern side of the Proposed Development
(ii) Wai Yip Street

Swept Path Analysis

3.23 The CAD-based swept path analysis program, Autodesk Vehicle Tracking, was used to check the ease of vehicle manoeuvring, and the swept path drawings of vehicle manoeuvring on the parking levels are found in in **Appendix 2**. Vehicles are found to have no manoeuvring problems and all vehicles could enter and leave the spaces with ease.

Traffic Management Plan

3.24 Loading / unloading related to goods deliveries will be undertaken during the non-peak hours. The Management Office will ensure good maintenance of the turntable and should there the turntable fail to operate, the Management Office will immediately contact the turntable maintenance company to repair.

3.25 If necessary, the Management Office will stagger the delivery of goods so that only 1 goods vehicle will be present at the same time.

4.0 TRAFFIC IMPACT

Design Year

4.1 The Proposed Development is expected to be completed by 2029, and the design year adopted for the capacity analysis is 2032, i.e. *3 years after the completion of the development*.

Traffic Forecast

4.2 The 2032 traffic flows used for the junction analysis are produced with reference to the (i) 2031 traffic flows from the Base District Traffic Model ("BDTM"); (ii) estimated traffic growth from 2031 to 2032; (iii) the planned developments in the vicinity of the Proposed Development, and (iv) additional traffic generated by the Proposed Development.

Estimated Traffic Growth Rate from 2031 to 2032

4.3 Reference is made to the 2019 – based Territorial Population and Employment Data Matrix ("TPEDM") data produced by Planning Department for Kwun Tong District, which are for 2019, 2026 and 2031 and are presented in **Table 4.1**.

TABLE 4.1 2019-BASED TPEDM DATA PRODUCED BY PLANNING DEPARTMENT FOR KWUN TONG DISTRICT

Item	TPEDM Estimation / Projection		
	2019	**2026**	**2031**
Population	693,900	769,400	741,300
Employment	395,350	410,550	408,250
Total	1,089,250	1,179,950	1,149,550
Average Growth%	From 2019 to 2026: +1.15% From 2019 to 2031: +0.45%	From 2026 to 2031: -0.52%	N/A

4.4 **Table 4.1** shows that the highest average annual growth rate is 1.15%. In view that there is no estimation beyond 2031 and to err on the high side, the growth rate of 1.15% per annum is adopted for the traffic growth between 2031 and 2032.

Planned Developments in the Vicinity of the Proposed Development

4.5 The planned developments included in the 2032 reference traffic flows are presented in **Table 4.2**, and the locations of planned developments are shown in **Figure 4.1**.

TABLE 4.2 PLANNED DEVELOPMENTS IN THE VICINITY OF THE PROPOSED DEVELOPMENT

Site	Planning Application No. / Plan No.	Address	Use	Development Parameters (Approx.)
1	A/K14/763	350 Kwun Tong Road	Commercial	GFA = 25,658m^2
2	A/K14/766	41 King Yip Street	Commercial	GFA = 30,576m^2
3	A/K14/771	32 Hung To Road	Commercial	GFA = 13,122m^2
4	A/K14/773	82 Hung To Road	Industrial	GFA = 13,378m^2
5	A/K14/774	7 Lai Yip Street	Commercial	GFA = 14,775m^2
6	A/K14/775	132 Wai Yip Street	Commercial	GFA = 6,021m^2
7	A/K14/777	71 How Ming Street	Office	GFA = 18,312m^2
8	A/K14/778	203 Wai Yip Street	Industrial	GFA = 13,479m^2

Site	Planning Application No. / Plan No.	Address	Use	Development Parameters (Approx.)
9	A/K14/782	4 Tai Yip Street	Retail	GFA = 8,027m^2
10	A/K14/787	33 Hung To Road	Industrial	GFA = 13,830m^2
11	A/K14/796	28A Hung To Road	Hotel	No. of rooms = 89
12	A/K14/804	334 -336 and 338 Kwun Tong Road	Commercial	GFA = 23,211m^2
13	A/K14/806	11 Lai Yip Street	Office	GFA = 15,051m^2
14	A/K14/807	Kun Tong Inland Lots 1 S.A , 1 RP, 3 and 15	Commercial	GFA = 66,890m^2
15	A/K14/808	201 Wai Yip Street	Commercial	GFA = 13,478m^2
16	A/K14/809	1 Tai Yip Street and 111 Wai Yip Street	Commercial	GFA = 13,349m^2
17	A/K14/810	5 Lai Yip Street	Commercial	GFA = 14,788m^2
18	A/K14/820	73 – 75 Hung To Road	Commercial	GFA = 26,757m^2
19	A/K14/822	25 Tai Yip Street, Kwun Tong	Commercial	GFA = 5,572m^2
20	S/K14S/URA1/3 Urban Renewal Authority's (URA) latest 'Vertical City' scheme of a mixed use development	Areas 4 and 5 of Kwun Tong Town Centre	Commercial	GFA = 268,300m^2
21	N/A	EKEO Lai Yip Street Development	Commercial	GFA = 23,000m^2
22	N/A	Kwun Tong Action Area	Commercial	GFA = 89,350m^2
23	N/A	Kowloon Bay Action Area	Commercial	GFA = 500,000m^2

4.6 The infrastructure and road network included in the BDTM are as follows:

- Kai Tak Development
- Tseung Kwan O – Lam Tin Tunnel
- Central Kowloon Route
- Trunk Road T2 between Central Kowloon Route and Tseung Kwan O – Lam Tin Tunnel

Traffic Generated by the Proposed Development

4.7 In view that the TPDM does not provide trip generation rates for RCHE, reference is made to the traffic generation of similar elderly homes, and the surveyed RCHE are found in **Table 3.2**.

4.8 As for Hotel, reference is also made to surveyed hotels which are of similar class, number of hotel rooms and traffic characteristics, i.e. proximity to the MTR and road-based public transport services. The surveyed hotels are:

(i) 254-room Nina Hotel Kowloon East at 38 Chong Yip St, Kwun Tong
(ii) 298-room Tuen Mun Pentahotel at 6 Tsun Wen Road, Tuen Mun

4.9 The surveyed hotel trip generation rates are found to be lower than the lower limit of rates for Hotel found in the TPDM. Hence, to be conservative, the lower limit of trip generation rates taken from TPDM is adopted to estimate the traffic generation associated to the Hotel within the Proposed Development. The adopted trip generation rates and the calculated traffic generation associated with the Proposed Development are presented in **Table 4.3**.

TABLE 4.3 TRAFFIC GENERATION OF THE PROPOSED DEVELOPMENT

Item	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Trip Generation Rates for RCHE (pcu/hour/bed)						
RCHE	0.0155	0.0155	NA	0.0133	0.0133	NA
Trip Generation Rates for hotel (pcu/hour/guest room)						
Hotel[(1)]	0.0832	0.0843	NA	0.0908	0.0883	NA
Traffic Generation of Proposed Development (pcu/hour)						
RCHE: 557 beds [a]	*9*	*9*	*18*	*8*	*8*	*16*
Hotel: 200 guest rooms [b]	*17*	*17*	*34*	*19*	*18*	*37*
Total [a] + [b]	**26**	**26**	**52**	**27**	**26**	**53**

Note: [(1)] lower limit of rates taken from TPDM

4.10 **Table 4.3** shows the Proposed Development generates 52 and 53 more pcu (2-way) during the AM and PM peak hours respectively.

Comparison of Traffic Generation between the Approved S16 Scheme (TPB ref: A/K14/780) and the Proposed Development

4.11 The traffic generated by the Approved S16 Scheme (TPB ref: A/K14/780) is compared with the Proposed Development and is presented in **Table 4.4**.

TABLE 4.4 COMPARISON OF TRAFFIC GENERATION BETWEEN THE APPROVED S16 SCHEME (TPB REF: A/K14/780) AND THE PROPOSED DEVELOPMENT

Scheme	Traffic Generation (pcu/hour)					
	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Approved S16 Scheme (TPB ref: A/K14/780) [A]	42	30	72	21	28	49
Proposed Development [B]	26	26	52	27	26	53
Difference [B] – [A]	***-16***	***-4***	***-20***	***+6***	***-2***	***+4***

4.12 **Table 4.4** shows that compared with the Approved S16 Scheme (TPB ref: A/K14/780), the Proposed Development generates 20 pcu (2-way) less and 4 pcu more during the AM and PM peak hours respectively. It can be concluded from traffic generation aspect **the Proposed Development is a better-off scheme** compared to the Approved S16 Scheme (TPB ref: A/K14/780).

Planned Junction Improvement Schemes

4.13 The planned junction improvement schemes found in the vicinity of the Subject Site are summarized in **Table 4.5** and shown in **Appendix 3**.

TABLE 4.5 PLANNED TRAFFIC IMPROVEMENT SCHEMES IN THE VICINITY OF THE PROPOSED DEVELOPMENT

Junction		Description of Work	Project Proponent	Estimated Completion Year
J1	Hoi Bun Road / Shun Yip Street	The road markings are changed at Shun Yip Street Westbound and Eastbound	Kowloon Bay Action Area – Feasibility Study	Before 2032
J7	Wai Yip Street / Lai Yip Street	The road alignment is adjusted at Lai Yip Street Northbound	Kowloon Bay Action Area – Feasibility Study	

Junction		Description of Work	Project Proponent	Estimated Completion Year
J8	Kwun Tong Road / Lai Yip Street	The road alignment is adjusted at Lai Yip Street Northbound	Kwun Tong Action Area – Feasibility Study	
J9	Hoi Bun Road / Lai Yip Street	A new pedestrian crossing across Hoi Bun Road Eastbound is added and existing staggered pedestrian crossing at Lai Yip Street to be converted to straight crossing	Technical study on the Lai Yip Street site in Kowloon East	

2032 Traffic Flows

4.14 Year 2032 traffic flows for the following cases are derived:

2032 without the Proposed Development [A] = *2031 traffic flows derived with reference to BDTM + estimated total growth from 2031 to 2032+ Traffic generated by the planned developments in the vicinity of the Proposed Development*

2032 with the Proposed Development [B] = *[A] + traffic generated by the Proposed Development (**Table 4.3**)*

4.15 The 2032 peak hour traffic flows for the cases without and with the Proposed Development, are shown in **Figures 4.2 - 4.3**, respectively. The ingress/egress vehicular routings to/from the Proposed Development via Wai Yip Street and the service lane at the northern side of the Proposed Development are shown in **Figures 4.4 - 4.5**.

2032 Junction Operational Performance

4.16 Year 2032 capacity analysis for the cases without and with the Proposed Development are summarized in **Table 4.6** and detailed calculations are found in the **Appendix 1**.

TABLE 4.6 2032 JUNCTION OPERATIONAL PERFORMANCE

Ref.	Junction	Type of Junction / Parameter(1)	Without the Proposed Development		With the Proposed Development	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Hoi Bun Road / Shun Yip Street(3)	Signal / RC	22%	17%	22%	17%
J2	Wai Yip Street / Shun Yip Street	Signal / RC	21%	19%	20%	18%
J3	Tai Yip Street / Service Lane	Priority / RFC	0.044	0.036	0.057	0.048
J4	Hong Tak Road / Tai Yip Street	Priority / RFC	0.384	0.294	0.414	0.329
J5	Tai Yip Street / Tai Yip Lane	Priority / RFC	0.135	0.117	0.136	0.117
J6	Kwun Tong Road / Hong Tak Road	Priority / RFC	0.655	0.743	0.678	0.771
J7	Wai Yip Street / Lai Yip Street(3)	Signal / RC	26%	35%	26%	35%
J8	Kwun Tong Road / Lai Yip Street(3)	Signal / RC	23%	18%	23%	18%
J9	Hoi Bun Road / Lai Yip Street(3)	Signal / RC	21%	23%	21%	23%
J10	Lai Yip Street / Hung To Road(2)	Signal / RC	33%	41%	33%	41%

Notes: (1) RC – reserve capacity RFC – Ratio of Flow to Capacity
(2) Kerbside on-street activities are reflected in the junction performance
(3) Junction Improvement Scheme has been incorporated in the assessment

4.17 **Table 4.6** shows that the junctions operate with capacities during the AM and PM peak hours for the cases without and with the Proposed Development.

5.0 PEDESTRIAN ASSESSMENT

Surveyed Pedestrian Locations

5.1 In order to quantify the existing pedestrian flows, pedestrian counts were conducted at the footpaths and waiting area of the pedestrian crossing shown in **Figure 5.1** during the AM and PM peak periods. The survey locations are summarized in **Table 5.1.**

TABLE 5.1 SURVEYED PEDESTRIAN LOCATIONS

Ref.	Location
	Footpath
1	Northern footpath of Wai Yip Street between Shun Yip Lane and Tai Yip Street (Eastern side)
2	Northern footpath of Wai Yip Street between Shun Yip Lane and Tai Yip Street (Western side)
3	Shun Yip Lane between Wai Yip Street and Service Lane
	Waiting area of pedestrian crossing
W1	Western pedestrian crossing of Wai Yip Street / Shun Yip Street
W2	Eastern pedestrian crossing of Wai Yip Street / Shun Yip Street

Existing Pedestrian Flows

5.2 The existing peak 15-minute 2-way pedestrian flows are also presented in **Figure 5.1**.

Estimated growth from 2024 to 2032

5.3 The 2032 reference pedestrian flows are estimated with the reference of the existing pedestrian flows and a growth rate of 1.15% per annum, which is derived from the latest TPEDM data.

Pedestrian Generated by the Proposed Development

5.4 The pedestrian generations associated with the RCHE and Hotel within the Proposed Development, are estimated based on in-house pedestrian rates. The in-house pedestrian rates are presented in **Table 5.2**, and the estimated pedestrian generation of Proposed Development is found in **Table 5.3**.

TABLE 5.2 IN-HOUSE PEDESTRIAN GENERATION RATES

Use	Pedestrian Generation Rates (pedestrian / 15 min / 100m^2)			
	AM Peak		PM Peak	
	In	Out	In	Out
RCHE[(1)]	0.049	0.004	0.011	0.034
Hotel[(2)]	0.053	0.173	0.156	0.177

[(1)] 266-bed RCHE known as Buddhist Sum Ma Shui Ying Care & Attention Home for the Elderly at 8 Kung Lok Road, Kwun Tong
[(2)] 254-room Nina Hotel Kowloon East at 38 Chong Yip St, Kwun Tong

TABLE 5.3 PEDESTRIAN GENERATED BY THE PROPOSED DEVELOPMENT

Use	GFA (m^2)	Pedestrian Generation (pedestrian / 15 min)			
		AM Peak		PM Peak	
		In	Out	In	Out
RCHE	557 beds	28	3	7	19
Hotel	200 rooms	11	35	32	36
Total		**39**	**38**	**39**	**55**

Year 2032 Pedestrian Flows

5.5 The 2032 pedestrian flow with and without the Proposed Development are derived using the following method:

Without the Proposed Development [a] = *2024 observed pedestrian flows + growth from 2024 to 2032 + pedestrian generated by the planned developments in the vicinity of the Subject Site*

With the Proposed Development [b] = *[a] + pedestrian generated by the Proposed Development (**Table 5.3**)*

5.6 The 2032 pedestrian flows without and with the Proposed Development are presented in **Figures 5.2 and 5.3**.

Level-Of-Service ("LOS") Assessment

5.7 The pedestrian assessment method adopted is referenced to Exhibit 18-3 of Chapter 18 of the Highway Capacity Manual ("HCM") 2000 and the extract of Exhibit 18-3 is summarised in **Table 5.4**.

TABLE 5.4 EXTRACT OF EXHIBIT 18-3 OF THE HCM 2000

LOS	Space (m^2/p)	Flow Rate (p/min/m)
A	> 5.6	≤ 16
B	> 3.7-5.6	> 16-23
C	> 2.2-3.7	> 23-33
D	> 1.4-2.2	> 33-49
E	> 0.75-1.4	> 49-75
F	≤ 0.75	variable

(a) LOS of the Footpaths

5.8 The effective width of the surveyed footpaths and the year 2032 LOS without and with the Proposed Development are presented in **Tables 5.5 and 5.6**.

TABLE 5.5 EFFECTIVE WIDTH OF SURVEYED FOOTPATHS

Ref	Footpath width (m)	Effective width (m)[(1)]
1	3.5	2.5
2	2.7	1.7
3	9.8	8.8

Note:[(1)] The effective width does not include 0.5m dead zone on both sides, i.e. 1m

TABLE 5.6 YEAR 2032 LOS OF FOOTPATH WITHOUT AND WITH THE PROPOSED DEVELOPMENT

Ref.	Peak Period	Year 2032 without the Proposed Development			Year 2032 with the Proposed Development		
		Flow (Ped/15 min)	Rate[(1)] (Ped/min/m)	LOS	Flow (Ped/15 min)	Rate[(1)] (Ped/ min/m)	LOS
1	AM	350	9.3	A	369	9.8	A
	PM	317	8.5	A	340	9.1	A
2	AM	467	18.3	B	516	20.2	B
	PM	336	13.2	A	395	15.5	A
3	AM	969	7.3	A	1008	7.6	A
	PM	593	4.5	A	640	4.8	A

Note: [(1)] pedestrian flow rate = pedestrian flow ÷ 15 minutes ÷ effective width

5.9 **Table 5.6** shows that the footpaths achieve LOS A and B during AM and PM peak for the 2032 cases without and with the Proposed Development.

(b) Waiting area of the Pedestrian Crossing

5.10 The year 2032 LOS of pedestrian crossing waiting areas without and with the Proposed Development are presented in **Table 5.7**.

TABLE 5.7 YEAR 2032 LOS OF PEDESTRIAN CROSSING WAITING AREAS WITHOUT AND WITH THE PROPOSED DEVELOPMENT

Ref	Area (m^2)	Average No. of Pedestrians at the waiting area (ped/signal cycle)		Pedestrian Space (m^2/ped)		LOS	
		AM	PM	AM	PM	AM	PM
Without the Proposed Development							
W1	150	47	11	3.2	13.6	C	A
W2	63	24	4	2.6	15.8	C	A
With the Proposed Development							
W1	150	48	12	3.1	12.5	C	A
W2	63	25	5	2.5	12.6	C	A

5.11 **Table 5.7** shows that the pedestrian crossing waiting areas achieve LOS A and C during AM and PM peak for the 2032 cases without and with the Proposed Development.

5.12 It is noted that "*In general, LOS C is desirable for most design at streets with dominant 'living' pedestrian activities*". Since the LOS in **Tables 5.6 and 5.7** are A to C, it can be concluded that the Proposed Development will have no adverse impact to the footpaths and pedestrian crossing waiting areas in the vicinity.

6.0 SENSITIVITY TEST

Permitted Maximum Number of Beds for RCHE

6.1 Although the proposed maximum number of beds for RCHE is 557, based on the RCHE GFA and the minimum area of floor space per resident as per Code of Practice for Residential Care Homes (Elderly Persons) issued by Social Welfare Department, a total of 644 beds could be provided. Hence, a sensitivity test is undertaken for the RCHE with 644 beds and the Hotel with 200 rooms.

6.2 As stated in paragraphs 3.17 - 3.18, due to site constraints, the Authorised Person has used his utmost effort to ensure the layout is arranged and utilised in good order. Internal transport facilities will remain unchanged as the Proposed Development .

Sensitivity Test on Traffic Impact

(a) Comparison of Traffic Generation

6.3 The comparison of traffic generated by the Proposed Development, and the sensitivity test with 644-bed RCHE and 200-room Hotel, is presented in **Table 6.1**.

TABLE 6.1 COMPARISON OF TRAFFIC GENERATION

Item	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Proposed Development						
RCHE: 557 beds	*9*	*9*	*18*	*8*	*8*	*16*
Hotel: 200 guest rooms	*17*	*17*	*34*	*19*	*18*	*37*
Total [A]	**26**	**26**	**52**	**27**	**26**	**53**
Sensitivity Test						
RCHE: 644 beds	*10*	*10*	*20*	*9*	*9*	*18*
Hotel: 200 guest rooms	*17*	*17*	*34*	*19*	*18*	*37*
Total [B]	**27**	**27**	**54**	**28**	**27**	**55**
Difference in Traffic Generation (pcu/hour)						
[B] – [A]	**+1**	**+1**	**+2**	**+1**	**+1**	**+2**

6.4 **Table 6.1** shows that compared with the Proposed Development, the sensitivity test with 644-bed RCHE and 200-room Hotel, generates 2 pcu / hour (2-way) more in both AM and PM peak hours, which is negligible.

(b) 2032 Traffic Flows

6.5 The sensitivity test with 644-bed RCHE and 200-room Hotel 2032 peak hour traffic flows are shown in **Figure 6.1**. The ingress/egress vehicular routings to/from the Proposed Development via Wai Yip Street and the service lane at the northern side of the Proposed Development are shown in **Figures 6.2 - 6.3.**

(c) 2032 Junction Operational Performance

6.6 The comparison of junction capacity analysis for Proposed Development, and the sensitivity test with 644-bed RCHE and 200-room Hotel, is found in **Table 6.2** and detailed calculations of the sensitivity test are found in the **Appendix 1**.

TABLE 6.2 COMPARISON OF 2032 JUNCTION OPERATIONAL PERFORMANCE

Ref.	Junction	Type of Junction / Parameter[1]	Proposed Development [A]		Sensitivity Test [B]		Difference [B] – [A]	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
J1	Hoi Bun Road / Shun Yip Street[3]	Signal / RC	22%	17%	22%	17%	0%	0%
J2	Wai Yip Street / Shun Yip Street	Signal / RC	20%	18%	20%	18%	0%	0%
J3	Tai Yip Street / Service Lane	Priority / RFC	0.057	0.048	0.057	0.048	0.000	0.000
J4	Hong Tak Road / Tai Yip Street	Priority / RFC	0.414	0.329	0.416	0.329	0.002	0.000
J5	Tai Yip Street / Tai Yip Lane	Priority / RFC	0.136	0.117	0.136	0.117	0.000	0.000
J6	Kwun Tong Road / Hong Tak Road	Priority / RFC	0.678	0.771	0.680	0.771	0.002	0.000
J7	Wai Yip Street / Lai Yip Street[3]	Signal / RC	26%	35%	26%	35%	0%	0%
J8	Kwun Tong Road / Lai Yip Street[3]	Signal / RC	23%	18%	23%	18%	0%	0%
J9	Hoi Bun Road / Lai Yip Street[3]	Signal / RC	21%	23%	21%	23%	0%	0%
J10	Lai Yip Street / Hung To Road[2]	Signal / RC	33%	41%	33%	41%	0%	0%

Notes: [1] RC – reserve capacity RFC – Ratio of Flow to Capacity
[2] Kerbside on-street activities are reflected in the junction performance
[3] Junction Improvement Scheme has been incorporated in the assessment

6.7 **Table 6.2** shows there is negligible difference in the junction capacity between the 2 schemes. Hence, the impact of the sensitivity test with a 644-bed RCHE and a 200-room Hotel, is negligible.

Sensitivity Test on Pedestrian Impact

(a) Comparison of Pedestrian Generation

6.8 The comparison of pedestrian generated by the Proposed Development, and the sensitivity test with 644-bed RCHE and 200-room Hotel, is presented in **Table 6.3**.

TABLE 6.3 COMPARISON OF PEDESTRIAN GENERATION

Item	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Proposed Development						
RCHE: 557 beds	*28*	*3*	*31*	*7*	*19*	*26*
Hotel: 200 guest rooms	*11*	*35*	*46*	*32*	*36*	*68*
Total [A]	**39**	**38**	**77**	**39**	**55**	**94**
Sensitivity Test						
RCHE: 644 beds	*32*	*3*	*35*	*8*	*22*	*30*
Hotel: 200 guest rooms	*11*	*35*	*46*	*32*	*36*	*68*
Total [B]	**43**	**38**	**81**	**40**	**58**	**98**
Difference in Pedestrian Generation (pcu/hour)						
[B] – [A]	**+4**	**+0**	**+4**	**+1**	**+3**	**+4**

6.9 **Table 6.3** shows the pedestrians generated by the sensitivity test, is 4 more (2-way) in the AM and PM peak hours, compared to the Proposed Development, which is negligible.

(b) 2032 Pedestrian Flows

6.10 The sensitivity test 2032 pedestrian flows is presented in **Figure 6.4**.

(c) LOS of the Footpaths

6.11 The sensitivity test year 2032 LOS is presented in **Table 6.4**.

TABLE 6.4 SENSITIVITY TEST FOR YEAR 2032 LOS OF FOOTPATH

Ref.	Peak Period	Year 2032 Sensitivity Test		
		Flow (Ped/15 min)	Rate[(1)] (Ped/ min/m)	LOS
1	AM	370	9.9	A
	PM	341	9.1	A
2	AM	518	20.3	B
	PM	398	15.6	A
3	AM	1010	7.7	A
	PM	642	4.9	A

Note: [(1)] pedestrian flow rate = pedestrian flow ÷ 15 minutes ÷ effective width

6.12 **Table 6.4** shows that the footpaths still achieve LOS A and B during AM and PM peak.

(d) Waiting Area of the Pedestrian Crossing

6.13 Sensitivity test for the year 2032 pedestrian crossing waiting areas is presented in **Table 6.5**.

TABLE 6.5 SENSITIVITY TEST FOR YEAR 2032 PEDESTRIAN CROSSING WAITING AREAS

Ref	Area (m^2)	Average No. of Pedestrians at the waiting area (ped/signal cycle)		Pedestrian Space (m^2/ped)		LOS	
		AM	PM	AM	PM	AM	PM
W1	150	48	12	3.1	12.5	C	A
W2	63	25	5	2.5	12.6	C	A

6.14 **Table 6.5** shows that the pedestrian crossing waiting areas still achieve LOS A and C during AM and PM peak for the sensitivity test.

6.15 Since the LOS in **Tables 6.4 and 6.5** are A to C, it can be concluded that the sensitivity test found no adverse impact to the footpaths and pedestrian crossing waiting areas in the vicinity.

7.0 CONCLUSION

7.1 The Subject Site is located at Nos. 107 - 109 Wai Yip Street in Kwun Tong. On 29th May 2020, the TPB approved the S16 Planning Application (TPB ref: A/K14/780) for Office, Shop and Services & Eating Place Uses at the Subject Site.

7.2 Subsequent to the Approved S16 Scheme (TPB ref: A/K14/780), the Applicant has the intention to rezone the Subject Site and construct a building which comprises of a RCHE with (i) no less than 302, but not more than 557 beds, and (ii) hotel with 200 rooms.

7.3 Manual classified counts were conducted at the junctions located in the vicinity of the Subject Site in order to establish the peak hour traffic flows. Currently, the surveyed junctions operate with capacities during the AM and PM peak hours.

7.4 Similar to the Approved S16 Scheme (TPB ref: A/K14/780), two vehicular access points are provided for the Proposed Development, including, (i) the service lane at the northern side of the Proposed Development, and (ii) Wai Yip Street. Compared to the Approved S16 Scheme (TPB ref: A/K14/780), the Proposed Development is expected to generate less traffic during the AM and PM peak hours.

7.5 The internal transport facilities provided for RCHE within the Proposed Development are based on the operational needs and also with reference to similar type RCHE in Kwun Tong. Those for the Hotel within the Proposed Development are provided with reference to the recommendation of the HKPSG. Swept path analysis was conducted to ensure that all vehicles could enter and leave the development and the spaces provided with ease.

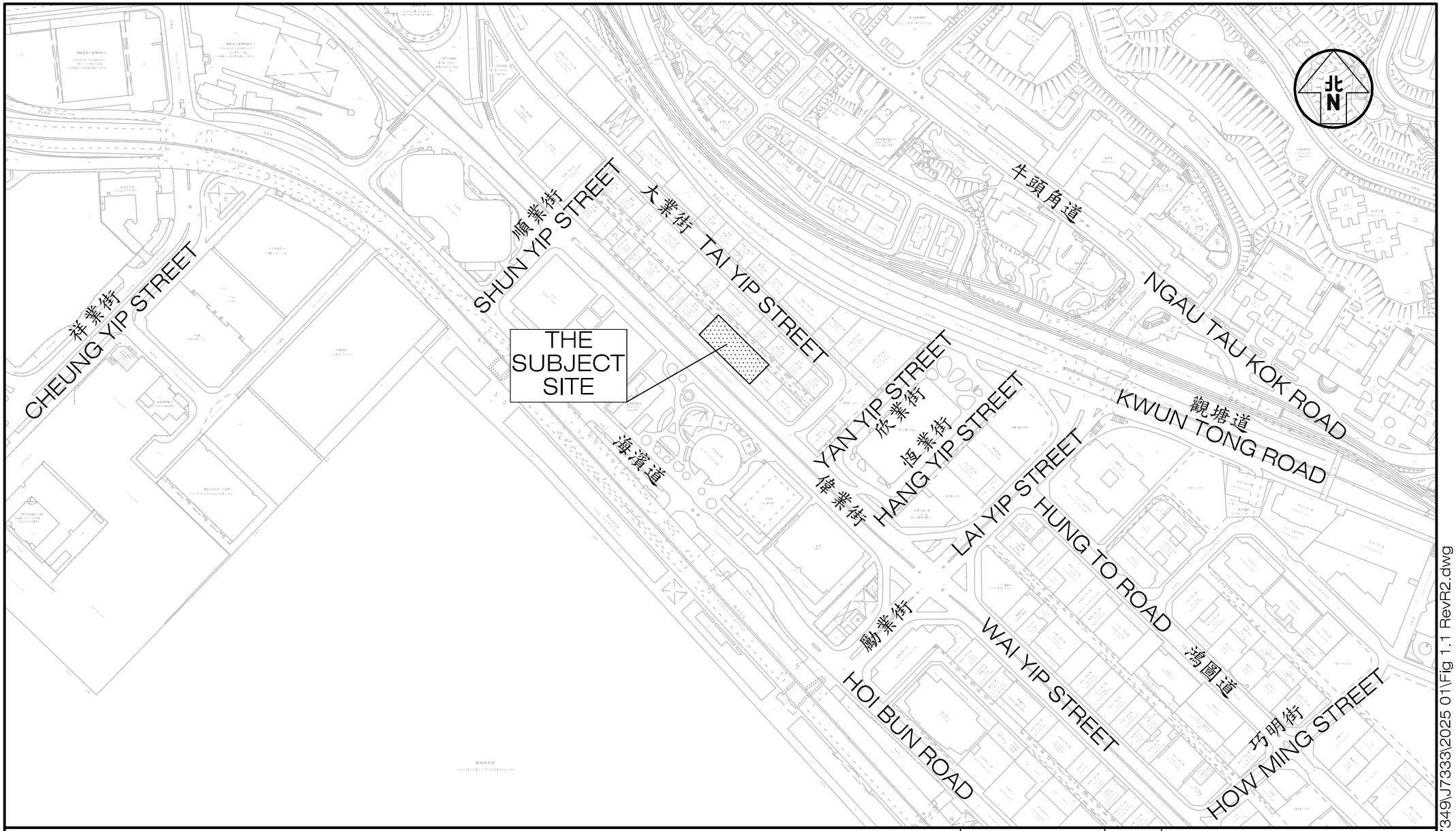
7.6 The Proposed Development is expected to be completed by 2029, and the junction capacity analysis is undertaken for year 2032. For the design year 2032, the junctions analysed are expected to operate with capacities during the peak hours for the case without and with Proposed Development.

7.7 The pedestrian assessment conducted found that the surveyed footpaths and waiting area of the pedestrian crossing would operate with LOS A to C in 2032 for the cases without and with the Proposed Development. Hence, it is concluded that the Proposed Development has **no** adverse impact to the footpaths and pedestrian crossing in the vicinity.

7.8 A sensitivity test for the scheme with 644-bed RCHE and 200-room Hotel is undertaken and found to have no adverse traffic and pedestrian impact.

7.9 It is concluded that the Proposed Development will result in **no** adverse traffic impact to the surrounding road network.

Figures



Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 1.1 / Revision R2
Figure Title	LOCATION OF THE SUBJECT SITE	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 4000 / Date 04 FEB 2025

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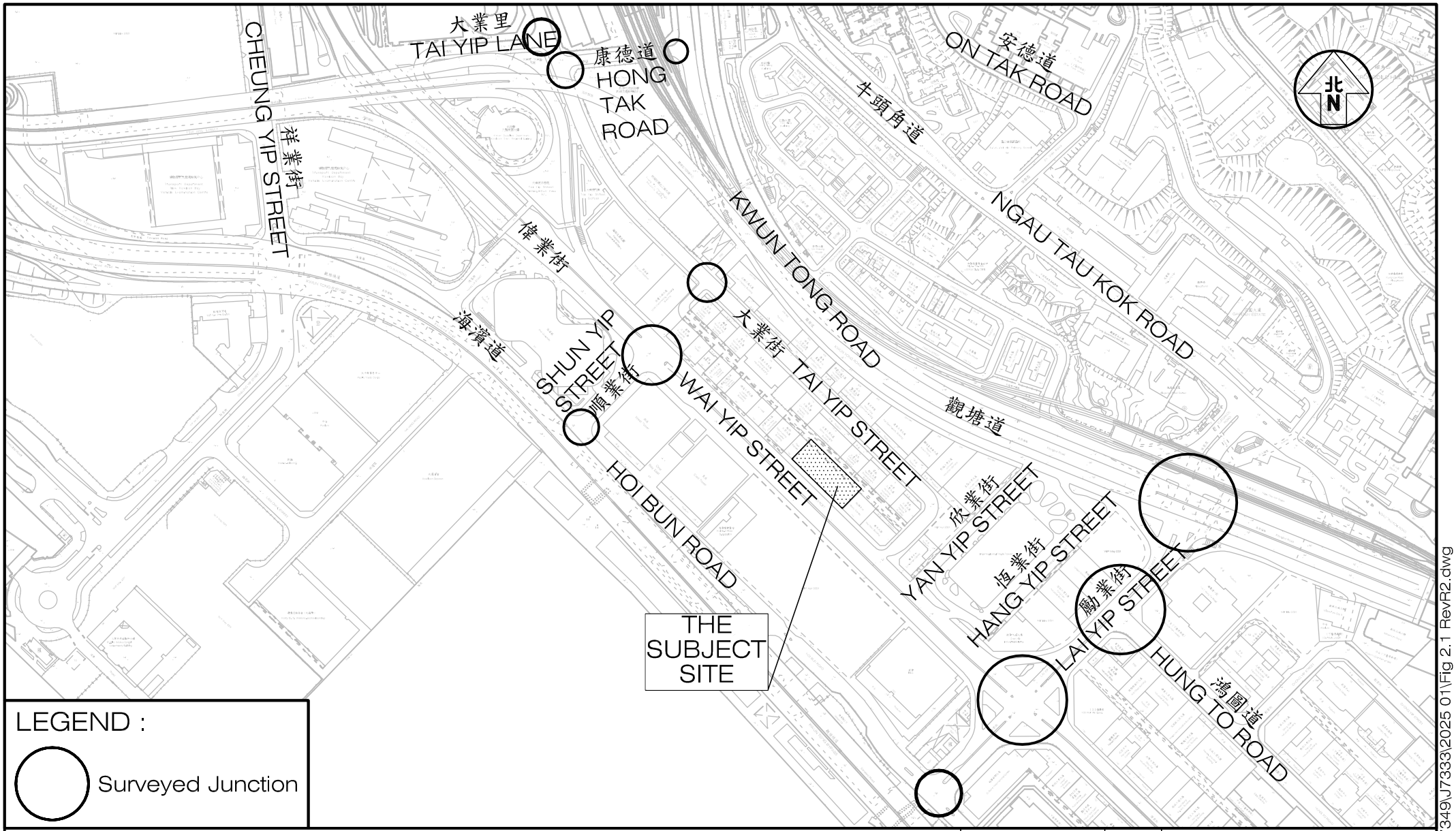

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Figure Title	LOCATION OF THE SURVEYED JUNCTIONS	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 4000 / Date 04 FEB 2025

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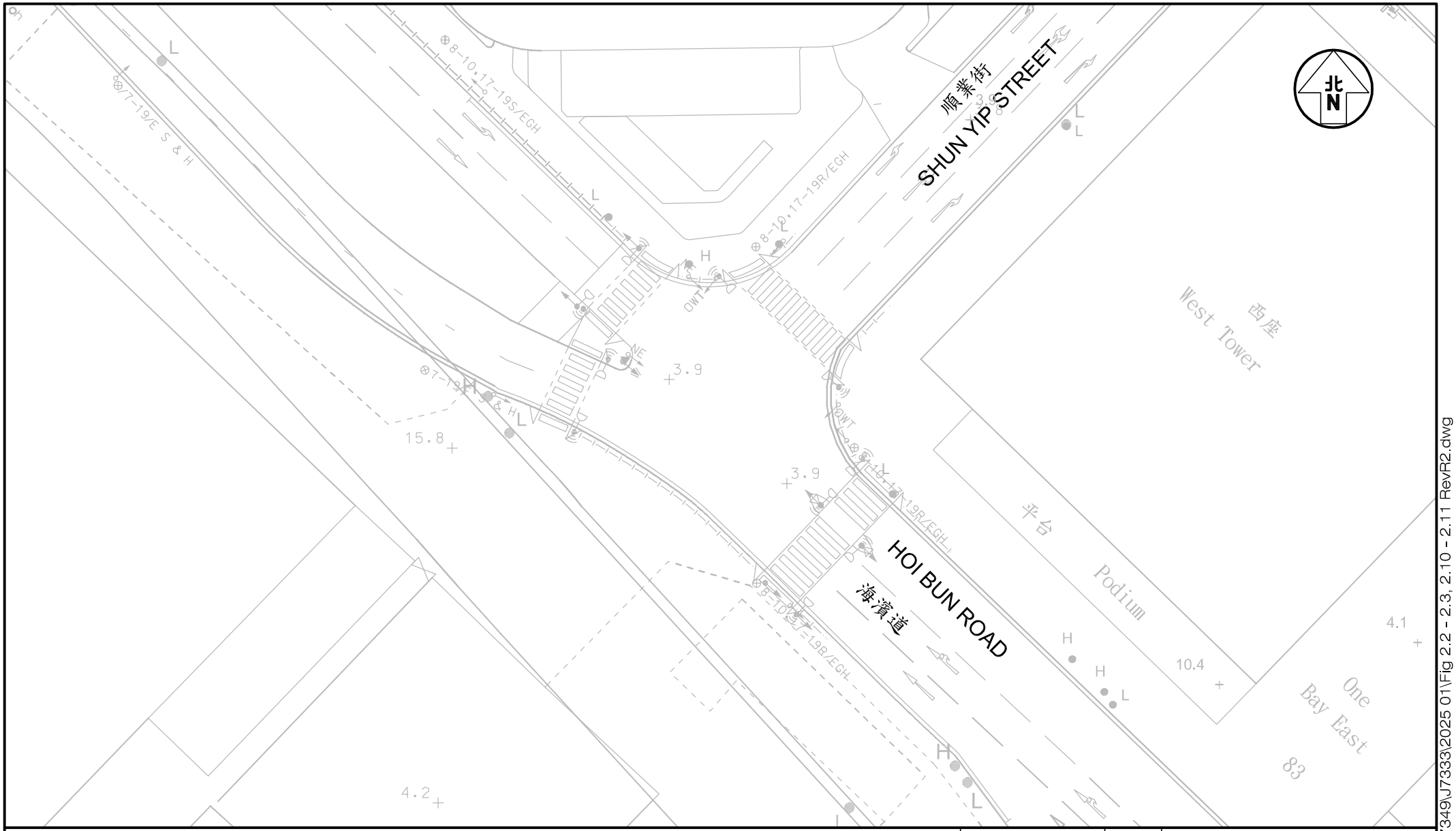

