

**S.16 Application for Proposed Student Hostel
at Middleton Towers, 140 Pokfulam Road
(RBL No. 825 RP)**

The University of Hong Kong

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Executive Summary

This planning application seeks approval from the Town Planning Board (TPB) under Section 16 of the Town Planning Ordinance for the proposed student hostel uses at Middleton Towers, 140 Pokfulam Road, RBL No. 825 RP (The Application Site). The Application Site has an area of approximately 10,915 m² (development area of about 8,939m²) and mainly falls within “Residential (Group C)” (“R(C)”) zone (99.3% of Application Site) with a minor portion of about 80 m² falls within “Green Belt” (“GB”) zone (0.7% of Application Site) on the approved Pok Fu Lam Outline Zoning Plan No. S/H10/23. The proposed student hostel uses fall under Column 2 use of “R(C)” and “GB” zone, for which permission from the TPB is required. As the project only involves conversion of the existing Middleton Towers with no alteration to the building height, massing, or external façade, the maximum plot ratio of not more than 2.10 and a maximum site coverage of 17.5% shall be maintained.

The project involves internal reconfiguration works to transform the existing staff quarters to student hostels to provide approximately 900 beds. The ground floor will provide common areas and ancillary facilities to serve the future hostel residents. The proposed scheme optimizes the use of the existing building bulk and is considered compatible with the surrounding low- to medium-density residential environment. Technical assessments have been undertaken, and no insurmountable impact on traffic, water supply, drainage and sewerage are anticipated.

The proposed student hostel will help address the timely need for additional student accommodation and directly support the broader policy directive of strengthening Hong Kong’s position as an international education hub. The development will also generate strong synergy with the existing and planned academic and residential facilities of the HKU campus, enhancing the overall functionality and vibrancy of the university environment.

As confirmed by the Secretary for Education on 4 March 2026, the project meets the eligible criteria of the “Hostels in the City Scheme” launched by the Development Bureau and the Education Bureau. The Scheme aims to encourage the market to increase the supply of student accommodation, thereby strengthening Hong Kong’s position as an international hub for post-secondary education.

Givern the project’s alignment with the Government’s policy objective, its demonstrable community benefits, and its positive contribution to the long-term development of Hong Kong’s education ecosystem, Members of the TPB are respectfully invited to give favourable consideration to the application.

行政摘要

本規劃申請乃根據《城市規劃條例》第 16 條，向城市規劃委員會（「城規會」）申請批准於薄扶林道 140 號明德村（地段編號 RBL 825 RP）（「申請地點」）作學生宿舍用途。申請地盤面積約 10,915 平方米（淨發展面積約 8,939 平方米），並主要劃為《薄扶林分區計劃大綱核准圖編號 S/H10/23》上的「住宅（丙類）」地帶（申請地盤面積的 99.3%），另有小部分為於「綠化」地帶，面積約 80 平方米（申請地盤面積的 0.7%）。擬議的學生宿舍用途屬於「住宅（丙類）」及「綠化」地帶的第二欄用途，故須取得城規會的規劃許可。鑒於項目僅涉及改裝現有明德村，並不會改動其建築高度、體量或外牆立面，故現行之最高地積比率不超過 2.10 倍及最大上蓋面積為 17.5%將可維持不變。

擬議發展涉及於現有明德村內進行內部裝修工程，將現有職員宿舍改裝為學生宿舍以提供約 900 個宿位予學生及職員居住，並擬議於地下樓層設置服務未來學生宿舍的共用空間及使用者的配套設施。擬議方案善用現有建築物，並與周邊低至中密度住宅發展環境相容。相關技術評估已完成，預計擬議發展用途不會對附近交通、供水、渠務及排污造成不良的影響。

擬議學生宿舍用途將有助適時提供學生宿舍設施，以回應需求，並直接支持香港作為國際教育樞紐的整體政策方向。是項發展亦將與香港大學現有及規劃中的學術及住宿設施產生良好協同效應，提升整體校園環境之功能與活力。

如教育局局長於 2026 年 3 月 4 日確認，本項目符合由發展局及教育局推出的「城中學舍計劃」的申請資格。該計劃旨在鼓勵市場增加學生住宿供應，從而進一步鞏固香港作為國際高等教育樞紐的地位。

鑑於本項目與政府政策目標高度一致，並具備明顯的社會效益，以及對香港教育生態的長遠發展具正面貢獻，謹請城市規劃委員會各委員惠予積極及正面考慮本申請。

Table of Contents

1. Introduction

- 1.1. Objective of the Application
- 1.2. Project Background

2. Site Context

- 2.1. The Application Site
- 2.2. Existing Context
- 2.3. Site Accessibility
- 2.4. Statutory Context
- 2.5. Land Status
- 2.6. Previous Planning Application

3. Development Proposal

- 3.1. Proposed Student Hostel
- 3.2. Accessibility
- 3.3. Traffic Impact
- 3.4. Sewage and Drainage Impact
- 3.5. Water Supply Impact
- 3.6. Visual and Landscape Impact

4. Planning Justifications

- 4.1. Align with the Policy Directive to Increase Student Hostel Supply
- 4.2. Utilise Existing Built Resources for Hostel Provision
- 4.3. Synergise with University Facilities in Proximity to Enhance Campus Growth
- 4.4. Conform with Planning Intention of “Residential (Group C)”
- 4.5. No Insurmountable Impact on Technical Aspects

5. Conclusion

List of Tables

Table 3-1 Proposed Parameter of the Application Site

List of Figures

Figure 1.1 Location Plan

Figure 1.2 Site Plan

Figure 2.1 Surrounding Context

List of Appendices

Appendix I Master Layout Plan

Appendix II Typical Floor Plans

Appendix III Traffic Impact Assessment

Appendix IV Drainage and Sewerage Impact Assessment

Appendix V Water Supply Impact Assessment

Appendix VI Response to Departmental Comments

Appendix VII Reply Letter from Education Bureau confirming Eligibility for “Hostels in the City Scheme”

1. Introduction

1.1. Objective of the Application

- 1.1.1. On behalf of The University of Hong Kong (HKU), AECOM Asia Company Limited submits this S.16 planning application in seeking permission from the Town Planning Board (TPB) for the proposed conversion of existing staff quarters to student hostel at the Middleton Tower, 140 Pokfulam Road (RBL No. 825 RP) (the Application Site/the Site) (Refer to **Figure 1.1**).

1.2. Project Background

- 1.2.1. With the continued increase in non-local student enrollment and the shortfall in hostel provision, the need to expand student accommodation has become increasingly pressing. The 2025 Policy Address continues to identify the enhancement of hostel supply as a key component in advancing Hong Kong's development as an International Education Hub. In support of this objective, the Government is actively encouraging the conversion or redevelopment of suitable buildings for student accommodation purposes. This includes the launching of the "Hostels in the City Scheme" ("the Scheme") in July 2025, which streamlines development control procedures to encourage market participation in increasing the supply of student accommodation.
- 1.2.2. Against this background, and in support of the Government's policy objective, the University of Hong Kong is exploring various means, including cost-effective and time efficient approaches, to expand its hostel provision. One such initiative is the collaboration with a private partner for the joint re-development of the Middleton Towers in Pokfulam to transform the existing staff quarters into modern student hostels. The project is restricted to a modification of the existing buildings internally, without alterations to the bulk of the existing the buildings, landscaping or external works. It aims to provide about 900 beds for students by internal re-partitioning to unleash the architectural and strategic locational potential. In parallel, HKU has submitted an application under the "Hostels in the City Scheme" to support and facilitate the implementation of the project, and the project is considered eligible under the Scheme by the Education Bureau (EDB) on 4 March 2026 (see **Appendix VII** for letter from EDB).
- 1.2.3. The Application Site has an area of about 10,915 m² and is located along Pokfulam Road in close proximity to HKU main campus. Currently, the Site is occupied by the Middleton Tower, a staff quarter constructed in 1965 comprising three 12-storey residential blocks providing 72 flats in total (Refer to Figure 1.2). The Site is mainly zoned "Residential (Group C)" ("R(C)") with a minor portion zoned "Green Belt" ("GB") on the approved Pok Fu Lam Outline Zoning Plan No. S/H10/23 (the Pok Fu Lam OZP). According to the

Notes of the “R(C)” and “GB” zone, the proposed student hostel use fall under Column 2. As such, a section 16 planning application is required to seek approval from the Town Planning Board.

- 1.2.4. A preliminary enquiry was submitted to the Planning Department in January 2026 on the requirements for the s.16 application. Initial departmental comments were received in February 2026 on the proposed hostel use at the Middleton Towers. Subsequently, a draft section 16 submission package was prepared in which the departmental comments received on the preliminary enquiry were addressed, and the package was submitted to the Planning Department in March 2026 to seek initial departmental comments. Based on the comments received during the pre-submission stage, the Railway Development Office (RDO), Agriculture, Conservation and Fisheries Department (AFCD), Geotechnical Engineering Office and Urban Design and Landscape (UD/L) of Planning Department and other departments indicated no concerning views or adverse comments on the project. Requirements/comments raised relating to technical assessments on traffic, sewage and water supply by the relevant departments have been incorporated and addressed in this application. For detailed responses to departmental comments, please refer to **Appendix VI**.
- 1.2.5. This planning application seeks approval for internal modifications to the existing Middleton Towers to provide a student hostel. The proposal fully aligns with current policy directives and makes efficient use of the existing built structure, thereby expediting delivery of much-needed hostel spaces. By increasing off-campus accommodation capacity in a timely manner, the project will support HKU’s long-term development, strengthen its ability to attract and retain talent, and address the growing accommodation needs associated with future student intake.

2. Site Context

2.1. The Application Site

- 2.1.1. The Application Site, with an area approximately 10,915 m² (development area of about 8,939m²), is located at 140 Pokfulam Road in close proximity to the HKU main campus. The Site is known as the Middleton Tower, comprises three 12-storey residential blocks constructed in 1965, providing a total of 72 staff quarters units. The Application Site has two platforms at different levels (~159mPD and ~163mPD respectively) and are connected via a vehicular ramp (Refer to **Figure 2.1**).

2.2. Existing Context

- 2.2.1. Immediately northeast of the Application Site are vegetated slopes zoned “Green Belt” (“GB”) under the Pok Fu Lam OZP, which form a natural buffer leading toward the Pok Fu Lam Reservoir and the Pok Fu Lam Country Park, both zoned “Country Park.” Directly north of the Application Site lies a river/stream and the Alberose (a senior staff quarters managed by HKU). To the west, the Site abuts Pok Fu Lam Road 138, a private residential building, while to the south it adjoins the High West development, an upcoming student hostel scheduled for completion in the second half of 2026.
- 2.2.2. The nearby context is predominantly characterised by low to medium-density private residential developments, including Woodbury Court, University Hall, Baguio Villa, Jessville, etc. These developments typically range between 15 and 23 storeys in height, establishing a consistent residential scale in the locality. Further southeast of the Site are various “Government, Institution or Community” (“G/IC”) uses, including the Hong Kong PHAB Association Jockey Club PHAB Camp, Pok Fu Lam Public Riding School. Across Pok Fu Lam Road are several educational and institutional facilities, including the planned Global Innovation Centre (GIC) of the University of Hong Kong, Ebenezer New Hope School, the planned new academic building expansion of No.3 Sasson Road and the proposed Clinical Training Amenities Centre at No.6 Sasson Road by HKU.
- 2.2.3. In the broader context, the neighbourhood is closely integrated with HKU, accommodating a mix of residential and educational facilities. These include the Queen Mary Hospital School of Nursing, numerous HKU research buildings, and several existing residential halls administered by HKU. Collectively, this mix contributes to a diverse yet compatible community environment that reflects the long-established academic character of the area (Refer to **Figure 2.1**).

2.3. Site Accessibility

- 2.3.1. There is a direct vehicular access from Pok Fu Lam Road leading to the Application Site via a private road under the management of HKU. The area is well served by public transport, with a range of bus and minibus routes operating along Pok Fu Lam Road, providing convenient connections within the Southern District as well as to other parts of Hong Kong Island, Kowloon and the Airport.
- 2.3.2. The Application Site is currently served by HKU's internal shuttle bus services, with Route No. 3 providing direct connection to the HKU Main Campus and a designated shuttle bus stop located at Middleton Towers.
- 2.3.3. For pedestrian access, the Site is connected to Pok Fu Lam Road by an existing footpath, which provides a continuous connection between the public footpath network, the private access road, and the Application Site.