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 2.2 / Revision R2
Figure Title	LAYOUT OF JUNCTION OF HOI BUN ROAD / SHUN YIP STREET		Designed by C Y Y / Drawn by N C M / Checked by K C
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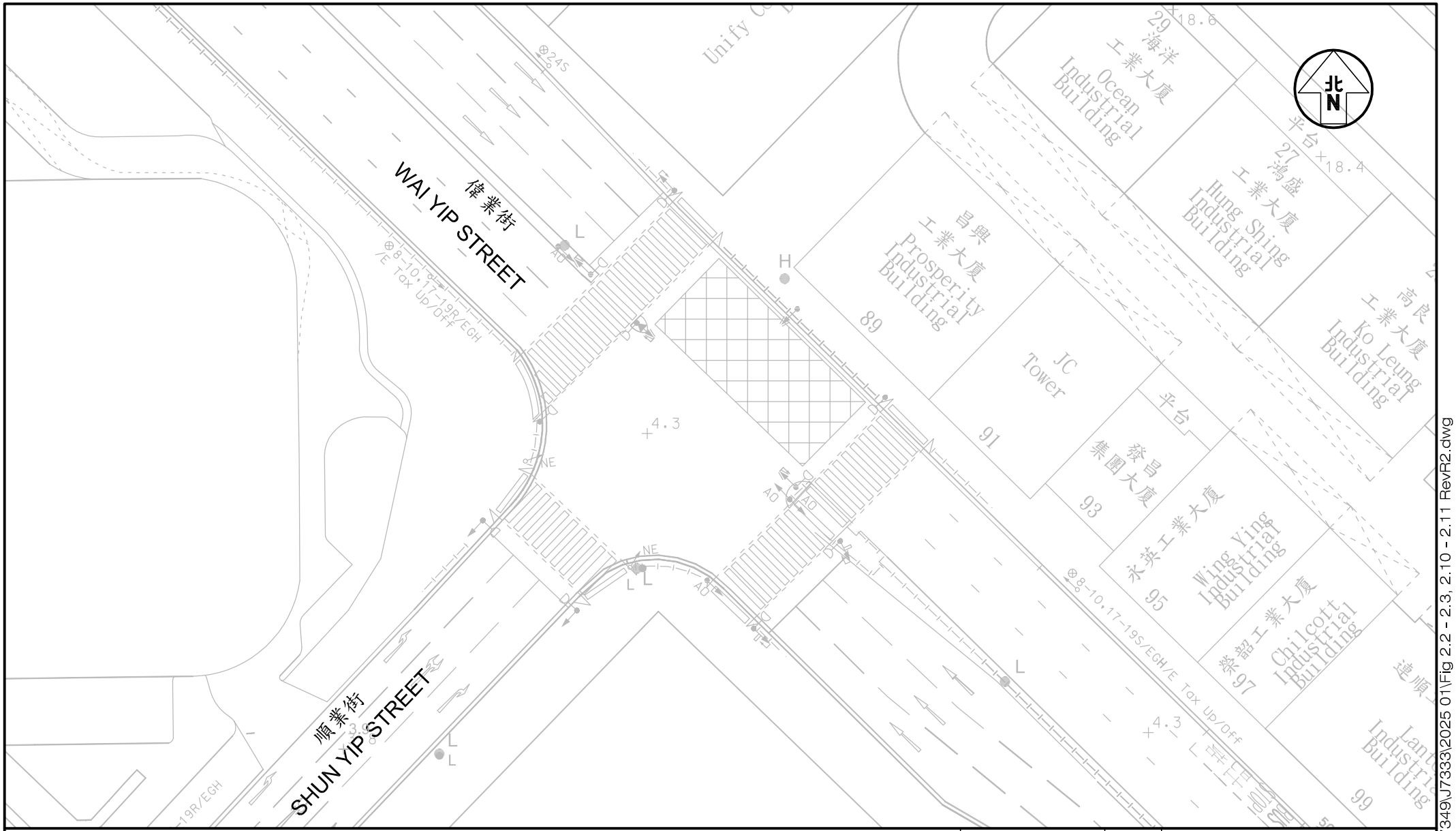

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Figure Title	LAYOUT OF JUNCTION OF WAI YIP STREET / SHUN YIP STREET		Designed by C Y Y / Drawn by N C M / Checked by K C / Scale in A4 1 : 500 / Date 04 FEB 2025

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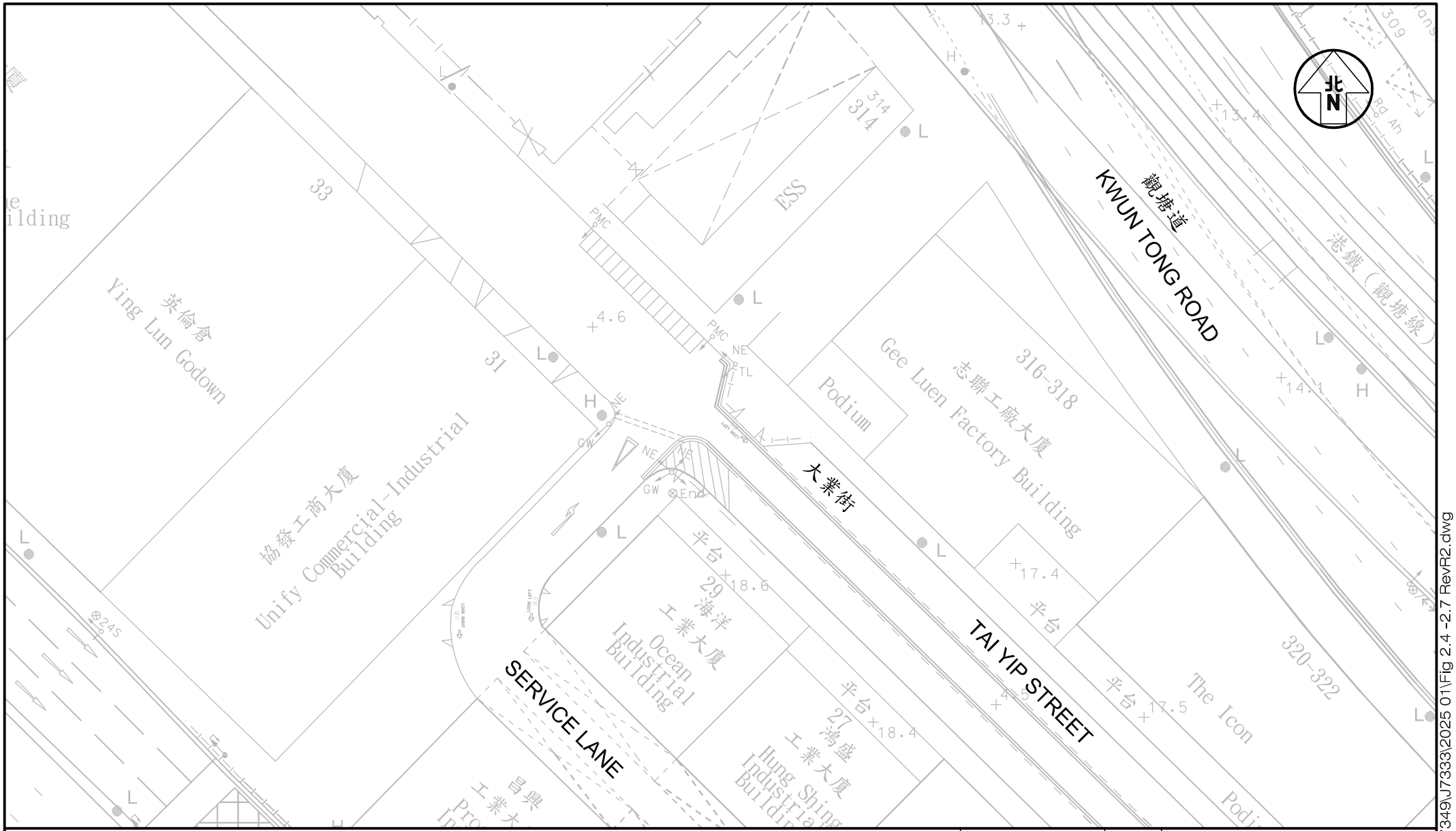

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 2.4 / Revision R2
Figure Title	LAYOUT OF JUNCTION OF TAI YIP STREET / SERVICE LANE	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 500 / Date 04 FEB 2025

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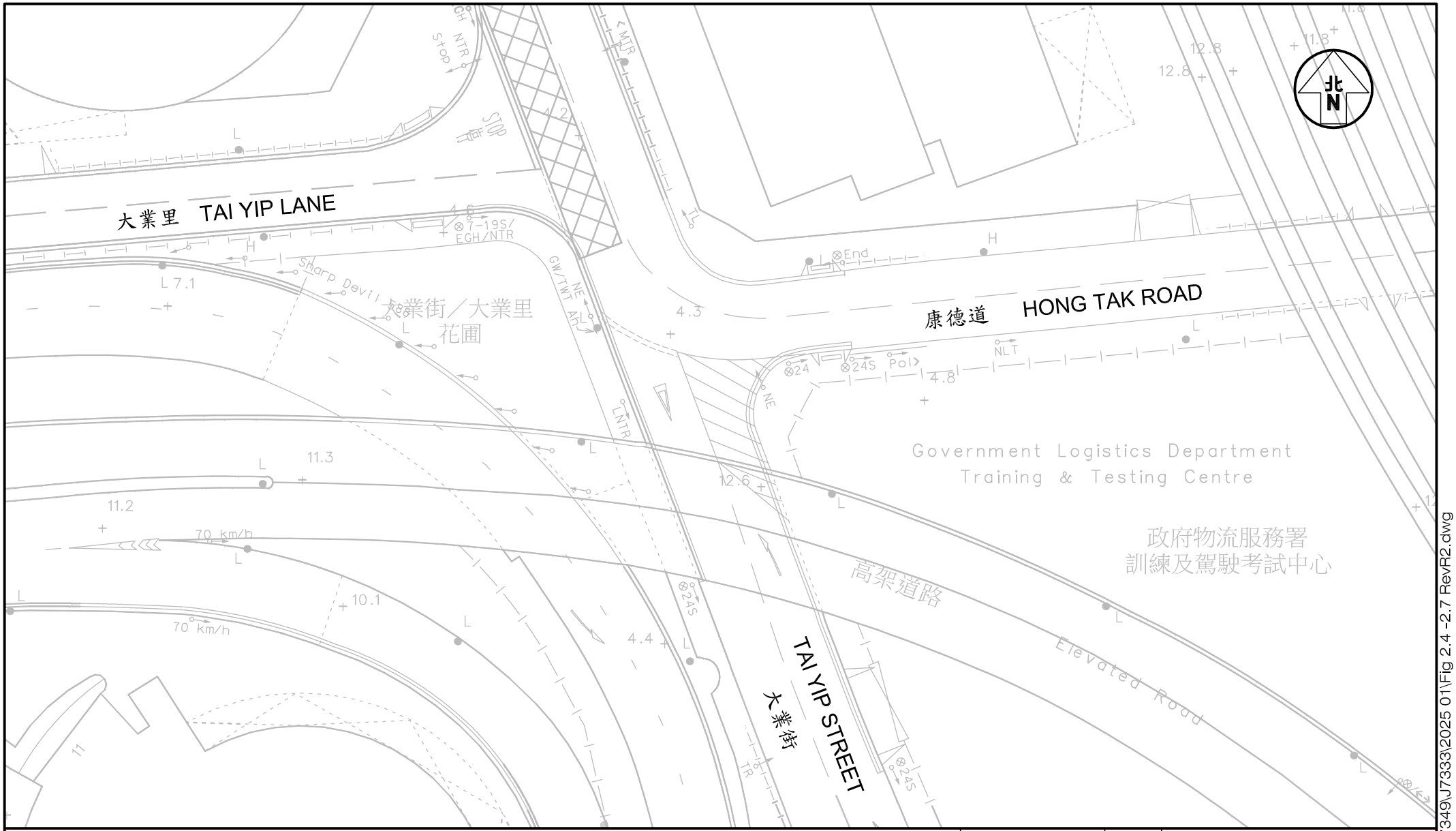

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 2.5 / Revision R2
Figure Title	LAYOUT OF JUNCTION OF HONG TAK ROAD / TAI YIP STREET		Designed by C Y Y / Drawn by N C M / Checked by K C / Scale in A4 1 : 500 / Date 04 FEB 2025

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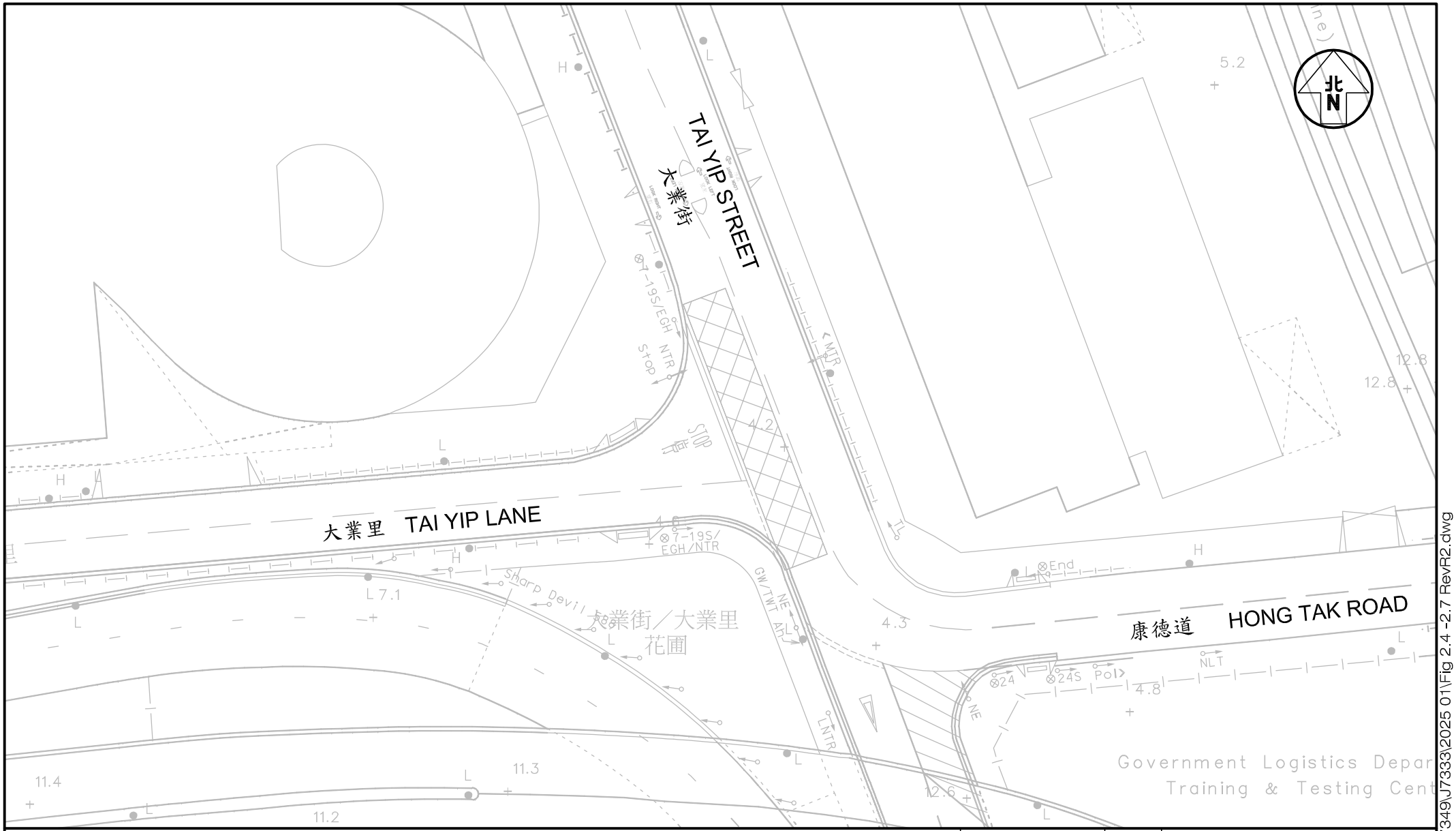

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Figure Title: LAYOUT OF JUNCTION OF TAI YIP STREET / TAI YIP LANE		Designed by C Y Y / Drawn by N C M / Checked by K C	
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Figure Title	LAYOUT OF JUNCTION OF KWUN TONG ROAD / HONG TAK ROAD		Designed by C Y Y / Drawn by N C M / Checked by K C
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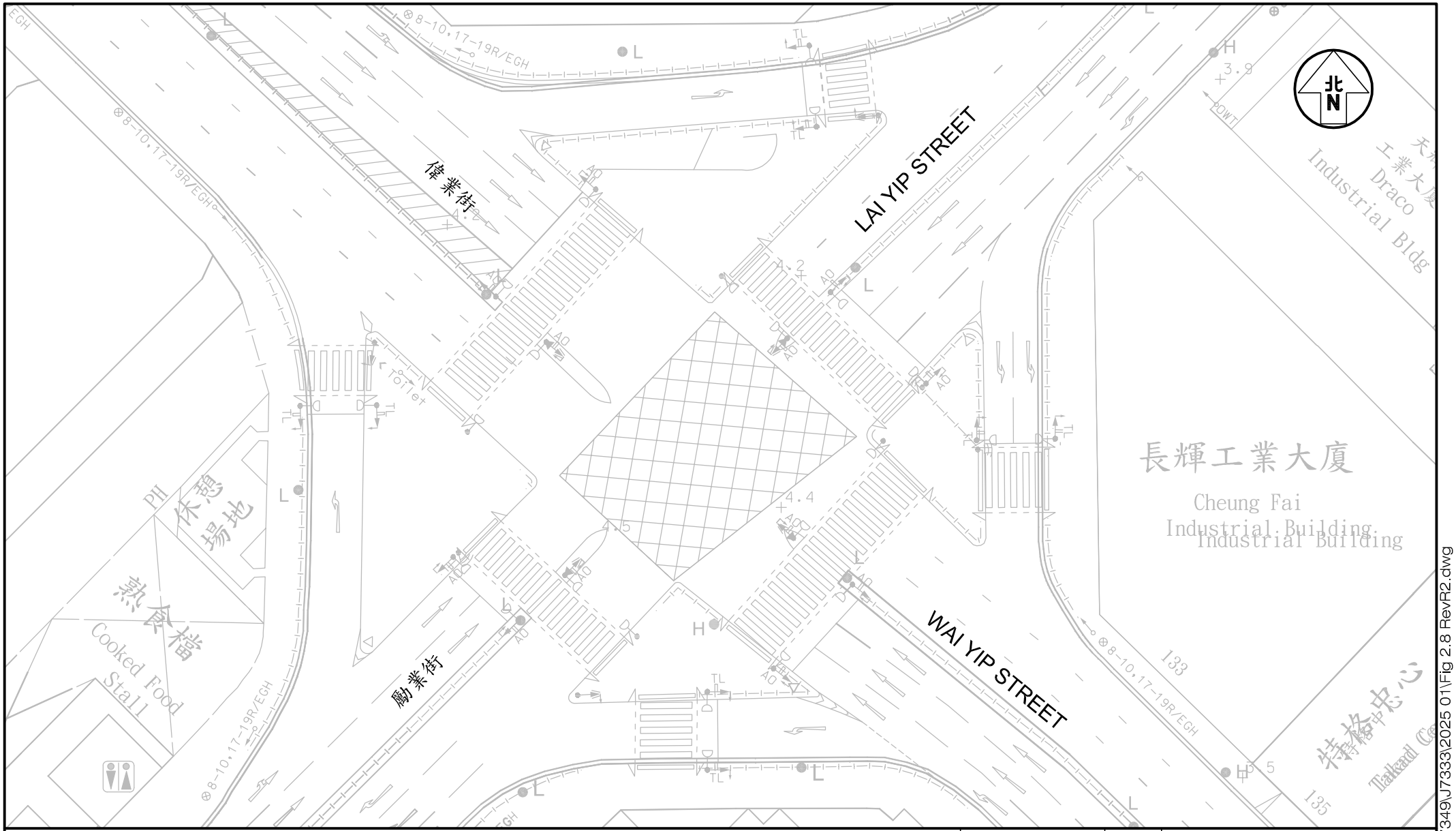

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Figure Title	LAYOUT OF JUNCTION OF WAI YIP STREET / LAI YIP STREET	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 500 / Date 04 FEB 2025

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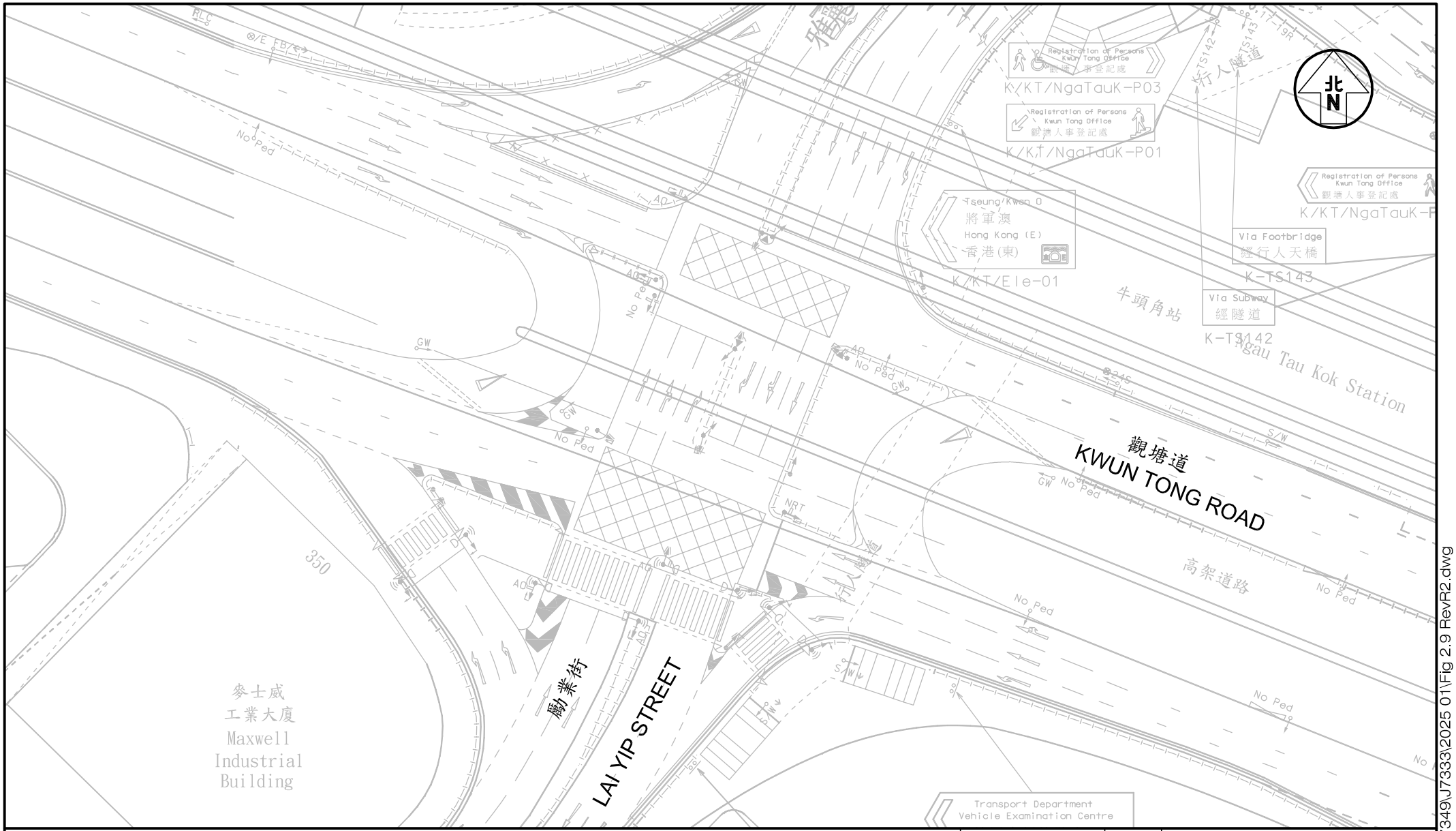

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Figure Title	LAYOUT OF JUNCTION OF KWUN TONG ROAD / LAI YIP STREET		Designed by C Y Y / Drawn by N C M / Checked by K C Scale in A4 1 : 600 / Date 04 FEB 2025

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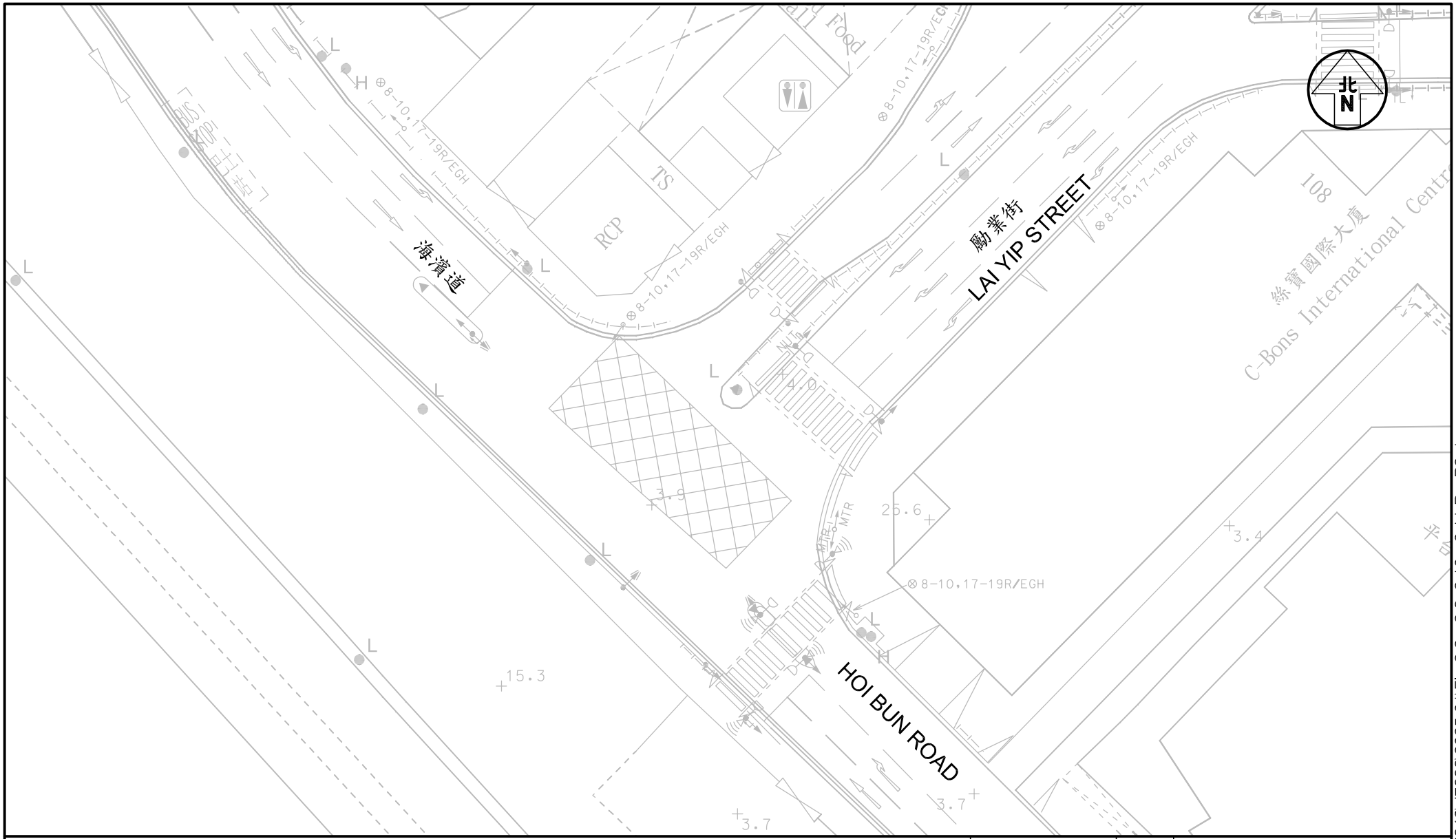

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Figure Title	LAYOUT OF JUNCTION OF HOI BUN ROAD / LAI YIP STREET		Designed by C Y Y / Drawn by N C M / Checked by K C / Scale in A4 1 : 500 / Date 04 FEB 2025

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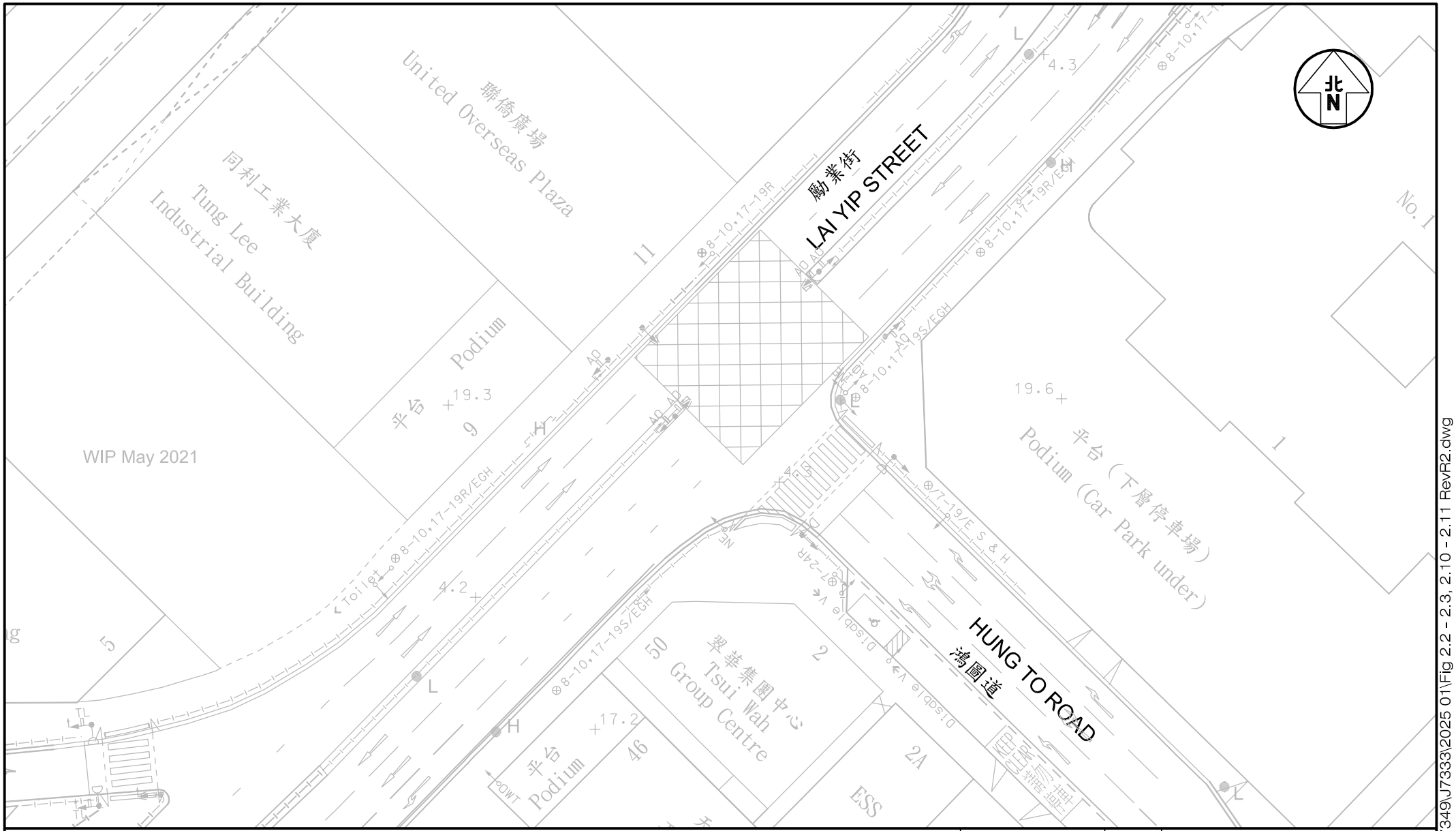

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Figure Title	LAYOUT OF JUNCTION OF LAI YIP STREET / HUNG TO ROAD		Designed by C Y Y / Drawn by N C M / Checked by K C
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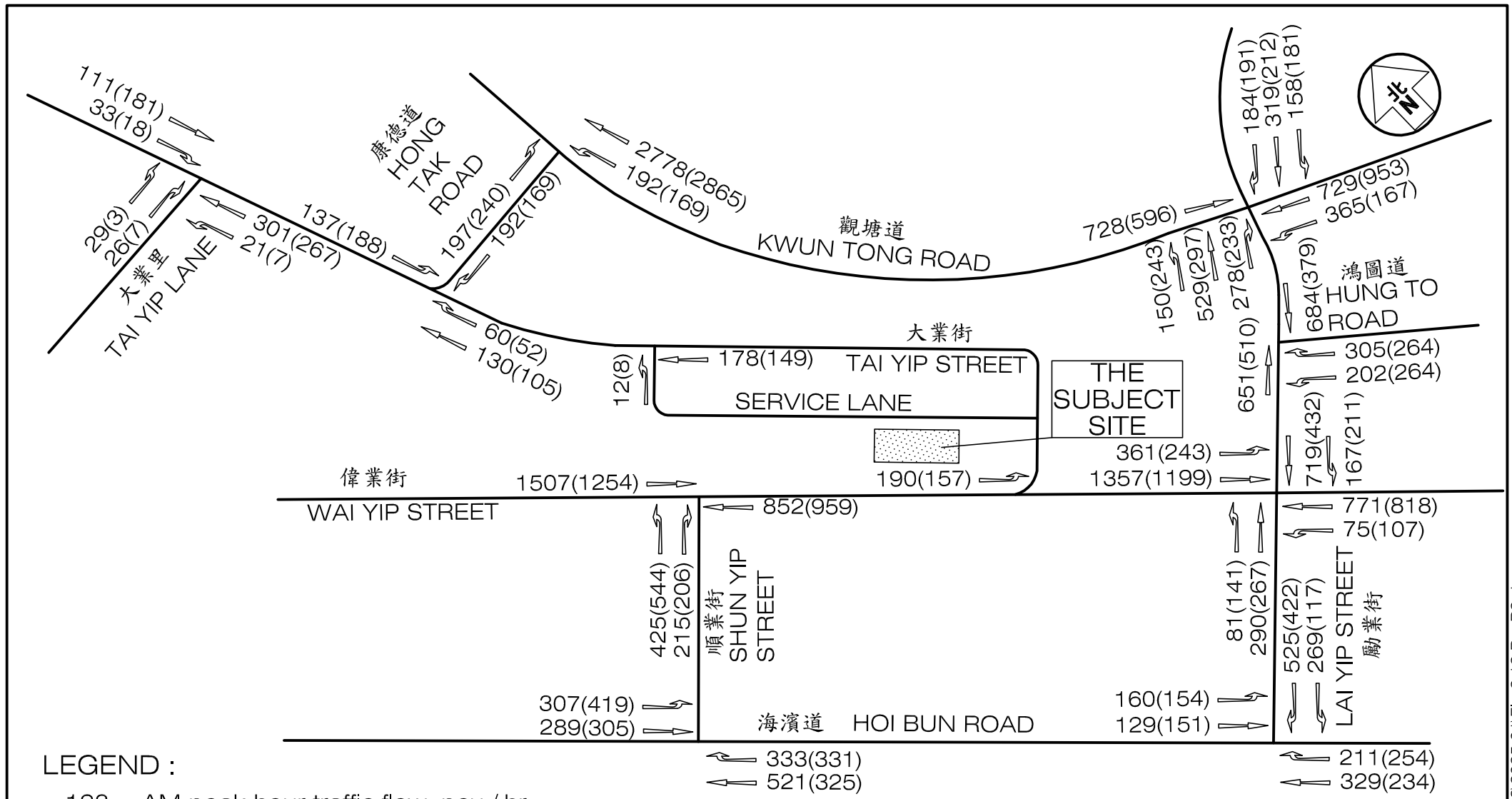

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

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Figure Title: ADJUSTED 2024 PEAK HOUR TRAFFIC FLOWS		Designed by C Y Y / Drawn by N C M / Checked by K C	
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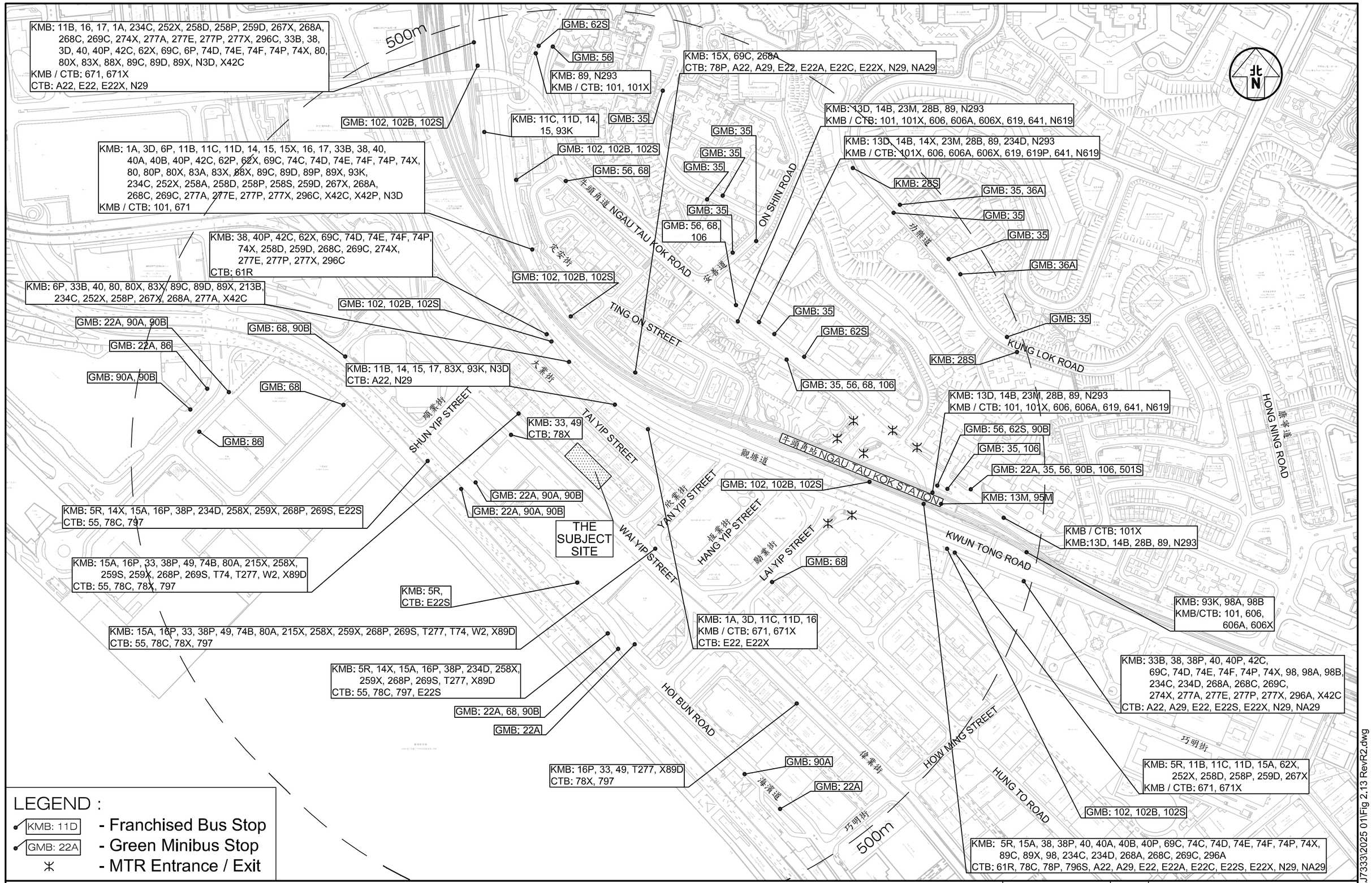

LEGEND :

- KMB: 11D - Franchised Bus Stop
- GMB: 22A - Green Minibus Stop
- ⚹ - MTR Entrance / Exit

Project Title

S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG

J7333

Figure Title

THE PUBLIC TRANSPORT SERVICES PROVIDED IN THE VICINITY OF THE SUBJECT SITE

Figure No.	Revision
2.13	R2

Designed by	Drawn by	Checked by
C Y Y	N C M	

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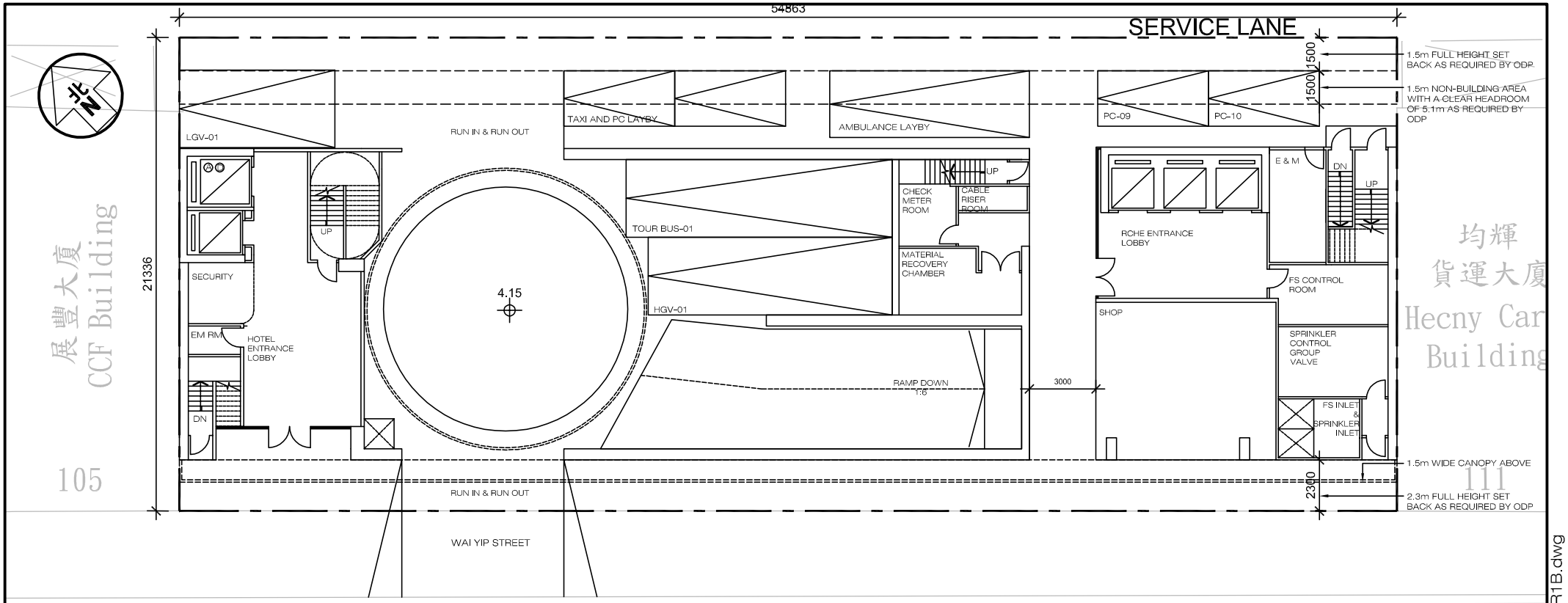

LEGEND :

- TOUR BUS-01 — Single-deck tour bus layby @12m(L) X 3.5m(W) X 3.8m(H)
- LGV-01 — LGV loading / unloading bay @7m(L) X 3.5m(W) X 3.6m(H)
- TAXI AND PC LAYBY — Taxi and private car layby @5m(L) X 2.5m(W) X 2.4m(H)
- HGV-01 — HGV loading / unloading bay @11m(L) X 3.5m(W) X 4.7m(H)
- AMBULANCE LAYBY — Ambulance layby @9m(L) X 3m(W) X 3.6m(H)
- PC-09 — Private car parking space @5m(L) X 2.5m(W) X 2.4m(H)

Project Title: S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG

J7333

Figure Title: G/F LAYOUT PLAN

Figure No. 3.1 | Revision R2

Designed by C Y Y | Drawn by N C M | Checked by K C

Scale in A4: 1 : 250 | Date: 04 FEB 2025

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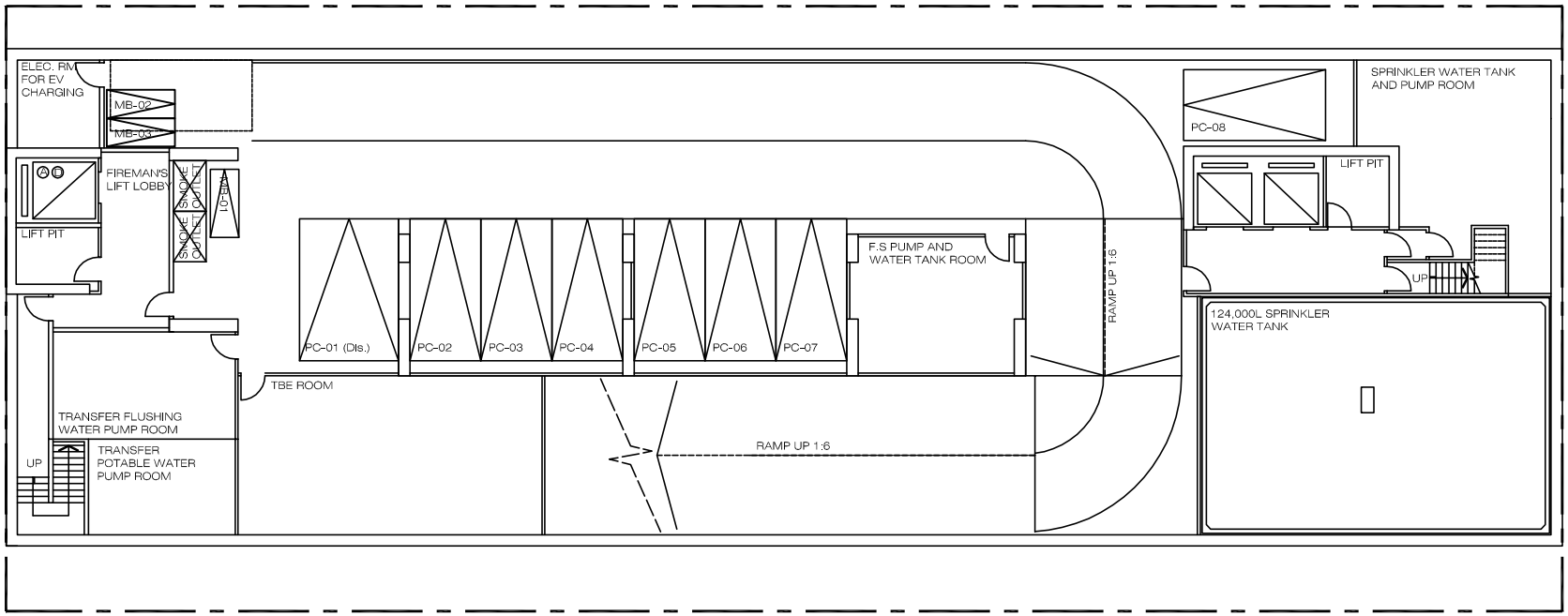
T:\JOB\J7300-J7349\J7333\2024 12\Fig 3.1 - 3.2 RevR1B.dwg



LEGEND :

PC-02 — Private car parking space
@5m(L) X 2.5m(W) X 2.4m(H)

PC-01 (Dis.) — Accessible car parking space
@5m(L) X 3.5m(W) X 2.4m(H)

M/B-01 — Motorcycle parking space
@2.4m(L) X 1m(W) X 2.4m(H)

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 3.2 / Revision R2
Figure Title	B1/F LAYOUT PLAN	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 250 / Date 04 FEB 2025

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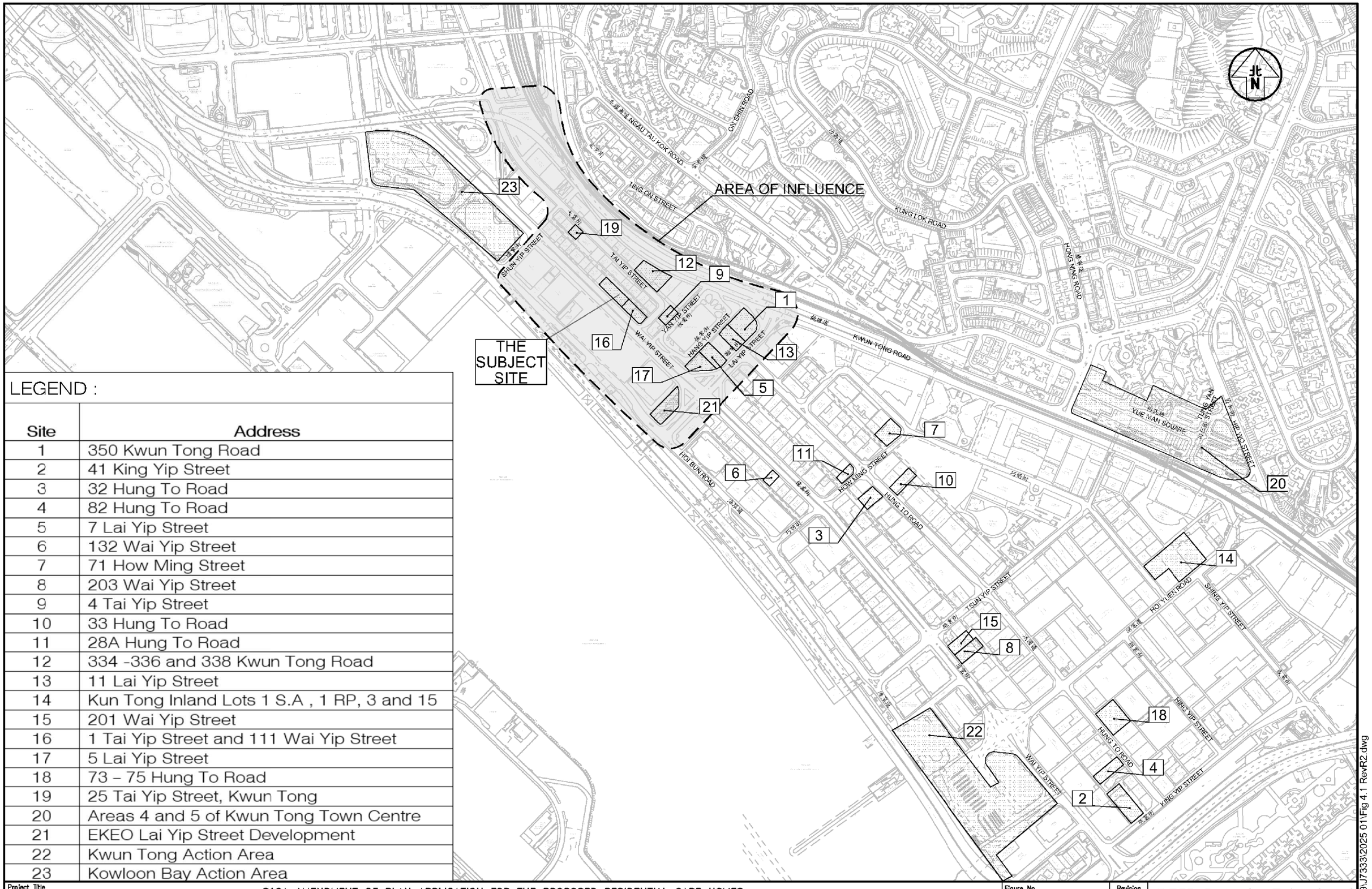

LEGEND :	
Site	**Address**
1	350 Kwun Tong Road
2	41 King Yip Street
3	32 Hung To Road
4	82 Hung To Road
5	7 Lai Yip Street
6	132 Wai Yip Street
7	71 How Ming Street
8	203 Wai Yip Street
9	4 Tai Yip Street
10	33 Hung To Road
11	28A Hung To Road
12	334 -336 and 338 Kwun Tong Road
13	11 Lai Yip Street
14	Kun Tong Inland Lots 1 S.A , 1 RP, 3 and 15
15	201 Wai Yip Street
16	1 Tai Yip Street and 111 Wai Yip Street
17	5 Lai Yip Street
18	73 – 75 Hung To Road
19	25 Tai Yip Street, Kwun Tong
20	Areas 4 and 5 of Kwun Tong Town Centre
21	EKEO Lai Yip Street Development
22	Kwun Tong Action Area
23	Kowloon Bay Action Area

Project Title: S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG — J7333

Figure No.: 4.1 — Revision: R2

Figure Title: LOCATION OF PLANNED DEVELOPMENTS IN THE VICINITY OF THE PROPOSED DEVELOPMENT

Designed by: C Y Y | Drawn by: N C M | Checked by: K C

Scale in A3: 1 : 6000 | Date: 04 FEB 2025

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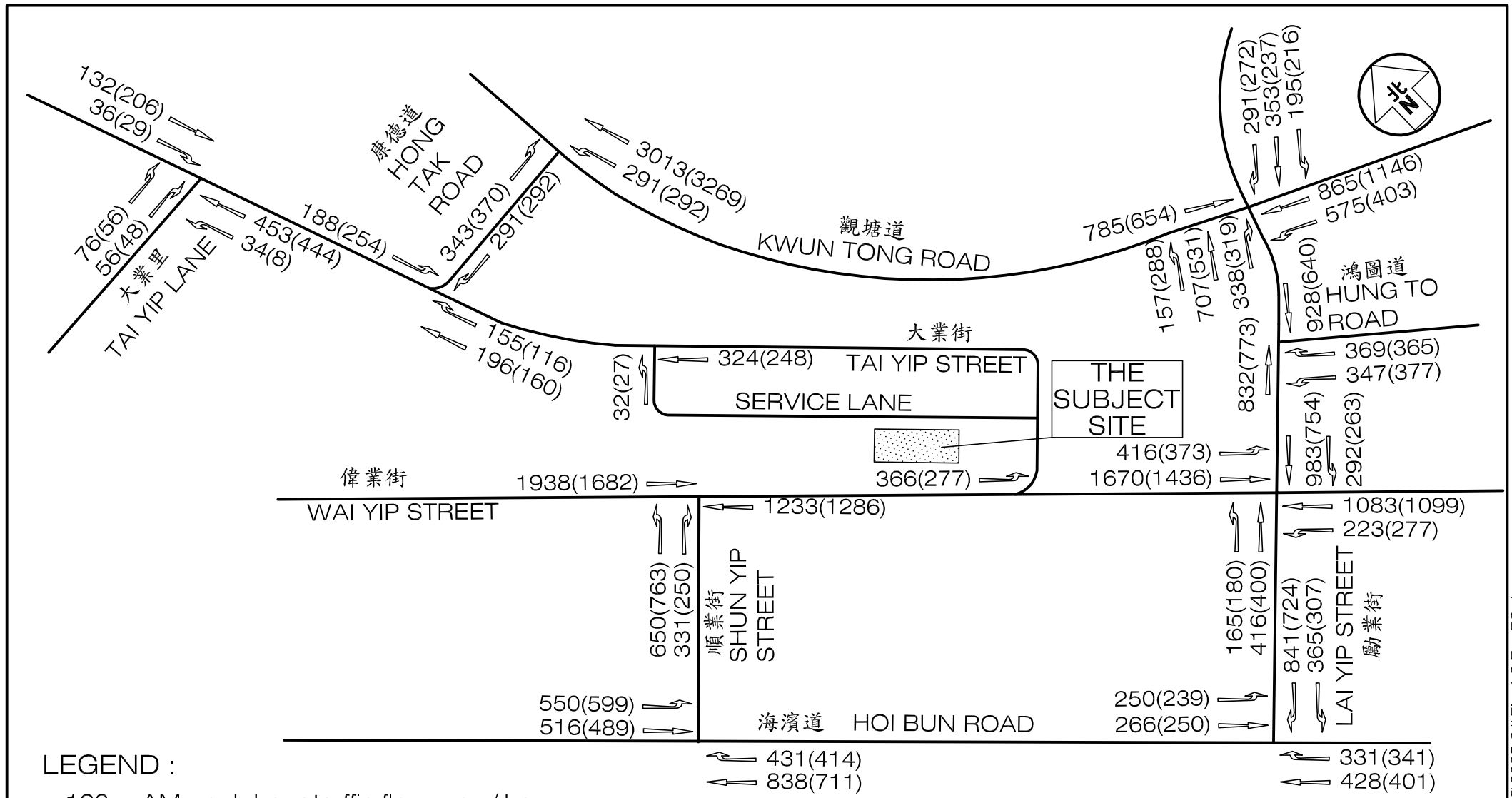

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

Project Title: S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 4.2	Revision R2
Figure Title: YEAR 2032 PEAK HOUR TRAFFIC FLOWS WITHOUT THE PROPOSED DEVELOPMENT		Designed by C Y Y / Drawn by N C M / Checked by K C	
		Scale in A4 N.T.S. / Date 04 FEB 2025	

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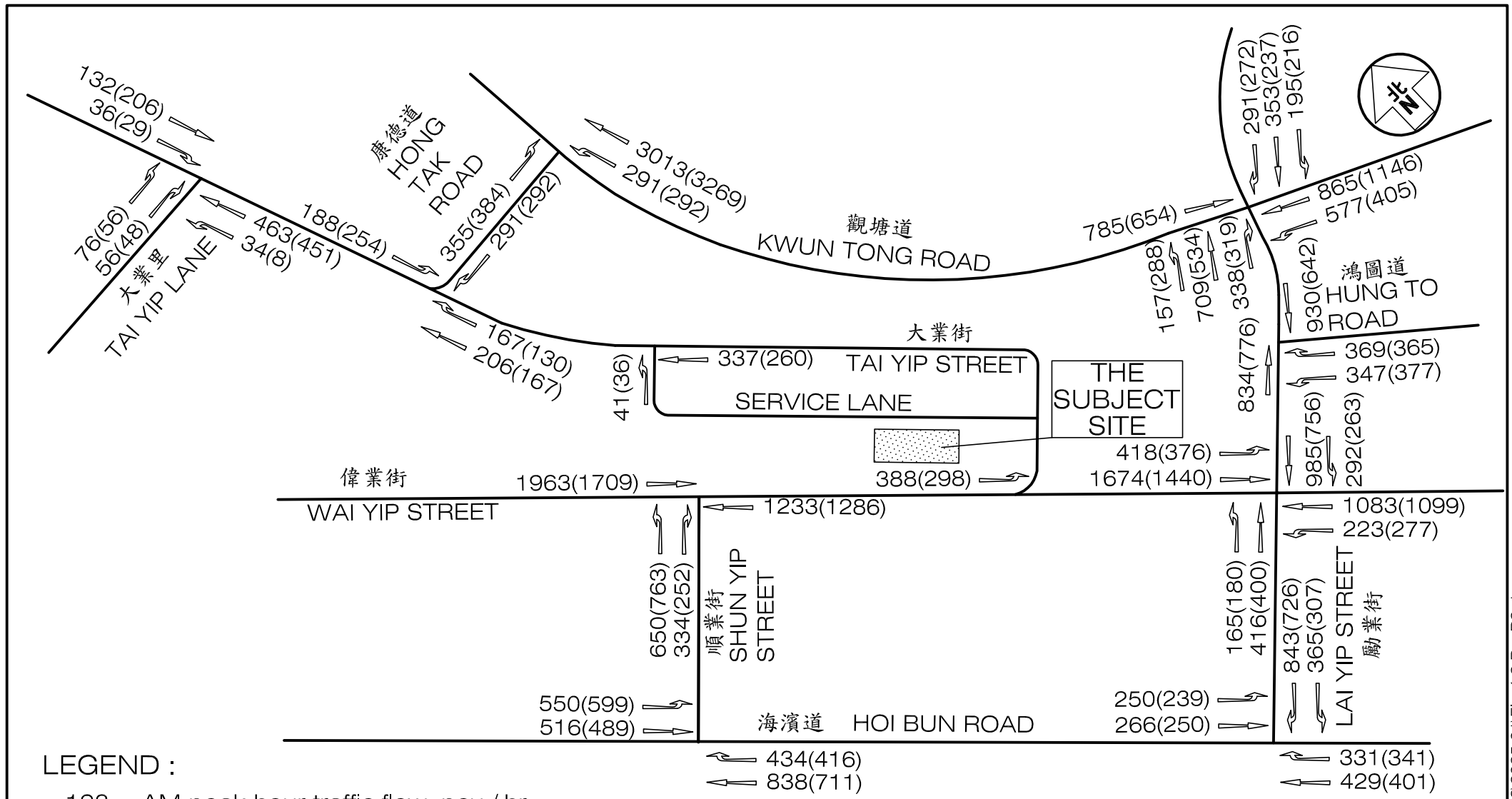

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

Project Title: S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 4.3	Revision R2
Figure Title: YEAR 2032 PEAK HOUR TRAFFIC FLOWS WITH THE PROPOSED DEVELOPMENT		Designed by C Y Y / Drawn by N C M / Checked by K C	
		Scale in A4: N.T.S.	Date: 04 FEB 2025

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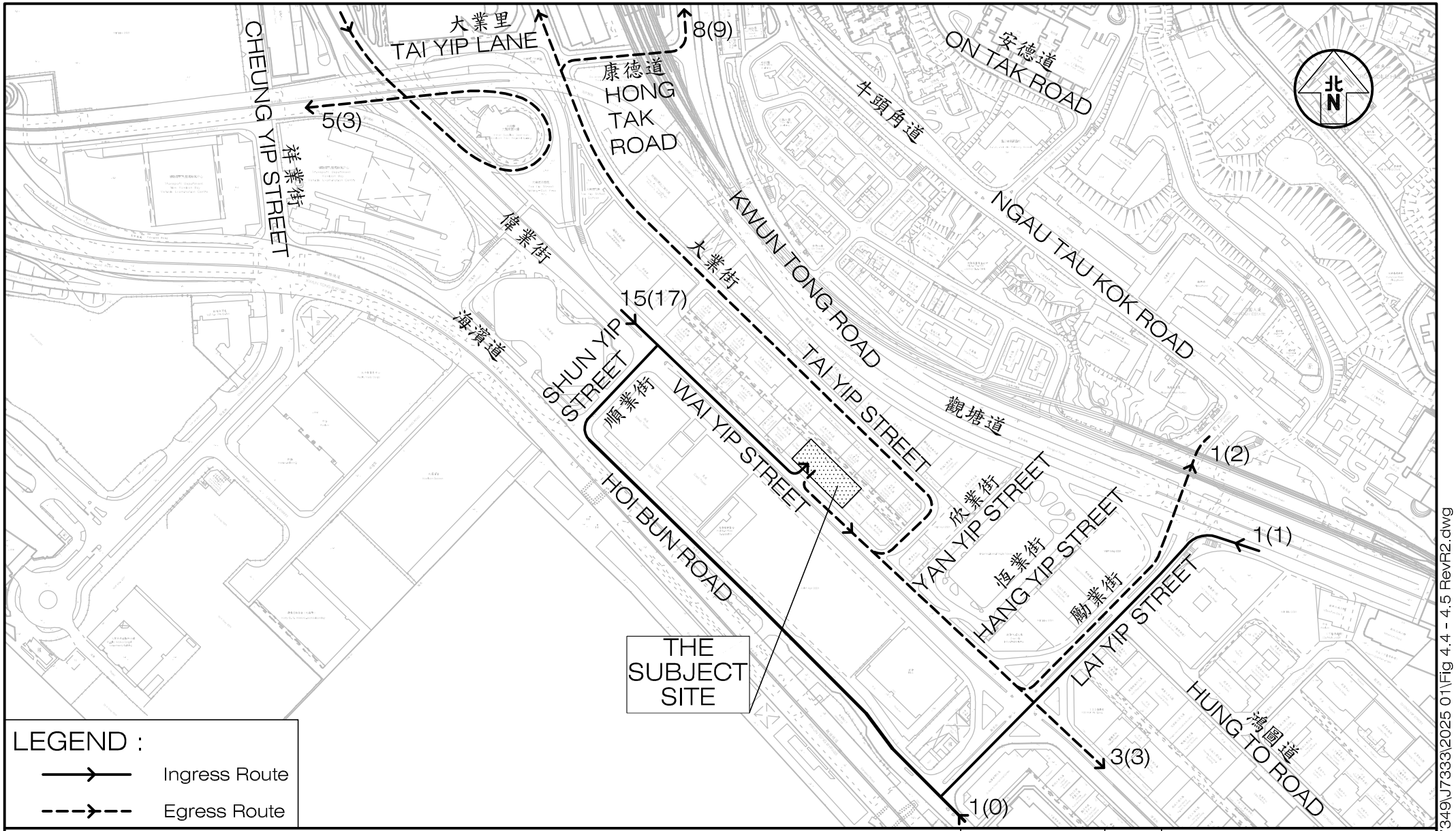

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 4.4 / Revision R2
Figure Title	THE INGRESS / EGRESS ROUTE FOR TRAFFIC GENERATED BY THE PROPOSED REDEVELOPMENT (VIA WAI YIP STREET)	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 4000 / Date 04 FEB 2025

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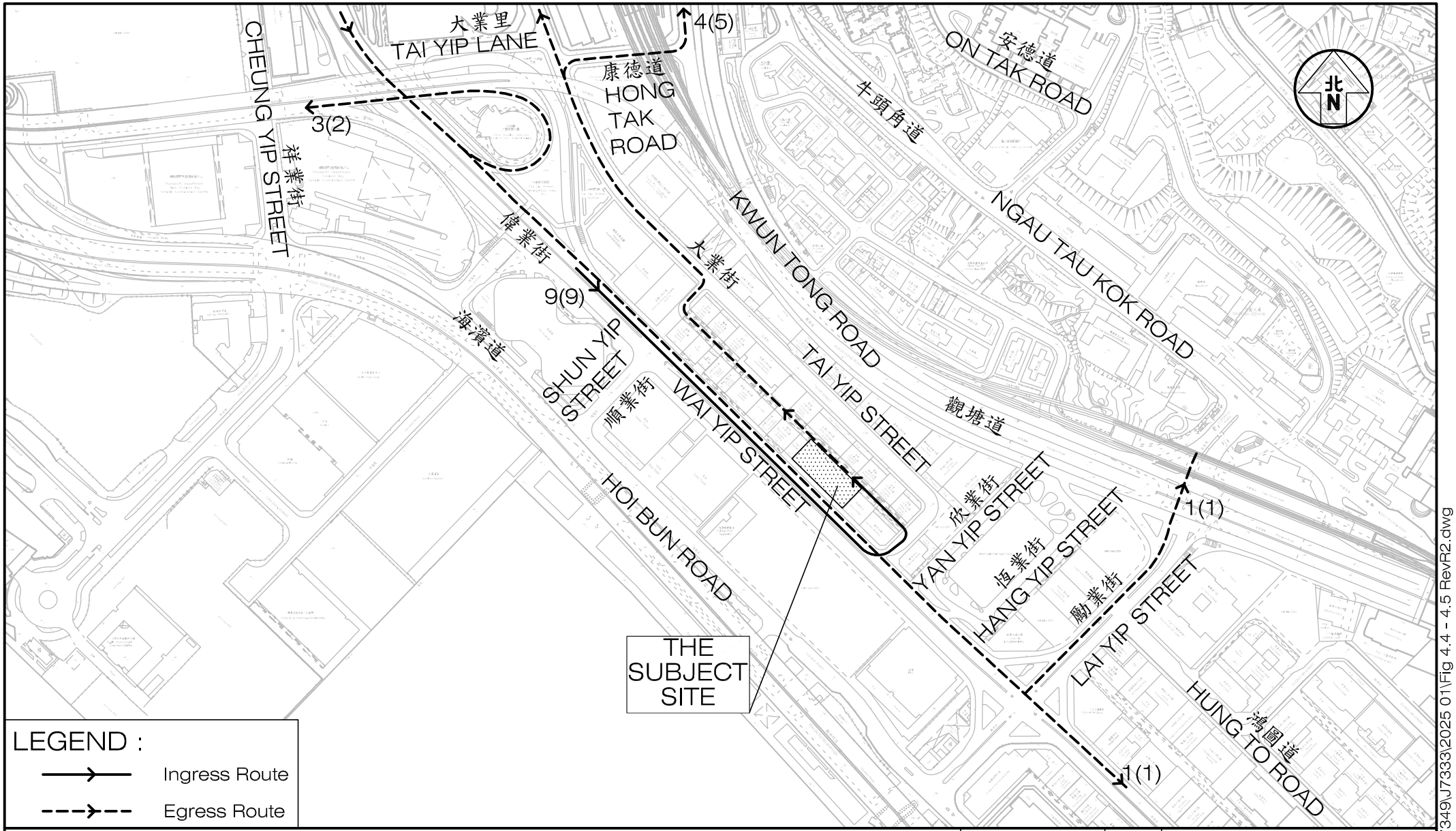

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	
Figure Title	THE INGRESS / EGRESS ROUTE FOR TRAFFIC GENERATED BY THE PROPOSED REDEVELOPMENT (VIA THE SERVICE LANE)	Figure No. 4.5	Revision R2
		Designed by C Y Y / Drawn by N C M / Checked by K C	
		Scale in A4 1 : 4000 / Date 04 FEB 2025	

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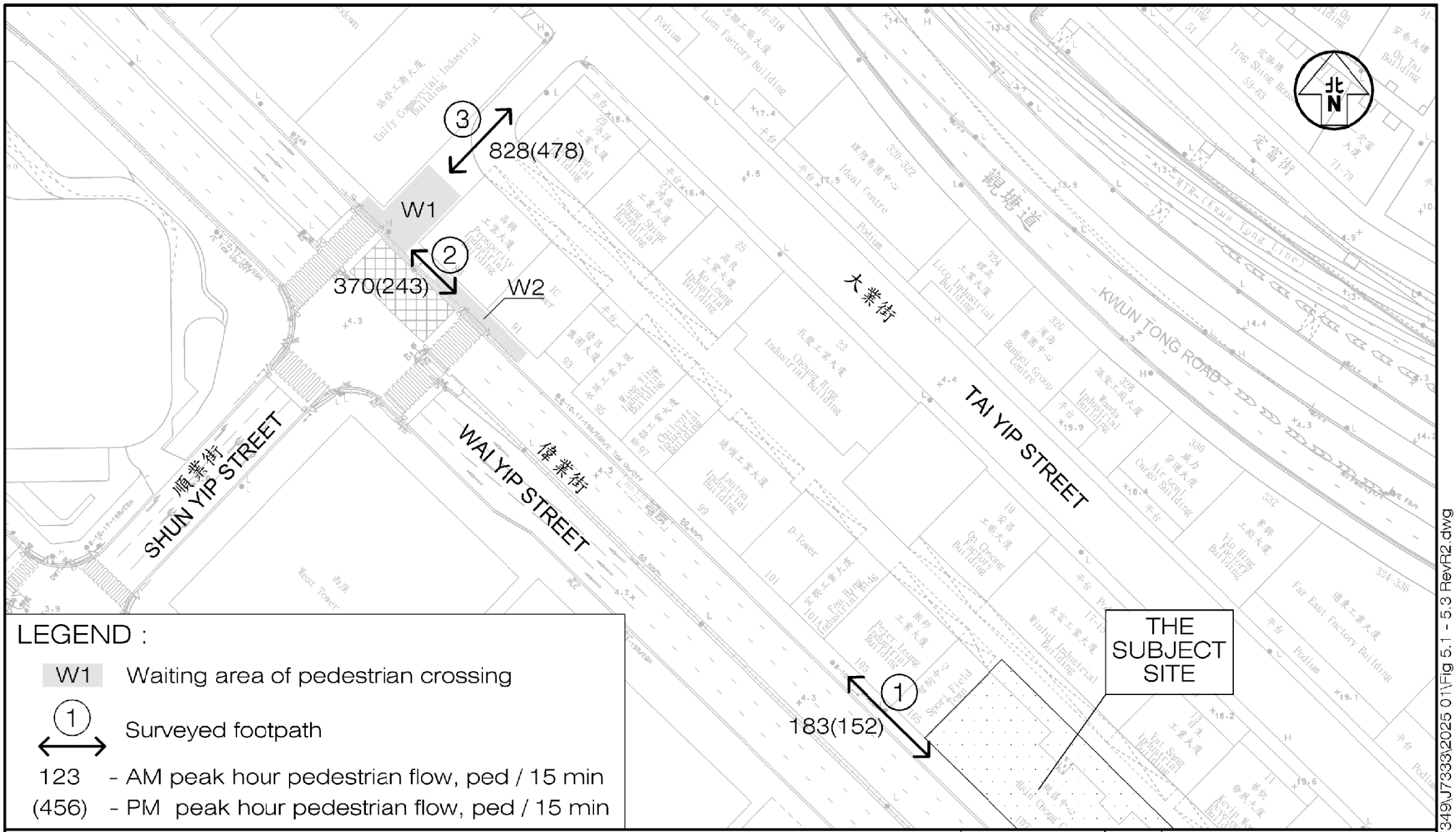

LEGEND :

W1 Waiting area of pedestrian crossing

① Surveyed footpath

123 - AM peak hour pedestrian flow, ped / 15 min

(456) - PM peak hour pedestrian flow, ped / 15 min

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 5.1 / Revision R2
Figure Title	OBSERVED EXISTING PEDESTRIAN FLOWS	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 1000 / Date 04 FEB 2025

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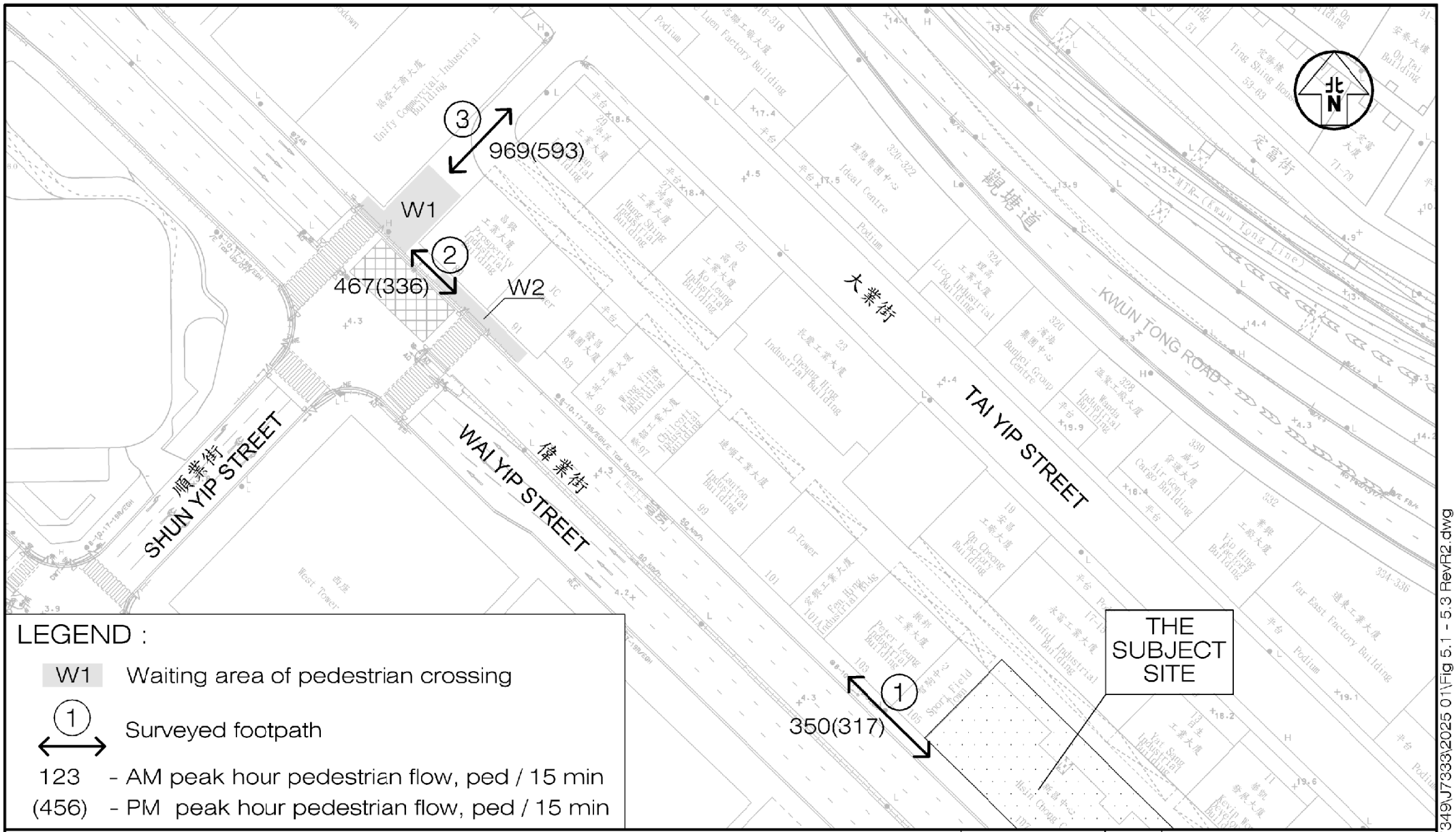

LEGEND :

W1 Waiting area of pedestrian crossing

① Surveyed footpath

123 - AM peak hour pedestrian flow, ped / 15 min

(456) - PM peak hour pedestrian flow, ped / 15 min

Project Title: S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 5.2	Revision R2
Figure Title: YEAR 2032 PEDESTRIAN FLOWS WITHOUT THE PROPOSED DEVELOPMENT		Designed by C Y Y / Drawn by N C M / Checked by K C	
		Scale in A4: 1 : 1000 / Date: 04 FEB 2025	

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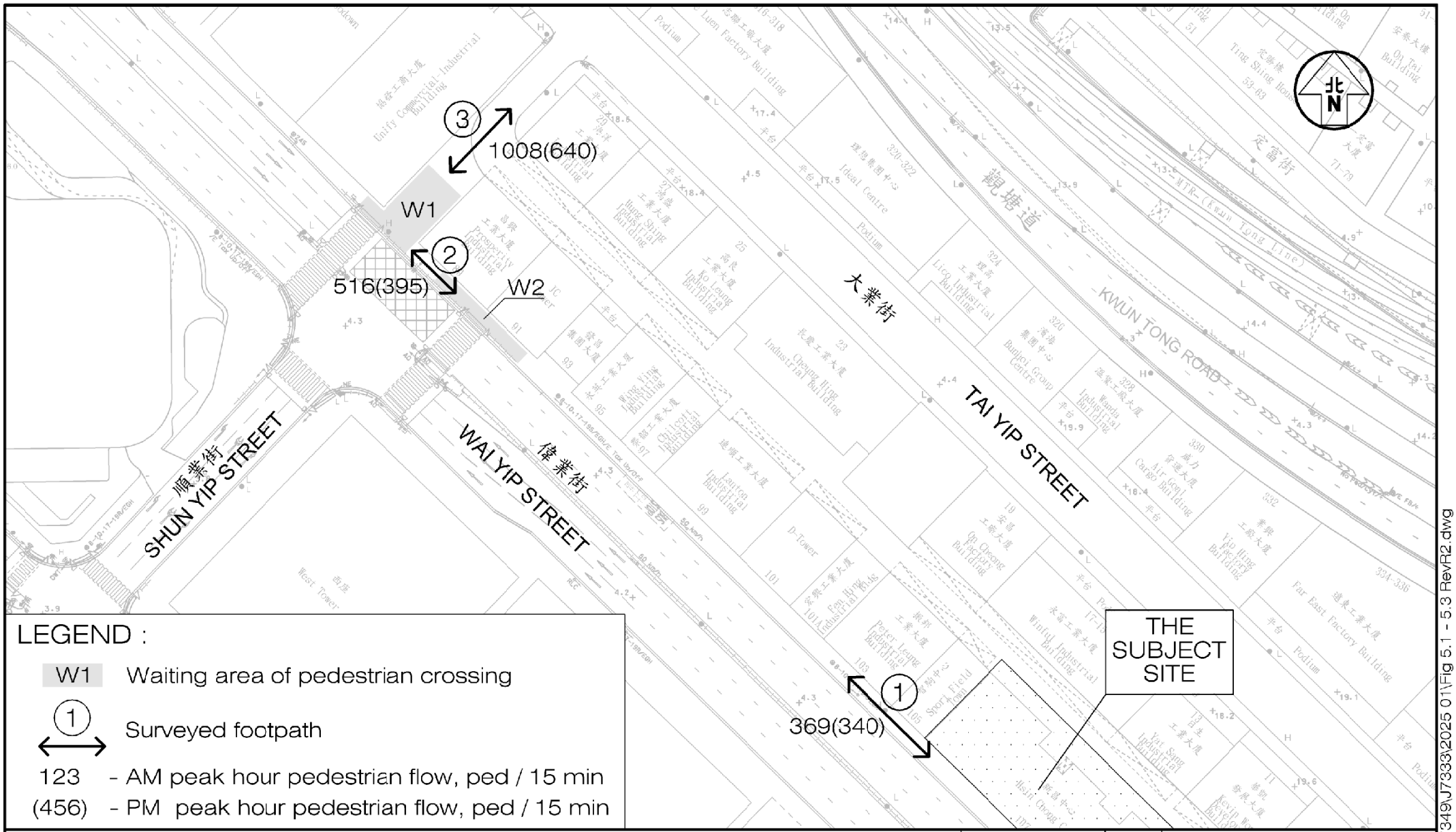