2.4. Statutory Context

- 2.4.1. The Application Site mainly falls within an area zoned "R(C)" on the Pok Fu Lam OZP (Refer to **Figure 1.1**). The planning intention of the "R(C)" zone is primarily for low to medium-rise and low to medium-density residential developments. A small area of approximately 80 m² with vegetated slope, accounting for approximately 0.7% of the Application Site, falls within the "GB" zone. The existing development does not encroach upon the "GB" zone. The proposed use involves only internal repartitioning works would likewise not result in any encroachment into this area. The proposed student hostel use falls under the broad term use of 'Residential Institution', which is a Column 2 use under the Schedule of Uses of the Notes of the Pok Fu Lam OZP. To support the conversion of the existing buildings for the proposed student hostel use, submission of a planning application under section 16 of the Town Planning Ordinance (TPO) to seek approval from the TPB shall be required.
- 2.4.2. As stipulated in the Notes of the OZP for "R(C)" zone, the maximum plot ratio and site coverage shall be limited based on the number of storeys used for domestic purposes. For the existing Middleton Towers of 12-storey, it is subject to a plot ratio (PR) of not more than 2.10 and a maximum site coverage (SC) of 17.5%. In determining the maximum PR and SC, *"any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded."*

2.5. Land Status

- 2.5.1. The Application Site is governed by the lease conditions under RBL No. 825. According to the lease, the permitted use for the lot is restricted to housing the staff and employees and their dependent family members, non-paying guests and domestic servants employed by them or by the lease. A “Right of Way” is delineated on the lease plan to provide access to and egress from Pok Fu Lam Road. Lease modification will be separately arranged.

2.6. Previous or Similar Planning Application

- 2.6.1. There is no previous planning application in respect of the Application Site. A comparable case is the proposed residential institution (student hostel) development at High West, locating to the immediate southeast of the Application Site, which is zoned predominantly “R(C)” with a portion zoned “Green Belt” (“GB”) (Application No. A/H10/94). This application was approved by the TPB on 16 August 2019. Approval was granted on the basis that the proposed use was generally in line with the planning intention of the “R(C)” zone, compatible with the surrounding residential and institutional developments, and would not give rise to adverse traffic, landscape, or visual impacts. In light of the demonstrated shortfall in student accommodation for HKU, the TPB considered the proposal acceptable and decided to approve the application.

3. Development Proposal

3.1. Proposed Student Hostel

- 3.1.1. The Application Site has an area of 10,915 m² (development area of about 8,939m²) and is currently used for staff quarter purposes. The existing three towers will be transformed into modern hostels by internal re-partitioning to provide approximately 900 beds, intended for (i) student tenants who are full-time local or non-local (including exchange students) of the University of Hong Kong¹; (ii) Other tenants who are affiliated with the University of Hong Kong and in relation to the hostel operation, such as wardens / tutors and visiting fellows and scholars. To support the operation of the proposed student hostel, common areas and ancillary facilities will be provided solely for use by the future residents. Since the project is limited to internal modification of existing buildings, existing internal roads, footpaths, landscaping and building bulk shall be maintained.
- 3.1.2. Each of the three towers will have 12 domestic floors above ground level. The typical domestic floors will have student hostel units aligned along the common corridor. Each hostel unit will have window providing natural lighting and natural ventilation. Due to no change to the external perimeter, some units will be able to have shared use of the existing balconies. Most of the units will have shared bathroom between each pair of adjoining student units. Warden units and Tutor units may be provided on domestic floors, subject to future detail design stage.
- 3.1.3. The typical floor corridor has appropriate width as such to be able to provide student common areas/ sitting areas on each floor. The two existing passenger lifts have been proposed to be upgraded to two larger lift car sizes and grouped together at a central lift lobby. This will enhance the daily lift traffic and well-being of the students.
- 3.1.4. The proposed development parameters for the application site with the proposed student hostel are as follows:

¹ Operating publicly-funded or self-financing locally-accredited post-secondary programmes at the sub-degree (i.e. Associate Degree and Higher Diploma) or degree (including undergraduate, master, and doctorate) levels, and summer institutes. (Source: [Hostels in the City Scheme Application Guideline](#), September 2025)

Table 3-1 Proposed Parameter of the Application Site

	Existing Staff Quarters	Proposed Student Hostel
Application Site Area (m ²)	10,915	
Development Site Area (m ²)	8,939	
Plot Ratio	Not more than 2.1	
Site Coverage (%)	Not more than 17.5	
Gross Floor Area (GFA) (m ²)	- Total GFA: approx. 18,199 m² - Domestic GFA: approx. 17,070 m² (include ancillary uses) - Non-domestic GFA: approx. 1,128 m²	- Total GFA: approx. 18,199 m² - Domestic GFA: approx. 18,199 m² (include ancillary uses)
Building Height (No. of Storey)	12 domestic storeys above ground level for car parking spaces / ancillary uses.	12 domestic storeys above ground level for common areas / ancillary uses for all three buildings <i>(unchanged from the existing use)</i>
No. of Carparks & Loading/ Unloading Bays	Car parking space: 93 nos.	- Car parking space: 10 nos. - Loading/Unloading Bays: 1 no.

3.1.5. For Master Layout Plan please refer to **Appendix I**. For typical floor plans of the three towers, please refer to **Appendix II**.

3.2. Accessibility

3.2.1. The future Student Hostel will continue to be accessed via the existing access road connecting to Pok Fu Lam Road. Technical constraints, including the presence of slopes, existing retaining walls and the proximity of the High West Development, have been identified as significant barriers to widening the existing access road. To enhance future traffic safety, convex mirrors will be proposed at tight bends in accordance with the standards outlined in Vol. 3, Chapter 2.3.4 of the Transport Planning and Design Manual (TPDM) in later design stages.

3.2.2. A short section of this access road at the southern end will be shared with the High West Development and will be converted from a 2-way to a 1-way southbound to align with the planned road network of the High West Development, serving as the egress for both the Application Site and the High West Development. The ingress for these developments will be located approximately 50 m east of the egress and will be

internally connected to both the egress and the access road. Consequently, ingress traffic to the Application Site will be slightly rerouted via the new ingress, the internal road of the High West Development, and the access road to reach the site. Swept path analysis of 11m lorry and two-way private cars are done to ensure adequate maneuvering space, which is attached to **Appendix III (Appendix E)**.

3.3. Traffic Impact

- 3.3.1. A Traffic Impact Assessment (TIA) was undertaken to evaluate traffic impact due to the changes of use of Middleton Tower, including the operational and construction stage of key junctions assessments and public transport demand assessments. The TIA report is enclosed as **Appendix III**.
- 3.3.2. The assessments on key junctions include 8 junctions along Pok Fu Lam Road on 3 scenarios, namely year 2026 observed case, year 2031 reference and design case. Although currently the units at the existing staff quarter is not fully occupied, full intake for both the existing and proposed uses was adopted for reference and design case respectively to ensure a like-for-like comparison and fair assessment of traffic impact.
- 3.3.3. Trip generation surveys were conducted at Tam Towers & Gardens, an existing HKU staff quarters in the vicinity with 79% occupancy rate, and University Hall to understand the traffic conditions of the existing staff quarters and the proposed student hostel respectively.
- 3.3.4. As shuttle services will be provided for the increased resident population, it is assumed that the students from the proposed student hostel travelling by non-private modes (i.e transport modes other than private car and taxi) would primarily use HKU shuttle bus rather than public transport.
- 3.3.5. As detailed in the TIA, the junction assessments for all 8 junctions along Pok Fu Lam Road are within capacity, taken into account eight planned developments in the vicinity up to 2031. In view of this, the proposed change to student hostel is considered acceptable from traffic point of view.
- 3.3.5. During construction stage, it is expected to generate minimal construction traffic (15 pcu/hr 1-way) as the construction works will mainly involve internal re-partitioning and only a limited amount of construction materials and waste is anticipated. Moreover, internal re-partitioning works for Middleton Tower are anticipated to be completed in 2028, well in advance of the commencement of construction for the adjacent Global

Innovation Centre. Therefore, insignificant impact on the surrounding road network is anticipated.

3.4. Sewage and Drainage Impact

Sewage System

- 3.4.1. Upon review, the capacity of existing sewers are sufficient to cater for the sewage generated from the proposed student hostel. No upgrading works on the existing public sewers are required and therefore there would not have any adverse impact on the public sewerage system.

Drainage System

- 3.4.2. Surface runoff is mainly from rainfall and it will be directed to existing public storm drains. As the existing site is currently on hard-paved ground and only internal re-partitioning works on the existing Middleton Towers will be involved, it is anticipated that the proposed hostel development will not affect the drainage path or lead to any changes in the runoff behaviour.
- 3.4.3. Since there will be no change or abandonment of existing drains, no additional stormwater discharge will be resulted. As such, adverse impact on the existing drainage system is not anticipated and a detailed drainage impact assessment is therefore considered not necessary.
- 3.4.4. The detailed drainage and sewerage impact assessment can be found in **Appendix IV**.

3.5. Water Supply Impact

- 3.5.1. Based on the assessment (see **Appendix V** for the report on Water Supply Impact Assessment), the existing water main are adequate to serve the future hostel development. No upgrading works of the existing pumping stations, service reservoirs and water mains are required.
- 3.5.2. The responsibility for operation and maintenance of the proposed waterworks will be discussed and agreed with Water Supplies Department (WSD) and relevant departments during detailed design stage.
- 3.5.3. It is concluded that the proposed student hostel can be implemented without insurmountable water supply impact.

3.6. Visual and Landscape Impact

- 3.6.1. The project is restricted to internal modification of the existing buildings, without alterations to the bulk of the existing buildings, landscaping or external works. Given the internal nature of works, no visual or landscape impact is anticipated.

4. Planning Justifications

4.1. Align with the Policy Directive to Increase Student Hostel Supply

- 4.1.1. In the 2024 Policy Address, the Government reiterated that “education nurtures our future, technology denotes our strength, and talents lead our development,” highlighting Hong Kong’s strategic position as an international education hub. With five local universities ranked among the global top 100, Hong Kong possesses clear competitive advantages to attract and retain high-calibre students and academic talent. To sustain this momentum, it is essential not only to provide high-quality post-secondary education, but also to ensure that adequate supporting facilities, including sufficient and well-located student accommodation, are available to meet growing demand.
- 4.1.2. In support of this policy direction, the Development Bureau and the Education Bureau jointly launched the “Hostels in the City Scheme” (the Scheme) in July 2025 to streamline development control procedures, so as to encourage the market-led conversion of commercial buildings into student hostels, thereby increasing the supply of student accommodation. Also announced in the 2025 Policy Address, the Scheme has expanded to cover new hostel developments. Under the enhanced arrangement, planning approval is in general not required for the construction of new student hostels or for conversion on most commercial sites². The Government has recently earmarked three commercial sites in Kai Tak, Siu Lek Yuen and Tung Chung East for the development of new hostels and has invited the market to submit expression of interest. These policy initiatives underscore the Government’s commitment to increasing hostel capacity through diverse development models.
- 4.1.3. Further to HKU’s application, the Education Bureau (EDB) confirmed in its letter on 4 March 2026 (see **Appendix VII**) that the proposed student hostel at the Middleton Towers is eligible under the Scheme. The EDB’s confirmation indicates clear alignment of the proposed use with the prevailing policy directives and affirms that the project is supported within the Government’s education framework. This institutional endorsement also underscores the recognized public benefits of expanding student accommodation provision and strengthening accommodation support for tertiary education.

² The Town Planning Board has expanded the definition of ‘hotel’ use under the planning regime to include eligible student hostels under the Scheme. As a result, commercial sites zoned “Commercial” (“C”) with ‘hotel’ under Column 1 will be always permitted. For sites zoned “Other Specified Use (Business)” (“OU(B)”), planning permission is required.

4.1.4. HKU anticipates that non-local students will account for approximately 66% of all its undergraduate, taught postgraduate and research postgraduate population, representing more than 22,300 non-local students in the 2024/25 academic year³. HKU recognizes that maintaining full accommodation coverage will be increasingly challenging if enrolment continues to grow at this scale. With the anticipated substantial rise in student enrolment in the coming years, coupled with a shortfall in on-campus and off-campus student housing, HKU is actively exploring opportunities to leverage existing infrastructure to enhance and expand its student accommodation provision. The proposed internal refabrication of Middleton Towers as student hostel therefore directly supports the broader policy directive to strengthen Hong Kong's position as an international education hub, by ensuring that adequate, high-quality hostel facilities are in place timely to meet future demand.

4.2. Utilise Existing Built Resources for Hostel Provision

4.2.1. To address HKU's projected increase in student enrolment and the associated shortfall in hostel places, the Application adopts an adaptive-reuse approach by converting the existing staff quarters into modern student accommodation. The conversion will be achieved through internal re-partitioning only, with no changes to the building bulk, façades, or internal landscaping.

4.2.2. This approach enables the effective utilisation of the existing buildings, transforming the three towers into student hostels providing approximately 900 bed spaces. By leveraging existing building stock and infrastructure, the proposal significantly shortens project delivery time while minimising construction costs and material waste. It therefore represents a resource-efficient and sustainable solution that aligns with HKU's long-term development goals.

4.3. Synergise with University Facilities in Proximity to Enhance Campus Growth

4.3.1. Located directly opposite the planned Global Innovation Centre (GIC) and well connected to HKU's main campus by public transport and shuttle services, the future hostels at the revitalized Middleton Towers will form an integral component of a well-integrated and cohesive university environment. Their proximity to major teaching and research facilities ensures convenient and integrated accommodation that supports HKU's academic expansion and talent-development goals.

4.3.2. The Application Site, together with the planned High West Student Hostel and the GIC, will reinforce the area's emerging identity as a university-oriented community. The

³ Annual Report – The University of Hong Kong <https://annualreport.hku.hk/2025/the-university-profile.html>

proposed student hostel complements the established residential setting and supports HKU's ongoing academic expansion, while enhancing HKU's capacity to attract and retain high-calibre students and fostering a more connected and vibrant campus environment.

- 4.3.3. To support the day-to-day needs of users at both Middleton Towers and High West student hostels, neighbourhood-serving facilities, such as a convenience store or small-size supermarket are proposed within the Site. These will provide convenient and proximate amenities for hostel users and help foster a well-supported and liveable student environment.

4.4. Conform with Planning Intention of "Residential (Group C)"

- 4.4.1. The "R(C)" zone is intended for low- to medium-rise, low- to medium-density residential developments. The proposed use as a student hostel is residential in nature and is broadly comparable to conventional residential developments in terms of occupancy and living patterns. The proposal involves internal re-partitioning of existing buildings only, with no alteration to the external built form of the three towers. As a result, the visual appearance, building bulk, height and overall development density of the Site will remain unchanged. In view of the compatible hostel use and the absence of any changes to the existing development bulk and built form, the proposed student hostel development is considered fully in line with the planning intention of the "R(C)" zone.

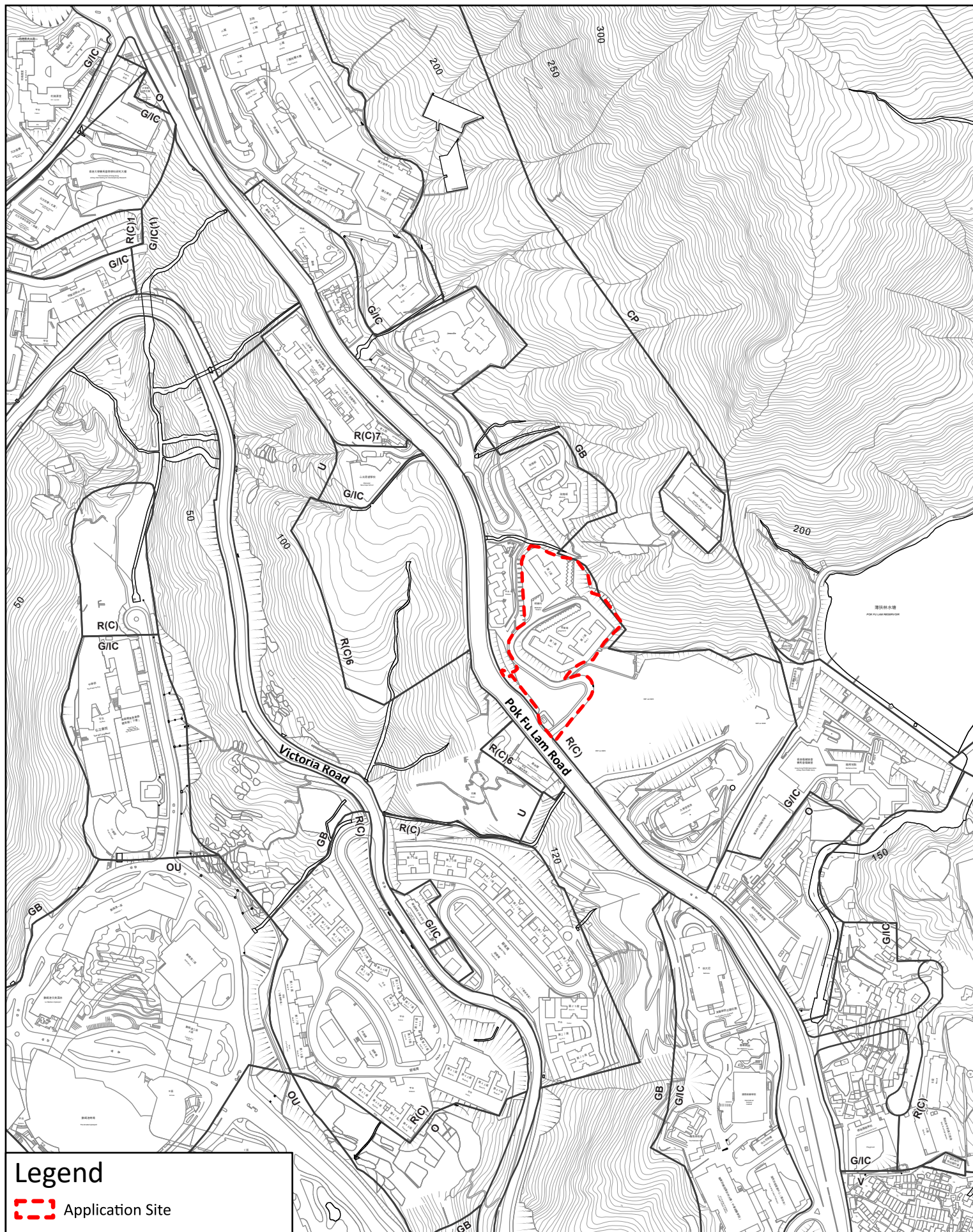
4.5. No Insurmountable Impact on Technical Aspects

- 4.5.1. As the proposal does not involve any alteration to the existing building bulk or overall development intensity, the relevant technical assessments have confirmed that the project is acceptable. From a traffic perspective, the proposed student hostel use is not anticipated to result in adverse traffic impact or reduce junction performance below capacity.
- 4.5.2. With respect to drainage and sewerage, the proposal does not necessitate any upgrading works to the existing public sewers, and no adverse impact on the public sewerage system is expected. Similarly, as there will be no modification, diversion, or abandonment of the existing drains, the proposed development will not result in any additional stormwater discharge. Therefore, adverse impact on the existing drainage system is not anticipated. In terms of water supply, the proposed student hostel can be accommodated without imposing any insurmountable impact on the existing water supply network.

5. Conclusion

- 5.1. The proposed conversion of Middleton Towers into a residential institution (student hostel) is considered appropriate and compatible with the surrounding context of Pok Fu Lam. By repurposing and optimising the existing buildings through internal re-partitioning works only, the proposal enables more efficient utilisation of the Site while supporting HKU's projected growth in student numbers. This approach aligns with Government policy directions to strengthen Hong Kong's position as an international education hub, where the timely provision of sufficient, high-quality student accommodation is essential to attracting and retaining a diverse and international student body.
- 5.2. Consistent with these policy objectives, HKU anticipates a more internationalised student profile and remains committed to exploring opportunities in expanding hostel capacity. This project contributes meaningfully to this broader objective, delivering additional student beds with minimal external impact and without altering the existing building bulk or character. The reliance on internal modifications only ensures that traffic, water supply, drainage and sewerage implications are limited.
- 5.3. This project will help strengthen the living-and-learning environment within the Pok Fu Lam area, creating synergies with nearby educational and "G/IC" facilities, including the planned GIC development across Pok Fu Lam Road. This will further reinforce a cohesive academic community in the district.
- 5.4. Moreover, the EDB's endorsement of this project under the "Hostel in the City Scheme" affirms that the proposed conversion of Middleton Towers aligns with the government policy objective of encouraging market-led conversions to increase the supply of student accommodation. The project also broadens the potential sources of student housing by introducing the option of refabricating existing university accommodation facilities, thereby enriching the range of approaches in support of the Scheme.
- 5.5. Overall, the proposed development conforms with the planning intention of the "R(C)" zone, is compatible with surrounding residential and institutional uses, and represents a sustainable and well-justified approach to meeting HKU's accommodation needs. Members of the Town Planning Board are therefore respectfully invited to consider the application favourably.

Figures



Legend

 Application Site

Plan extracted from
Pok Fu Lam Outline Zoning Plan
No. S/H10/23, approved on 3 June 2025.

0 50 100 200 Meters

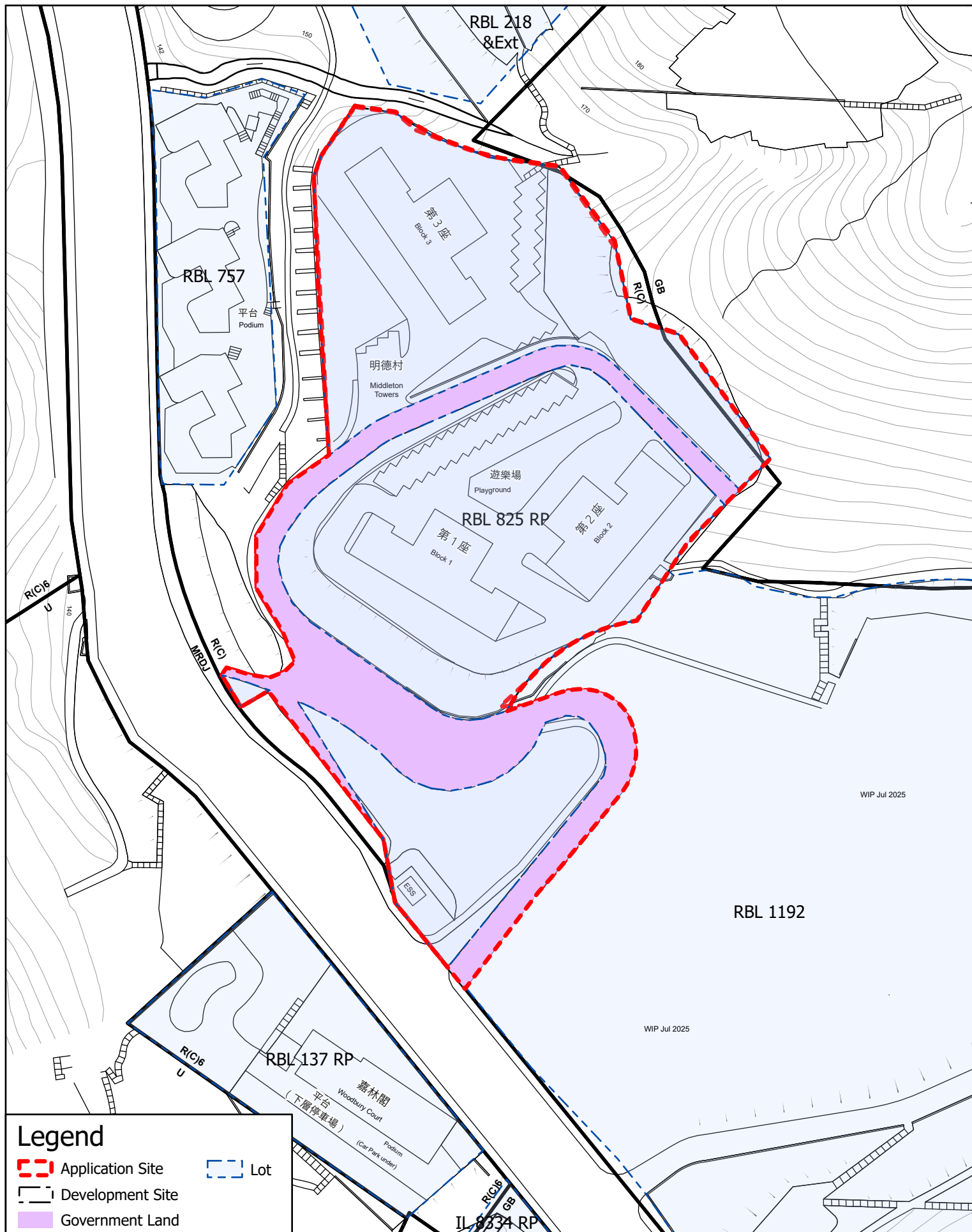
Location Plan

Proposed Conversion to Student Hostel at Middleton Towers,
140 Pokfulam Road (RBL No. 825 RP)

Date: 1.29.2026

Figure 1.1

AECOM



Legend

- Application Site
- Lot
- Development Site
- Government Land

Lot and site information extracted from the i-Series Digital Maps, including iB1000, iB5000, iB10000 and iC1000. (Source: Common Spatial Data Infrastructure)

0 10 20 40 Meters

Site Plan

Proposed Conversion to Student Hostel at Middleton Towers,
140 Pokfulam Road (RBL No. 825 RP)

Date: 1.29.2026

Figure 1.2

AECOM



Surrounding Context

Proposed Conversion to Student Hostel at Middleton Towers,
140 Pokfulam Road (RBL No. 825 RP)