LEGEND :

W1 Waiting area of pedestrian crossing

① Surveyed footpath

123 - AM peak hour pedestrian flow, ped / 15 min

(456) - PM peak hour pedestrian flow, ped / 15 min

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 5.3 / Revision R2
Figure Title	YEAR 2032 PEDESTRIAN FLOWS WITH THE PROPOSED DEVELOPMENT	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 1000 / Date 04 FEB 2025

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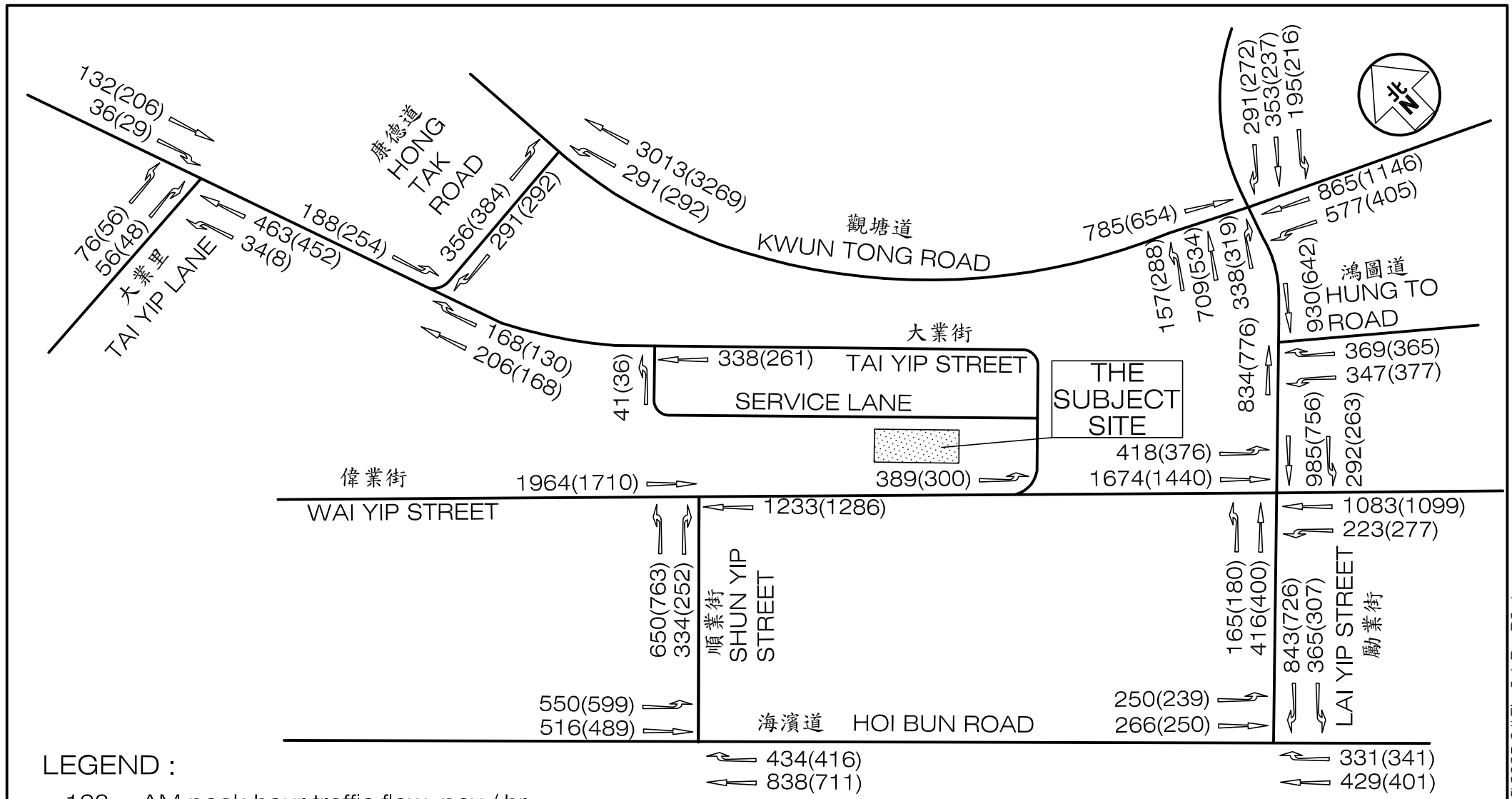

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

Project Title: S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 6.1	Revision R2
Figure Title: SENSITIVITY TEST 2032 PEAK HOUR TRAFFIC FLOWS		Designed by C Y Y / Drawn by N C M / Checked by K C	
		Scale in A4: N.T.S. / Date: 04 FEB 2025	

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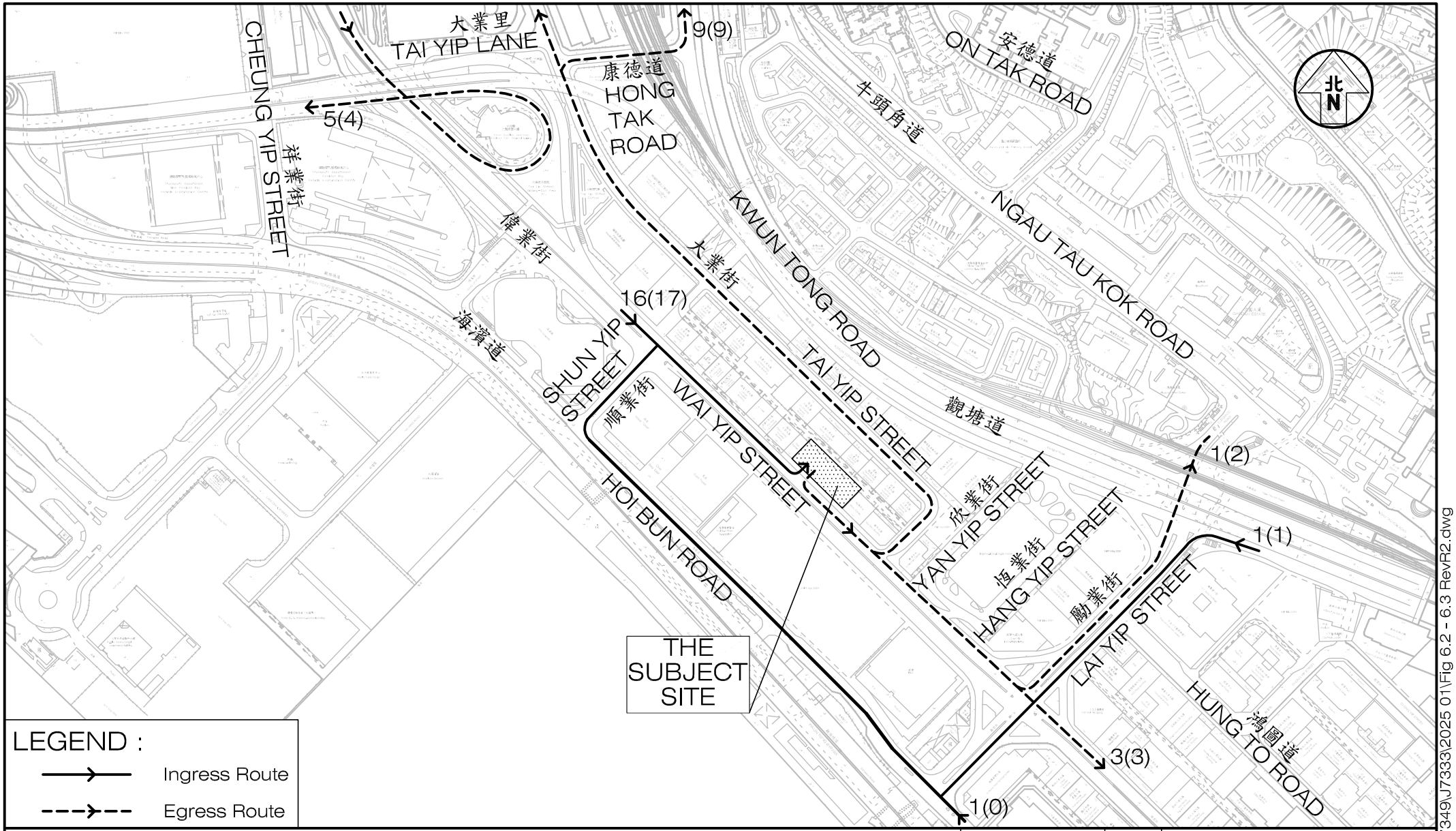

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 6.2 / Revision R2
Figure Title	THE INGRESS / EGRESS ROUTE OF SENSITIVITY TEST (VIA WAI YIP STREET)		Designed by C Y Y / Drawn by N C M / Checked by K C / Scale in A4 1 : 4000 / Date 04 FEB 2025

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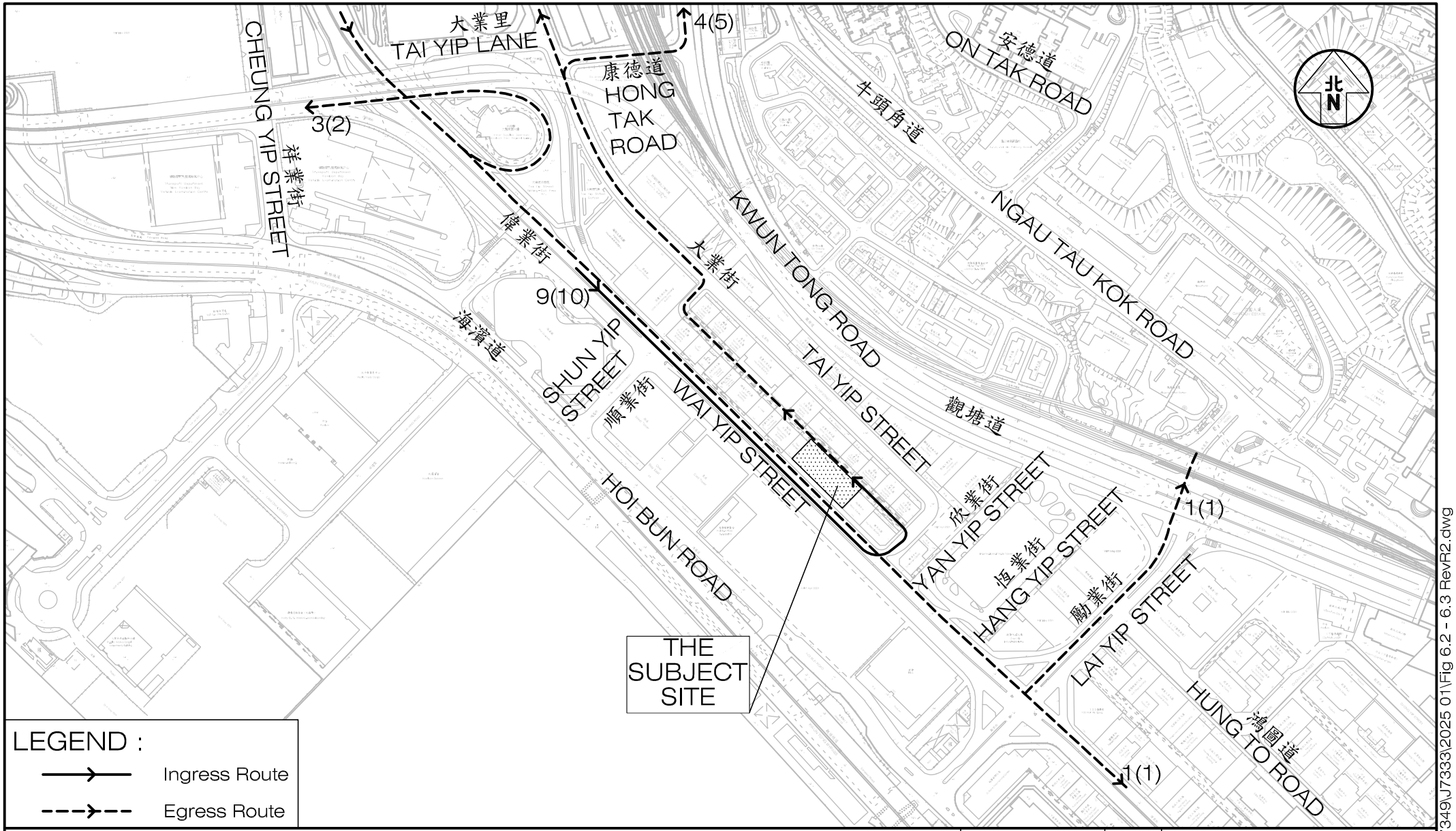

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. 6.3 / Revision R2
Figure Title	THE INGRESS / EGRESS ROUTE OF SENSITIVITY TEST (VIA THE SERVICE LANE)	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 4000 / Date 04 FEB 2025

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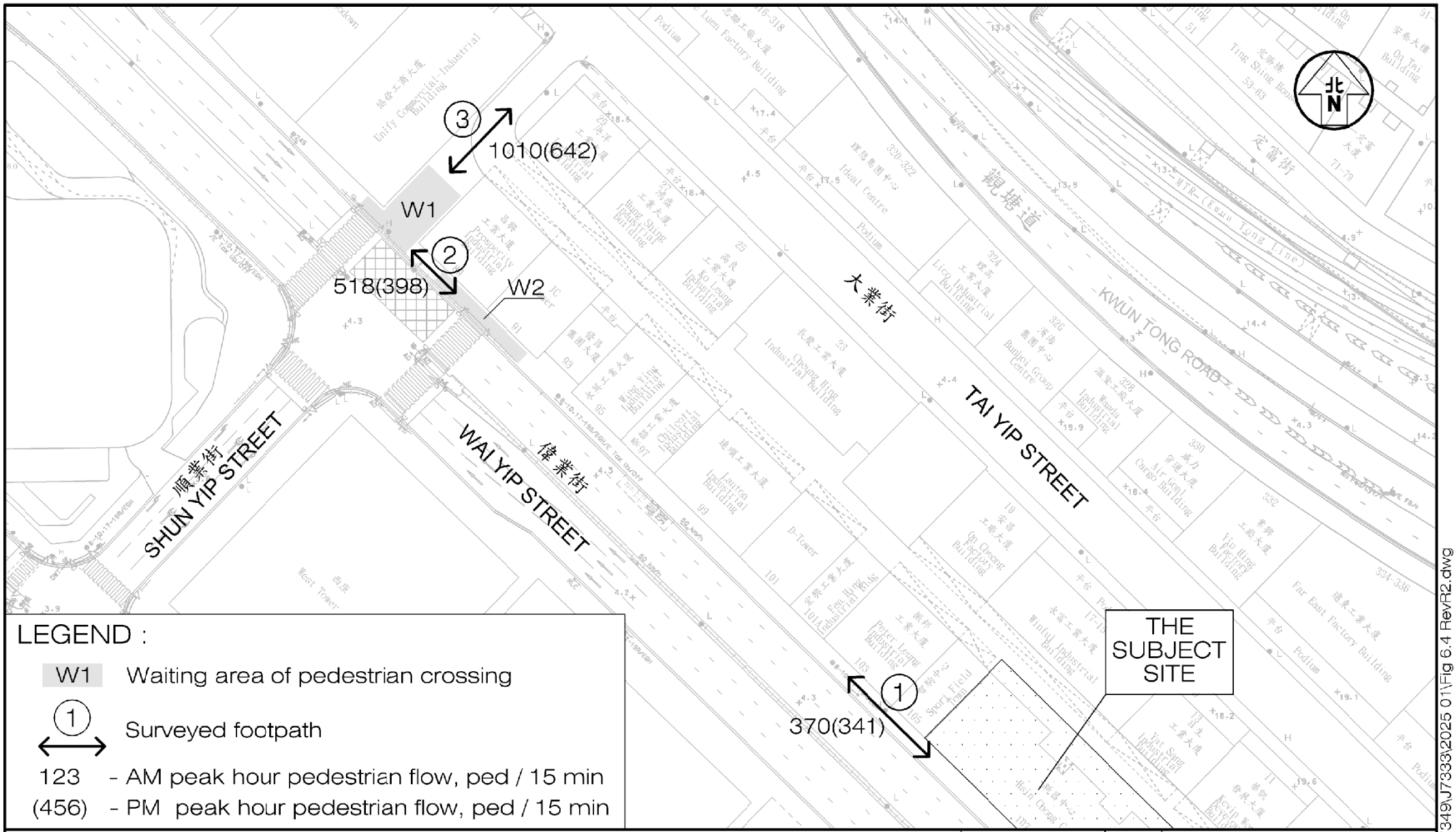

LEGEND :

W1 Waiting area of pedestrian crossing

① Surveyed footpath

123 - AM peak hour pedestrian flow, ped / 15 min

(456) - PM peak hour pedestrian flow, ped / 15 min

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG
	J7333
Figure No.	6.4
Revision	R2
Figure Title	SENSITIVITY TEST 2032 PEDESTRIAN FLOWS
Designed by	C Y Y
Drawn by	N C M
Checked by	K C
Scale in A4	1 : 1000
Date	04 FEB 2025

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Appendix 1 – Calculation

Signal Junction Analysis

Junction: Hoi Bun Road / Shun Yip Street — Job Number: J7333

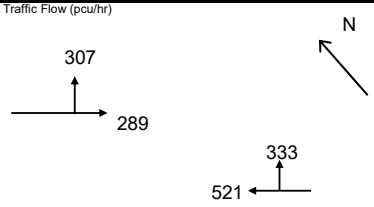
Scenario: Existing Condition — P. 1

Design Year: 2024 — Designed By: — Checked By: — Date: 5 February 2025

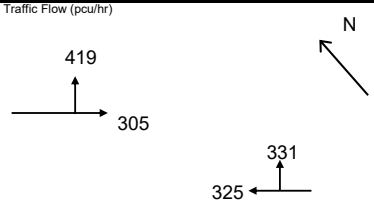
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road WB	SA	A1	1	3.50				1965	422	0.215	0.215		1965	326	0.166	0.166
	SA+RT	A2	1	3.50	25.0		77	2012	432	0.215		100	1986	330	0.166	
Hoi Bun Road EB	LT	B1	2	3.50	15.0		100	1786	307	0.172	0.172	100	1786	419	0.235	0.235
	SA	B2	2	3.50				2105	289	0.137			2105	305	0.145	

pedestrian phase	Cp	1,3		min crossing time =	7	sec GM +	7	sec FGM =	14	sec
	Dp	2,3		min crossing time =	6	sec GM +	6	sec FGM =	12	sec
	Ep	3		min crossing time =	11	sec GM +	12	sec FGM =	23	sec
	Fp	3		min crossing time =	8	sec GM +	6	sec FGM =	14	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

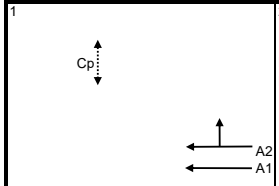


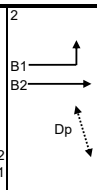
$S=1940+100(W-3.25)$ **$S=2080+100(W-3.25)$**

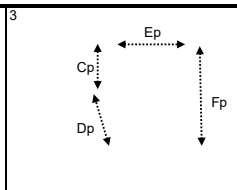
$S_M=S\div(1+1.5f/r)$ **$S_M=(S-230)\div(1+1.5f/r)$**

	AM Peak 1+2	AM Peak	PM Peak 1+2	PM Peak
Sum y	0.387		0.401	
L (s)	39		39	
C (s)	118		108	
practical y	0.603		0.575	
R.C. (%)	56%		43%	

Note:







AM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Signal Junction Analysis

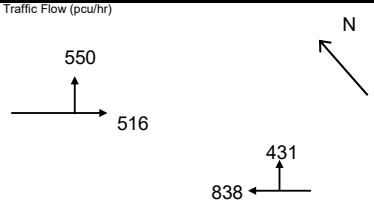
Junction: Hoi Bun Road / Shun Yip Street — Job Number: J7333

Scenario: Without the Proposed Development — P. 2

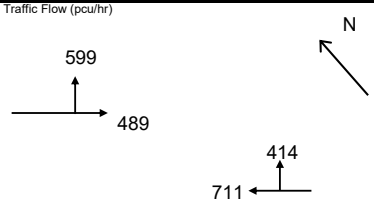
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road WB	SA	A1	1,2	3.50				1965	838	0.426			1965	711	0.362	
	RT	A2	1	3.50	25.0		100	1986	431	0.217	0.217	100	1986	414	0.208	0.208
Hoi Bun Road EB	LT	B1	2	3.50	15.0		100	1786	491	0.275	0.275	100	1786	503	0.282	0.282
	SA+LT	B2	2	3.50	20.0		10	2089	575	0.275		16	2080	585	0.281	
pedestrian phase		Cp	1,3		min crossing time =		7	sec GM +		7	sec FGM =		14	sec		
		Dp	3		min crossing time =		6	sec GM +		6	sec FGM =		12	sec		
		Ep	3		min crossing time =		11	sec GM +		12	sec FGM =		23	sec		
		Fp	3		min crossing time =		8	sec GM +		6	sec FGM =		14	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



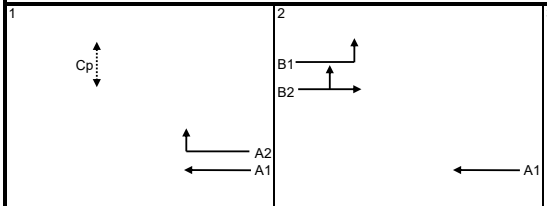
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2		PM Peak 1+2	
Sum y	0.492		0.490	
L (s)	39		39	
C (s)	118		108	
practical y	0.603		0.575	
R.C. (%)	22%		17%	

Note:

Junction Improvement Scheme by Other Project



AM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Signal Junction Analysis

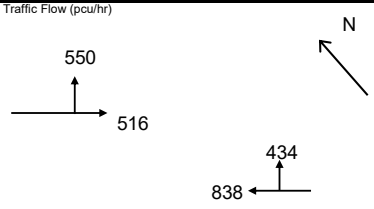
Junction: Hoi Bun Road / Shun Yip Street — Job Number: J7333

Scenario: With the Proposed Development (557-bed RCHE and 200-room Hotel) — P. 3

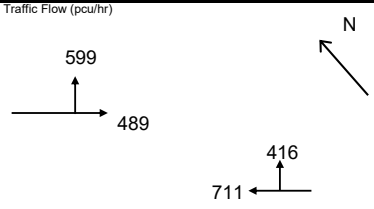
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road WB	SA	A1	1,2	3.50				1965	838	0.426			1965	711	0.362	
	RT	A2	1	3.50	25.0		100	1986	434	0.219	0.219	100	1986	416	0.209	0.209
Hoi Bun Road EB	LT	B1	2	3.50	15.0		100	1786	491	0.275	0.275	100	1786	503	0.282	0.282
	SA+LT	B2	2	3.50	20.0		10	2089	575	0.275		16	2080	585	0.281	
pedestrian phase		Cp	1,3		min crossing time =			7	sec GM +		7	sec FGM =		14	sec	
		Dp	3		min crossing time =			6	sec GM +		6	sec FGM =		12	sec	
		Ep	3		min crossing time =			11	sec GM +		12	sec FGM =		23	sec	
		Fp	3		min crossing time =			8	sec GM +		6	sec FGM =		14	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



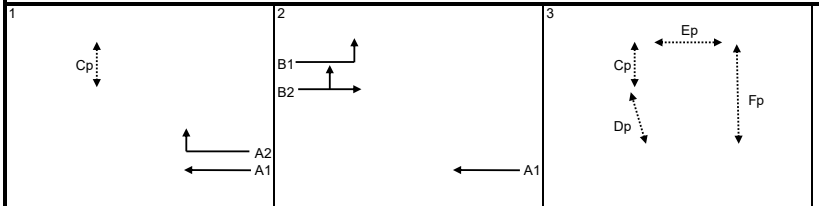
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2		PM Peak 1+2	
Sum y	0.494		0.491	
L (s)	39		39	
C (s)	118		108	
practical y	0.603		0.575	
R.C. (%)	22%		17%	

Note:

Junction Improvement Scheme by Other Project



AM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Signal Junction Analysis

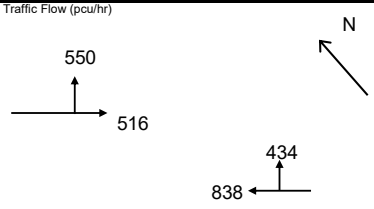
Junction: Hoi Bun Road / Shun Yip Street — Job Number: J7333

Scenario: Sensitivity Test (644-bed RCHE and 200-room Hotel) — P. 4

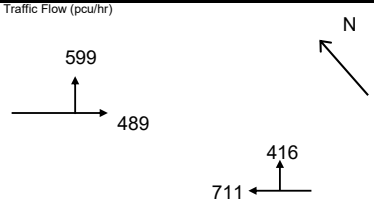
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road WB	SA	A1	1,2	3.50				1965	838	0.426			1965	711	0.362	
	RT	A2	1	3.50	25.0		100	1986	434	0.219	0.219	100	1986	416	0.209	0.209
Hoi Bun Road EB	LT	B1	2	3.50	15.0		100	1786	491	0.275	0.275	100	1786	503	0.282	0.282
	SA+LT	B2	2	3.50	20.0		10	2089	575	0.275		16	2080	585	0.281	
pedestrian phase		Cp	1,3		min crossing time =			7	sec GM +		7	sec FGM =		14	sec	
		Dp	3		min crossing time =			6	sec GM +		6	sec FGM =		12	sec	
		Ep	3		min crossing time =			11	sec GM +		12	sec FGM =		23	sec	
		Fp	3		min crossing time =			8	sec GM +		6	sec FGM =		14	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

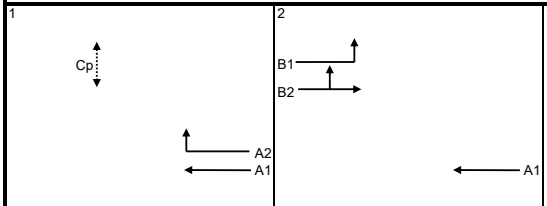


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2		PM Peak 1+2	
Sum y	0.494		0.491	
L (s)	39		39	
C (s)	118		108	
practical y	0.603		0.575	
R.C. (%)	22%		17%	

Note: Junction Improvement Scheme by Other Project



AM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 8	G =	I/G = 8	G = 23	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Signal Junction Analysis

Junction: Wai Yip Street / Shun Yip Street — Job Number: J7333

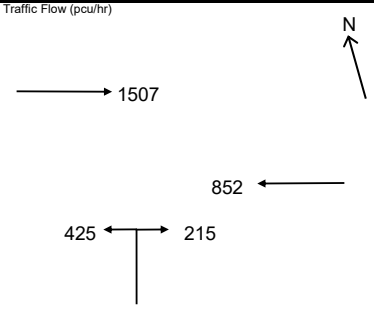
Scenario: Existing Condition — P. 5

Design Year: 2024 — Designed By: — Checked By: — Date: 5 February 2025

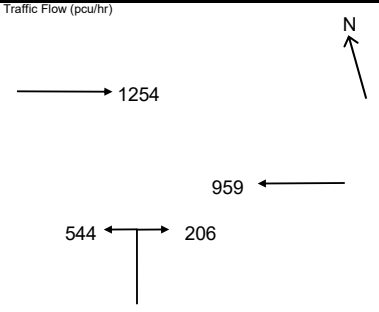
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street EB	SA	A1	1	3.50				1965	480	0.244	0.244		1965	399	0.203	
	SA	A2	1	3.50				2105	514	0.244			2105	427	0.203	0.203
	SA	A3	1	3.50				2105	513	0.244			2105	428	0.203	
Wai Yip Street WB	SA	B1	1	3.50				1965	271	0.138			1965	305	0.155	
	SA	B2	1	3.50				2105	290	0.138			2105	327	0.155	
	SA	B3	1	3.50				2105	291	0.138			2105	327	0.155	
Shun Yip Street NB	LT	C1	3	3.50	15.0		100	1786	205	0.115	0.115	100	1786	261	0.146	0.146
	LT+RT	C2	3	3.50	18.0		100	1943	222	0.114		100	1943	283	0.146	
	RT	C3	3	3.50	25.0		100	1854	213	0.115		100	1854	206	0.111	

pedestrian phase	Dp	1,2		min crossing time =	8	sec GM +	11	sec FGM =	19	sec
	Ep	2		min crossing time =	12	sec GM +	9	sec FGM =	21	sec
	Fp	2		min crossing time =	13	sec GM +	12	sec FGM =	25	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

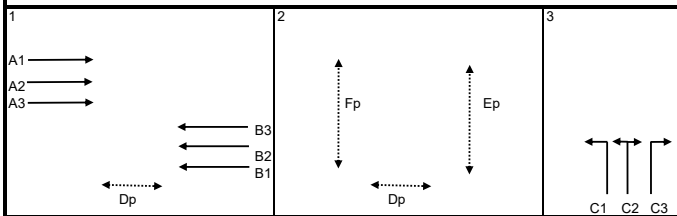


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+3	AM Peak	PM Peak 1+3	PM Peak
Sum y	0.359		0.349	
L (s)	40		40	
C (s)	118		108	
practical y	0.595		0.567	
R.C. (%)	66%		62%	

Note:



AM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =						
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =						
PM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =						
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =						

Signal Junction Analysis

Junction: Wai Yip Street / Shun Yip Street — Job Number: J7333

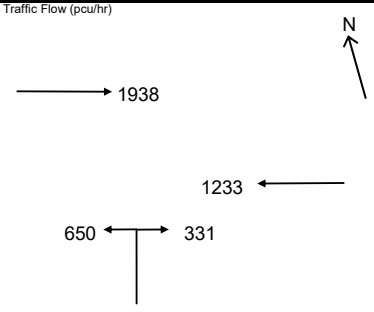
Scenario: Without the Proposed Development — P. 6

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

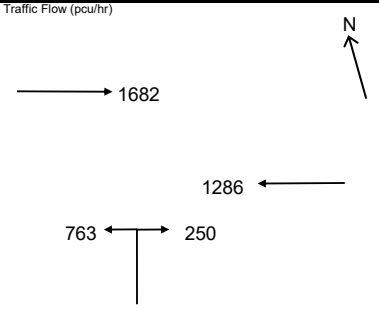
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street EB	SA	A1	1	3.50				1965	617	0.314			1965	535	0.272	
	SA	A2	1	3.50				2105	661	0.314	0.314		2105	573	0.272	
	SA	A3	1	3.50				2105	660	0.314			2105	574	0.273	0.273
Wai Yip Street WB	SA	B1	1	3.50				1965	392	0.199			1965	409	0.208	
	SA	B2	1	3.50				2105	420	0.200			2105	438	0.208	
	SA	B3	1	3.50				2105	421	0.200			2105	439	0.209	
Shun Yip Street NB	LT	C1	3	3.50	15.0		100	1786	314	0.176	0.176	100	1786	365	0.204	
	LT+RT	C2	3	3.50	18.0		100	1943	341	0.176		100	1943	398	0.205	0.205
	RT	C3	3	3.50	25.0		100	1854	326	0.176		100	1854	250	0.135	

pedestrian phase	Dp	1,2		min crossing time =	8	sec GM +	11	sec FGM =	19	sec
	Ep	2		min crossing time =	12	sec GM +	9	sec FGM =	21	sec
	Fp	2		min crossing time =	13	sec GM +	12	sec FGM =	25	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

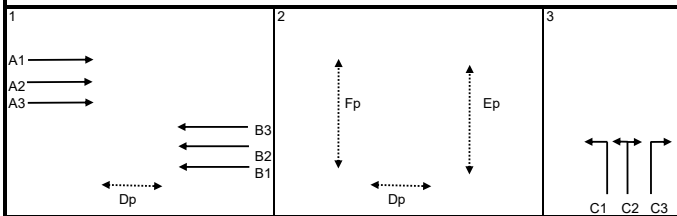


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+3	AM Peak	PM Peak 1+3	PM Peak
Sum y	0.490		0.478	
L (s)	40		40	
C (s)	118		108	
practical y	0.595		0.567	
R.C. (%)	21%		19%	

Note:



AM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Signal Junction Analysis

Junction: Wai Yip Street / Shun Yip Street — Job Number: J7333

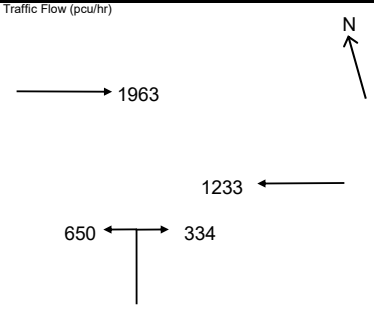
Scenario: With the Proposed Development (557-bed RCHE and 200-room Hotel) — P. 7

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

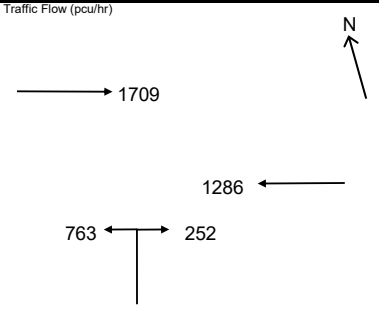
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street EB	SA	A1	1	3.50				1965	625	0.318	0.318		1965	544	0.277	
	SA	A2	1	3.50				2105	669	0.318			2105	583	0.277	0.277
	SA	A3	1	3.50				2105	669	0.318			2105	582	0.276	
Wai Yip Street WB	SA	B1	1	3.50				1965	392	0.199			1965	409	0.208	
	SA	B2	1	3.50				2105	420	0.200			2105	438	0.208	
	SA	B3	1	3.50				2105	421	0.200			2105	439	0.209	
Shun Yip Street NB	LT	C1	3	3.50	15.0		100	1786	315	0.176		100	1786	365	0.204	
	LT+RT	C2	3	3.50	18.0		100	1943	342	0.176	0.176	100	1943	398	0.205	0.205
	RT	C3	3	3.50	25.0		100	1854	327	0.176		100	1854	252	0.136	

pedestrian phase	Dp	1,2		min crossing time =	8	sec GM +	11	sec FGM =	19	sec
	Ep	2		min crossing time =	12	sec GM +	9	sec FGM =	21	sec
	Fp	2		min crossing time =	13	sec GM +	12	sec FGM =	25	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

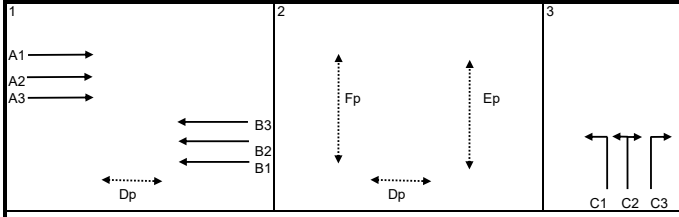


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

Note:

	AM Peak 1+3		PM Peak 1+3	
Sum y	0.494		0.482	
L (s)	40		40	
C (s)	118		108	
practical y	0.595		0.567	
R.C. (%)	20%		18%	



AM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Signal Junction Analysis

Junction: Wai Yip Street / Shun Yip Street — Job Number: J7333

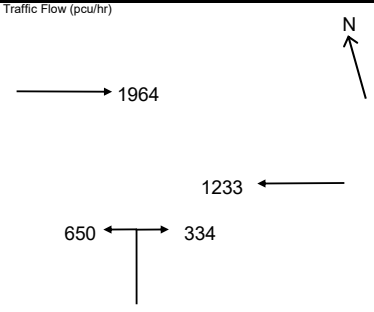
Scenario: Sensitivity Test (644-bed RCHE and 200-room Hotel) — P. 8

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

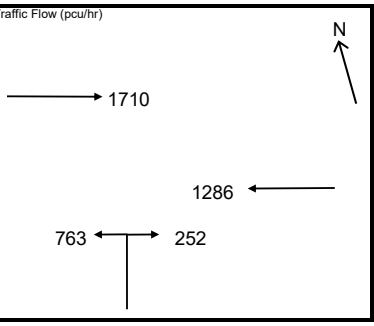
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street EB	SA	A1	1	3.50				1965	625	0.318	0.318		1965	544	0.277	
	SA	A2	1	3.50				2105	670	0.318			2105	583	0.277	0.277
	SA	A3	1	3.50				2105	669	0.318			2105	583	0.277	
Wai Yip Street WB	SA	B1	1	3.50				1965	392	0.199			1965	409	0.208	
	SA	B2	1	3.50				2105	420	0.200			2105	438	0.208	
	SA	B3	1	3.50				2105	421	0.200			2105	439	0.209	
Shun Yip Street NB	LT	C1	3	3.50	15.0		100	1786	315	0.176		100	1786	365	0.204	
	LT+RT	C2	3	3.50	18.0		100	1943	342	0.176	0.176	100	1943	398	0.205	0.205
	RT	C3	3	3.50	25.0		100	1854	327	0.176		100	1854	252	0.136	

pedestrian phase	Dp	1,2		min crossing time =	8	sec GM +	11	sec FGM =	19	sec
	Ep	2		min crossing time =	12	sec GM +	9	sec FGM =	21	sec
	Fp	2		min crossing time =	13	sec GM +	12	sec FGM =	25	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

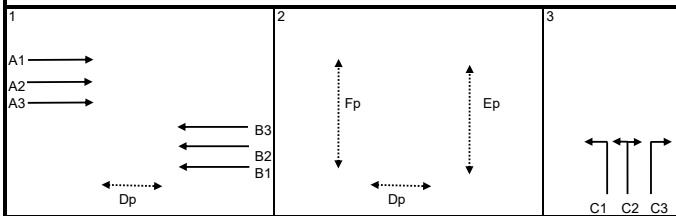


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

Note:

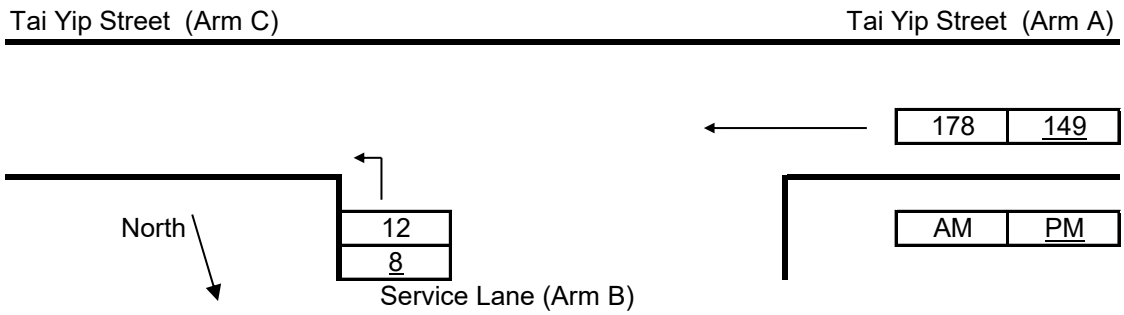
	AM Peak 1+3	AM Peak	PM Peak 1+3	PM Peak
Sum y	0.495		0.482	
L (s)	40		40	
C (s)	118		108	
practical y	0.595		0.567	
R.C. (%)	20%		18%	



AM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	
PM	G =	I/G = 7	G = 25	I/G = 8	G =	I/G = 2	G =	I/G =	G =	
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	

Priority Junction Analysis

Junction:	Tai Yip Street / Service Lane				
Design Year:	2024	Job Number:	J7333	Date:	05 February 2025
Scenario:	Existing Condition				P. 9



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.25	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	6.00	E	1.1077
			V-rBC	17	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7844

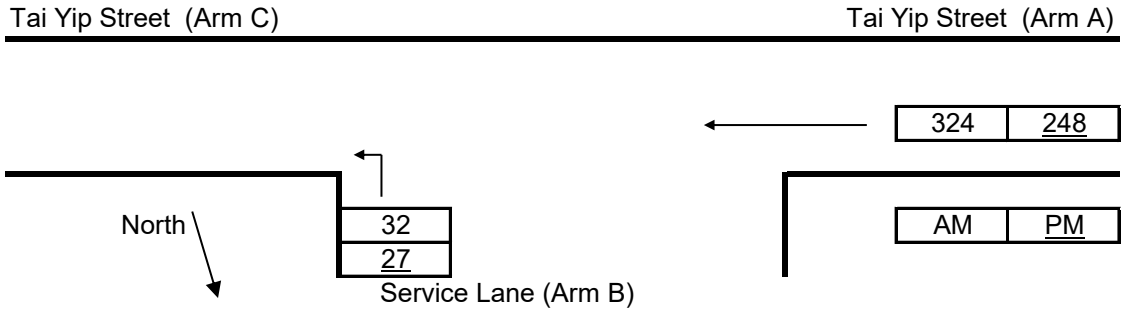
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	307	312
q-CB	0	0	Q-BC	769	778
q-AB	0	0	Q-CB	407	412
q-AC	178	149	Q-BAC	769	778
q-BA	0	0			
q-BC	12	8			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.016	0.010
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Tai Yip Street / Service Lane				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Without the Proposed Development				P. 10



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.25	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	6.00	E	1.1077
			V-rBC	17	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7844

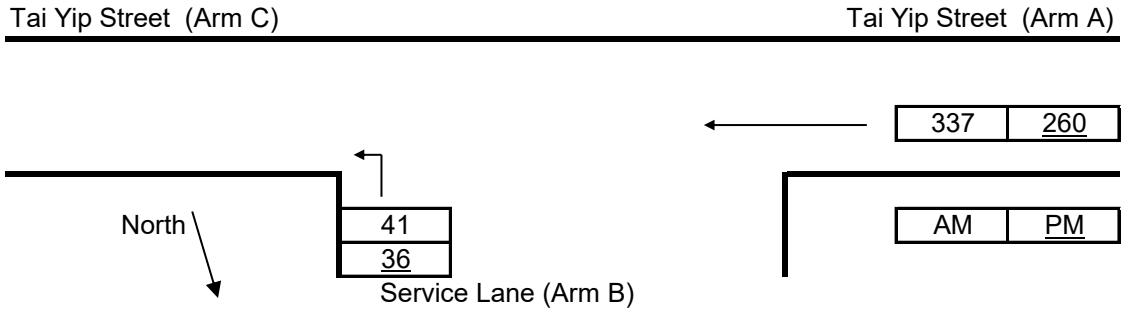
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	285	297
q-CB	0	0	Q-BC	723	747
q-AB	0	0	Q-CB	382	395
q-AC	324	248	Q-BAC	723	747
q-BA	0	0			
q-BC	32	27			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.044	0.036
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Tai Yip Street / Service Lane				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	With the Proposed Development (557-bed RCHE and 200-room Hotel)				P. 11



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.25	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	6.00	E	1.1077
			V-rBC	17	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7844

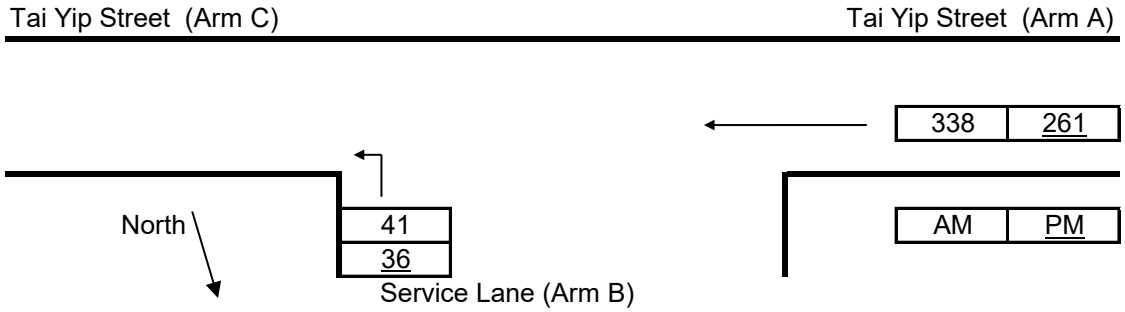
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	283	295
q-CB	0	0	Q-BC	719	743
q-AB	0	0	Q-CB	380	393
q-AC	337	260	Q-BAC	719	743
q-BA	0	0			
q-BC	41	36			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.057	0.048
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Tai Yip Street / Service Lane				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Sensitivity Test (644-bed RCHE and 200-room Hotel)				P. 12



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.25	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	6.00	E	1.1077
			V-rBC	17	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7844

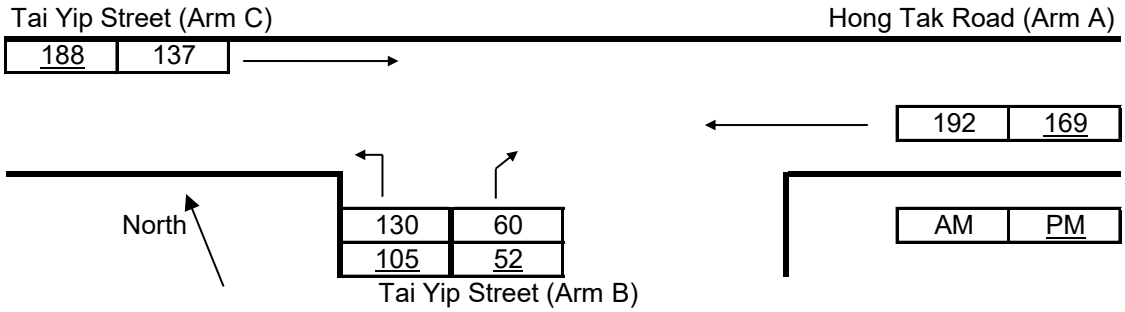
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	283	295
q-CB	0	0	Q-BC	718	743
q-AB	0	0	Q-CB	380	393
q-AC	338	261	Q-BAC	718	743
q-BA	0	0			
q-BC	41	36			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.057	0.048
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Hong Tak Road / Tai Yip Street				
Design Year:	2024	Job Number:	J7333	Date:	05 February 2025
Scenario:	Existing Condition				P. 13



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	7.75	V-rBA	42	w-BA	2.50	D	0.7795
	W-CR	0.00	V-lBA	50	w-BC	2.50	E	0.8293
			V-rBC	42	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7326

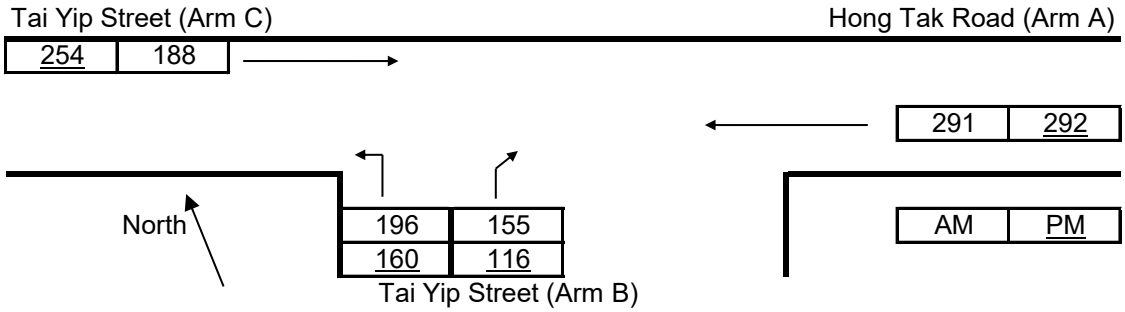
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	137	188	Q-BA	431	429
q-CB	0	0	Q-BC	575	580
q-AB	0	0	Q-CB	407	410
q-AC	192	169	Q-BAC	520	520
q-BA	60	52			
q-BC	130	105			
f	0.684	0.669			

Ratio-of-flow to Capacity	AM	PM
B-A	0.139	0.121
B-C	0.226	0.181
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Hong Tak Road / Tai Yip Street				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Without the Proposed Development				P. 14



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	7.75	V-rBA	42	w-BA	2.50	D	0.7795
	W-CR	0.00	V-lBA	50	w-BC	2.50	E	0.8293
			V-rBC	42	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7326

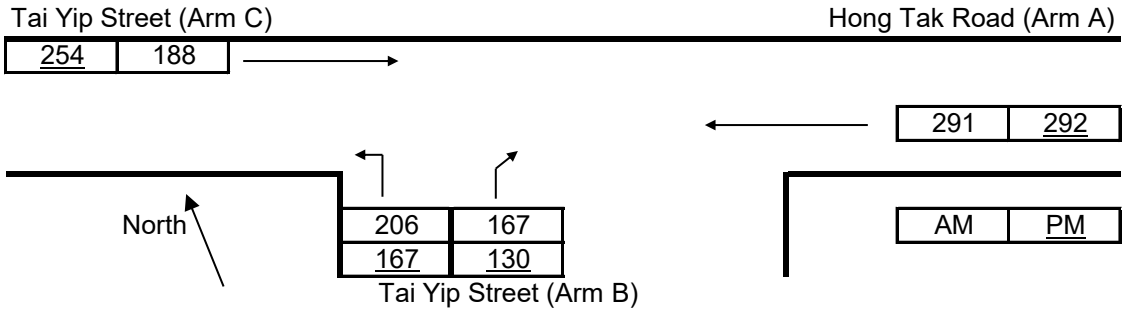
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	188	254	Q-BA	404	395
q-CB	0	0	Q-BC	553	553
q-AB	0	0	Q-CB	391	391
q-AC	291	292	Q-BAC	476	473
q-BA	155	116			
q-BC	196	160			
f	0.558	0.580			

Ratio-of-flow to Capacity	AM	PM
B-A	0.384	0.294
B-C	0.354	0.289
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Hong Tak Road / Tai Yip Street				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	With the Proposed Development (557-bed RCHE and 200-room Hotel)				P. 15



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	7.75	V-rBA	42	w-BA	2.50	D	0.7795
	W-CR	0.00	V-lBA	50	w-BC	2.50	E	0.8293
			V-rBC	42	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7326

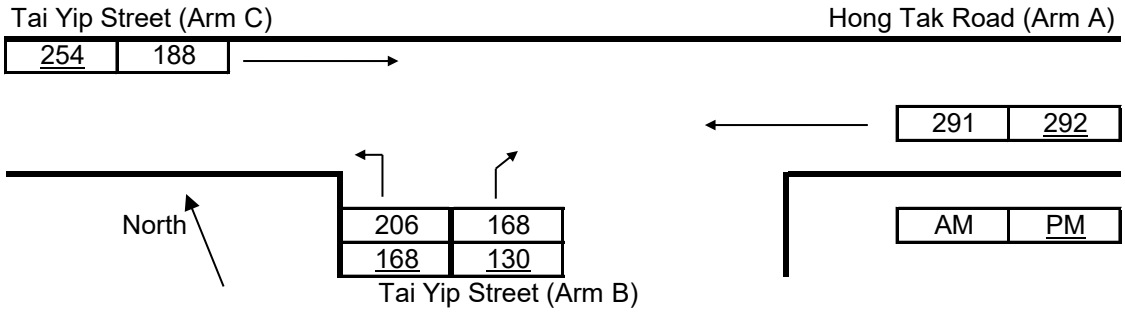
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	188	254	Q-BA	404	395
q-CB	0	0	Q-BC	553	553
q-AB	0	0	Q-CB	391	391
q-AC	291	292	Q-BAC	475	471
q-BA	167	130			
q-BC	206	167			
f	0.552	0.562			

Ratio-of-flow to Capacity	AM	PM
B-A	0.414	0.329
B-C	0.372	0.302
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Hong Tak Road / Tai Yip Street				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Sensitivity Test (644-bed RCHE and 200-room Hotel)				P. 16



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	7.75	V-rBA	42	w-BA	2.50	D	0.7795
	W-CR	0.00	V-lBA	50	w-BC	2.50	E	0.8293
			V-rBC	42	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7326

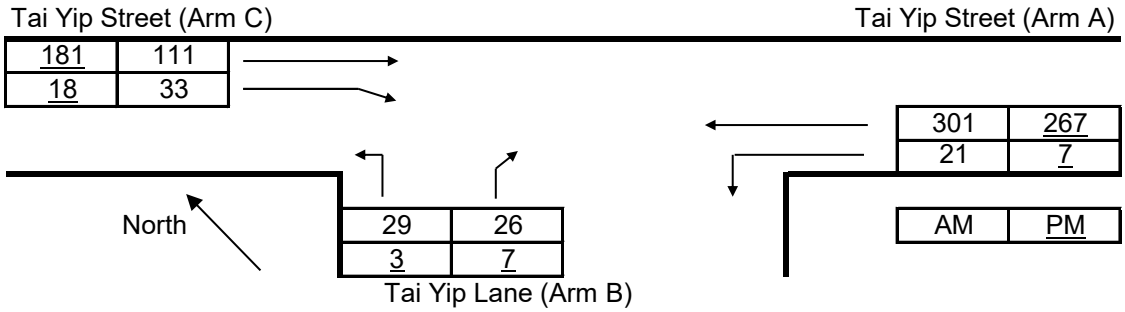
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	188	254	Q-BA	404	395
q-CB	0	0	Q-BC	553	553
q-AB	0	0	Q-CB	391	391
q-AC	291	292	Q-BAC	474	471
q-BA	168	130			
q-BC	206	168			
f	0.551	0.564			

Ratio-of-flow to Capacity	AM	PM
B-A	0.416	0.329
B-C	0.372	0.304
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Tai Yip Street / Tai Yip Lane				
Design Year:	2024	Job Number:	J7333	Date:	05 February 2025
Scenario:	Existing Condition				P. 17



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.50	V-rBA	50	w-BA	3.30	D	0.8518
	W-CR	0.00	V-lBA	50	w-BC	3.80	E	0.9502
			V-rBC	50	w-CB	5.25	F	1.0738
			V-rCB	46			Y	0.6378

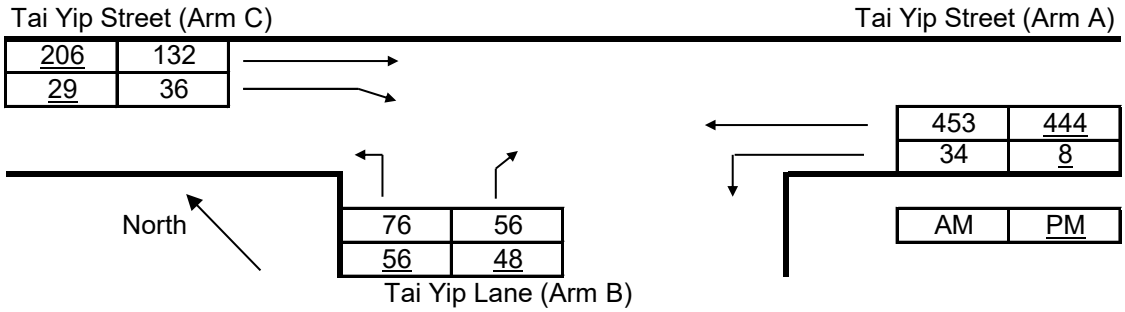
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	111	181	Q-BA	450	453
q-CB	33	18	Q-BC	640	648
q-AB	21	7	Q-CB	720	732
q-AC	301	267	Q-BAC	533	498
q-BA	26	7			
q-BC	29	3			
f	0.527	0.300			

Ratio-of-flow to Capacity	AM	PM
B-A	0.058	0.015
B-C	0.045	0.005
C-B	0.046	0.025

Priority Junction Analysis

Junction:	Tai Yip Street / Tai Yip Lane				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Without the Proposed Development				P. 18



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.50	V-rBA	50	w-BA	3.30	D	0.8518
	W-CR	0.00	V-lBA	50	w-BC	3.80	E	0.9502
			V-rBC	50	w-CB	5.25	F	1.0738
			V-rCB	46			Y	0.6378

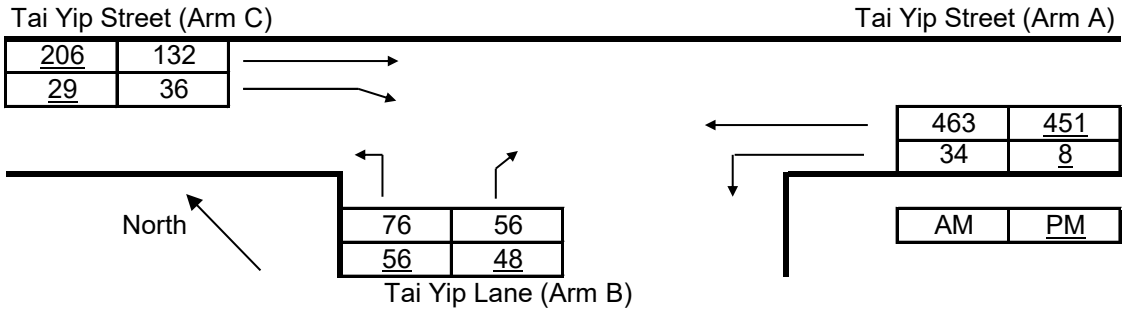
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	132	206	Q-BA	415	412
q-CB	36	29	Q-BC	605	609
q-AB	34	8	Q-CB	679	687
q-AC	453	444	Q-BAC	507	499
q-BA	56	48			
q-BC	76	56			
f	0.576	0.538			

Ratio-of-flow to Capacity	AM	PM
B-A	0.135	0.117
B-C	0.126	0.092
C-B	0.053	0.042

Priority Junction Analysis

Junction:	Tai Yip Street / Tai Yip Lane				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	With the Proposed Development (557-bed RCHE and 200-room Hotel)				P. 19



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.50	V-rBA	50	w-BA	3.30	D	0.8518
	W-CR	0.00	V-lBA	50	w-BC	3.80	E	0.9502
			V-rBC	50	w-CB	5.25	F	1.0738
			V-rCB	46			Y	0.6378

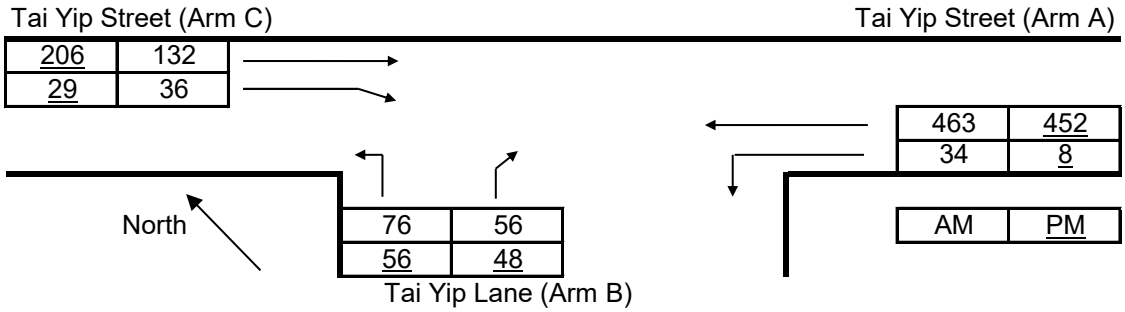
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	132	206	Q-BA	413	410
q-CB	36	29	Q-BC	603	608
q-AB	34	8	Q-CB	676	686
q-AC	463	451	Q-BAC	505	497
q-BA	56	48			
q-BC	76	56			
f	0.576	0.538			

Ratio-of-flow to Capacity	AM	PM
B-A	0.136	0.117
B-C	0.126	0.092
C-B	0.053	0.042

Priority Junction Analysis

Junction:	Tai Yip Street / Tai Yip Lane				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Sensitivity Test (644-bed RCHE and 200-room Hotel)				P. 20



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.50	V-rBA	50	w-BA	3.30	D	0.8518
	W-CR	0.00	V-lBA	50	w-BC	3.80	E	0.9502
			V-rBC	50	w-CB	5.25	F	1.0738
			V-rCB	46			Y	0.6378

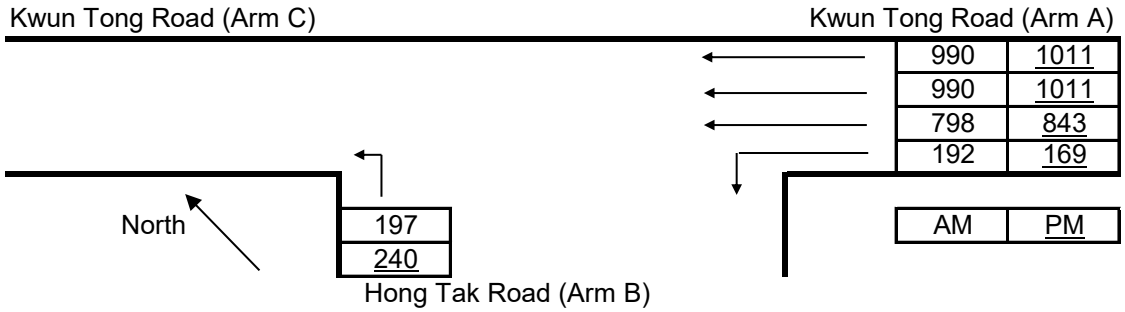
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	132	206	Q-BA	413	410
q-CB	36	29	Q-BC	603	608
q-AB	34	8	Q-CB	676	685
q-AC	463	452	Q-BAC	505	497
q-BA	56	48			
q-BC	76	56			
f	0.576	0.538			

Ratio-of-flow to Capacity	AM	PM
B-A	0.136	0.117
B-C	0.126	0.092
C-B	0.053	0.042

Priority Junction Analysis

Junction:	Kwun Tong Road / Hong Tak Road				
Design Year:	2024	Job Number:	J7333	Date:	05 February 2025
Scenario:	Existing Condition				P. 21



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.70	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	5.25	E	1.0779
			V-rBC	50	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7689

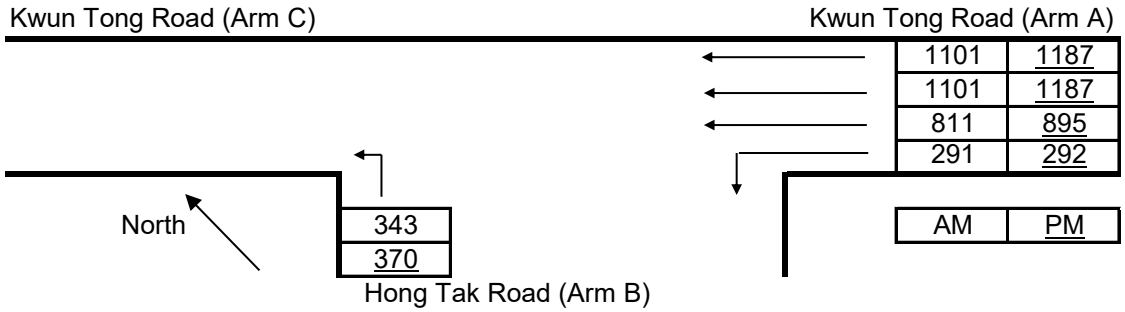
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	204	199
q-CB	0	0	Q-BC	539	529
q-AB	192	169	Q-CB	274	271
q-AC	798	843	Q-BAC	539	529
q-BA	0	0			
q-BC	197	240			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.365	0.454
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Kwun Tong Road / Hong Tak Road				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Without the Proposed Development				P. 22



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.70	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	5.25	E	1.0779
			V-rBC	50	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7689

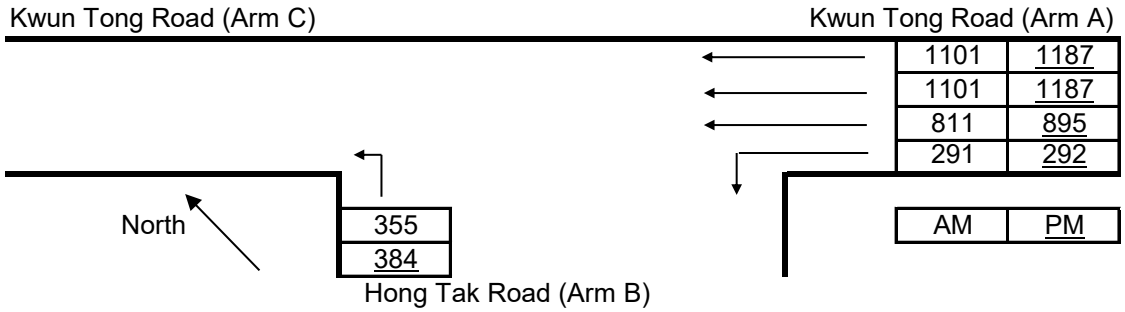
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	196	184
q-CB	0	0	Q-BC	524	498
q-AB	291	292	Q-CB	256	242
q-AC	811	895	Q-BAC	524	498
q-BA	0	0			
q-BC	343	370			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.655	0.743
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Kwun Tong Road / Hong Tak Road				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	With the Proposed Development (557-bed RCHE and 200-room Hotel)				P. 23



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.70	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	5.25	E	1.0779
			V-rBC	50	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7689

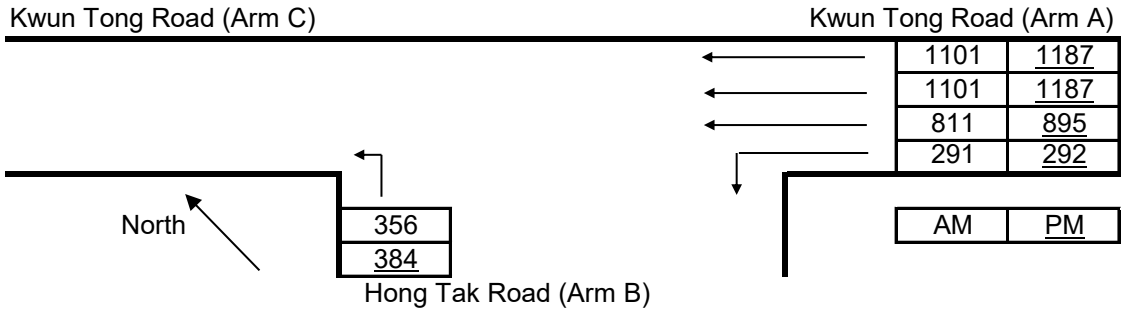
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	196	184
q-CB	0	0	Q-BC	524	498
q-AB	291	292	Q-CB	256	242
q-AC	811	895	Q-BAC	524	498
q-BA	0	0			
q-BC	355	384			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.678	0.771
C-B	0.000	0.000

Priority Junction Analysis

Junction:	Kwun Tong Road / Hong Tak Road				
Design Year:	2032	Job Number:	J7333	Date:	05 February 2025
Scenario:	Sensitivity Test (644-bed RCHE and 200-room Hotel)				P. 24



The predictive equations of capacity of movement are:

Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]

Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]

Q-CB = F[745 - 0.364Y(q-AC + q-AB)]

The geometric parameters represented by D, E, F are:

D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-lBA - 150)]

E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]

F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]

where Y = 1 - 0.0345W

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	6.70	V-rBA	0	w-BA	0.00	D	0.5332
	W-CR	0.00	V-lBA	0	w-BC	5.25	E	1.0779
			V-rBC	50	w-CB	0.00	F	0.5860
			V-rCB	0			Y	0.7689

Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	0	0	Q-BA	196	184
q-CB	0	0	Q-BC	524	498
q-AB	291	292	Q-CB	256	242
q-AC	811	895	Q-BAC	524	498
q-BA	0	0			
q-BC	356	384			
f	1.000	1.000			

Ratio-of-flow to Capacity	AM	PM
B-A	0.000	0.000
B-C	0.680	0.771
C-B	0.000	0.000

Signal Junction Analysis

Junction: Wai Yip Street / Lai Yip Street — Job Number: J7333

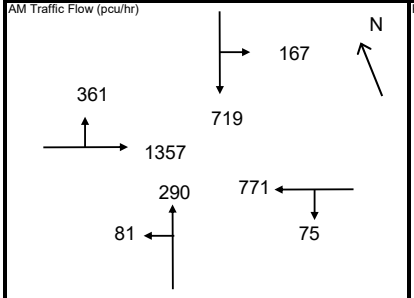
Scenario: Existing Condition — P. 25

Design Year: 2024 — Designed By: — Checked By: — Date: 5 February 2025

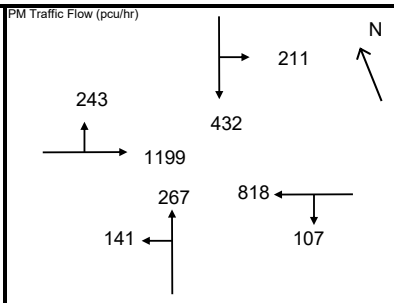
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street WB*	LT	A1	3	2.80	20.0		100	1763	75	0.043		100	1763	107	0.061	
	SA	A2	3	2.80				2035	386	0.190			2035	409	0.201	
	SA	A3	3	2.80				2035	385	0.189			2035	409	0.201	
Lai Yip Street SB	LT	B1	2	3.10	20.0		100	1971	167	0.085		100	1991	211	0.106	0.106
	SA	B2	1,2	3.10				2185	370	0.169	0.169		2198	223	0.101	
	SA	B3	1,2	3.10				2065	349	0.169			2065	209	0.101	
Wai Yip Street EB	SA+LT	C1	3	3.30	20.0		63	2097	575	0.274		50	2142	489	0.228	0.229
	SA	C2	3	3.30				2085	572	0.274	0.274		2085	476	0.228	
	SA	C3	3	3.30				2085	571	0.274			2085	477	0.229	
Lai Yip Street NB	SA+LT	D1	1,2	3.80	20.0		44	2111	184	0.087		70	2095	202	0.096	
	SA	D2	1,2	3.80				2135	187	0.088			2135	206	0.096	

pedestrian phase	Ep	3		min crossing time =	11	sec GM +	10	sec FGM =	21	sec
	Fp	1,2		min crossing time =	7	sec GM +	11	sec FGM =	18	sec
	Gp	1,2		min crossing time =	5	sec GM +	10	sec FGM =	15	sec
	Hp	1,3		min crossing time =	5	sec GM +	7	sec FGM =	12	sec
	Ip	3		min crossing time =	5	sec GM +	7	sec FGM =	12	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



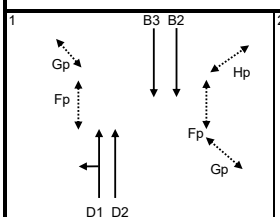
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

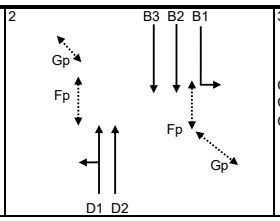
$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

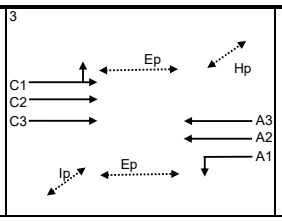
	AM Peak 2+3	AM Peak 1,2+3	PM Peak 2+3	PM Peak 1,2+3
Sum y	0.359	0.444	0.335	0.330
L (s)	33	20	33	20
C (s)	120	120	108	108
practical y	0.653	0.750	0.625	0.733
R.C. (%)	82%	69%	87%	122%

Note:

* Temporary Traffic Arrangement is facilities at the junction







AM	G = 11	I/G = 2	G =	I/G = 13	G =	I/G = 9	G =	I/G =	G =			
	G =	I/G =	G =	I/G = 13	G =	I/G = 9	G =	I/G =	G =			
PM	G = 11	I/G = 2	G =	I/G = 13	G =	I/G = 9	G =	I/G =	G =			
	G =	I/G =	G =	I/G = 13	G =	I/G = 9	G =	I/G =	G =			

Signal Junction Analysis

Junction: Wai Yip Street / Lai Yip Street — Job Number: J7333

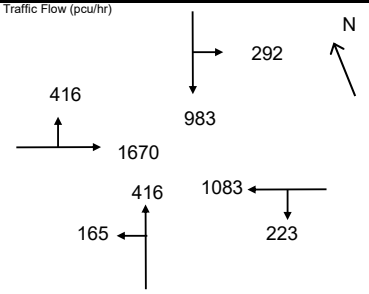
Scenario: Without the Proposed Development — P. 26

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

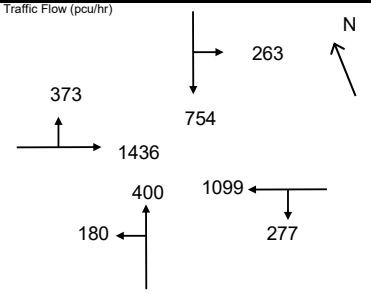
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street WB	SA+LT	A1	3	2.80	20.0		53	1943	422	0.217		62	1944	445	0.229	
	SA	A2	3	2.80				2035	442	0.217			2035	466	0.229	
	SA	A3	3	2.80				2035	442	0.217			2035	465	0.229	
Lai Yip Street SB	LT	B1	2	3.10	20.0		100	1971	292	0.148		100	1991	263	0.132	0.138
	SA	B2	1,2	3.10				2185	505	0.231			2198	389	0.177	
	SA	B3	1,2	3.10				2065	478	0.231			2065	365	0.177	
Wai Yip Street EB	SA+LT	C1	3	3.30	20.0		60	2101	699	0.333	0.333	61	2127	611	0.287	0.287
	SA	C2	3	3.30				2085	694	0.333			2085	599	0.287	
	SA	C3	3	3.30				2085	693	0.332			2085	599	0.287	
Lai Yip Street NB	SA+LT	D1	2	3.80	15.0		58	2066	286	0.138	0.148	63	2077	286	0.138	
	SA	D2	2	3.80				2135	295	0.138			2135	294	0.138	

pedestrian phase	Ep	3		min crossing time =	11	sec GM +	10	sec FGM =	21	sec
	Fp	1		min crossing time =	7	sec GM +	11	sec FGM =	18	sec
	Gp	1,2		min crossing time =	5	sec GM +	10	sec FGM =	15	sec
	Hp	1,3		min crossing time =	5	sec GM +	7	sec FGM =	12	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



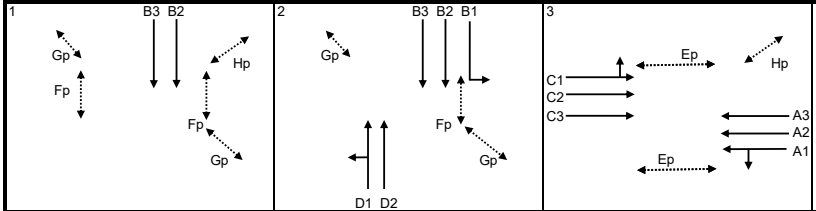
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 2+3	AM Peak 1,2+3	PM Peak 2+3	PM Peak 1,2+3
Sum y	0.481	0.564	0.425	0.464
L (s)	39	10	39	10
C (s)	120	120	108	108
practical y	0.608	0.825	0.575	0.817
R.C. (%)	26%	46%	35%	76%

Note:

Junction Improvement Scheme by Other Project



AM	G = 18	I/G = 5	G =	I/G = 12	G =	I/G = 6	G =	I/G =	G =		
	G =	I/G =	G =	I/G = 6	G =	I/G = 6	G =	I/G =	G =		
PM	G = 18	I/G = 5	G =	I/G = 12	G =	I/G = 6	G =	I/G =	G =		
	G =	I/G =	G =	I/G = 6	G =	I/G = 6	G =	I/G =	G =		

Signal Junction Analysis

Junction: Wai Yip Street / Lai Yip Street — Job Number: J7333

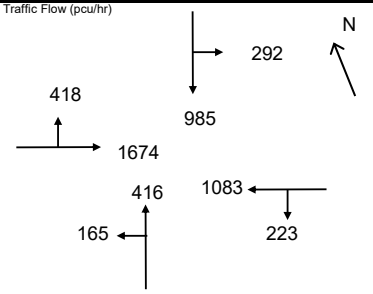
Scenario: With the Proposed Development (557-bed RCHE and 200-room Hotel) — P. 27

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

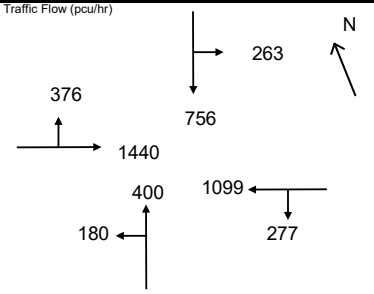
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street WB	SA+LT	A1	3	2.80	20.0		53	1943	422	0.217		62	1944	445	0.229	
	SA	A2	3	2.80				2035	442	0.217			2035	466	0.229	
	SA	A3	3	2.80				2035	442	0.217			2035	465	0.229	
Lai Yip Street SB	LT	B1	2	3.10	20.0		100	1971	292	0.148		100	1991	263	0.132	0.138
	SA	B2	1,2	3.10				2185	506	0.232			2198	390	0.177	
	SA	B3	1,2	3.10				2065	479	0.232			2065	366	0.177	
Wai Yip Street EB	SA+LT	C1	3	3.30	20.0		60	2101	701	0.334		61	2127	613	0.288	0.289
	SA	C2	3	3.30				2085	696	0.334	0.334		2085	601	0.288	
	SA	C3	3	3.30				2085	695	0.333			2085	602	0.289	
Lai Yip Street NB	SA+LT	D1	2	3.80	15.0		58	2066	286	0.138	0.148	63	2077	286	0.138	
	SA	D2	2	3.80				2135	295	0.138			2135	294	0.138	

pedestrian phase	Ep	3		min crossing time =	11	sec GM +	10	sec FGM =	21	sec
	Fp	1		min crossing time =	7	sec GM +	11	sec FGM =	18	sec
	Gp	1,2		min crossing time =	5	sec GM +	10	sec FGM =	15	sec
	Hp	1,3		min crossing time =	5	sec GM +	7	sec FGM =	12	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



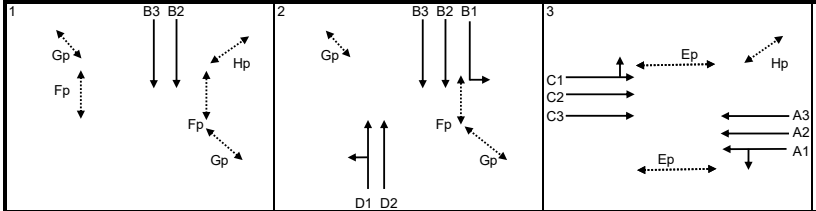
S=1940+100(W–3.25) S=2080+100(W–3.25)

S_M=S÷(1+1.5f/r) S_M=(S–230)÷(1+1.5f/r)