Date: 1.29.2026

Figure 2.2

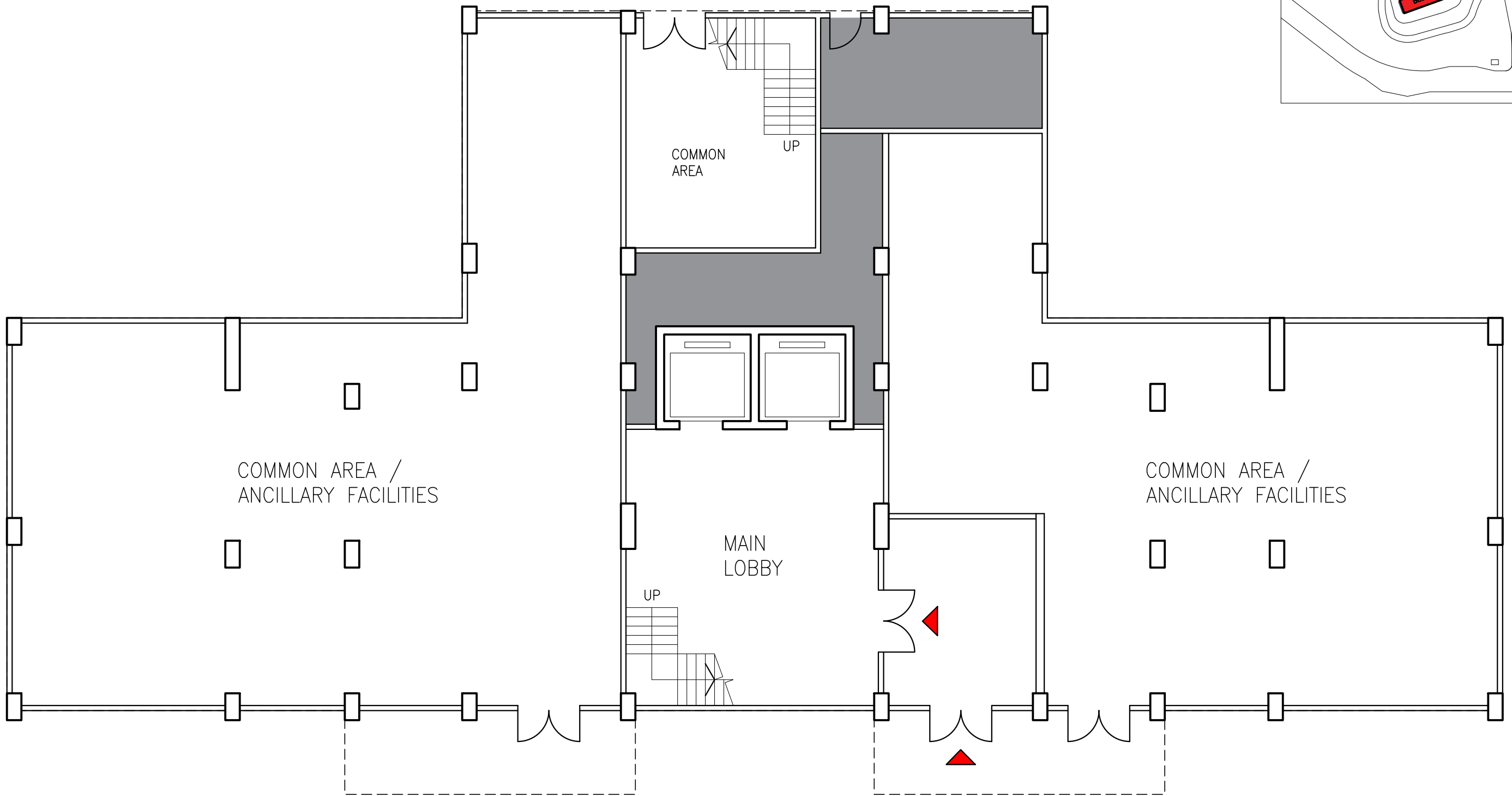
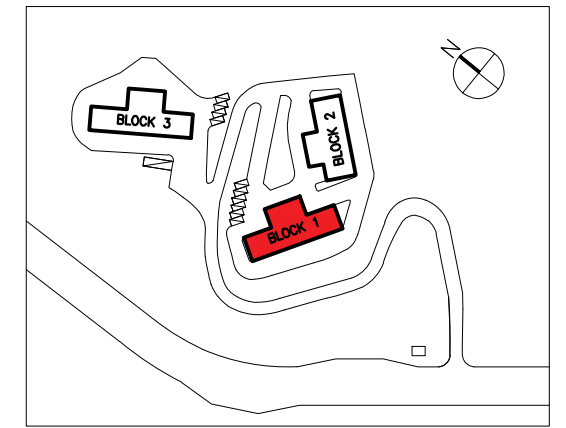
AECOM

Appendix I

Master Layout Plan

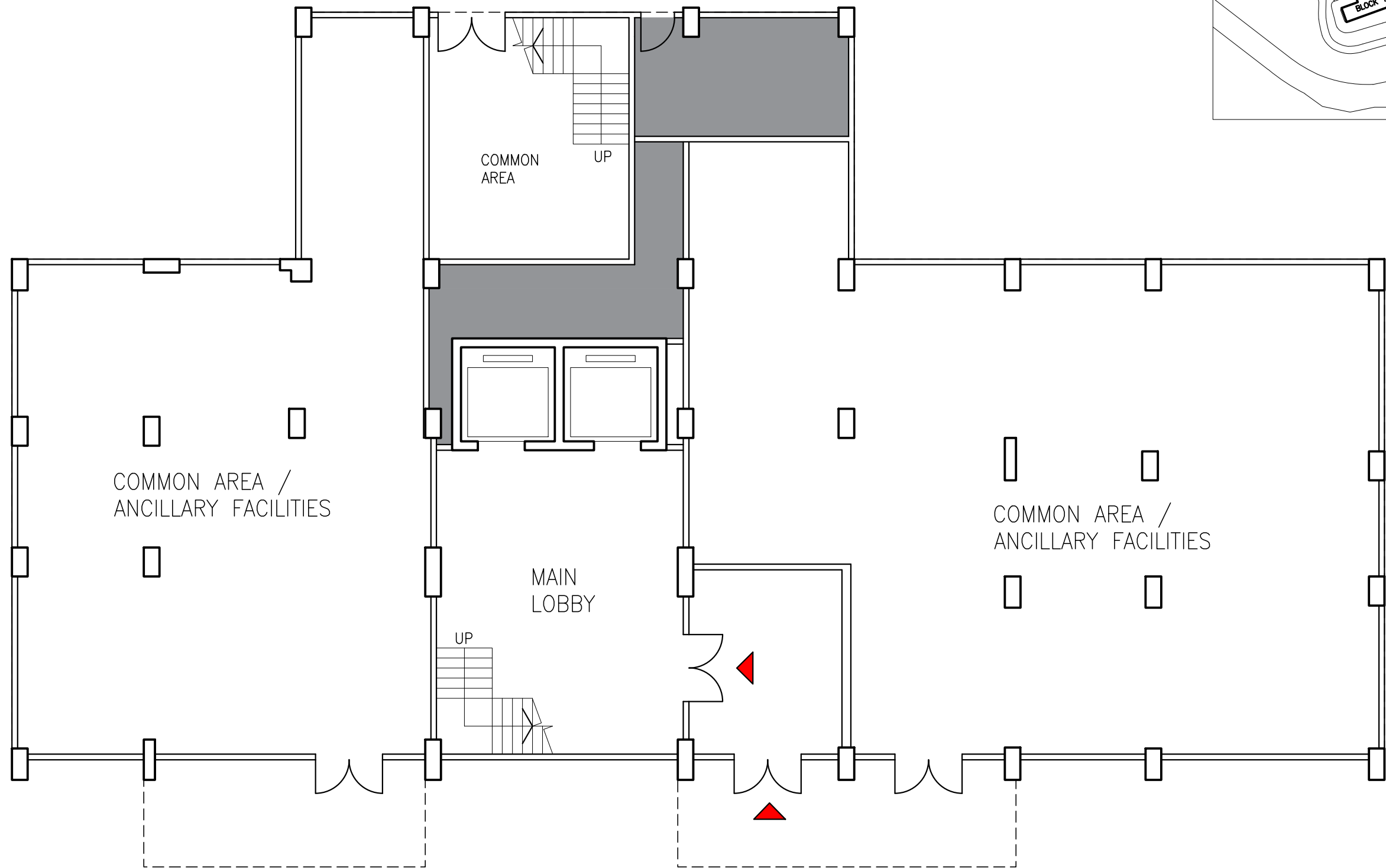
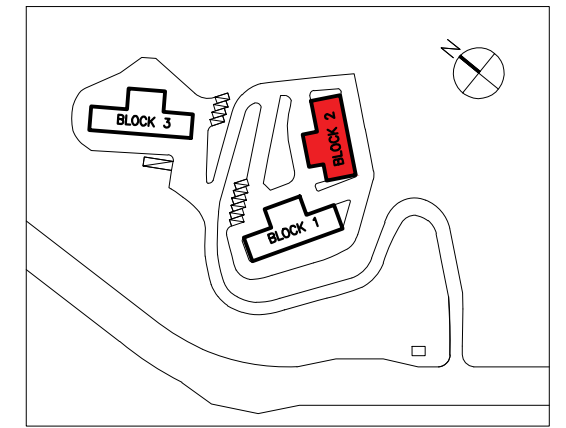
Appendix II

Typical Floor Plans



BLOCK 1 – G/F LAYOUT

SCALE 1:100



BLOCK 2 – G/F LAYOUT

SCALE 1:100



BLOCK 2 TYPICAL (1/F – 12/F ; 12 STOREYS)
SCALE 1:100

BLOCK B TYPICAL FLOOR = 23 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS = 900 UNITS
 BLOCK 1 TYP = 26 APPROX.
 BLOCK 2 TYP = 23 APPROX.
 BLOCK 3 TYP = 26 APPROX.
 SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 2 WITH ACCESSIBLE ROOM SCALE 1:100

BLOCK B TYPICAL FLOOR = 23 UNITS APPROX.

BLOCK 1 TO 3

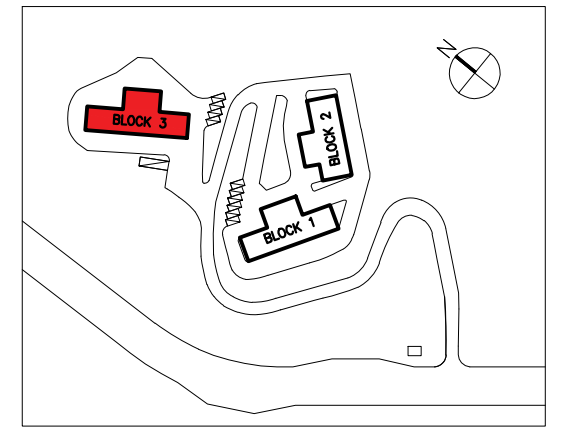
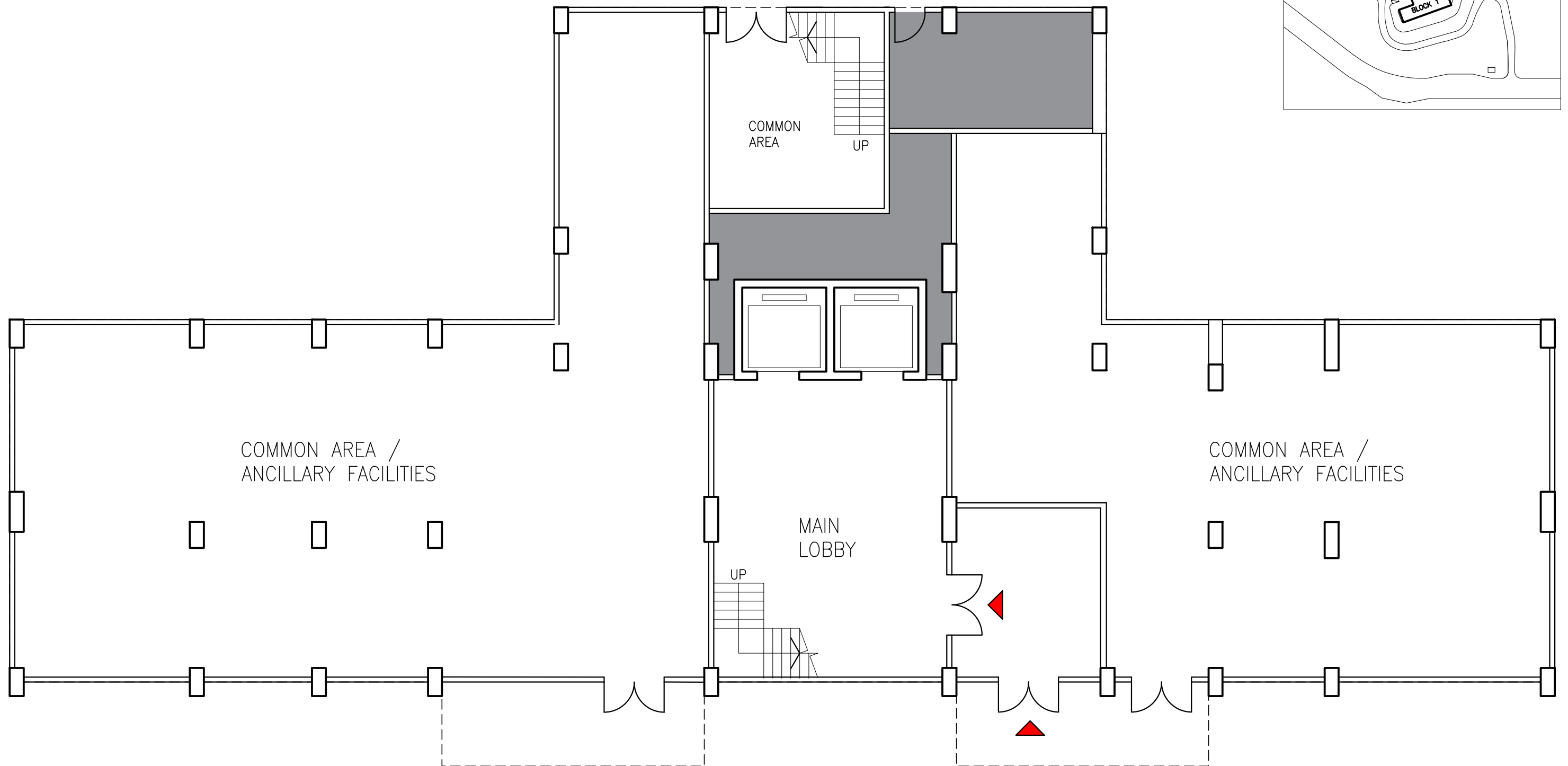
TOTAL PROPOSED UNITS = 900 UNITS

BLOCK 1 TYP = 26 APPROX.