	AM Peak 2+3	AM Peak 1,2+3	PM Peak 2+3	PM Peak 1,2+3
Sum y	0.482	0.566	0.426	0.466
L (s)	39	10	39	10
C (s)	120	120	108	108
practical y	0.608	0.825	0.575	0.817
R.C. (%)	26%	46%	35%	75%

Note:

Junction Improvement Scheme by Other Project



AM	G = 18	I/G = 5	G =	I/G = 12	G =	I/G = 6	G =	I/G =	G =		
	G =	I/G =	G =	I/G = 6	G =	I/G = 6	G =	I/G =	G =		
PM	G = 18	I/G = 5	G =	I/G = 12	G =	I/G = 6	G =	I/G =	G =		
	G =	I/G =	G =	I/G = 6	G =	I/G = 6	G =	I/G =	G =		

Signal Junction Analysis

Junction: Wai Yip Street / Lai Yip Street — Job Number: J7333

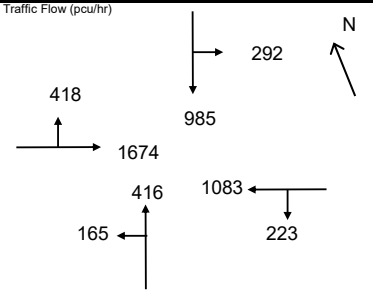
Scenario: Sensitivity Test (644-bed RCHE and 200-room Hotel) — P. 28

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

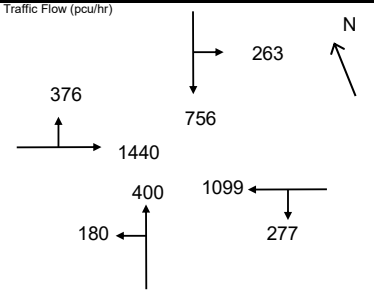
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Wai Yip Street WB	SA+LT	A1	3	2.80	20.0		53	1943	422	0.217		62	1944	445	0.229	
	SA	A2	3	2.80				2035	442	0.217			2035	466	0.229	
	SA	A3	3	2.80				2035	442	0.217			2035	465	0.229	
Lai Yip Street SB	LT	B1	2	3.10	20.0		100	1971	292	0.148		100	1991	263	0.132	0.138
	SA	B2	1,2	3.10				2185	506	0.232			2198	390	0.177	
	SA	B3	1,2	3.10				2065	479	0.232			2065	366	0.177	
Wai Yip Street EB	SA+LT	C1	3	3.30	20.0		60	2101	701	0.334		61	2127	613	0.288	0.289
	SA	C2	3	3.30				2085	696	0.334	0.334		2085	601	0.288	
	SA	C3	3	3.30				2085	695	0.333			2085	602	0.289	
Lai Yip Street NB	SA+LT	D1	2	3.80	15.0		58	2066	286	0.138	0.148	63	2077	286	0.138	
	SA	D2	2	3.80				2135	295	0.138			2135	294	0.138	

pedestrian phase	Ep	3		min crossing time =	11	sec GM +	10	sec FGM =	21	sec
	Fp	1		min crossing time =	7	sec GM +	11	sec FGM =	18	sec
	Gp	1,2		min crossing time =	5	sec GM +	10	sec FGM =	15	sec
	Hp	1,3		min crossing time =	5	sec GM +	7	sec FGM =	12	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



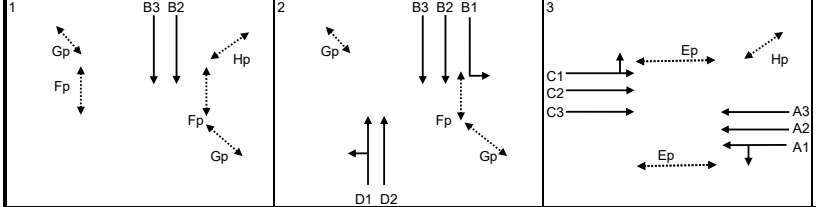
S=1940+100(W–3.25) S=2080+100(W–3.25)

S_M=S÷(1+1.5f/r) S_M=(S–230)÷(1+1.5f/r)

	AM Peak 2+3	AM Peak 1,2+3	PM Peak 2+3	PM Peak 1,2+3
Sum y	0.482	0.566	0.426	0.466
L (s)	39	10	39	10
C (s)	120	120	108	108
practical y	0.608	0.825	0.575	0.817
R.C. (%)	26%	46%	35%	75%

Note:

Junction Improvement Scheme by Other Project



AM	G = 18	I/G = 5	G =	I/G = 12	G =	I/G = 6	G =	I/G =	G =		
	G =	I/G =	G =	I/G = 6	G =	I/G = 6	G =	I/G =	G =		
PM	G = 18	I/G = 5	G =	I/G = 12	G =	I/G = 6	G =	I/G =	G =		
	G =	I/G =	G =	I/G = 6	G =	I/G = 6	G =	I/G =	G =		

Signal Junction Analysis

Junction: Kwun Tong Road / Lai Yip Street — Job Number: J7333

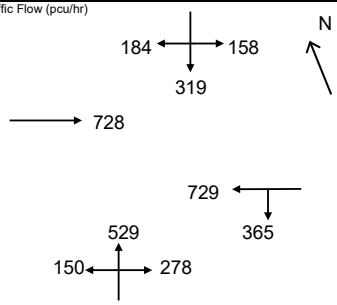
Scenario: Existing Condition — P. 29

Design Year: 2024 — Designed By: — Checked By: — Date: 5 February 2025

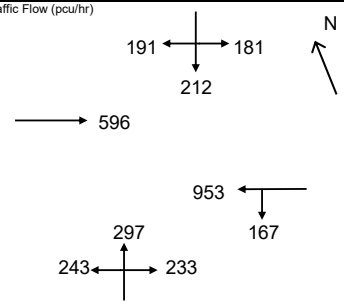
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Kwun Tong Road EB	SA	A1	1,2	3.20				1935	351	0.181			1935	288	0.149	
	SA	A2	1,2	3.20				2075	377	0.182	0.182		2075	308	0.148	
Lai Yip Street NB	LT+SA	B1	5	3.50	30.0		31	2118	480	0.227		63	2105	387	0.184	0.184
	SA	B2	5	3.50				2105	477	0.227	0.227		2105	386	0.183	
Elegance Road NB	SA	B3	5	3.50				2105	278	0.132			2105	184	0.087	
	SA+RT	B4	5	3.50	18.0		9	2089	276	0.132		37	2042	179	0.088	
	RT	B5	5	3.50	15.0		100	1914	253	0.132		100	1914	167	0.087	
Kwun Tong Road WB	LT	C1	1,5	3.30	15.0		100	1768	365	0.206		100	1768	167	0.094	
	SA	C2	1,2	3.50				2105	365	0.173			2105	477	0.227	0.227
	SA	C3	1,2	3.50				2105	364	0.173			2105	476	0.226	
Elegance Road SB	LT	D1	3,4	3.50	15.0		100	1786	158	0.088	0.088	100	1786	181	0.101	0.101
	SA	D2	3,4	3.50				2105	174	0.083			2105	140	0.067	
	SA+RT	D3	3,4	3.50	18.0		15	2079	171	0.082		47	2026	135	0.067	
	RT	D4	3,4	3.50	15.0		100	1914	158	0.083		100	1914	128	0.067	

pedestrian phase	Ep	1,2	min crossing time =	12	sec GM +	10	sec FGM =	22	sec
	Fp	1,2,3,4	min crossing time =	5	sec GM +	7	sec FGM =	12	sec
	Gp	2,3	min crossing time =	5	sec GM +	5	sec FGM =	10	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

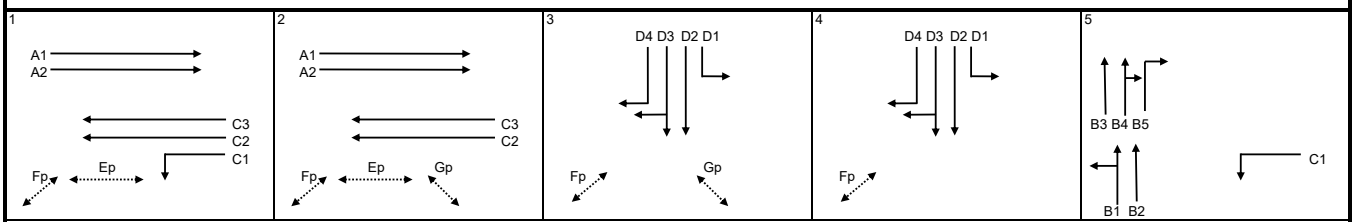
$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
	2+4+5		2+3+5	
Sum y	0.497		0.512	
L (s)	15		20	
C (s)	118		108	
practical y	0.786		0.733	
R.C. (%)	58%		43%	

Note:

1) In AM Peak, Stage Sequence : 2>4>5>2

2) In PM Peak, Stage Sequence : 2>3>5>2



AM	I/G =	I/G =	I/G = 5	I/G = 10	I/G = 3
PM	I/G =	I/G = 7	I/G = 7	I/G = 6	I/G = 3

Signal Junction Analysis

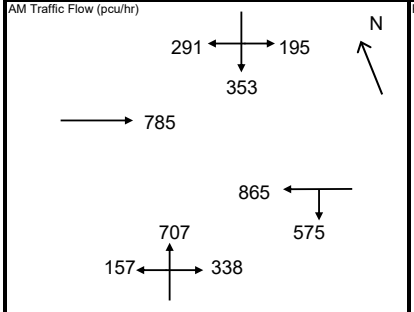
Junction: Kwun Tong Road / Lai Yip Street — Job Number: J7333

Scenario: Without the Proposed Development — P. 30

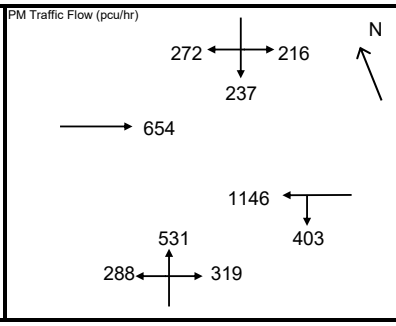
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Kwun Tong Road EB	SA	A1	1,2	3.20				1935	379	0.196			1935	316	0.163	
	SA	A2	1,2	3.20				2075	406	0.196			2075	338	0.163	
Lai Yip Street NB	LT	B1	5	3.30	30.0		100	2035	157	0.077		100	2052	288	0.140	
	SA	B2	5	3.30				2085	523	0.251			2085	425	0.204	
	SA	B3	5	3.30				2085	522	0.250			2085	425	0.204	
Elegance Road NB	SA	B4	5	3.50				2105	359	0.171			2105	294	0.140	
	SA+RT	B5	5	3.50	18.0		3	2100	359	0.171		18	2074	289	0.139	
	RT	B6	5	3.50	15.0		100	1914	327	0.171		100	1914	267	0.139	
Kwun Tong Road WB	LT	C1	1,5	3.30	15.0		100	1768	575	0.325	0.325	100	1768	403	0.228	0.228
	SA	C2	1,2	3.50				2105	433	0.206	0.206		2105	573	0.272	0.272
	SA	C3	1,2	3.50				2105	432	0.205			2105	573	0.272	
Elegance Road SB	LT	D1	3,4	3.50	15.0		100	1786	195	0.109	0.109	100	1786	216	0.121	0.121
	SA	D2	3,4	3.50				2105	224	0.106			2105	178	0.085	
	SA+RT	D3	3,4	3.50	18.0		40	2037	217	0.107		65	1997	169	0.085	
	RT	D4	3,4	3.50	15.0		100	1914	203	0.106		100	1914	162	0.085	
pedestrian phase		Ep	1,2		min crossing time =		12	sec GM +		10	sec FGM =		22	sec		
		Fp	1,2,3,4		min crossing time =		5	sec GM +		7	sec FGM =		12	sec		
		Gp	2,3		min crossing time =		5	sec GM +		5	sec FGM =		10	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

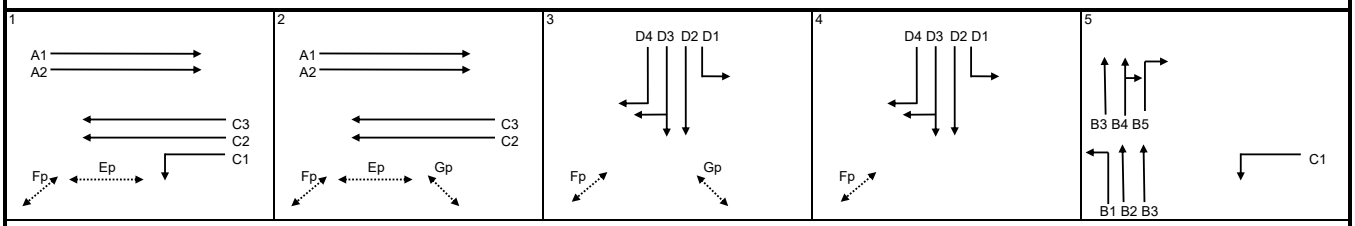
	AM Peak		PM Peak	
	2+4+5		2+3+5	
Sum y	0.640		0.621	
L (s)	15		20	
C (s)	118		108	
practical y	0.786		0.733	
R.C. (%)	23%		18%	

Note:

1) Junction Improvement Scheme by Other Project

2) In AM Peak, Stage Sequence : 2>4>5>2

3) In PM Peak, Stage Sequence : 2>3>5>2



AM	I/G =	I/G =	I/G = 5	I/G = 10	I/G = 3
PM	I/G =	I/G = 7	I/G = 7	I/G = 6	I/G = 3

Signal Junction Analysis

Junction: Kwun Tong Road / Lai Yip Street — Job Number: J7333

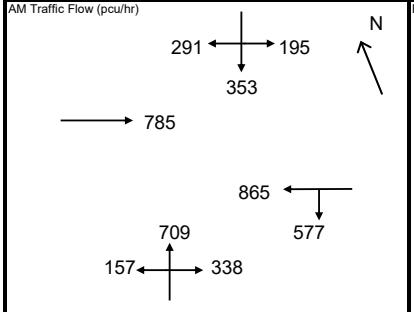
Scenario: With the Proposed Development (557-bed RCHE and 200-room Hotel) — P. 31

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

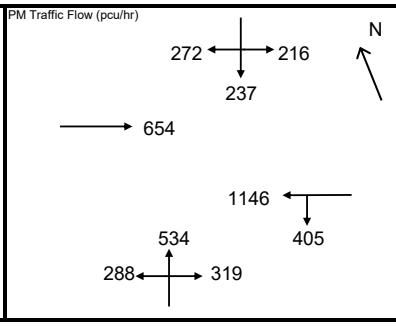
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Kwun Tong Road EB	SA	A1	1,2	3.20				1935	379	0.196			1935	316	0.163	
	SA	A2	1,2	3.20				2075	406	0.196			2075	338	0.163	
Lai Yip Street NB	LT	B1	5	3.30	30.0		100	2035	157	0.077		100	2052	288	0.140	
	SA	B2	5	3.30				2085	524	0.251			2085	427	0.205	
	SA	B3	5	3.30				2085	523	0.251			2085	426	0.204	
Elegance Road NB	SA	B4	5	3.50				2105	360	0.171			2105	295	0.140	
	SA+RT	B5	5	3.50	18.0		3	2100	359	0.171		18	2074	290	0.140	
	RT	B6	5	3.50	15.0		100	1914	328	0.171		100	1914	268	0.140	
Kwun Tong Road WB	LT	C1	1,5	3.30	15.0		100	1768	577	0.326	0.326	100	1768	405	0.229	0.229
	SA	C2	1,2	3.50				2105	433	0.206	0.206		2105	573	0.272	0.272
	SA	C3	1,2	3.50				2105	432	0.205			2105	573	0.272	
Elegance Road SB	LT	D1	3,4	3.50	15.0		100	1786	195	0.109	0.109	100	1786	216	0.121	0.121
	SA	D2	3,4	3.50				2105	224	0.106			2105	178	0.085	
	SA+RT	D3	3,4	3.50	18.0		40	2037	217	0.107		65	1997	169	0.085	
	RT	D4	3,4	3.50	15.0		100	1914	203	0.106		100	1914	162	0.085	

pedestrian phase	Ep	1,2		min crossing time =	12	sec GM +	10	sec FGM =	22	sec
	Fp	1,2,3,4		min crossing time =	5	sec GM +	7	sec FGM =	12	sec
	Gp	2,3		min crossing time =	5	sec GM +	5	sec FGM =	10	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

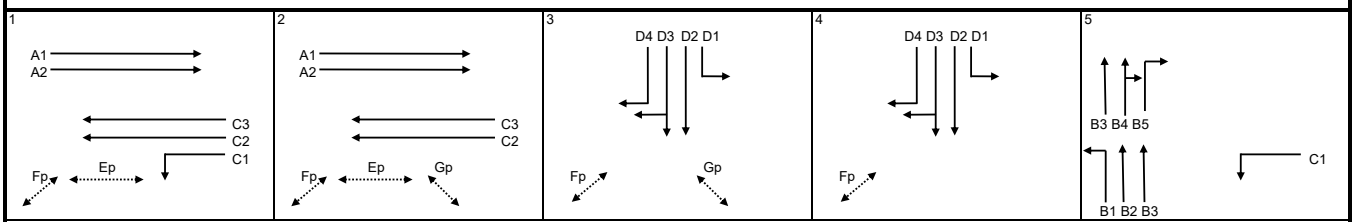
	AM Peak		PM Peak	
	2+4+5		2+3+5	
Sum y	0.641		0.622	
L (s)	15		20	
C (s)	118		108	
practical y	0.786		0.733	
R.C. (%)	23%		18%	

Note:

1) Junction Improvement Scheme by Other Project

2) In AM Peak, Stage Sequence : 2>4>5>2

3) In PM Peak, Stage Sequence : 2>3>5>2



AM	I/G =	I/G =	I/G = 5	I/G = 10	I/G = 3
PM	I/G =	I/G = 7	I/G = 7	I/G = 6	I/G = 3

Signal Junction Analysis

Junction: Kwun Tong Road / Lai Yip Street — Job Number: J7333

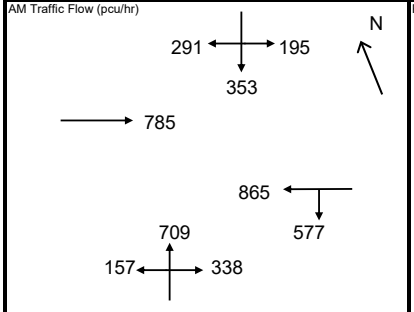
Scenario: Sensitivity Test (644-bed RCHE and 200-room Hotel) — P. 32

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

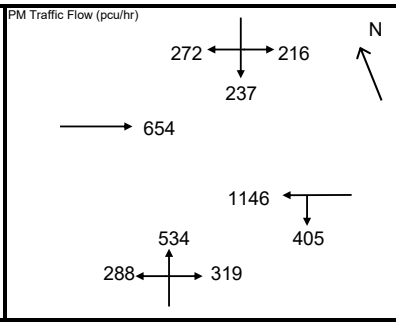
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Kwun Tong Road EB	SA	A1	1,2	3.20				1935	379	0.196			1935	316	0.163	
	SA	A2	1,2	3.20				2075	406	0.196			2075	338	0.163	
Lai Yip Street NB	LT	B1	5	3.30	30.0		100	2035	157	0.077		100	2052	288	0.140	
	SA	B2	5	3.30				2085	524	0.251			2085	427	0.205	
	SA	B3	5	3.30				2085	523	0.251			2085	426	0.204	
Elegance Road NB	SA	B4	5	3.50				2105	360	0.171			2105	295	0.140	
	SA+RT	B5	5	3.50	18.0		3	2100	359	0.171		18	2074	290	0.140	
	RT	B6	5	3.50	15.0		100	1914	328	0.171		100	1914	268	0.140	
Kwun Tong Road WB	LT	C1	1,5	3.30	15.0		100	1768	577	0.326	0.326	100	1768	405	0.229	0.229
	SA	C2	1,2	3.50				2105	433	0.206	0.206		2105	573	0.272	0.272
	SA	C3	1,2	3.50				2105	432	0.205			2105	573	0.272	
Elegance Road SB	LT	D1	3,4	3.50	15.0		100	1786	195	0.109	0.109	100	1786	216	0.121	0.121
	SA	D2	3,4	3.50				2105	224	0.106			2105	178	0.085	
	SA+RT	D3	3,4	3.50	18.0		40	2037	217	0.107		65	1997	169	0.085	
	RT	D4	3,4	3.50	15.0		100	1914	203	0.106		100	1914	162	0.085	

pedestrian phase	Ep	1,2		min crossing time =	12	sec GM +	10	sec FGM =	22	sec
	Fp	1,2,3,4		min crossing time =	5	sec GM +	7	sec FGM =	12	sec
	Gp	2,3		min crossing time =	5	sec GM +	5	sec FGM =	10	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

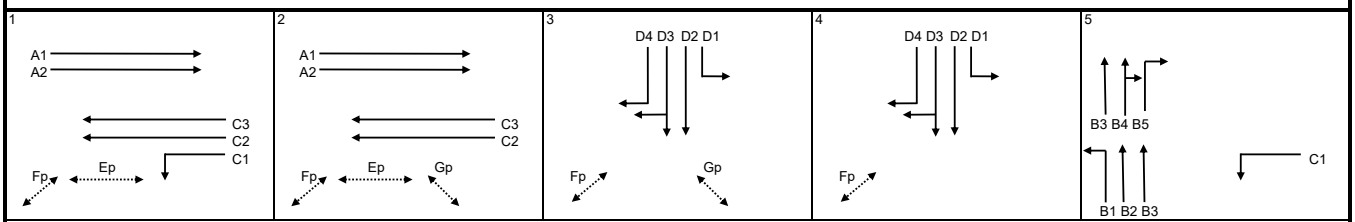
	AM Peak		PM Peak	
	2+4+5		2+3+5	
Sum y	0.641		0.622	
L (s)	15		20	
C (s)	118		108	
practical y	0.786		0.733	
R.C. (%)	23%		18%	

Note:

1) Junction Improvement Scheme by Other Project

2) In AM Peak, Stage Sequence : 2>4>5>2

3) In PM Peak, Stage Sequence : 2>3>5>2



AM	I/G =	I/G =	I/G = 5	I/G = 10	I/G = 3
PM	I/G =	I/G = 7	I/G = 7	I/G = 6	I/G = 3

Signal Junction Analysis

Junction: Hoi Bun Road / Lai Yip Street — Job Number: J7333

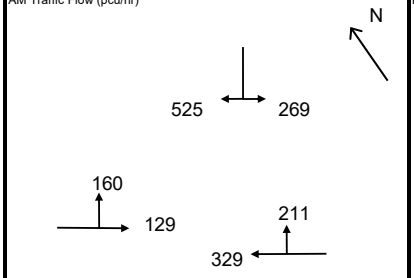
Scenario: Existing Condition — P. 33

Design Year: 2024 — Designed By: — Checked By: — Date: 5 February 2025

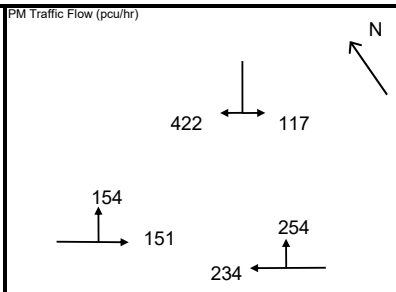
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road EB	LT	A1	1	3.30	15.0		100	1768	160	0.090	0.090	100	1768	154	0.087	0.087
	SA	A2	1	3.30				2085	129	0.062			2085	151	0.072	
Hoi Bun Road WB	SA	B1	1,2	3.30				1945	329	0.169			1945	234	0.120	
	RT	B2	2	3.30	20.0		100	1940	211	0.109	0.109	100	1940	254	0.131	0.131
Lai Yip Street SB	LT	C1	3	3.30	18.0		100	1795	269	0.150	0.150	100	1795	117	0.065	
	RT	C2	3	3.30	25.0		100	1967	264	0.134		100	1967	212	0.108	
	RT	C3	3	3.30	22.0		100	1952	261	0.134		100	1952	210	0.108	0.108

pedestrian phase	Dp	1,2,4		min crossing time =			12	sec GM +		9	sec FGM =			21	sec	
	Ep	3,4		min crossing time =			7	sec GM +		6	sec FGM =			13	sec	
	Fp	4		min crossing time =			7	sec GM +		7	sec FGM =			14	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

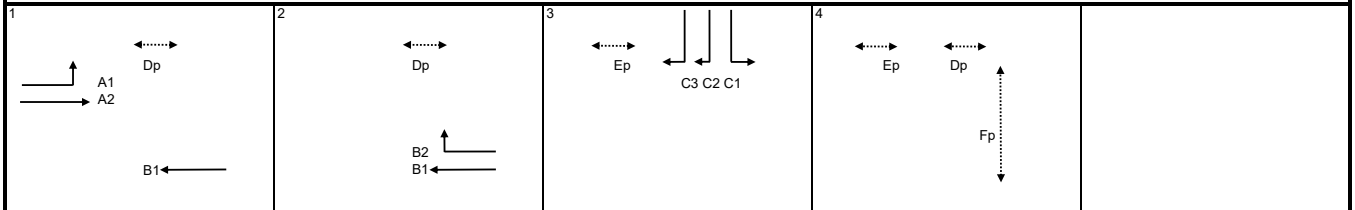


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2+3	AM Peak	PM Peak 1+2+3	PM Peak
Sum y	0.349		0.326	
L (s)	35		35	
C (s)	118		108	
practical y	0.633		0.608	
R.C. (%)	81%		87%	

Note:



AM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							
PM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							

Signal Junction Analysis

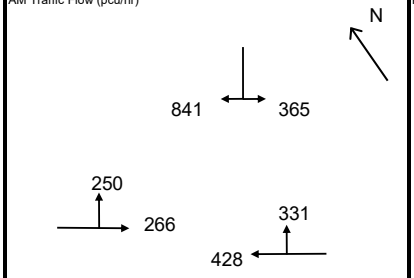
Junction: Hoi Bun Road / Lai Yip Street — Job Number: J7333

Scenario: Without the Proposed Development — P. 34

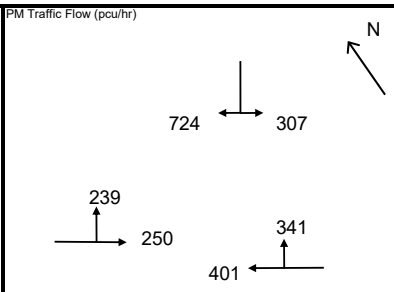
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road EB	LT*	A1	1	3.65	15.0		100	1800	250	0.139	0.139	100	1800	239	0.133	0.133
	SA*	A2	1	3.65				2120	266	0.125			2120	250	0.118	
Hoi Bun Road WB	SA	B1	1,2	3.30				1945	428	0.220			1945	401	0.206	
	RT	B2	2	3.30	20.0		100	1940	331	0.171	0.171	100	1940	341	0.176	0.176
Lai Yip Street SB	LT	C1	3	3.30	18.0		100	1795	365	0.203		100	1795	307	0.171	
	RT	C2	3	3.30	25.0		100	1967	422	0.215	0.215	100	1967	363	0.185	0.185
	RT	C3	3	3.30	22.0		100	1952	419	0.215		100	1952	361	0.185	
pedestrian phase*		Fp	4		min crossing time =		7	sec GM +		7	sec FGM =		14	sec		
		Gp	4		min crossing time =		8	sec GM +		8	sec FGM =		16	sec		
		Hp	4		min crossing time =		10	sec GM +		9	sec FGM =		19	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



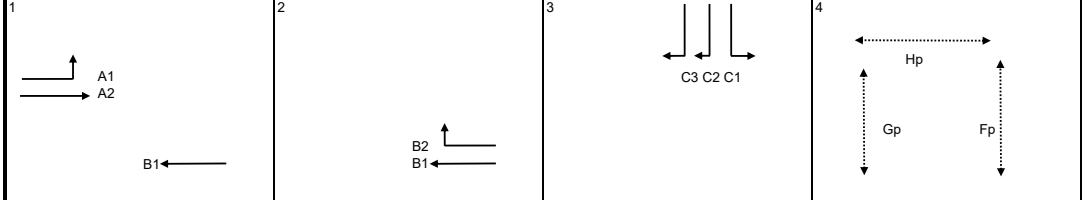
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2+3		PM Peak 1+2+3	
Sum y	0.524		0.493	
L (s)	35		35	
C (s)	118		108	
practical y	0.633		0.608	
R.C. (%)	21%		23%	

Note:

*Junction Improvement Scheme by Other Project



AM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							
PM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							

Signal Junction Analysis

Junction: Hoi Bun Road / Lai Yip Street — Job Number: J7333

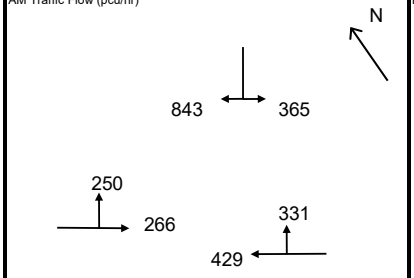
Scenario: With the Proposed Development (557-bed RCHE and 200-room Hotel) — P. 35

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

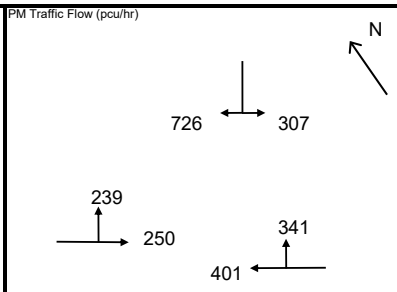
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road EB	LT*	A1	1	3.65	15.0		100	1800	250	0.139	0.139	100	1800	239	0.133	0.133
	SA*	A2	1	3.65				2120	266	0.125			2120	250	0.118	
Hoi Bun Road WB	SA	B1	1,2	3.30				1945	429	0.221			1945	401	0.206	
	RT	B2	2	3.30	20.0		100	1940	331	0.171	0.171	100	1940	341	0.176	0.176
Lai Yip Street SB	LT	C1	3	3.30	18.0		100	1795	365	0.203		100	1795	307	0.171	
	RT	C2	3	3.30	25.0		100	1967	423	0.215	0.215	100	1967	364	0.185	0.185
	RT	C3	3	3.30	22.0		100	1952	420	0.215		100	1952	362	0.185	

pedestrian phase*	Fp	4		min crossing time =	7	sec GM +	7	sec FGM =	14	sec				
	Gp	4		min crossing time =	8	sec GM +	8	sec FGM =	16	sec				
	Hp	4		min crossing time =	10	sec GM +	9	sec FGM =	19	sec				

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



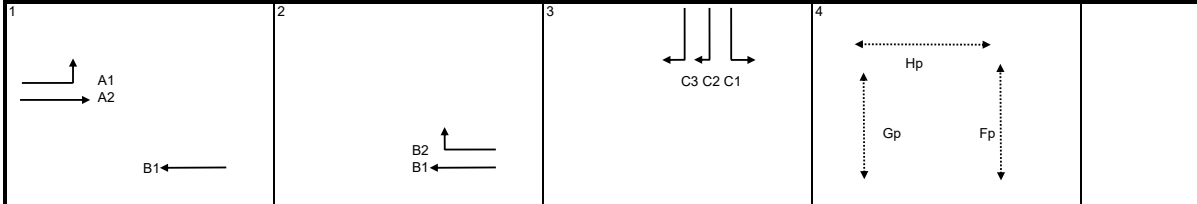
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2+3	AM Peak	PM Peak 1+2+3	PM Peak
Sum y	0.525		0.494	
L (s)	35		35	
C (s)	118		108	
practical y	0.633		0.608	
R.C. (%)	21%		23%	

Note:

*Junction Improvement Scheme by Other Project



AM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							
PM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							

Signal Junction Analysis

Junction: Hoi Bun Road / Lai Yip Street — Job Number: J7333

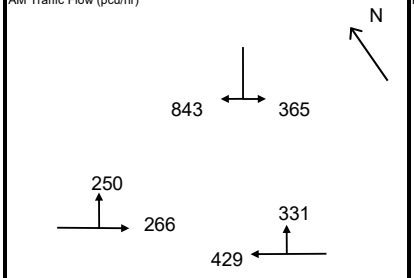
Scenario: Sensitivity Test (644-bed RCHE and 200-room Hotel) — P. 36

Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

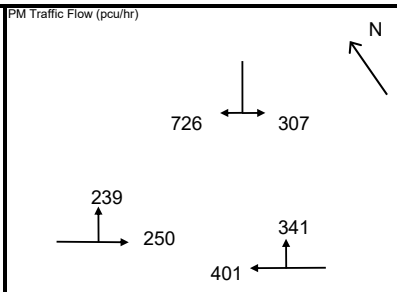
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Hoi Bun Road EB	LT*	A1	1	3.65	15.0		100	1800	250	0.139	0.139	100	1800	239	0.133	0.133
	SA*	A2	1	3.65				2120	266	0.125			2120	250	0.118	
Hoi Bun Road WB	SA	B1	1,2	3.30				1945	429	0.221			1945	401	0.206	
	RT	B2	2	3.30	20.0		100	1940	331	0.171	0.171	100	1940	341	0.176	0.176
Lai Yip Street SB	LT	C1	3	3.30	18.0		100	1795	365	0.203		100	1795	307	0.171	
	RT	C2	3	3.30	25.0		100	1967	423	0.215	0.215	100	1967	364	0.185	0.185
	RT	C3	3	3.30	22.0		100	1952	420	0.215		100	1952	362	0.185	

pedestrian phase*	Fp	4		min crossing time =	7	sec GM +	7	sec FGM =	14	sec				
	Gp	4		min crossing time =	8	sec GM +	8	sec FGM =	16	sec				
	Hp	4		min crossing time =	10	sec GM +	9	sec FGM =	19	sec				

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



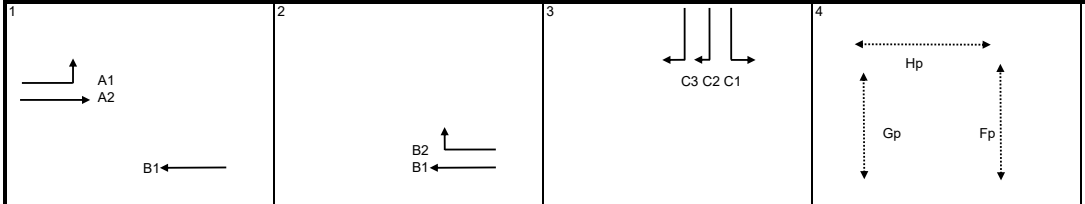
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2+3	AM Peak	PM Peak 1+2+3	PM Peak
Sum y	0.525		0.494	
L (s)	35		35	
C (s)	118		108	
practical y	0.633		0.608	
R.C. (%)	21%		23%	

Note:

*Junction Improvement Scheme by Other Project



AM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							
PM	G =	I/G = 8	G =	I/G = 5	G =	I/G = 8	G = 14	I/G = 3	G =							
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =							

Signal Junction Analysis

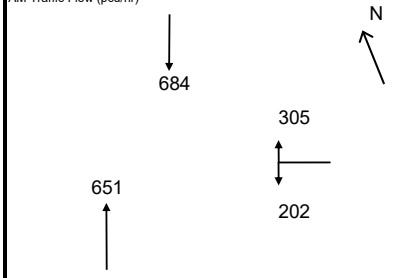
Junction: Lai Yip Street / Hung To Road — Job Number: J7333

Scenario: Existing Condition — P. 37

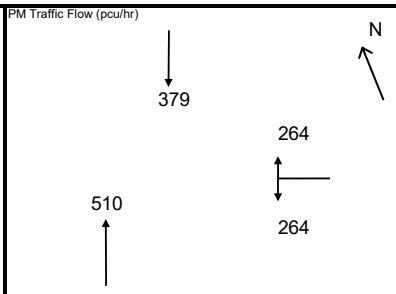
Design Year: 2024 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Lai Yip Street SB	SA	A1	1	3.50				1965	330	0.168	0.168		1965	183	0.093	
	SA	A2	1	3.50				2105	354	0.168			2105	196	0.093	
Lai Yip Street NB	SA	B1	1	3.50				1965	314	0.160			1965	246	0.125	0.125
	SA	B2	1	3.50				2105	337	0.160			2105	264	0.125	
Hung To Road WB	LT	C1	2	3.50	15.0											
	LT+RT	C2*	2	3.50	18.0		100	1943	507	0.261	0.261	100	1943	528	0.272	0.272
	RT	C3	2	3.50	25.0											
pedestrian phase		Dp	1		min crossing time =			7	sec GM +		16		sec FGM =		23	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

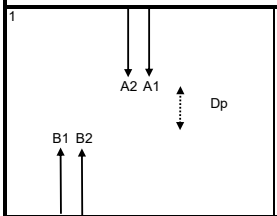
$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2	AM Peak	PM Peak 1+2	PM Peak
Sum y	0.429		0.397	
L (s)	14		11	
C (s)	120		108	
practical y	0.795		0.808	
R.C. (%)	85%		104%	

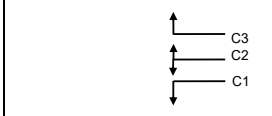
Note:

Assume that phases C1 and C3 are blocked due to on-street parking activities along Hung To Road

1



2



AM	G =	I/G = 10	G =	I/G = 6	G =	I/G =	G =	I/G =	G =		
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =		
PM	G =	I/G = 6	G =	I/G = 7	G =	I/G =	G =	I/G =	G =		
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =		

Signal Junction Analysis

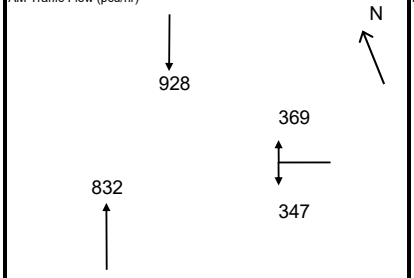
Junction: Lai Yip Street / Hung To Road — Job Number: J7333

Scenario: Without the Proposed Development — P. 38

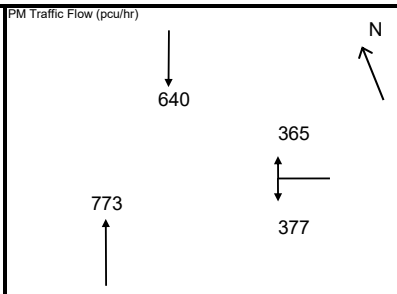
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Lai Yip Street SB	SA	A1	1	3.50				1965	448	0.228	0.228		1965	309	0.157	
	SA	A2	1	3.50				2105	480	0.228			2105	331	0.157	
Lai Yip Street NB	SA	B1	1	3.50				1965	402	0.205			1965	373	0.190	0.190
	SA	B2	1	3.50				2105	430	0.204			2105	400	0.190	
Hung To Road WB	LT	C1	2	3.50	15.0											
	LT+RT	C2*	2	3.50	18.0		100	1943	716	0.369	0.369	100	1943	742	0.382	0.382
	RT	C3	2	3.50	25.0											
pedestrian phase		Dp	1		min crossing time =			7	sec GM +		16	sec FGM =		23	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



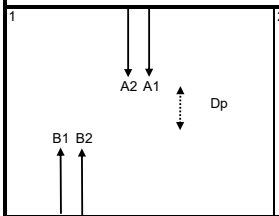
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

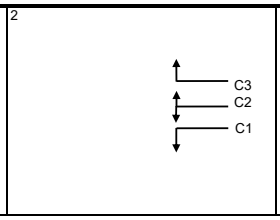
$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2	AM Peak	PM Peak 1+2	PM Peak
Sum y	0.597		0.572	
L (s)	14		11	
C (s)	120		108	
practical y	0.795		0.808	
R.C. (%)	33%		41%	

Note:

Assume that phases C1 and C3 are blocked due to on-street parking activities along Hung To Road