BLOCK 2 TYP = 23 APPROX.

BLOCK 3 TYP = 26 APPROX.

SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 3 – G/F LAYOUT

SCALE 1:100



B = BATH ROOM / SHARED BATH ROOM

BALCONY

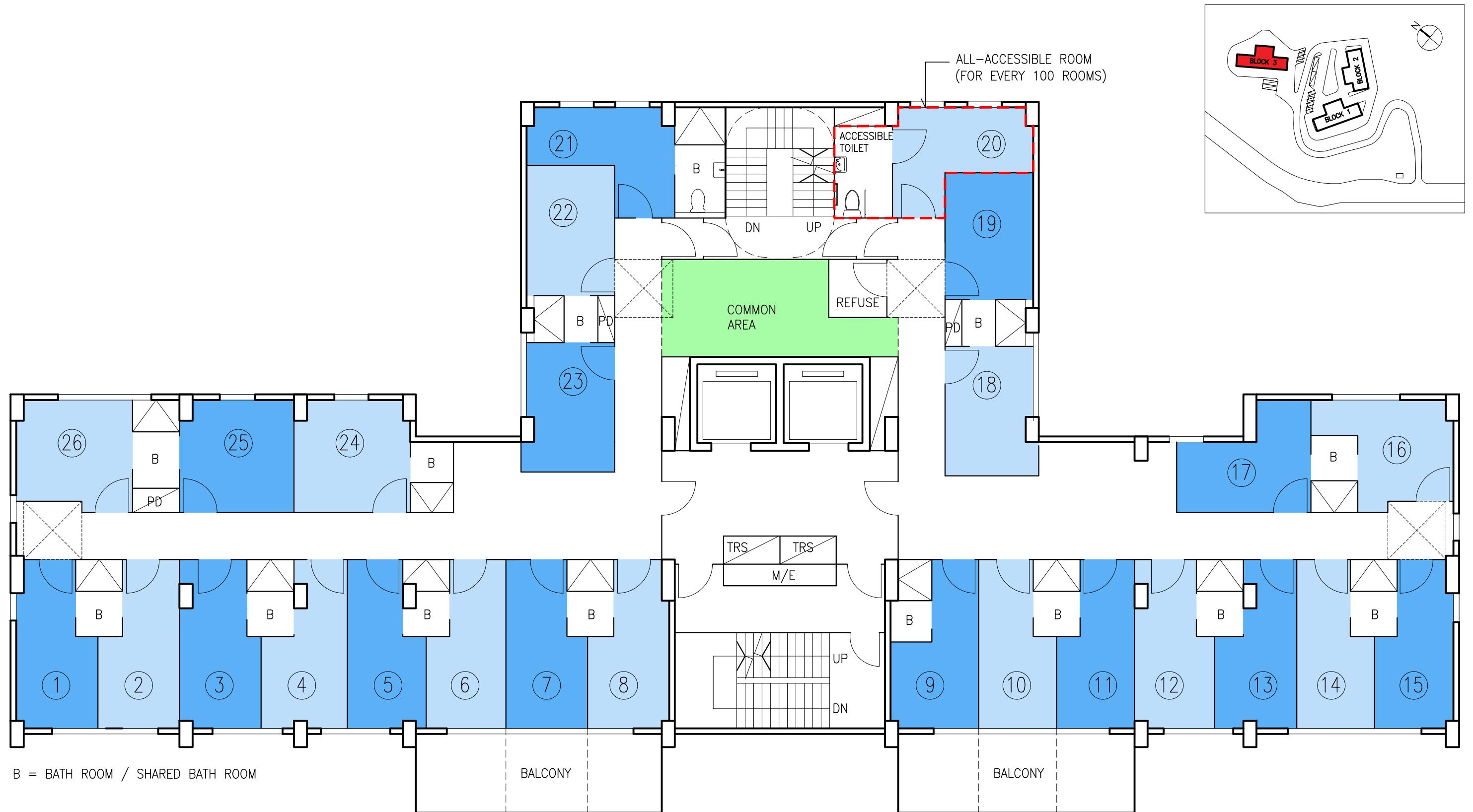
BALCONY

BLOCK 3 TYP (1/F – 12/F ; 12 STOREYS)
SCALE 1:100

BLOCK C TYPICAL FLOOR = 26 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS = 900 UNITS
 BLOCK 1 TYP = 26 APPROX.
 BLOCK 2 TYP = 23 APPROX.
 BLOCK 3 TYP = 26 APPROX.
 SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 3 WITH ACCESSIBLE ROOM SCALE 1:100

BLOCK C TYPICAL FLOOR = 26 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS = 900 UNITS
 BLOCK 1 TYP = 26 APPROX.
 BLOCK 2 TYP = 23 APPROX.
 BLOCK 3 TYP = 26 APPROX.
 SUBJECT TO FUTURE DETAIL DESIGN

Job No. EO/J/2025/005

Planning Consultancy Service for Redevelopment of Middleton Towers to Student Hostel for the University of Hong Kong

Traffic Impact Assessment

(Ref. TIA-01)

May 2026

AECOM ASIA COMPANY LIMITED

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TABLE OF CONTENTS

1	INTRODUCTION	4
1.1.	Background	4
1.2.	Purpose of the Report	4
1.3.	Structure of the Report	4
1.4.	Abbreviations	5
2	EXISTING CONDITIONS.....	6
2.1.	Existing Road Network	6
2.2.	Existing Performance of Key Junctions.....	6
2.3.	Existing Public Transport Services.....	7
3	THE DEVELOPMENT	10
3.1.	Existing Site Condition	10
3.2.	Proposed Development.....	10
3.3.	Existing and Proposed Site Access Arrangement.....	10
3.4.	Parking Provision.....	11
3.5.	Trip Generation.....	11
4	FUTURE TRAFFIC CONDITIONS	15
4.1.	Traffic Forecast Methodology.....	15
4.2.	Future Traffic Context.....	15
4.3.	Development Traffic	16
4.4.	Traffic Forecast.....	17
5	OPERATION TRAFFIC AND TRANSPORT IMPACT ASSESSMENTS	18
5.1.	General.....	18
5.2.	Key Junction Assessments	18
6	CONSTRUCTION TRAFFIC AND TRANSPORT IMPACT ASSESSMENTS.....	20
7	FUTURE PUBLIC TRANSPORT SERVICES	21
8	SUMMARY	22

Appendix

Appendix A	Existing Junction Layouts
Appendix B	Junction Calculation Sheets
Appendix C	Rearranged Traffic Layout at J1 & J2
Appendix D	Planned Junction Improvements
Appendix E	Swept Path Analysis of Existing Access Road

Figure

Figure 1.1	Location Plan
Figure 2.1	Critical Junctions within the AOI
Figure 2.2	2026 Observed Traffic Flows
Figure 2.3	Existing Public Transport Services
Figure 5.1	2031 Reference Traffic Flows
Figure 5.2	2031 Design Traffic Flows

1 INTRODUCTION

1.1. Background

- 1.1.1. In view of the shortage of student housing in the University and the significant increase in student enrolment in coming years, the University of Hong Kong (HKU) explores opportunity to collaborate with private partner for the joint re-development of the Middleton Towers in Pokfulam to transform the existing staff quarters into modern student hostels. This initiative not only seeks to enhance the quality of life for students but also reinforces the University's commitment to providing a supportive and enriching campus experience.
- 1.1.2. The application site (140 Pokfulam Road, RBL No. 825 RP) falls within an area zoned "Residential (Group C)" ("R(C)") use on the approved Pok Fu Lam Outline Zoning Plan (OZP) No. S/H10/23. According to the Notes of the OZP, the proposed student hostel falls under Column 2, requiring a section 16 planning application to seek approval from the Town Planning Board (TPB). The site location is shown in **Figure 1.1**.
- 1.1.3. AECOM Asia Company Limited has been commissioned by the HKU to provide professional consultancy services to assist the University to prepare and submit a Section 16 Town Planning Application in order to seek approval from the TPB on column 2 usages to facilitate the student hostel development.
- 1.1.4. Planning application at this stage shall be restricted to modification of the existing buildings internally, without alterations to the bulk of the existing buildings, landscaping or external works. It aims to transform the three existing staff quarter towers into modern hostels by internal re-partitioning to provide 900beds for undergraduate/postgraduate students.

1.2. Purpose of the Report

- 1.2.1. The purposes of this Traffic Impact Assessment (TIA) are summarized as follows:-
- (a) To review and collect the traffic and transport data presently available, and forecast traffic flow pattern generated and attracted by the proposed development;
 - (b) To identify roads and junctions in the road network nearby affected by the proposed development and recommend improvement measures if necessary;
 - (c) To devise suitable vehicular access, parking arrangements and loading/unloading facilities for the proposed development; and
 - (d) To assess adjacent public transport facilities affected by the proposed development and recommend improvement measures if necessary.

1.3. Structure of the Report

- 1.3.1. This Report is organized into 8 sections including this introductory section:-
- **Section 2** reviews the existing traffic condition;
 - **Section 3** summarizes the planning parameters of the proposed development;
 - **Section 4** outlines the methodology and traffic forecasts of the TIA;
 - **Section 5** presents traffic impacts assessments for future design year;
 - **Section 6** presents the construction traffic impact assessment;
 - **Section 7** reviews future public transport services; and

- **Section 8** summarizes the findings and recommendations of the TIA.

1.4. Abbreviations

- 1.4.1. The following table lists out the abbreviated titles of Government bureaux, departments, offices, statutory bodies, public organisations and expressions mentioned in this Technical Note:

Abbreviation	Full title
DFC	Design Flow over Capacity
GFA	Gross Floor Area
GIC	Global Innovation Centre
HKPSG	Hong Kong Planning Standards and Guidelines
HKU	University of Hong Kong
HWC	High West Campus Development
L/UL	Loading/unloading
OZP	Outline Zoning Plan
PCU	Passenger Car Unit
PlanD	Planning Department
PT	Public transport
RC	Reserved Capacity
R(C)	Residential (Group C)
TPB	Town Planning Board
TPDM	Transport Planning and Design Manual
TPEDM	Territorial Population and Employment Data Matrix
TTIA	Traffic and Transport Impact Assessment

2 EXISTING CONDITIONS

2.1. Existing Road Network

- 2.1.1. The existing road network in the vicinity of the Site is shown in **Figure 2.1**. The Site is served by an unnamed single track access road which connects the Middleton Towers to Pok Fu Lam Road. Pok Fu Lam Road is a primary distributor running in a north-south direction, connecting Queen's Road West to the north and Shek Pai Wan Road to the south. The section in the vicinity of the Site features a single 4-lane arrangement.
- 2.1.2. A summary of the key junctions to be assessed along the major access routes from/to the Site is shown in **Table 2.1**. Existing junction layouts are presented in **Appendix A**.

Table 2.1 Key Junctions for Assessment

Junction No.	Junction Location	Junction Type
J1	Pok Fu Lam Road / Access Road to Middleton Towers	Priority
J2	Pok Fu Lam Road / Access Road to University Hall	Priority
J3	Pok Fu Lam Road / Victoria Road	Signal
J4	Pok Fu Lam Road / Sassoon Road / Access Road To Queen Mary Hospital	Signal
J5	Pok Fu Lam Road / Sassoon Road	Priority
J6	Pok Fu Lam Road / Smithfield / Mount Davis Road	Signal
J7	Pok Fu Lam Road / Pokfield Road	Signal
J8	Pok Fu Lam Road	Signal

2.2. Existing Performance of Key Junctions

- 2.2.1. Manual traffic counts of key junctions were conducted on a normal weekday in March 2026 during 07:30 – 09:30 and 17:00 – 19:00. Based on the surveyed data, the AM and PM peak hours for the assessed junctions are 07:45 – 08:45 and 17:45 – 18:45 respectively. The observed traffic flows are presented in **Figure 2.2**.
- 2.2.2. Performance of key junctions in 2026 are presented in **Table 2.2**. Detailed junction calculation sheets are presented in **Appendix B**.
- 2.2.3. The results indicate that all key road junctions are operating with sufficient capacity in 2026.

Table 2.2 Existing Key Junction Performance

Junction No.	Junction Location	Junction Type	2026 Existing Case	
			RC/DFC ⁽¹⁾	
			AM	PM
J1	Pok Fu Lam Road / Access Road to Middleton Towers	Priority	0.05	0.03
J2	Pok Fu Lam Road / Access Road to University Hall	Priority	0.03	0.03
J3	Pok Fu Lam Road / Victoria Road	Signal	37%	38%
J4	Pok Fu Lam Road / Sassoon Road / Access Road To Queen Mary Hospital	Signal	44%	53%
J5	Pok Fu Lam Road / Sassoon Road	Priority	0.61	0.64
J6	Pok Fu Lam Road / Smithfield / Mount Davis Road	Signal	34%	44%
J7	Pok Fu Lam Road / Pokfield Road	Signal	92%	87%
J8	Pok Fu Lam Road	Signal	37%	42%

Note:

(1) Signalized junction capacity is measured by the Reserved Capacity (RC) of the junction. Priority junction and roundabout are measured by the ratio of Design Flow over Capacity (DFC).

2.3. Existing Public Transport Services

2.3.1. Existing public transport (PT) services in the vicinity of the Site are illustrated in **Figure 2.3** and listed in **Table 2.3**.

Table 2.3 Existing Public Transport Services

Route No.	Origin – Destination
Franchised Bus	
4	Wah Fu (South) / Wong Chuk Hang – Central
4X	Wah Fu (South) – Central
7	Shek Pai Wan – Central
30X	Cyberport – Admiralty (East)
33X	Cyberport – Shau Kei Wan
37A	Chi Fu Fa Yuen – Central
37B	Chi Fu Fa Yuen – Admiralty
37X	Chi Fu Fa Yuen – Admiralty

Traffic Impact Assessment

(Ref. TIA-01)

Route No.	Origin – Destination
40	Wah Fu (North) – Exhibition Centre Station
40M	Wah Fu (North) – Exhibition Centre Station
40P	Wah Fu (North) – Robinson Road
43M	Tin Wan – Shek Tong Tsui
47P	Belcher Bay – Wong Chuk Hang
71	Wong Chuk Hang – Central (Rumsey Street)
71P	Sham Wan – Central (Ferry Piers)
90B	South Horizons – Admiralty (East)
91	Ap Lei Chau Estate – Central (Ferry Piers)
93	South Horizons / Ap Lei Chay Estate – Robinson Road
93A	Lei Tung Estate – Robinson Road
93C	Ap Lei Chau Main Street / Tin Wan – Caine Road
970	Cyberport – So Uk Estate
970X	Aberdeen – Cheung Sha Wan (Kom Tsun Street)
971	Aberdeen (Shek Pai Wan) – Hoi Lai Estate
973	Stanley Village – Tsim Sha Tsui (Mody Road)
A10	Ap Lei Chau (Lee Lok Street) – Airport (via HZMB Hong Kong Port)
NA10	Ap Lei Chau (Lee Lok Street) – Airport (via HZMB Hong Kong Port)
X970	South Horizons – Cheung Sha Wan (Kom Tsun Street)
Green Minibus	
8	Baguio Villas (Lower) – Central (Exchange Square)
8X	Baguio Villas (Lower) – Central (Exchange Square)
10	Cyberport – Causeway Bay (Jaffe Road)
10P	Cyberport – Causeway Bay (Jaffe Road)
22	Pok Fu Lam Gardens – Central (Exchange Square)
22S	Pok Fu Lam Gardens – Central (Ferry Piers)
22X	Pok Fu Lam Gardens – Central (Ferry Piers)

Traffic Impact Assessment

(Ref. TIA-01)

Route No.	Origin – Destination
23	Kennedy Town Station – Pok Fu Lam
23M	Chi Fu Fa Yuen – Kennedy Town Station
28	Baguio Villas (Upper) – Causeway Bay
28M	Baguio Villas (Upper) – HKU Station
28S	Baguio Villas (Upper) – HKU Station
31	Tin Wan Estate – Causeway Bay (Jaffe Road)
31X	Tin Wan Estate – Causeway Bay (Jaffe Road)
58	Aberdeen Centre – Kennedy Town Station
58A	Aberdeen (Wu Nam Street) – Kennedy Town Station
58M	Bel-Air – Kennedy Town Station
59	Shum Wan Road Public Terminus – Kennedy Town Station
69	Cyberport – Quarry Bay (Shipyard Lane)
69A	Cyberport – Wong Chuk Hang Station
69X	Cyberport – Causeway Bay (Lockhart Road)
N31	Tin Wan Estate – Causeway Bay (Jaffe Road)

3 THE DEVELOPMENT

3.1. Existing Site Condition

3.1.1. The existing Middleton Towers serves as staff quarters for HKU. It should be noted that currently only 16 out of a total of 72 flats are occupied, representing occupancy rate of 22%. The detailed development parameters are as below:

- Number of Blocks: 3
- Total Number of Flats: 72
- Average Flat Size: Approximately 240m²
- Number of Private Car Parking Space: 92

3.2. Proposed Development

3.2.1. The Middleton Towers is proposed to be internally re-partitioned and converted into a student hostel. Upon completion, it is anticipated that the three buildings will provide approximately 900 student housing units in single-occupancy rooms.

3.2.2. Internal re-partitioning works of the Middleton Towers are anticipated to commence in 2027 and reach completion in 2028 Q1. The design year for operation stage will be 3 years after the completion of construction works, which is 2031. The years of assessment are summarized in **Table 3.1**.

Table 3.1 Assessment Years

Stage	Design Year
Construction	2027
Completion	2028 Q1
Operation	2031

3.3. Existing and Proposed Site Access Arrangement

3.3.1. Currently, the unnamed single-track access road off Pok Fu Lam Road is the only vehicular access point for the Middleton Towers, with existing traffic consisting mainly of private vehicles and shuttle buses. Due to limited road width, certain sections of the road, particularly at road bends, do not allow for simultaneous two-way movement. The operational constraints for private vehicle two-way movement are further detailed in the swept path analysis provided in **Appendix E**.

3.3.2. Technical constraints, including the presence of slopes, existing retaining walls and the proximity of the HKU High West Campus Development (HWC), have been identified as significant barriers to widening the existing access road. Consequently, road conditions are likely to remain unchanged. To enhance future traffic safety, convex mirrors will be proposed at tight bends in accordance with the standards outlined in Vol. 3, Chapter 2.3.4 of the Transport Planning and Design Manual (TPDM) in later design stages.

3.3.3. The proposed vehicular access for the HWC, located to the east of Pok Fu Lam Road between Junctions J1 and J2, involves a reconfiguration of the local traffic layout which this Project will adopt.

3.3.4. The unnamed access road to University Hall will be converted from 2-way to 1-way ingress only, while the access road to the Middleton Towers will transition to 1-way egress only. These two routes will be integrated via a new internal link road connecting both access roads. In addition, right turn traffic from Pok Fu Lam Road northbound will be prohibited at Junction J2.

Under this arrangement, northbound traffic from Pok Fu Lam Road will be required to turn around near Junction J5 to approach the Site from the southbound direction. The rearranged traffic layout is illustrated in **Appendix C**.

3.4. Parking Provision

- 3.4.1. For parking and loading/ unloading (L/UL) provision, there is no parking standard available in the Hong Kong Planning Standards and Guidelines (HKPSG) for student hostel. To cater for parking and L/UL needs, reference was made to the existing and proposed student hostels of similar size, as shown in **Table 3.2**.

Table 3.2 Parking Space and L/UL bay for Similar Student Hostels

Elements	Wei Lun Hall, Richard Charles Lee Hall, Lee Hysan Hall	Planned High West Student Hostel
No. of Students Rooms	1,134	938
Car Parking Space	16	9
L/UL Bay	/	1

- 3.4.2. From the above table, car parking ratio is around 1 parking space per 70 - 100 students and only 1 L/UL bay is provided for the student hostels. On average, car parking ratio of 1 to 90 students and 1 L/UL bay are adopted for the redevelopment of Middleton Towers. The provision of internal transport facilities are as follows:
- Car Parking Space: 10 parking spaces with dimensions of 5m x 2.5m
 - Good Vehicle L/UL Bay: 1 L/UL bay with dimensions of 11m x 3.5m

3.5. Trip Generation

Trip Generation Survey

- 3.5.1. To understand the trip rate associated with the existing use of the Middleton Towers, conducting trip generation survey there is straightforward. However, it would lead to great variation for the projected trip generation for full occupancy if the trip rate is based on the current low occupancy condition. Therefore, a trip generation survey was conducted at another staff quarters site with similar average flat size, which is Tam Towers & Gardens with a higher occupancy rate of 79%, to capture vehicular movements associated with staff quarters and to provide a baseline for assessing current traffic conditions.
- 3.5.2. The University Hall, an existing student hostel comprising single-occupancy rooms and having a location and land-use comparable to the proposed use of the Middleton Towers, was surveyed as a reference site. The survey data was used to represent trip generation of a student hostel.
- 3.5.3. Pedestrian survey was also conducted for the University Hall to capture pedestrian movements. The pedestrian counted is assumed to be travelling by non-private modes, i.e. public transport.
- 3.5.4. There is currently construction work at the University Hall. Therefore, traffic and pedestrian flows related to the construction work would be excluded to reflect conditions under normal circumstances.

- 3.5.5. The surveys were conducted on a normal school day in January and February 2026. Based on the survey results, the AM and PM peak hours are 08:30 – 09:30 and 18:00 – 19:00 respectively.

Trip Generation under Existing Use

- 3.5.6. **Table 3.3** presents the inbound and outbound traffic flows and trip rates associated with the staff quarters at Tam Towers & Gardens during the AM and PM peak hours. Trip rates of the Tam Towers & Gardens were derived based on the current occupancy of 95 flats.

Table 3.3 Existing Trip Generation of the Middleton Towers

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Tam Towers & Gardens	Existing Use – Staff Quarters (95 flats occupied)	Trip Generation (pcu/hr)	28	37	65	35	25	60
		Trip Rate (pcu/hr/flat)	0.295	0.389	/	0.368	0.263	/

- 3.5.7. The trip generation of the Middleton Towers under full occupancy condition is projected based on trip rate in **Table 3.3**, and the resulting trip generation is presented in **Table 3.4**.

Table 3.4 Trip Generation of the Existing Use under Full Occupancy Condition

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Middleton Towers	Existing Use – Staff Quarters (72 flats)	Trip Generation (pcu/hr)	21	28	49	27	19	46

Trip Generation under Proposed Use

Trip Generation of Private Modes

- 3.5.8. Trip generation survey was conducted at the University Hall to understand the trip rates of student hostel. **Table 3.5** presents trip generation and trip rates associated with the University Hall during the AM and PM peak hours.

Table 3.5 Trip Generation of the University Hall

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
University Hall	Student Hostel (110 units)	Trip Generation (pcu/hr)	1	3	4	2	1	3
		Trip Rate (pcu/hr/flat)	0.009	0.027	/	0.018	0.009	/

- 3.5.9. The trip generation of the Middleton Towers under the proposed use (student hostel) is projected based on trip rate in **Table 3.5**, and the resulting trip generation is presented in **Table 3.6**.

Table 3.6 Trip Generation of the Proposed Use

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Middleton Towers	Proposed Use – Student Hostel (900 units)	Trip Generation (pcu/hr)	8	25	33	16	8	24

Trip Generation of Non-Private Modes

- 3.5.10. To understand the patronage demand on non-private modes, i.e. modes other than private cars or taxis, pedestrian count survey was also conducted at the University Hall. **Table 3.7** presents the pedestrian generation associated with the University Hall during the AM and PM peak hours.

Table 3.7 Pedestrian Generation of the University Hall

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
University Hall	Student Hostel (110 units)	Pedestrian Flow (ped/hr)	5	14	19	15	9	24
		Pedestrian Generation Rate (ped/hr/unit)	0.045	0.127	/	0.136	0.082	/

- 3.5.11. Currently, residents of the Middleton Towers rely primarily on the Route 3 shuttle bus to access the Sassoon Road Campus, Main Camps, and Prince Philip Dental Hospital. Following the re-partitioning, Route 3 will no longer serve the Middleton Towers; instead, the school bus service planned under the HKU HWC (adjacent to the Middleton Towers) will be enhanced to serve the proposed student hostels at the Middleton Towers.
- 3.5.12. Under the planned transport provisions for the HKU HWC (adjacent to the Middleton Towers), school buses operating with 10-minute headway at peak hour are scheduled to serve both High West and the University Hall. This can provide 6 school bus (one-way) in an hour with carrying capacity of 300 passengers, assuming a capacity of 50 passengers for each school bus. To optimise utilisation of the planned school bus service, its frequency could be enhanced to also serve the proposed student hostel at the Middleton Towers. Therefore, as a conservative approach, it is assumed that students travelling by non-private modes would primarily use the school bus rather than public transport. **Table 3.8** proposes additional bus trips for accommodating the proposed use at the Middleton Towers.

Table 3.8 School Bus Trips for Accommodating the Proposed Use at the Middleton Towers

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Middleton Towers	Proposed Use – Student Hostel (900 units)	Patronage Demand (pax/hr)	41	115	156	123	74	197
		Additional No. of School Bus per hour ⁽¹⁾	3	3	6	3	3	6
		Additional Capacity per hour	150	150	300	150	150	300

Note:

(1) School bus capacity of 50 passengers was adopted under the transport planning for High West and is also adopted in this assessment.

- 3.5.13. As shown **Table 3.8**, it is required to enhance the school bus services under HKU HWC with an additional of 3 school buses (one-way) at peak hour for an additional capacity of 150 passengers per hour to accommodate the peak demand (123 passengers per hour). This result in enhancing the planned school bus service from 10-minute headway to 6-minute to 7-minute headway, providing a total hourly capacity of 450 passengers per hour.