AM	G =	I/G = 10	G =	I/G = 6	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G = 6	G =	I/G = 7	G =	I/G =
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	PM	G =	I/G =	G =	I/G =	G =
												G =	I/G =	G =	I/G =	G =

Signal Junction Analysis

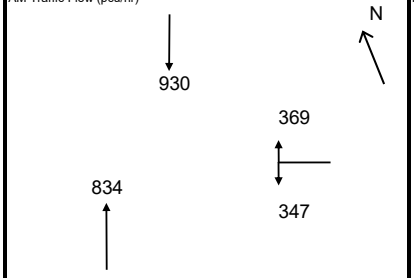
Junction: Lai Yip Street / Hung To Road — Job Number: J7333

Scenario: With the Proposed Development (557-bed RCHE and 200-room Hotel) — P. 39

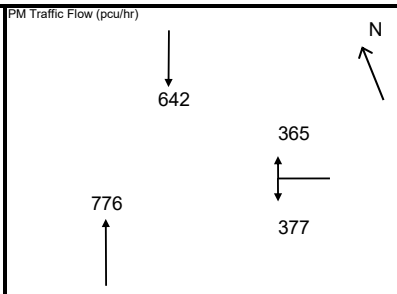
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Lai Yip Street SB	SA	A1	1	3.50				1965	449	0.228	0.229		1965	310	0.158	
	SA	A2	1	3.50				2105	481	0.229			2105	332	0.158	
Lai Yip Street NB	SA	B1	1	3.50				1965	403	0.205			1965	375	0.191	0.191
	SA	B2	1	3.50				2105	431	0.205			2105	401	0.190	
Hung To Road WB	LT	C1	2	3.50	15.0											
	LT+RT	C2*	2	3.50	18.0		100	1943	716	0.369	0.369	100	1943	742	0.382	0.382
	RT	C3	2	3.50	25.0											
pedestrian phase		Dp	1		min crossing time =			7	sec GM +		16	sec FGM =		23	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



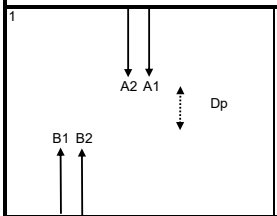
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

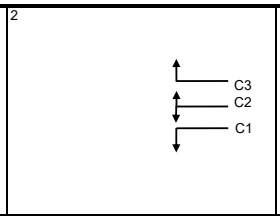
$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2	AM Peak	PM Peak 1+2	PM Peak
Sum y	0.597		0.573	
L (s)	14		11	
C (s)	120		108	
practical y	0.795		0.808	
R.C. (%)	33%		41%	

Note:

Assume that phases C1 and C3 are blocked due to on-street parking activities along Hung To Road





AM	G =	I/G = 10	G =	I/G = 6	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G = 6	G =	I/G = 7	G =	I/G =
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =
PM	G =	I/G = 6	G =	I/G = 7	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G = 10	G =	I/G = 6	G =	I/G =
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =

Signal Junction Analysis

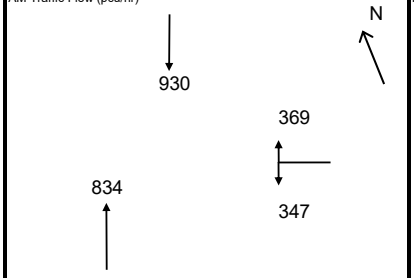
Junction: Lai Yip Street / Hung To Road — Job Number: J7333

Scenario: Sensitivity Test (644-bed RCHE and 200-room Hotel) — P. 40

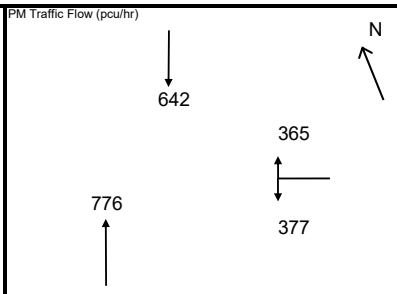
Design Year: 2032 — Designed By: — Checked By: — Date: 5 February 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Lai Yip Street SB	SA	A1	1	3.50				1965	449	0.228	0.229		1965	310	0.158	
	SA	A2	1	3.50				2105	481	0.229			2105	332	0.158	
Lai Yip Street NB	SA	B1	1	3.50				1965	403	0.205			1965	375	0.191	0.191
	SA	B2	1	3.50				2105	431	0.205			2105	401	0.190	
Hung To Road WB	LT	C1	2	3.50	15.0											
	LT+RT	C2*	2	3.50	18.0		100	1943	716	0.369	0.369	100	1943	742	0.382	0.382
	RT	C3	2	3.50	25.0											
pedestrian phase		Dp	1		min crossing time =			7	sec GM +		16	sec FGM =		23	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)



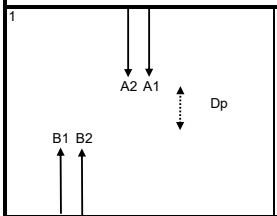
$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

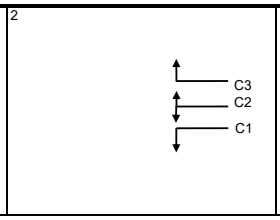
$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak 1+2	AM Peak	PM Peak 1+2	PM Peak
Sum y	0.597		0.573	
L (s)	14		11	
C (s)	120		108	
practical y	0.795		0.808	
R.C. (%)	33%		41%	

Note:

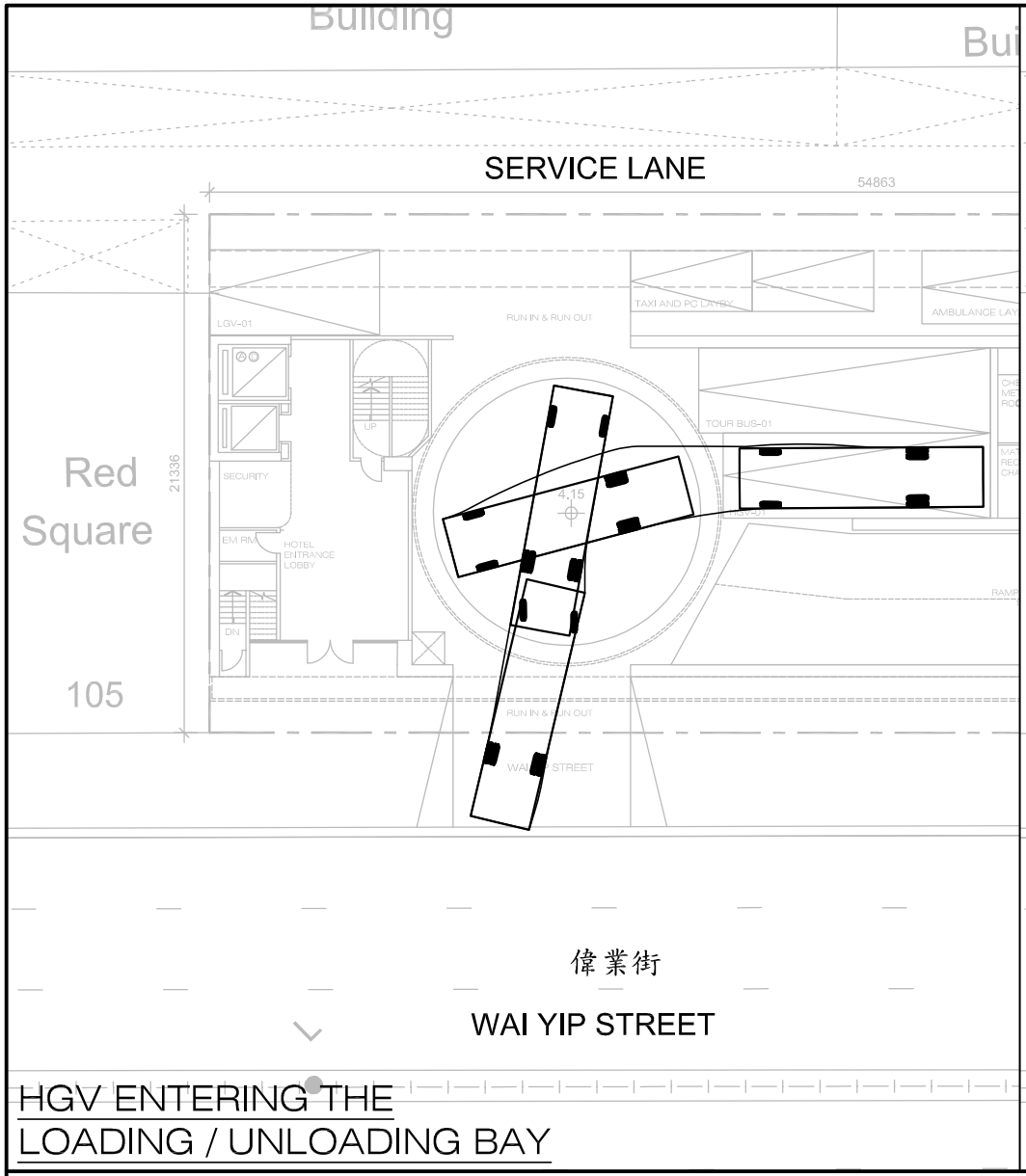
Assume that phases C1 and C3 are blocked due to on-street parking activities along Hung To Road



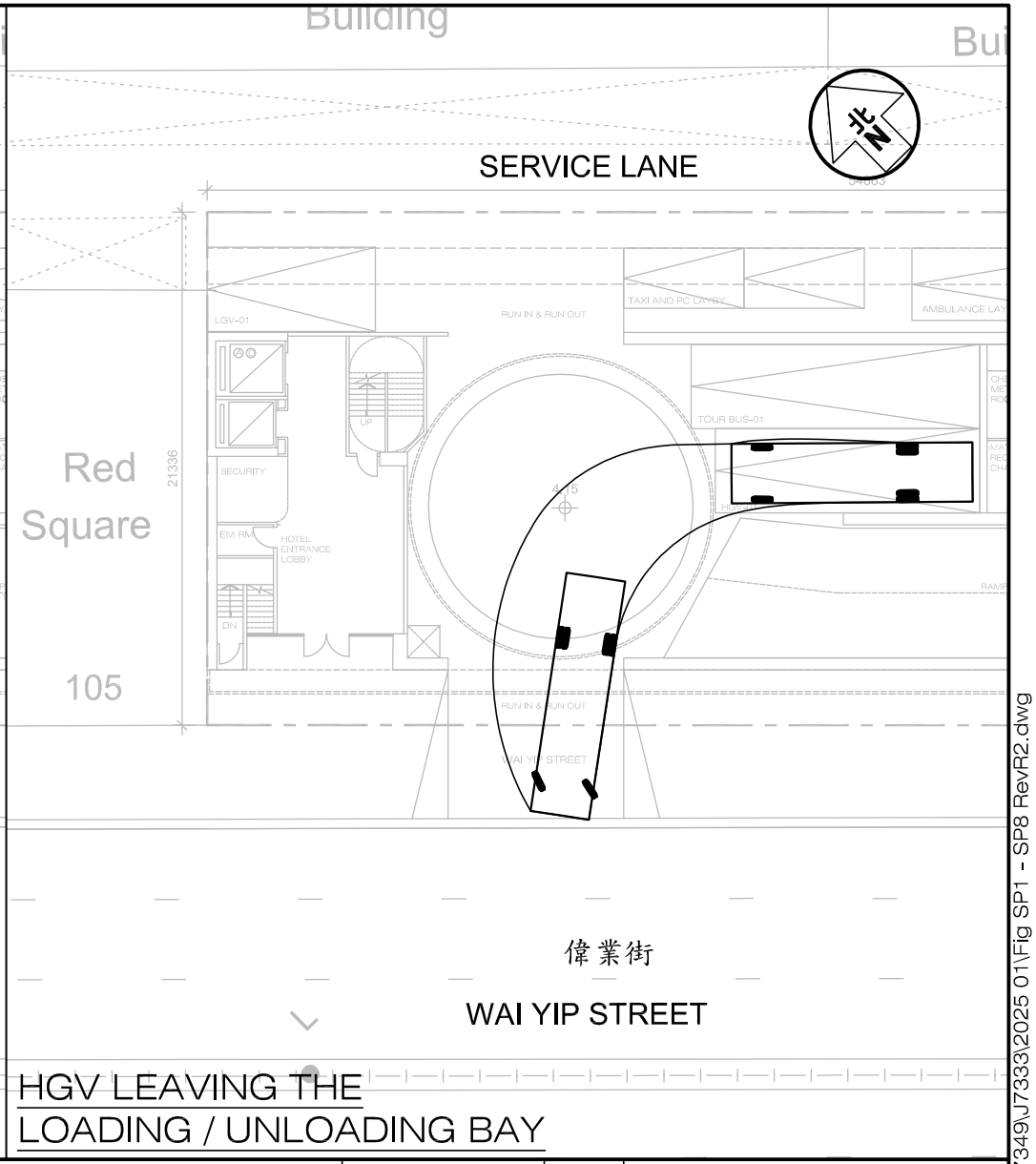


AM	G =	I/G = 10	G =	I/G = 6	G =	I/G =	G =	I/G =	G =		
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =		
PM	G =	I/G = 6	G =	I/G = 7	G =	I/G =	G =	I/G =	G =		
	G =	I/G =	G =	I/G =	G =	I/G =	G =	I/G =	G =		

Appendix 2 –
Swept Path Analysis



HGV ENTERING THE LOADING / UNLOADING BAY



HGV LEAVING THE LOADING / UNLOADING BAY

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP1 / Revision R2
Figure Title	SWEPT PATH OF HEAVY GOODS VEHICLE ENTERING AND LEAVING THE HGV LOADING / UNLOADING BAY HGV-01 ON G/F	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 300 / Date 04 FEB 2025

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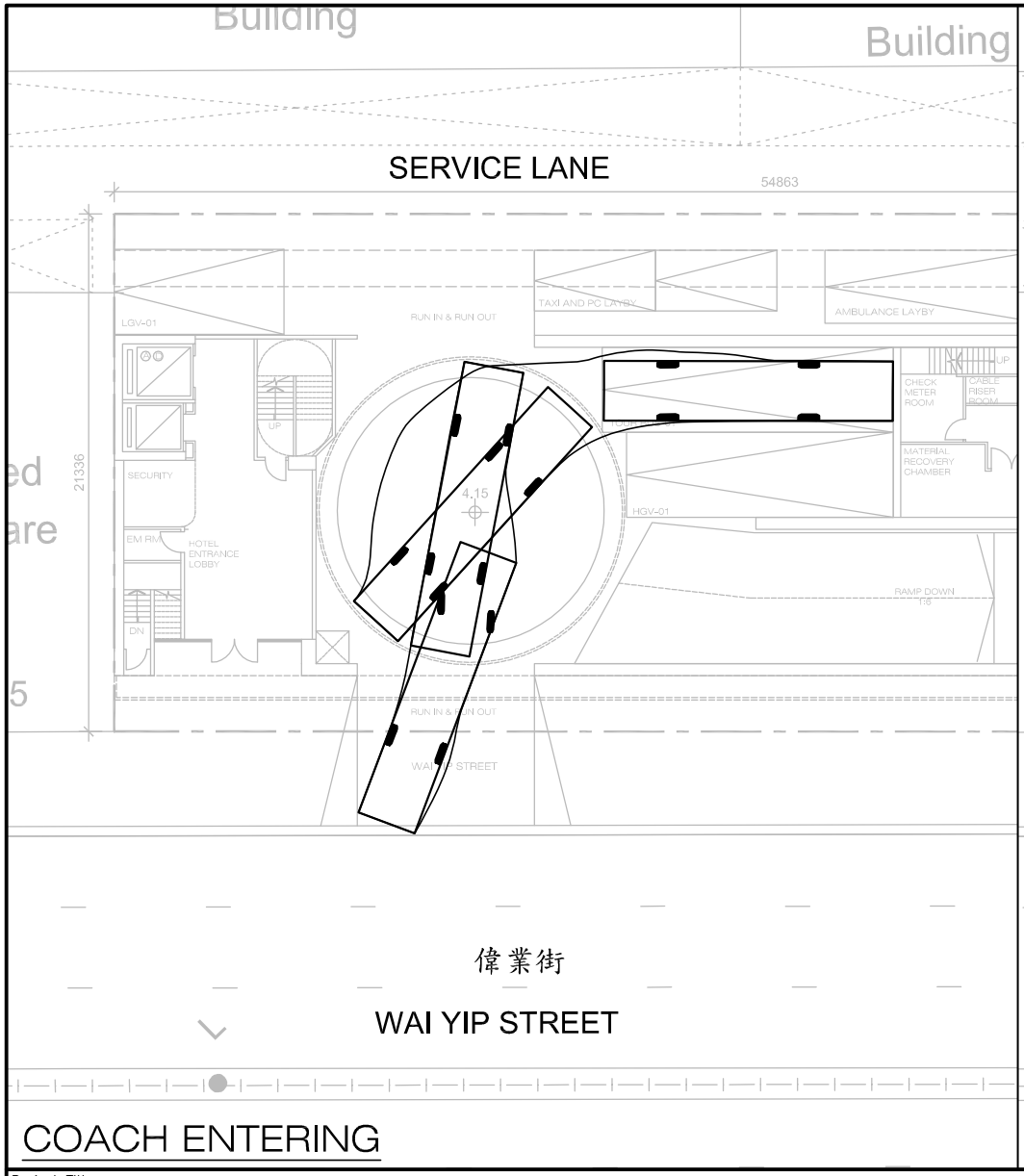
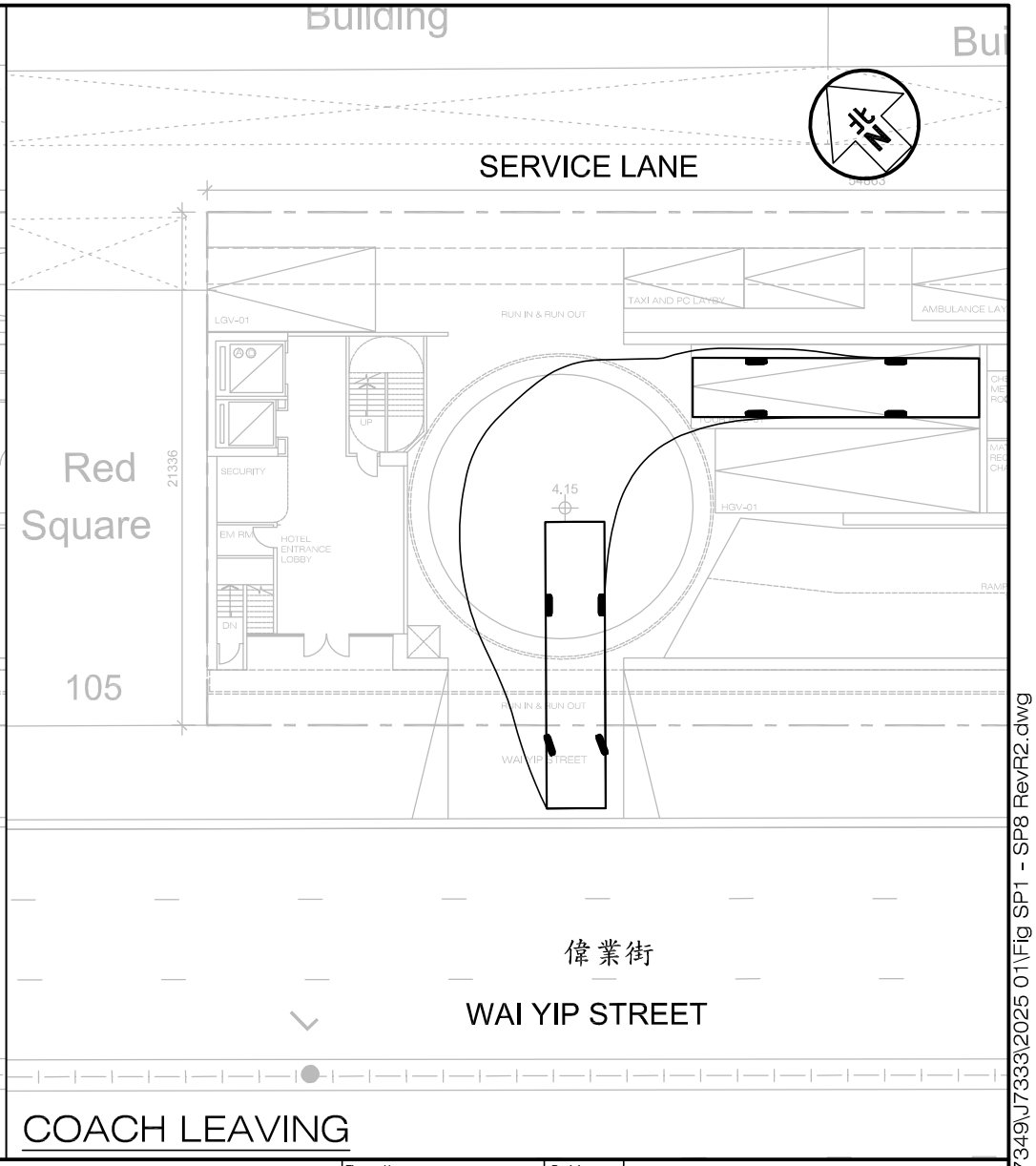


COACH ENTERING



COACH LEAVING

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP2 / Revision R2
Figure Title	SWEPT PATH OF COACH ENTERING AND LEAVING THE SINGLE-DECK TOUR BUS LAYBY TOUR BUS-01 ON G/F	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 300 / Date 04 FEB 2025

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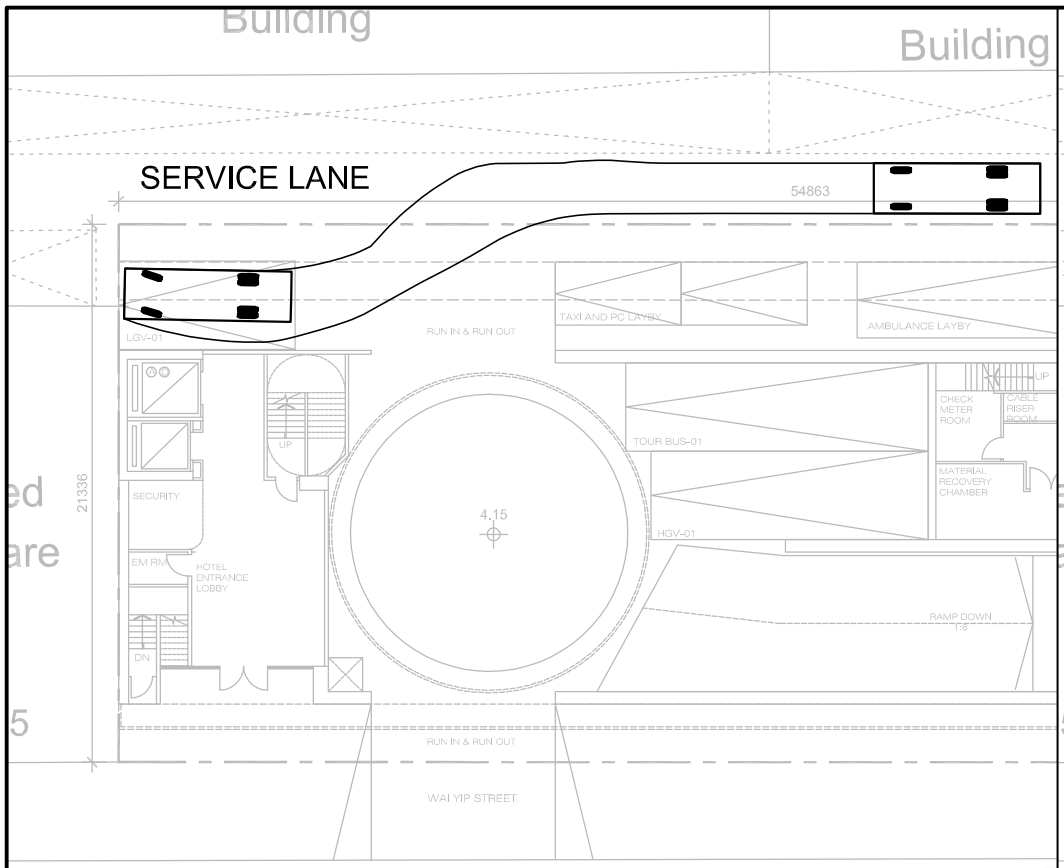
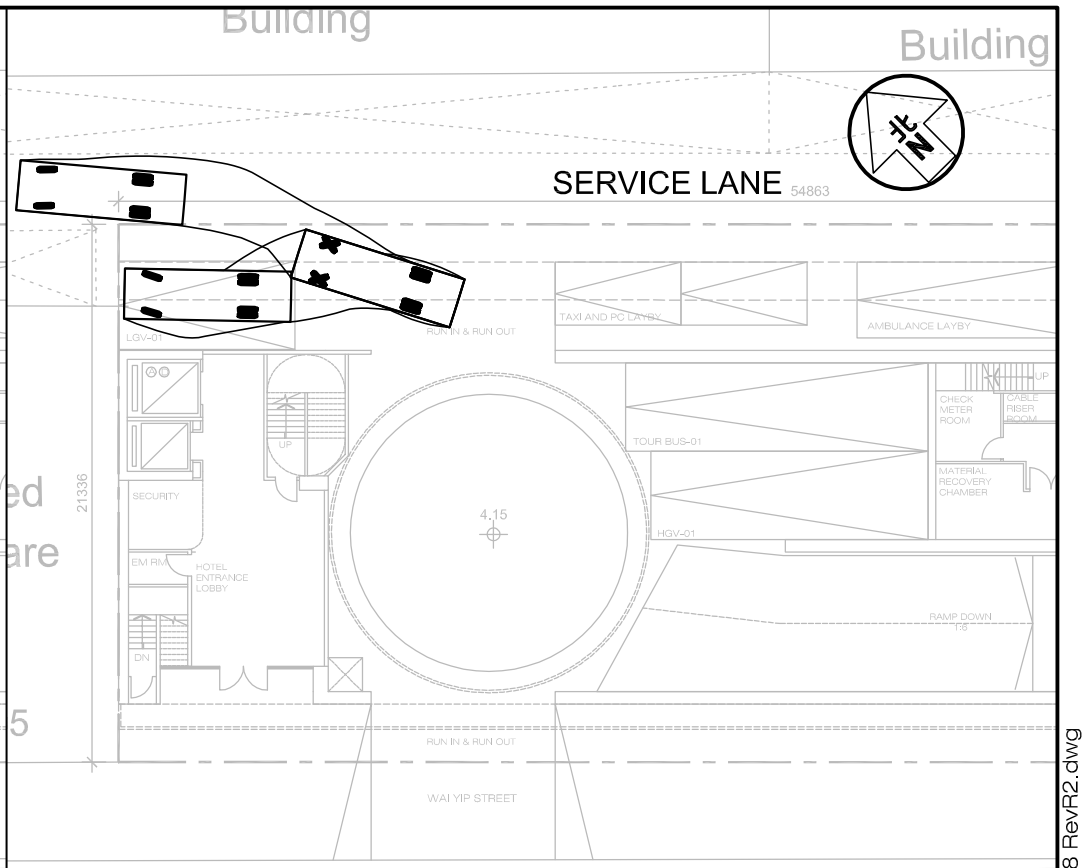


偉業街

WAI YIP STREET

LGV ENTERING THE LOADING / UNLOADING



偉業街

WAI YIP STREET

LGV LEAVING THE LOADING / UNLOADING

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP3 / Revision R2
Figure Title	SWEPT PATH OF LGV ENTERING AND LEAVING THE LGV LOADING / UNLOADING BAY LGV-01 ON G/F	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 300 / Date 04 FEB 2025

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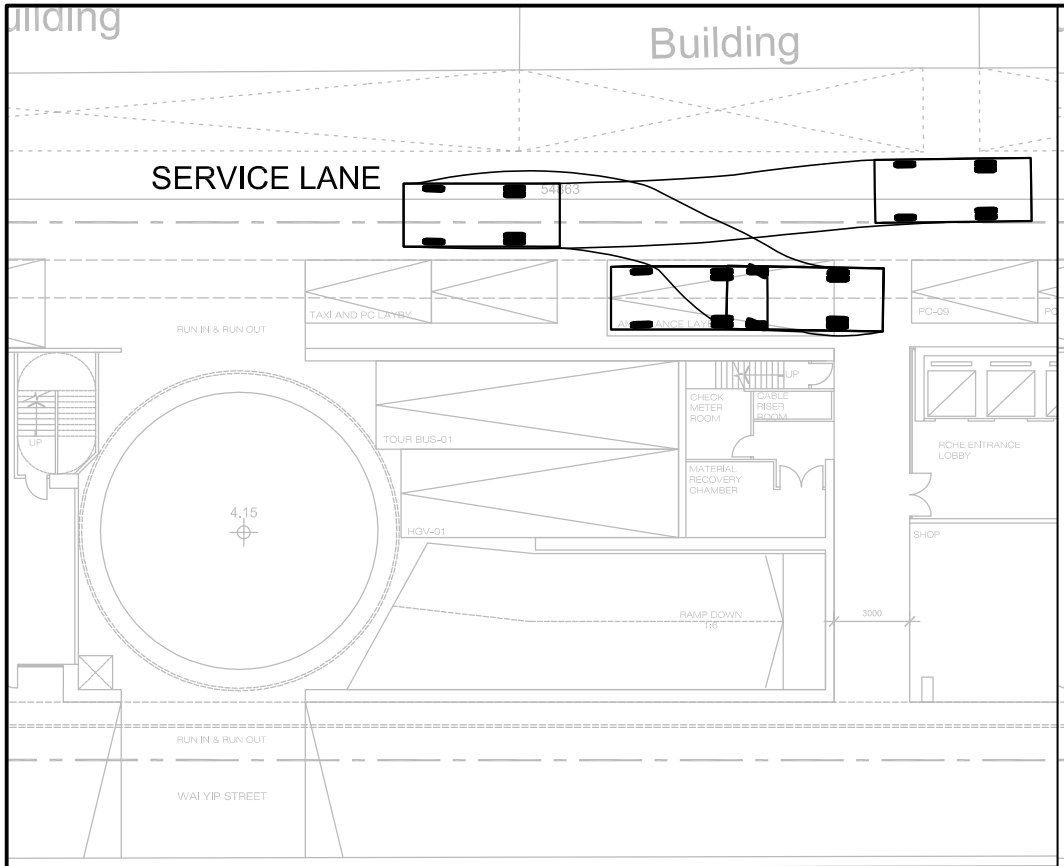
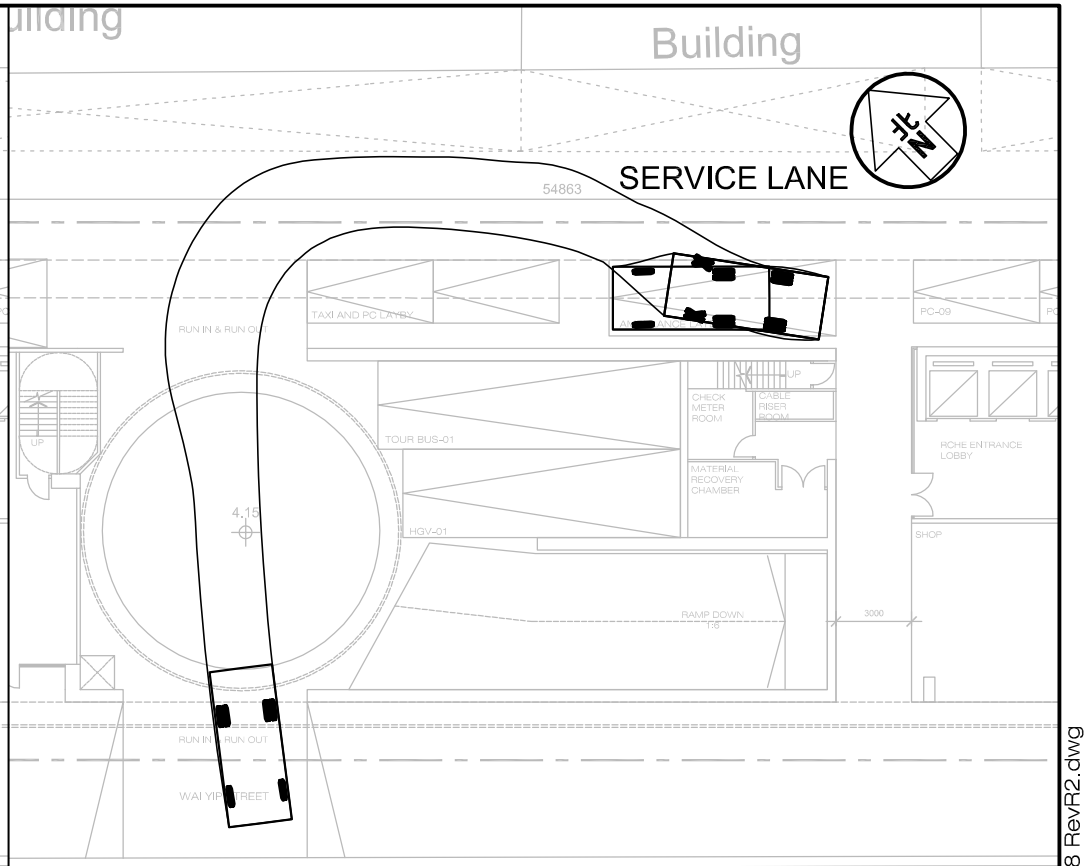


AMBULANCE ENTERING



AMBULANCE LEAVING

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP4 / Revision R2
Figure Title	SWEPT PATH OF AMBULANCE ENTERING AND LEAVING THE AMBULANCE LAYBY ON G/F	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 300 / Date 04 FEB 2025

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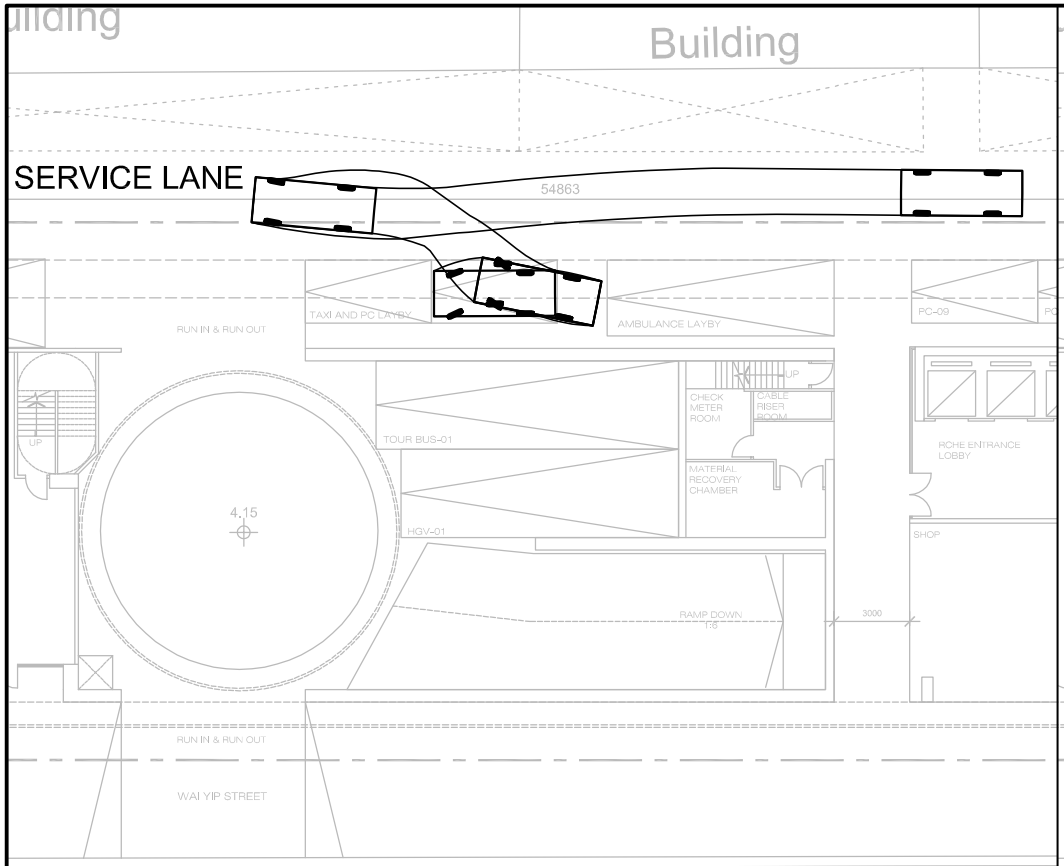
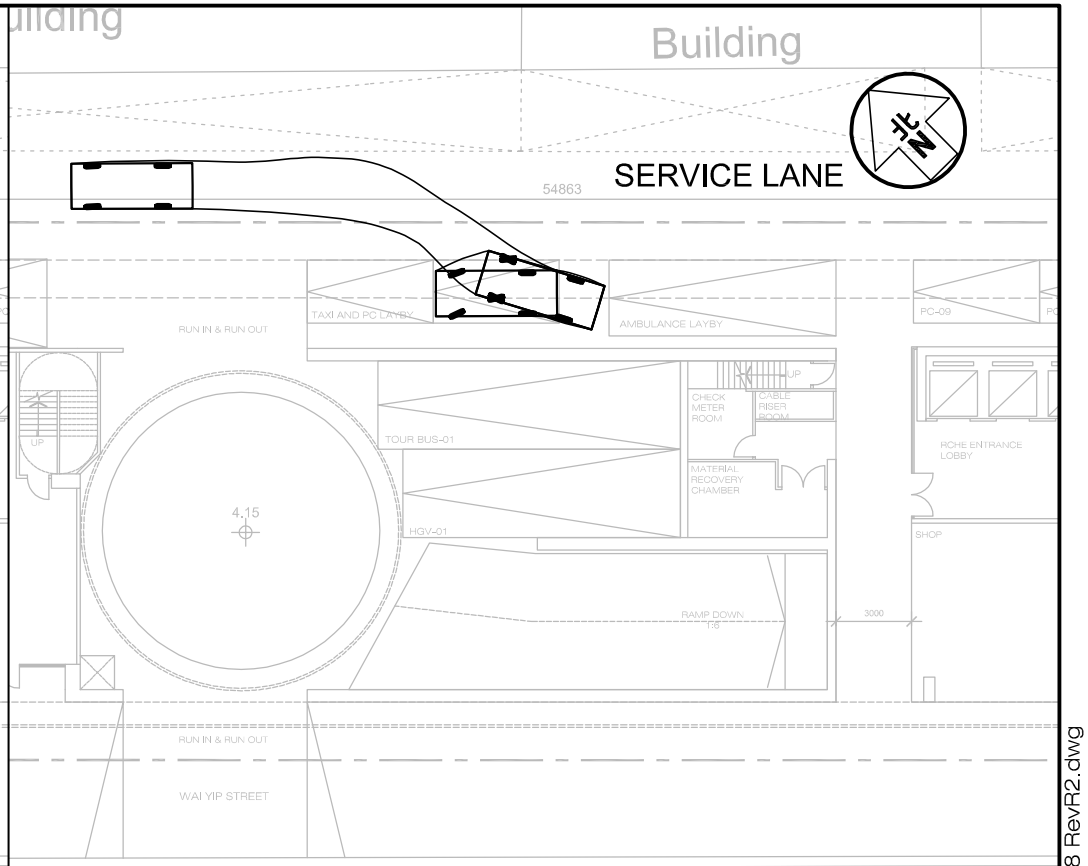


CAR ENTERING



CAR LEAVING

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107–109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP5 / Revision R2
Figure Title	SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE TAXI AND PRIVATE CAR LAYBY ON G/F	Designed by C Y Y / Drawn by N C M / Checked by K C	Scale in A4 1 : 300 / Date 04 FEB 2025