Total Trip Generation

- 3.5.14. With reference to trip generation for private modes and additional bus trips presented in **Table 3.6** and **Table 3.8** respectively, **Table 3.9** summarizes total trip generation of the proposed use at the Middleton Towers.

Table 3.9 Total Trip Generation of the Proposed Use at the Middleton Towers (pcu/hr)

Location	Land Use and Parameters	Item	AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Middleton Towers	Proposed Use – Student Hostel (900 units)	Private Modes	8	25	33	16	8	24
		School Bus ⁽¹⁾	6	6	12	6	6	12
		Total	14	31	45	22	14	36

Note:

(1) Passenger Car Unit (PCU) factor for school bus = 2.

4 FUTURE TRAFFIC CONDITIONS

4.1. Traffic Forecast Methodology

- 4.1.1. The traffic forecast for this study is based on the 2021-based Territorial Population and Employment Data Matrix (TPEDM) issued by the Planning Department (PlanD). To determine the background traffic for the horizon years, population and employment projections for the Central and Western, and Southern Districts were extracted for the years 2026 and 2031, which are presented in **Table 4.1**.

Table 4.1 2021-Based TPEDM Distributions of Population and Employment in 2026 and 2031

District	Item	2026	2031
Central and Western	Population	226,250	222,600
	Employment	379,150	381,450
Southern	Population	258,800	267,200
	Employment	126,700	121,850
Total		990,900	993,100

- 4.1.2. The annual growth rate was derived through linear interpolation of the 2026 and 2031 data. Analysis indicated that the calculated annual growth rate for these districts falls below 0.5%, which is presented in **Table 4.2**. To maintain a conservative assessment and account for potential fluctuations in development density, a nominal annual growth rate of 0.5% was therefore adopted. This adopted growth rate was subsequently applied to the 2026 observed traffic flows to establish the background traffic for assessment year 2031.

Table 4.2 Annual Growth Rate based on 2021-Based TPEDM

District	Total Population and Employment	
	2026	2031
Central and Western, Southern	990,900	993,100
Annual Growth Rate	0.04%	

4.2. Future Traffic Context

Planned Road and Junction Improvement Schemes

- 4.2.1. Although no major changes to the road network are expected, planned junction improvement works for the 2031 design year have been identified in **Table 4.3**. The planned junction improvement of J1 and J2, ingress and egress access of Middleton Tower and High West, are provided in **Appendix C**, while other planned junction improvements layouts are provided in **Appendix D**.

Table 4.3 Planned Road and Junction Improvement Schemes

Junction No.	Junctions with Planned Improvement Works
J1	Pok Fu Lam Road / Access Road to Middleton Towers
J2	Pok Fu Lam Road / Access Road to University Hall
J3	Pok Fu Lam Road / Victoria Road
J5	Pok Fu Lam Road / Sassoon Road

Planned Developments in the Vicinity

- 4.2.2. Major planned/committed developments in the surrounding areas of the Middleton Towers under the 2031 design year have been considered and summarized in **Table 4.4**.

Table 4.4 Planned Developments in the Vicinity

	Planned Development	Type of Use	Anticipated Completion Year
1	HKU Academic Complex Development at Inland Lot No. 7704 RP (Part), Pokfield Road	Academic Building & Staff Residence	2027
2	HKU Clinical Training Amenities Centre Phase 1 and II at No. 6 Sassoon Road	Student Hostel	2029
3	HKU High West Site Development – Student Hostel and Senior Staff Quarters	Private Housing	2026
4	Cyberport Expansion	Office / Commercial / Data Service Platform	2026
5	Public Housing Developments at the Five Sites in Pokfulam South	Public Housing	2026 – 2031
6	Queen Mary Hospital Redevelopment (Phase 1)	Hospital	2026
7	Redevelopment of Jockey Club Care and Attention Home for Elderly at 9 Sandy Bay Road	G/IC (Care and Attention Home)	2030
8	The Ebenezer School and Home for The Visually Impaired Redevelopment	Private Housing	2027

4.3. Development Traffic

- 4.3.1. The development traffic for the proposed use of the Middleton Towers was established using trip rates derived from comprehensive trip generation surveys conducted at various

representative locations. These surveys captured the actual traffic characteristics associated with similar land uses to ensure the forecast reflects the specific operational requirements of the re-partitioned Middleton Towers. The resulting development traffic generated by the proposed use of the Middleton Towers has been summarized in **Table 3.9** of this report.

4.4. Traffic Forecast

- 4.4.1. While only 22% of the flats at the existing site are currently occupied, full occupancy remains permissible under the existing land use without requiring further planning approval. Consequently, a full intake scenario has been adopted for both the existing and proposed uses in design year 2031 to ensure a robust and conservative assessment of the potential traffic impact on the surrounding road network.
- 4.4.2. For the 2031 design year, the assessment evaluates the net impact through two distinct scenarios. The Reference Case establishes the future baseline by combining projected background traffic with the traffic generated by planned developments and the existing use of Middleton Towers at full occupancy. Building upon this, the Design Case incorporates the traffic generated by the proposed use at Middleton Towers, while removing the traffic associated with the existing use to isolate the specific impact of the redevelopment.
- 4.4.3. Forecast traffic flows for design year 2031 are presented in **Figures 5.1** and **5.2**. Details of traffic impact assessment based on the traffic forecast will be presented in **Section 5**.

5 OPERATION TRAFFIC AND TRANSPORT IMPACT ASSESSMENTS

5.1. General

- 5.1.1. In this section, the operational performance of the identified junctions in **Table 2.1** was assessed for design year 2031. The junction layouts adopted for assessment are summarized in **Table 5.1**.

Table 5.1 Adopted Layouts for Key Junction Assessments in Design Year 2031

Junction No.	Junction Location	Junction Type	Adopted Layout
J1	Pok Fu Lam Road / Access Road to Middleton Towers	Priority	Planned Layout in Appendix C
J3	Pok Fu Lam Road / Victoria Road	Signal	Planned Layout in Appendix D
J4	Pok Fu Lam Road / Sassoon Road / Access Road To Queen Mary Hospital	Signal	Existing Layout
J5	Pok Fu Lam Road / Sassoon Road	Priority	Planned Layout in Appendix D
J6	Pok Fu Lam Road / Smithfield / Mount Davis Road	Signal	Existing Layout
J7	Pok Fu Lam Road / Pokfield Road	Signal	Existing Layout
J8	Pok Fu Lam Road	Signal	Existing Layout

5.2. Key Junction Assessments

- 5.2.1. The performance of key junctions has been evaluated and results are summarized in **Table 5.2**. Detailed junction calculation sheets are presented in **Appendix B**.
- 5.2.2. The results indicate that all key junctions will operate with sufficient capacity in 2031.

Table 5.2 Key Junction Assessments for Design Year 2031

Junction No.	Junction Location	Junction Type	2031			
			Reference Case		Design Case	
			RC/DFC ⁽¹⁾		RC/DFC ⁽¹⁾	
			AM	PM	AM	PM
J1	Pok Fu Lam Road / Access Road to Middleton Towers	Priority	0.74	0.28	0.77	0.26
J3	Pok Fu Lam Road / Victoria Road	Signal	19%	34%	19%	34%
J4	Pok Fu Lam Road / Sassoon Road / Access Road To Queen Mary Hospital	Signal	35%	43%	35%	43%
J5	Pok Fu Lam Road / Sassoon Road	Priority	0.65	0.66	0.65	0.66
J6	Pok Fu Lam Road / Smithfield / Mount Davis Road	Signal	17%	22%	17%	22%
J7	Pok Fu Lam Road / Pokfield Road	Signal	63%	63%	62%	63%
J8	Pok Fu Lam Road	Signal	15%	21%	15%	21%

6 CONSTRUCTION TRAFFIC AND TRANSPORT IMPACT ASSESSMENTS

- 6.1.1. As the construction works will mainly involve internal re-partitioning, only a limited amount of construction materials and waste is anticipated. In addition, the site is sufficiently spacious to accommodate the storage of construction materials and waste. Therefore, it is expected to generate minimal construction traffic, i.e. 15 pcu/hr (1-way), and result in insignificant impact on the surrounding road network. Construction works of the Middleton Towers will be carried out in 2027 with an anticipated completion in 2028 Q1, ahead of the HKU Global Innovation Centre (GIC) which will be commenced in 2028. Therefore, no concurrent impacts are anticipated.
- 6.1.2. In the event that construction traffic impacts are of concern, construction traffic can be scheduled during non-peak hours to minimize potential impacts on the surrounding road network. This measure would help avoid conflicts with peak-hour commuter traffic and maintain acceptable traffic conditions in the vicinity of the Site.

7 FUTURE PUBLIC TRANSPORT SERVICES

- 7.1.1. Building on the details in **Section 3.5**, the future provision of public transport for the Middleton Towers centers on the school bus services planned for the HKU HWC. These school buses are intended to serve both the High West Campus and the University Hall, providing a direct link between key campus locations.
- 7.1.2. Following the internal re-partitioning of the Middleton Towers, it is now assumed that students and staff travelling to / from the Middleton Towers via non-private modes will primarily rely on the planned school bus services rather than traditional public transport networks.
- 7.1.3. To maintain operational efficiency and accommodate trips generated from the re-partitioned Middleton Towers, it is recommended that the planned school bus services undergo optimization. This involves the addition of 3 supplementary trips (one-way) for both peak hours to support the proposed use of the Middleton Towers which the assessment has been detailed in **Table 3.8**.

8 SUMMARY

- 8.1.1. The proposed internal re-partitioning of the Middleton Towers into a modern student hostel aims to address the HKU's housing shortage by transforming existing staff quarters into approximately 900 student beds. This TTIA report is prepared to evaluate traffic flows, identify necessary junction improvements, and devise suitable parking and public transport arrangements.
- 8.1.2. An assessment of existing conditions indicates that the site is currently served by an unnamed single-track access road connecting to Pok Fu Lam Road. Traffic counts conducted in March 2026 for seven key junctions show that the surrounding road network operates with sufficient capacity during both AM and PM peak hours. All assessed junctions meet acceptable performance standards, maintaining R.C. above 15% or DFC ratios below 0.85.
- 8.1.3. The project involves internally re-partitioning the three existing towers to provide housing units. Proposed site access will feature a reconfigured layout where the University Hall access road becomes a one-way ingress and the Middleton Towers access road becomes a one-way egress, linked by a new internal road. Total trip generation for the proposed use is estimated at 45 trips during the AM peak and 36 trips during the PM peak.
- 8.1.4. Future traffic forecasts for the 2031 design year utilize a conservative annual growth rate of 0.5%. This projection accounts for several major planned developments in the vicinity. The assessment evaluates the net impact by comparing a Reference Case, which includes background traffic and existing land use at full occupancy, against a Design Case that isolates the specific impact of the student hostel.
- 8.1.5. The operational impact assessment confirms that all identified key junctions will continue to operate with sufficient capacity through the 2031 design year. Even with the added traffic from the hostel and nearby planned developments, the junctions maintain acceptable performance levels, suggesting that the redevelopment will not significantly degrade local road network efficiency.
- 8.1.6. Construction impacts are expected to be insignificant as the work primarily involves internal re-partitioning. Traffic generated during this phase is estimated at only 15 pcu per hour and is scheduled for completion in 2028 Q1, avoiding overlap with the HKU GIC project. If necessary, construction traffic can be restricted to non-peak hours to further minimize the impact on commuters.
- 8.1.7. Future public transport provisions focus on optimizing the school bus services planned for the HKU HWC. It is assumed that students and staff will primarily rely on these school buses rather than traditional public transport networks. By adding supplementary trips, as detailed in the report, the project can accommodate the increased demand internally and prevent additional pressure on the general public transportation infrastructure.