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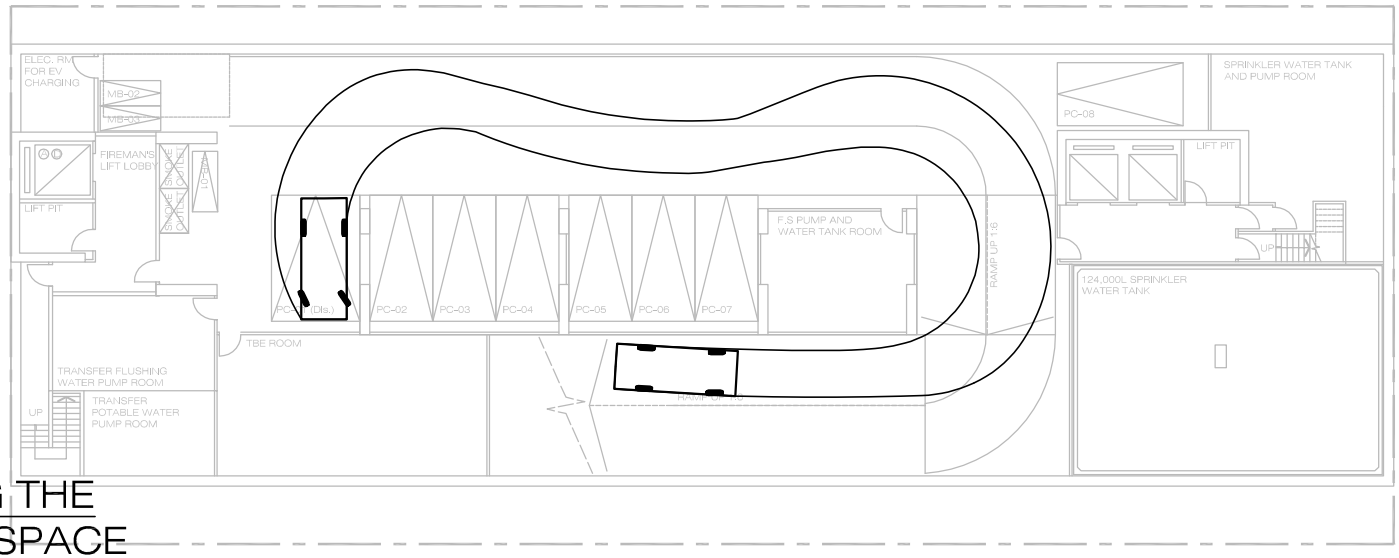
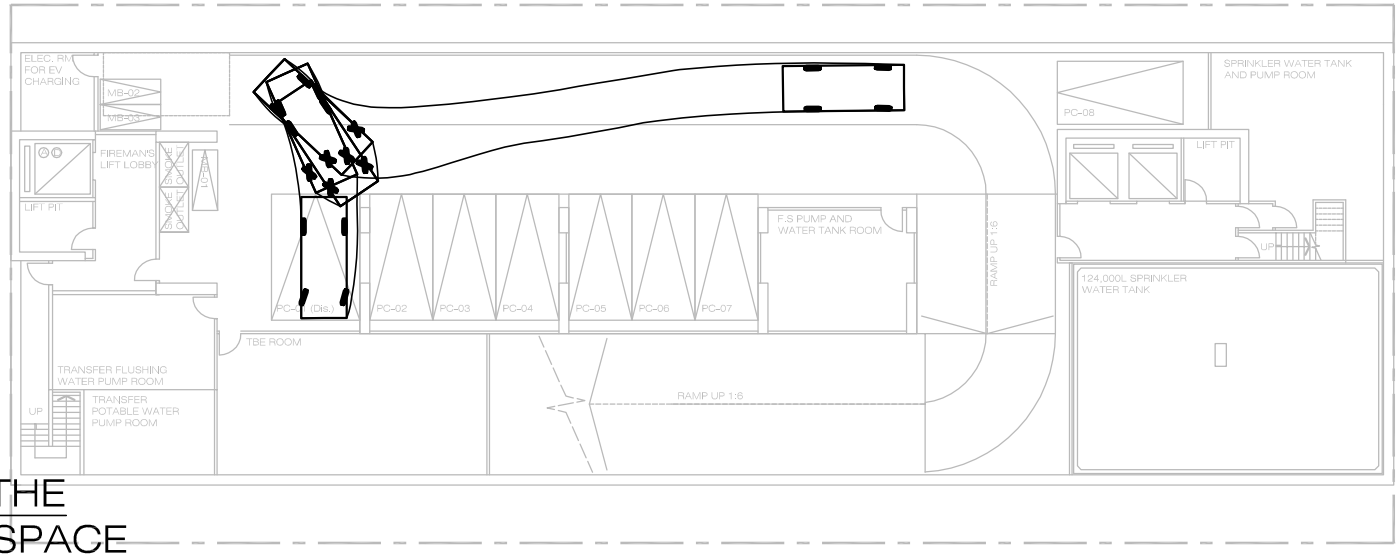


CAR ENTERING THE
CAR PARKING SPACE



CAR LEAVING THE
CAR PARKING SPACE

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP6 / Revision R2
Figure Title	SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE PC-01 ON B1/F		Designed by C Y Y / Drawn by N C M / Checked by K C Scale in A4 1 : 300 / Date 04 FEB 2025

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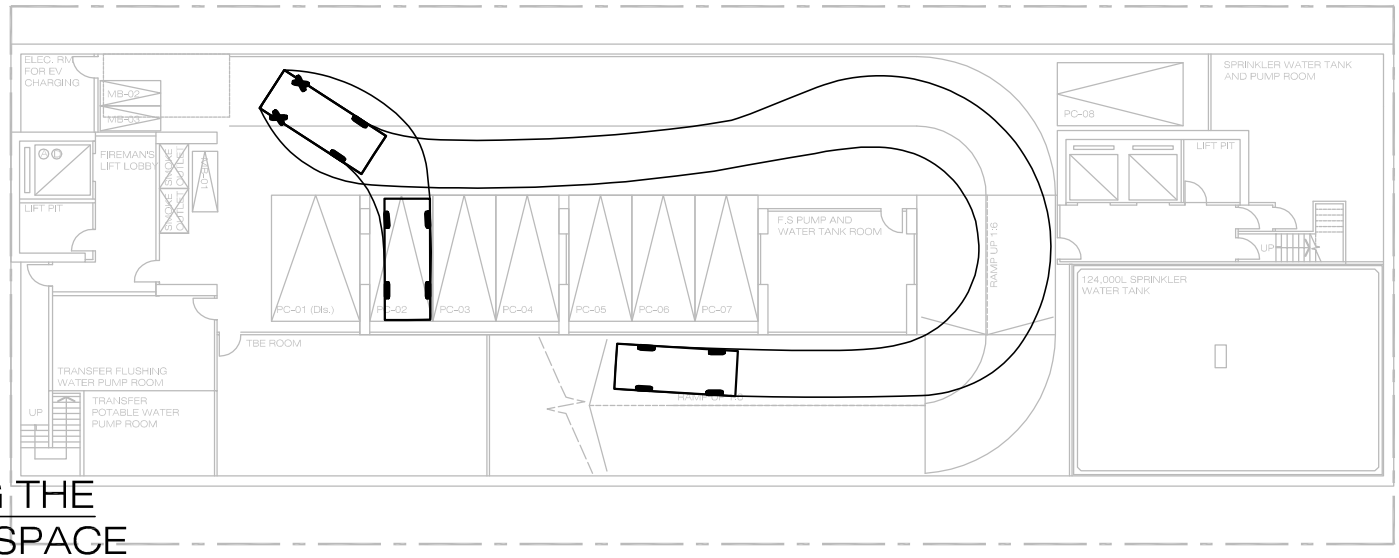
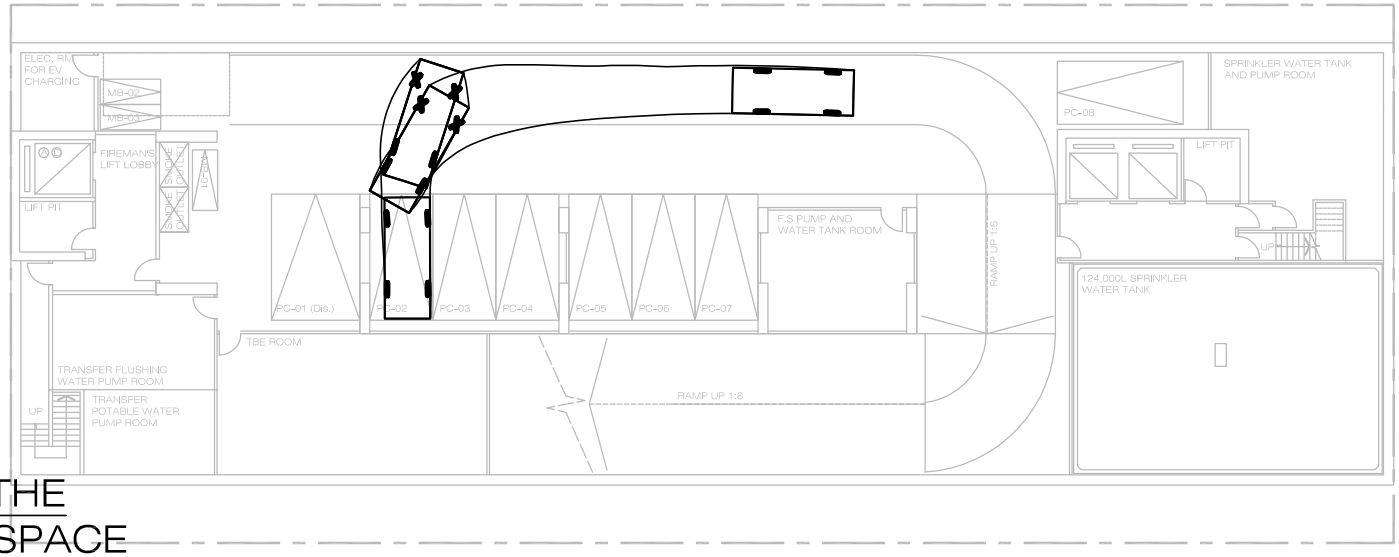


CAR ENTERING THE CAR PARKING SPACE



CAR LEAVING THE CAR PARKING SPACE

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP7 / Revision R2
Figure Title	SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE PC-02 ON B1/F		Designed by C Y Y / Drawn by N C M / Checked by K C / Scale in A4 1 : 300 / Date 04 FEB 2025

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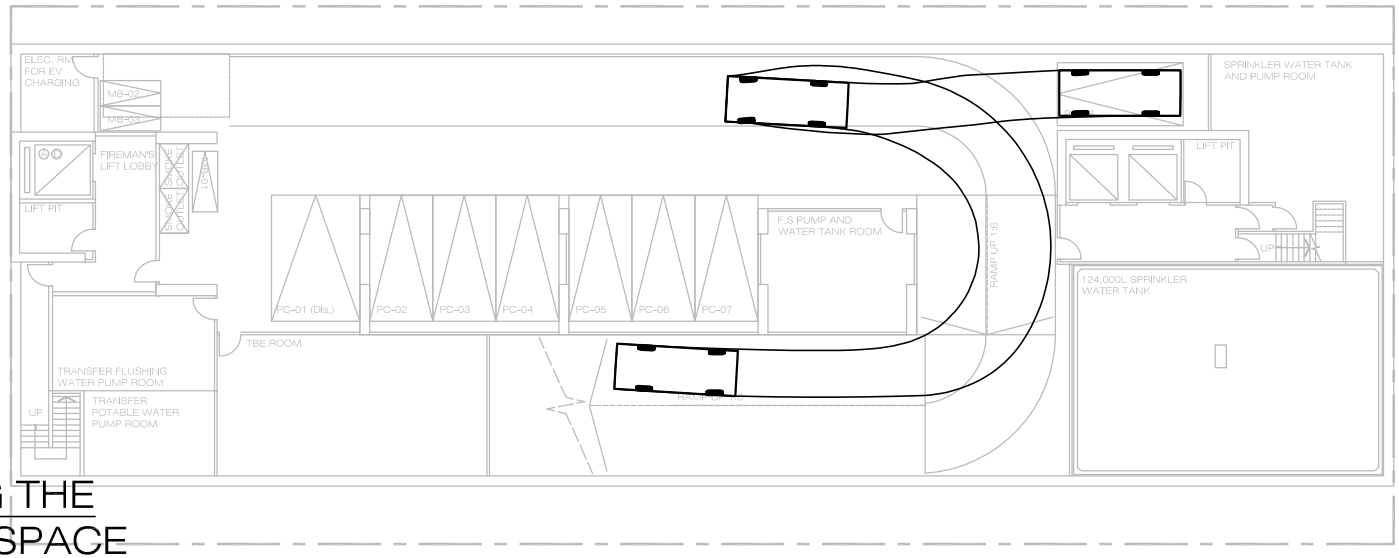
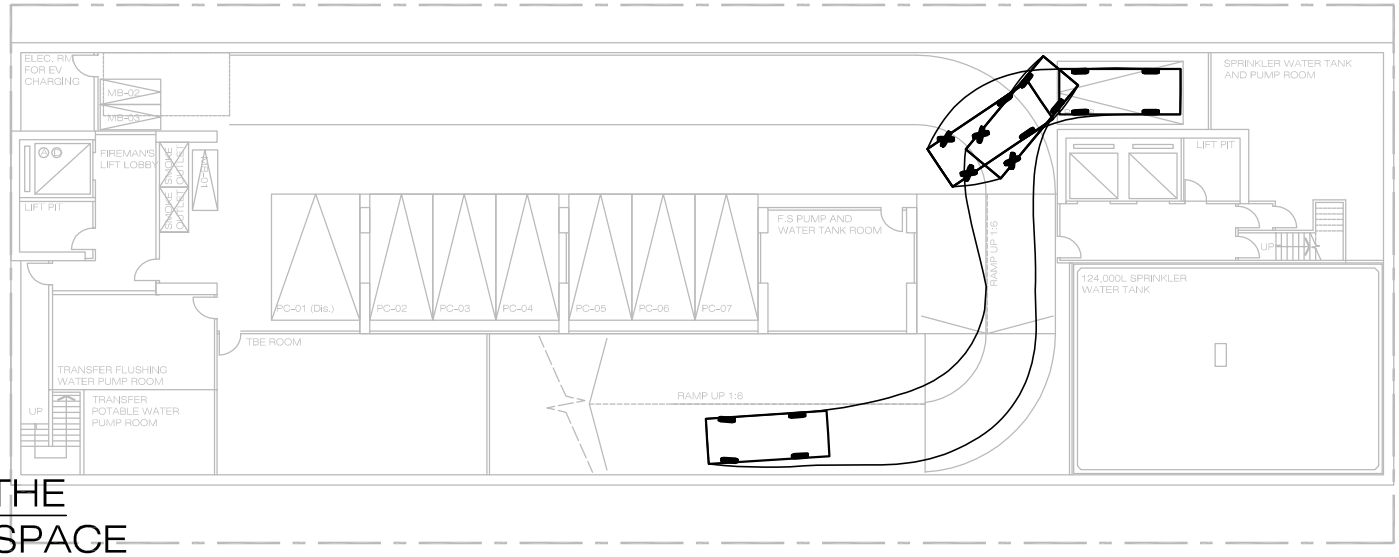


CAR ENTERING THE
CAR PARKING SPACE



CAR LEAVING THE
CAR PARKING SPACE

Project Title	S12A AMENDMENT OF PLAN APPLICATION FOR THE PROPOSED RESIDENTIAL CARE HOMES FOR THE ELDERLY AND HOTEL AT 107-109 WAI YIP STREET, KWUN TONG	J7333	Figure No. SP8 / Revision R2
Figure Title	SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE PC-08 ON B1/F		Designed by C Y Y / Drawn by N C M / Checked by K C / Scale in A4 1 : 300 / Date 04 FEB 2025

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Appendix 3 – Planned Developments in the Vicinity of the Proposed Redevelopment

N

順業街

SHUN YIP STREET

西座
West Tower

平台
Podium

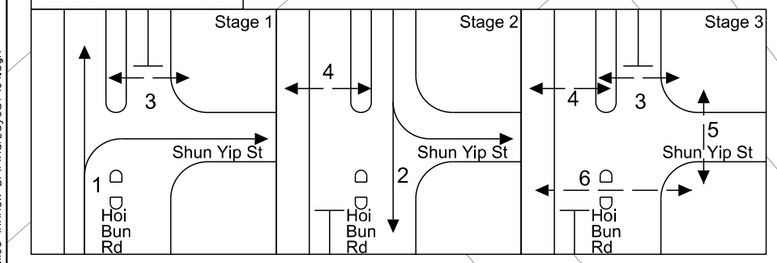
東座
East Tower

One Bay East

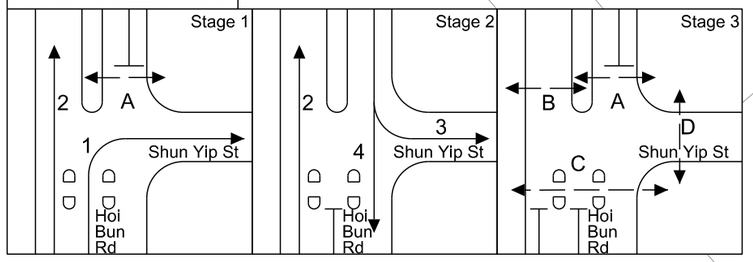
永英工業大廈
Wing Ying Industrial Building

榮記工業大廈
Chilcott Industrial Building

EXISTING MOC



PROPOSED MOC



METRES 0 5 10 15 20 25

1 : 500

LEGEND

PROPOSED IMPROVEMENT WORKS

Job Title

AGREEMENT NO. CE 4/2014 (TP) PLANNING AND ENGINEERING STUDY FOR THE DEVELOPMENT AT KOWLOON BAY ACTION AREA OF KOWLOON EAST - FEASIBILITY STUDY

FIGURE 6.4.2

Date 20MAR20 | Scale 1:500 @ A3 | Drawn WSTW | Job No. 237938

Drawing Title

PROPOSED JUNCTION IMPROVEMENT AT J4 - HOI BUN ROAD / SHUN YIP STREET

ARUP

PRINTED BY: KH Cheuk 13/11/2020 15:42:40
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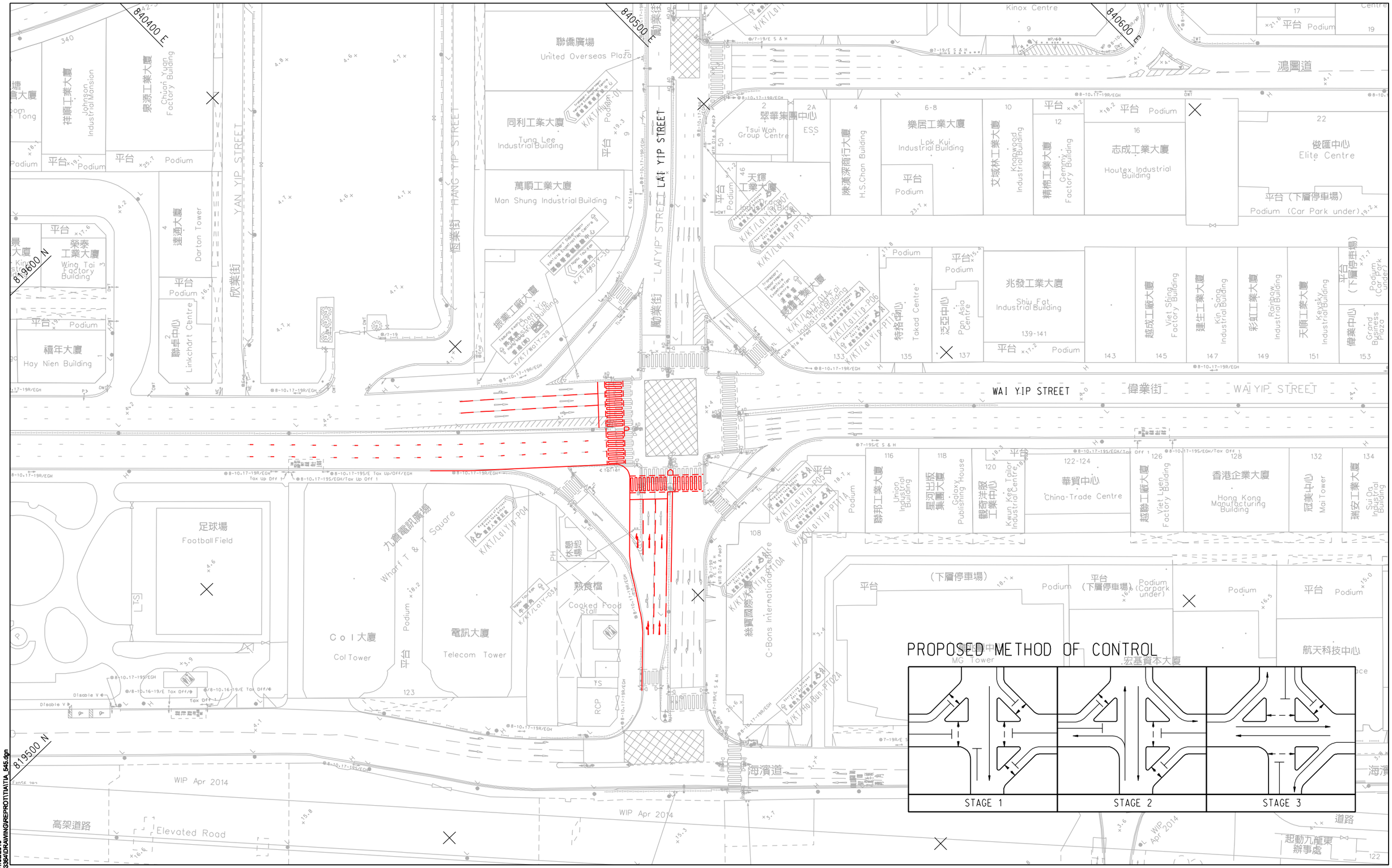

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01/08/2019

Project:
Agreement No. CE 61/2015 (TP)
Planning and Engineering Study on
Kwun Tong Action Area - Feasibility Study

Title:
IMPROVEMENT SCHEME OF LAI YIP STREET / WAI YIP STREET (J3) BY HyD NTK STUDY

Drawing No: TIA/545
Date: JUL 2019
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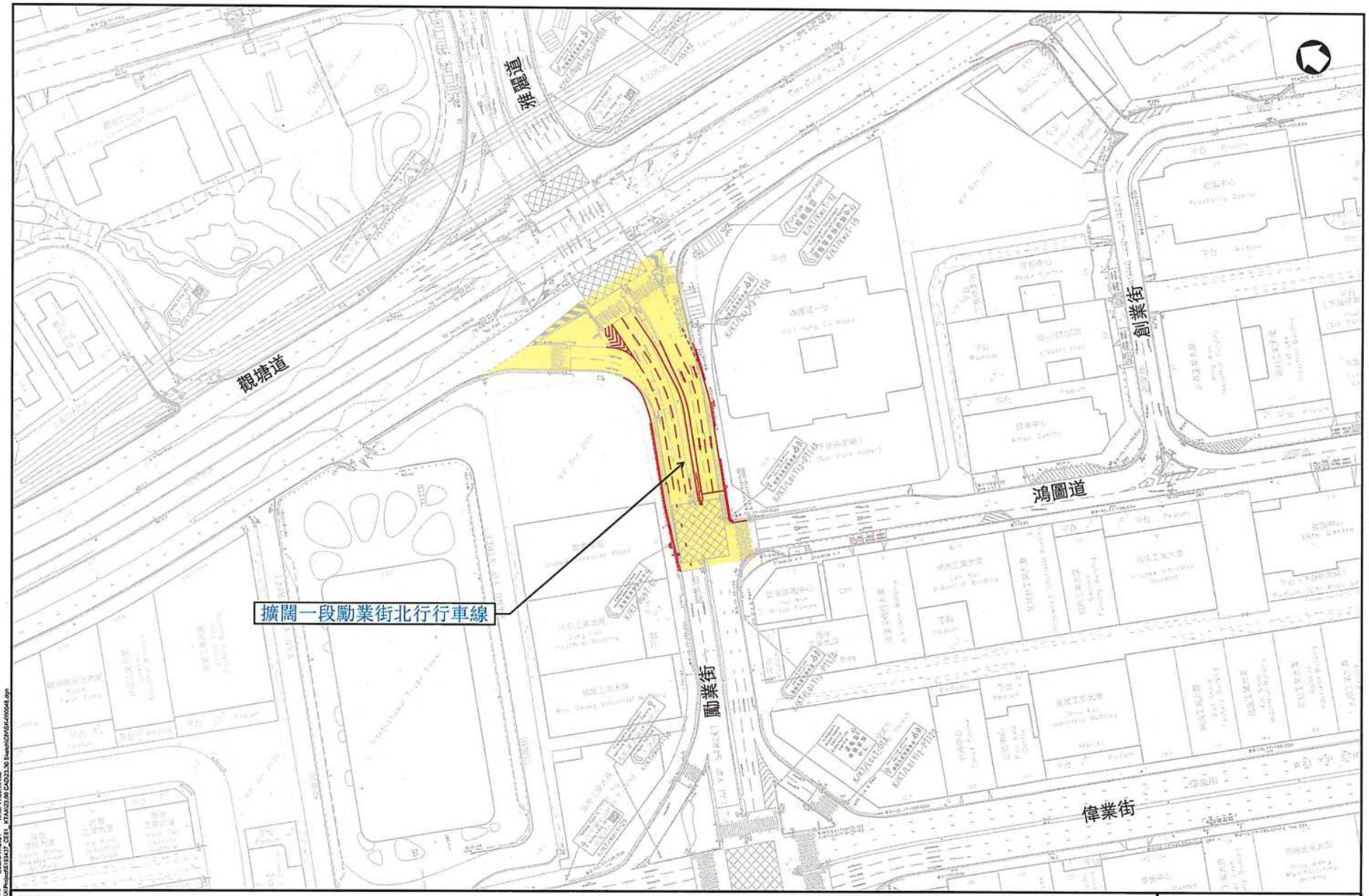
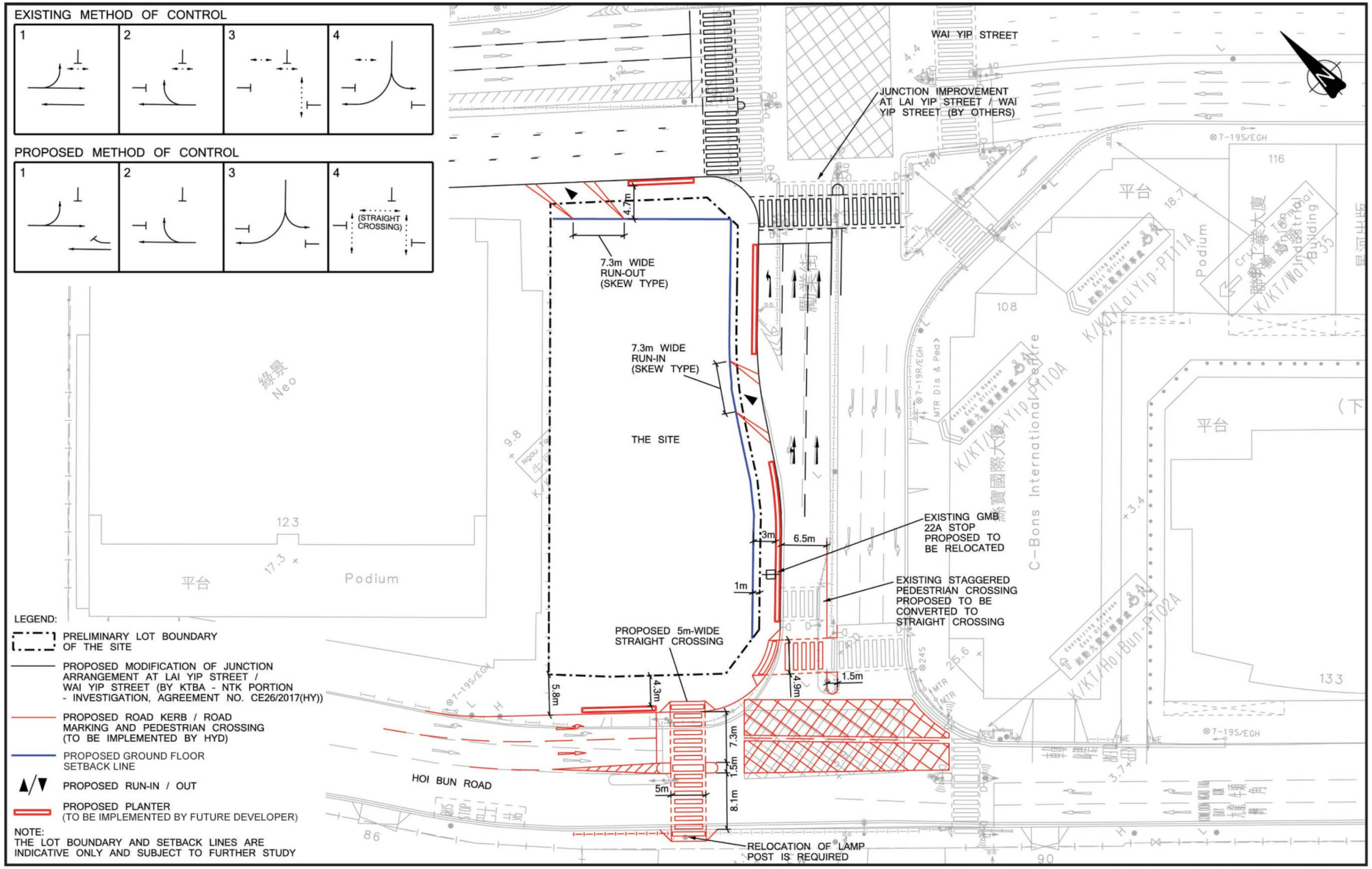


圖則名稱

道路工程計劃(三) – 擬議擴闊勵業街道路工程

圖2c



DB/LYS

FIGURE 4.1.4 PROPOSED JUNCTION MODIFICATION

(資料來源：由起動九龍東辦事處提供)
(Source: Provided by Energizing Kowloon East Office)

參考編號 REFERENCE No.	繪圖 DRAWING
M/K14S/23/35	5b

Appendix VI

Replacement Pages of Visual Impact Assessment

5. IDENTIFICATION OF VISUAL SENSITIVE RECEIVERS AND SELECTION OF VIEWPOINTS

5.1 Identifying Visual Envelope and Visual Sensitive Receivers

5.1.1 As an urban site, the Visual Envelope ("VE") or the zone of visual influence of the Proposed Development on its surroundings is determined by the buildings in the vicinity of the Site. As prescribed in the Town Planning Board Guidelines No. 41, the viewer will tend to see the building as part of a group rather than as a single building when the viewing distance equals to three times the height of the building (the 3H zone) from the Site. Therefore, the 3H zone could be used as a reference in determining the assessment area. Since the actual BH of the Proposed Development will be about 111 m, the assessment area covers a radial area of about 333 m (i.e. 3H) from the facade of the proposed development.

5.1.2 The local VE is presented in **Figure 5.1**. The visual context of the Site is currently confined by existing development on three sides except the open view to/from Kwun Tong Typhoon Shelter in the south-western direction. Since protecting private view is not the duty of the TPB, this VIA focuses primarily on public VSR only and no private VSR, such as residents of private development and users of developments with restricted/exclusive accesses (e.g. school and office, etc.) will be identified.

5.2 Selection of Visual Sensitive Viewpoints

5.2.1 Representative VPs within the VE were selected for assessing the visual impact to the VSRs. Selected VPs shall cover public views from easily accessible and popular area from different directions. When selecting VPs, priority shall be given to major public open space and public focal points which are considered as major public visual sensitive viewpoints. In this VIA, 4 local VPs are selected within the VE and 3 distant VPs are selected based on their strategic importance to the vicinity or to the territory. The selected local VPs and distant VPs are briefly introduced below, illustrated in **Figures 5.1 & 5.2** and briefly summarised in **Table 5.1**:

VP1 – Hoi Bun Road Park, Wai Yip Street (about 85m to the southeast of the Site)

5.2.2 Hoi Bun Road Park is a focal point for the north-western part of KTBA. There will be lawn, sitting area, and a soccer pitch in the park to serve the neighbourhood and KTBA. This VP is taken at the entrance of Hoi Bun Road Park to the soccer pitch. This VP is selected to represent the views of the VSRs in the park.

6.5 VP4 – MTR Ngau Tau Kok Station, Junction of Elegance Road and Kwun Tong Road (**Figure 6.4** refers)

Visual Composition

6.5.1 This VP is taken at the entrance of MTR Ngau Tau Kok Station, before the stairs which brings people down to the subway and into KTBA. The semi-open elevated platform of Ngau Tau Kok Station comes into sight and those newly redeveloped commercial developments (namely Manulife Place and the former Maxwell Industrial Building (about +125.9mPD under Application No. A/K14/763), and a redeveloped building which is under construction, namely the former Darton Tower (about +125.9mPD under Planning Application No. A/K14/782)) erected above the platform in the background. Two planned developments for office, shop and services and eating place (+115mPD and +119.5mPD) are situated in close proximity. Since majority of the sites within the street block bound by Yan Yip Street, Kwun Tong Road and Tai Yip Street are yet to be redeveloped, the existing medium-rise buildings leave a "open" skyline to the west of Manulife Place thus harbourfront developments (i.e. One Bay East) can also be seen from this VP.

6.5.2 The Site is located along the said "open" skyline. Yet, the photomontage in **Figure 6.4** shows that the Proposed Development will blend in well together with other new commercial buildings visible from this VP in the current condition. It is expected that the Proposed Development will be partly hidden by new developments on Kwun Tong Road, which would have a similar height as Manulife Place, in the future.

Visual Obstruction

6.5.3 The Proposed Development will block the view towards East Tower of One Bay East, yet this is not a prominent visual resource that requires preservation. There would be slightly change of the sky view due to the increase of BH as compared to the BHR, the Proposed Development alleviates the difference in scale between the new commercial buildings (the site of former Maxwell Industrial Building and Manulife Place) and the planned developments and creates a gradual stepping effect. The visual obstruction is slight.

Effect on Public Viewers

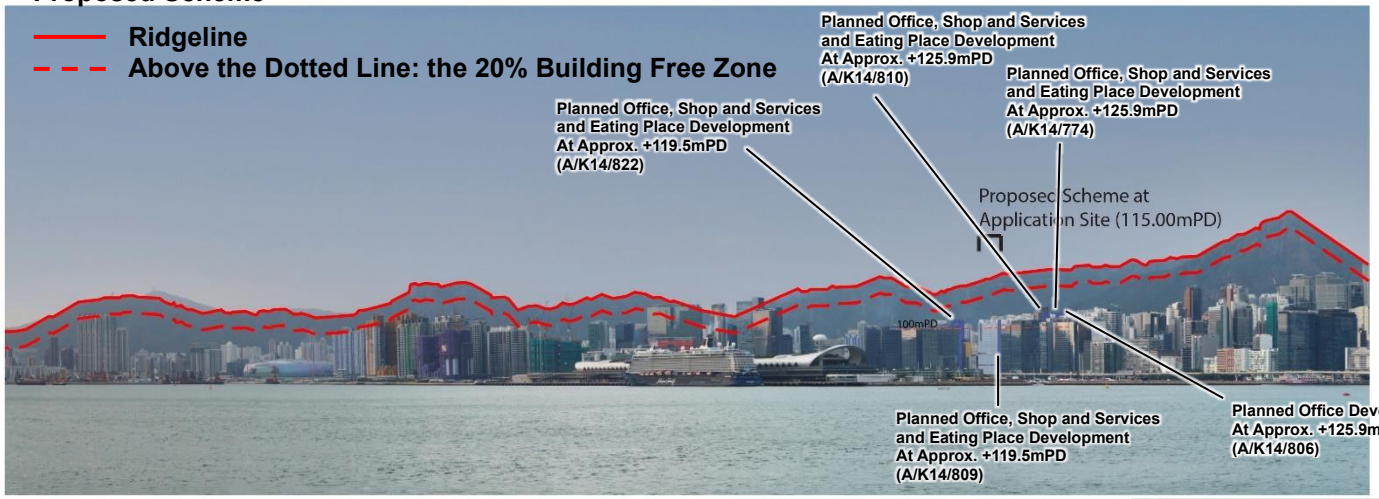
6.5.4 VSRs represented by this VP would be less sensitive to visual change as they don't tend to stop and appraise the townscape while they walk down the stairs to get into KTBA for work. As discussed above, the Proposed Development would induce changes to the view, but the visual change would be slight.

Location Plan

Scale 1:20 000

Existing Condition

Proposed Scheme



Viewpoint 6 - Quarry Bay Park

Proposed Rezoning of the Site from “OU(B)” to “OU(Residential Care Home for the Elderly and Hotel)” for a Proposed Composite Development with Residential Care Homes for the Elderly and Hotel at Nos. 107 – 109 Wai Yip Street, Kwun Tong

Figure 6.6

Singular Studio

7. CONCLUSION

7.1.1 Based on the analysis on the appraisal of visual impact on Visual Composition, Visual Obstruction, Effect on Public Views and Effect on Visual Resources, **Table 7.1** below presents the overall visual impact caused by the Proposed Development to the VSRs represented by each VP.

Table 7.1 Summary of Assessment of Visual Impact at the Selected Viewpoints

Viewpoint	Location	Visual Impact of the Proposed Building
Local Viewpoints		
VP1	Hoi Bun Road Park, Wai Yip Street	Slightly adverse impact
VP2	Hoi Bun Road Park, Hoi Bun Road	Negligible
VP3	Footbridge across Wai Yip Street, Hung Yip Street	Slightly adverse
VP4	MTR Ngau Tau Kok Station, Junction of Elegance Road and Kwun Tong Road	Slightly adverse
VP7	Kung Lok Road Children's Playground	Slightly adverse
Distant Viewpoints		
VP5	Kai Tak Runway Park	Slightly adverse
VP6	Quarry Bay Park	Negligible

7.1.2 In view of the above, this VIA therefore concludes that resultant overall visual impact of the Proposed Development to the VSRs represented by the selected VPs would be negligible to slightly adverse. The multi-level greenings on 3/F and R/F would echo with the greenery within Hoi Bun Road Park. The Proposed Development would induce noticeable change to the skyline inevitably since it is the first batch of redevelopment amongst the neighbouring medium-rise buildings, however it would appear more comparable upon redevelopment of the nearby medium-rise buildings and the visual effect of the Proposed Development would be a lot less influential.

7.1.3 Whilst the Proposed Development will create visual change for VSRs at VP1, VP3, VP4, VP5 and VP7, the Proposed Development will be compatible to the surrounding development context. The replacement of the existing industrial building by the proposed modern industrial building with carefully thought-out

façade treatment and multi-level greenings would help to enhance the visual experience and add visual interest of VSRs at these VPs.

7.1.4 Majority of the sites within the street block bound by Yan Yip Street, Kwun Tong Road and Tai Yip Street are yet to be redeveloped. The existing medium-rise buildings therefore leave a relatively low roof-line to the west of Manulife Place. Visual impact of the Proposed Development would be negligible when viewing from VP7 and largely blocked when viewing from VP4 upon redevelopment of these sites.

7.1.5 When viewing from VP5 – Kai Tak Runway Park and VP6 – Quarry Bay Park, the overall skyline is not affected generally due to other higher existing and/or planned buildings acting as the townscape backdrop. Moreover, the 20% Building Free Zone would not be affected when viewing from the strategic viewing point at VP6. Thus, the visual impact for VP5 and VP6 are slightly adverse and negligible respectively.

7.1.6 The proposed design has catered for the sensitivity of visual experience to the neighborhood and will continually improve the overall aesthetics and visual interests of the Proposed Development in upcoming architectural design development stages. Efforts have been made to ameliorate the potential visual impact of the Proposed Development as far as possible. The proposed RCHE and Hotel uses target to offer quality services, especially in social welfare aspect, for the persons in need.