Figure

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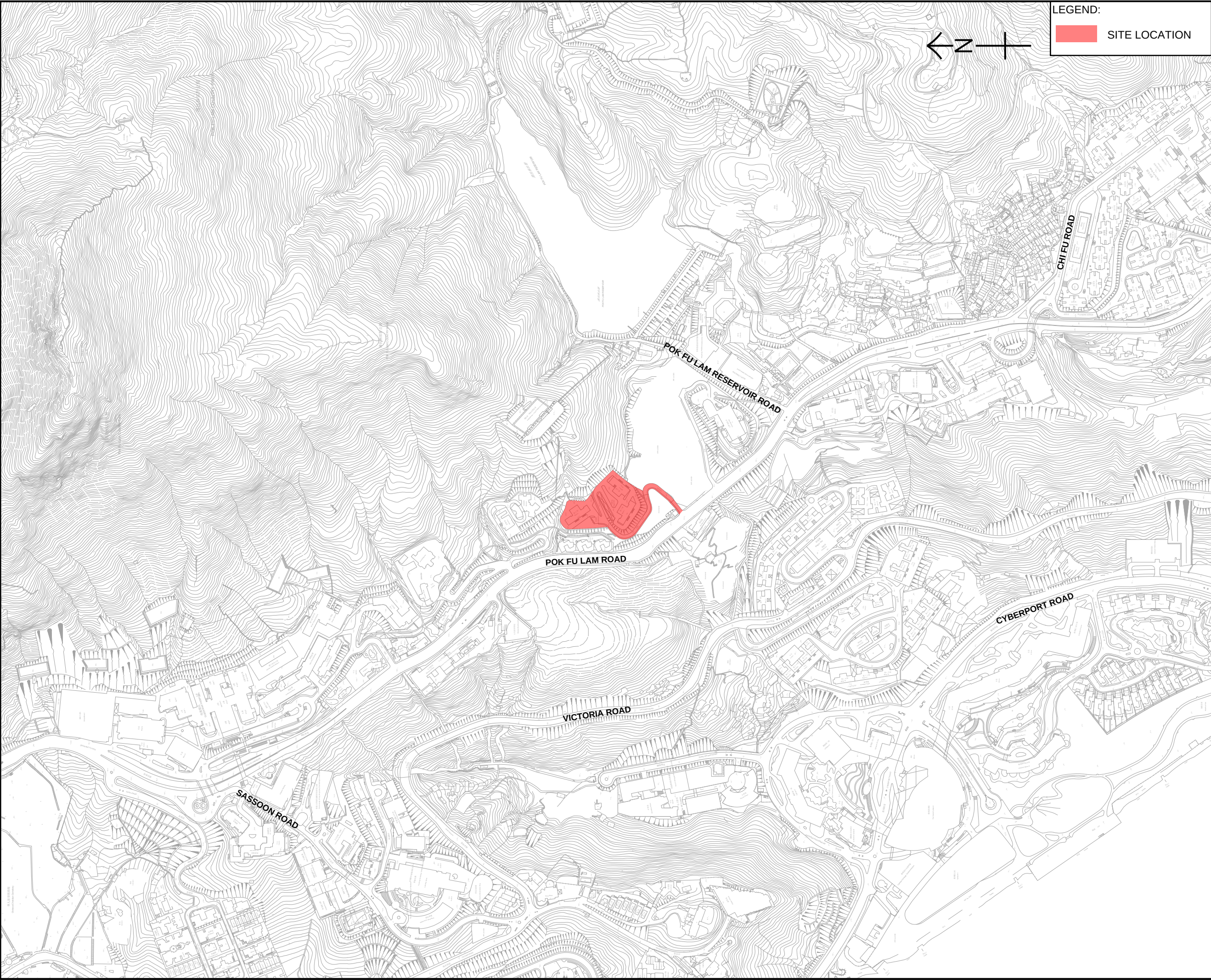
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SITE LOCATION

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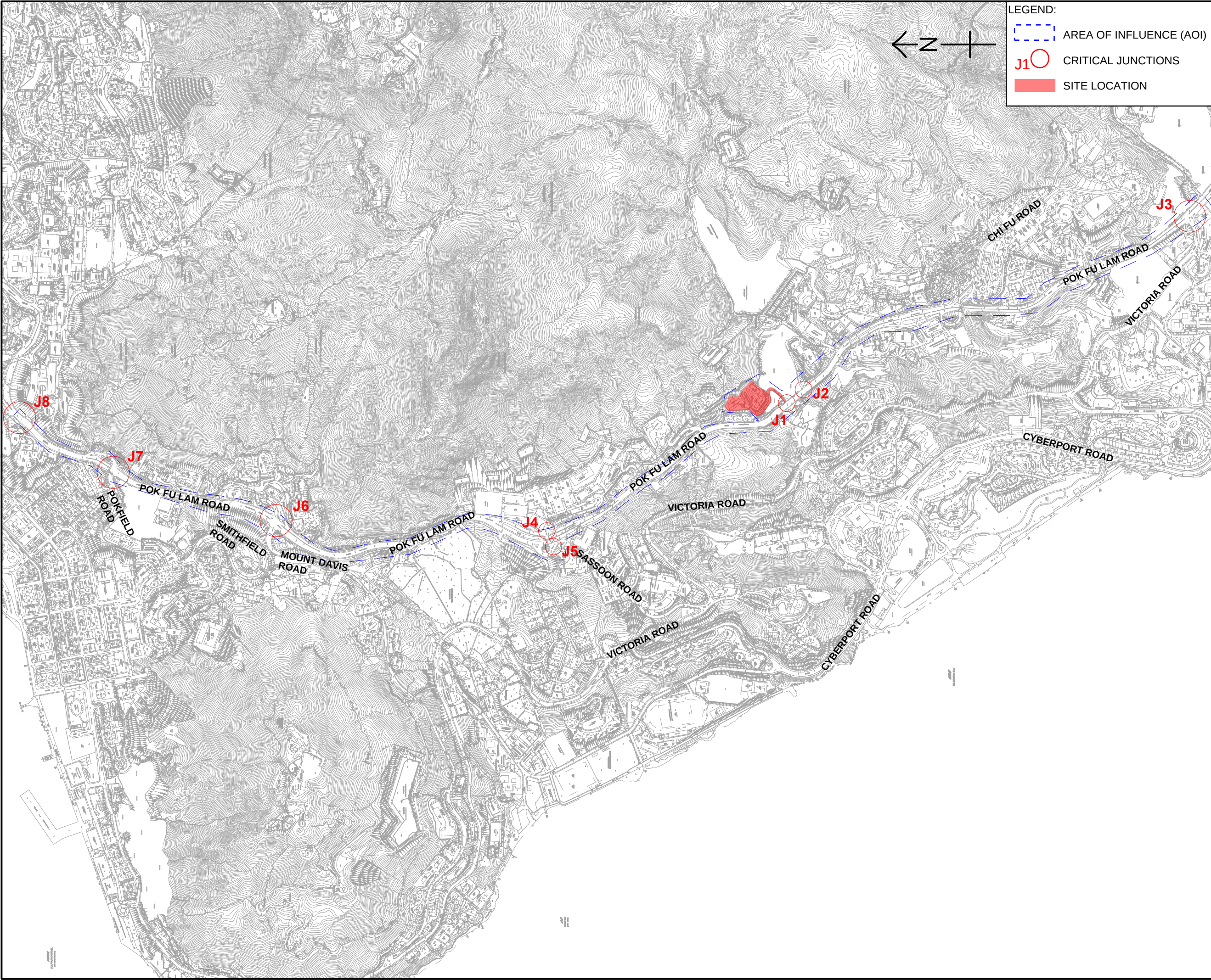
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SHEET TITLE
圖紙名稱
LOCATION PLAN

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FIGURE 1.1

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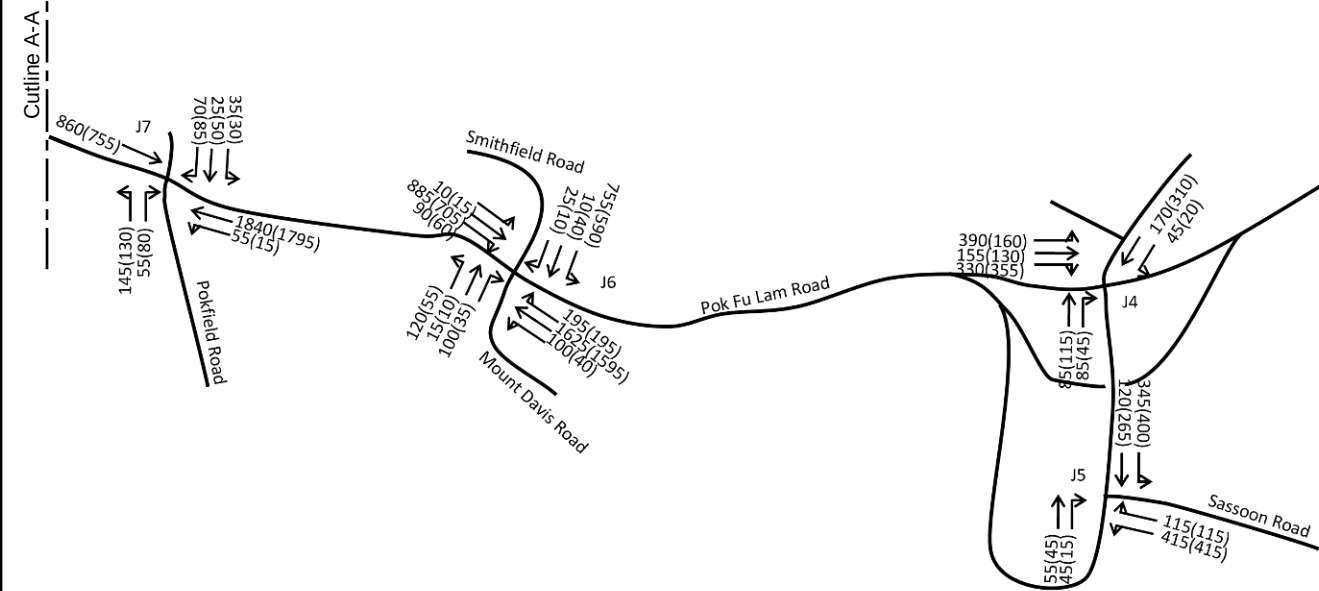
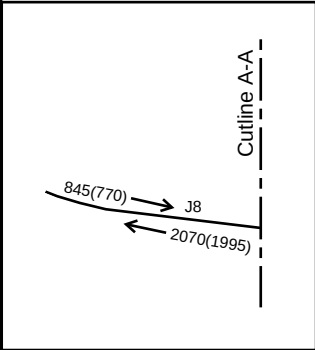
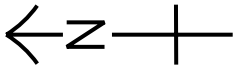
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FIGURE 1.1

LEGEND:

888(888) AM(PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)



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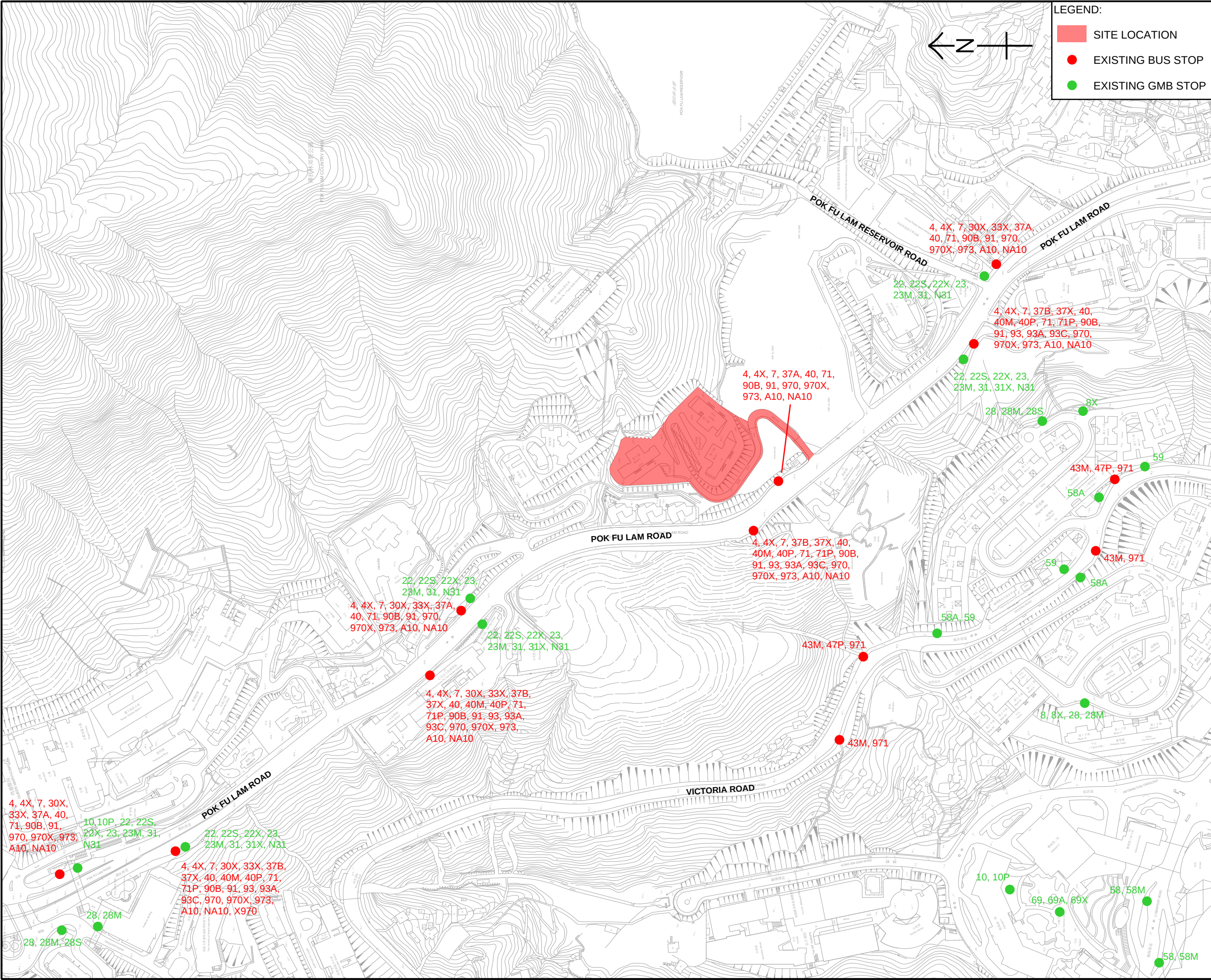
2026 OBSERVED TRAFFIC FLOWS

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FIGURE 2.2

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- SITE LOCATION
- EXISTING BUS STOP
- EXISTING GMB STOP

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A3 1:3000	METRES

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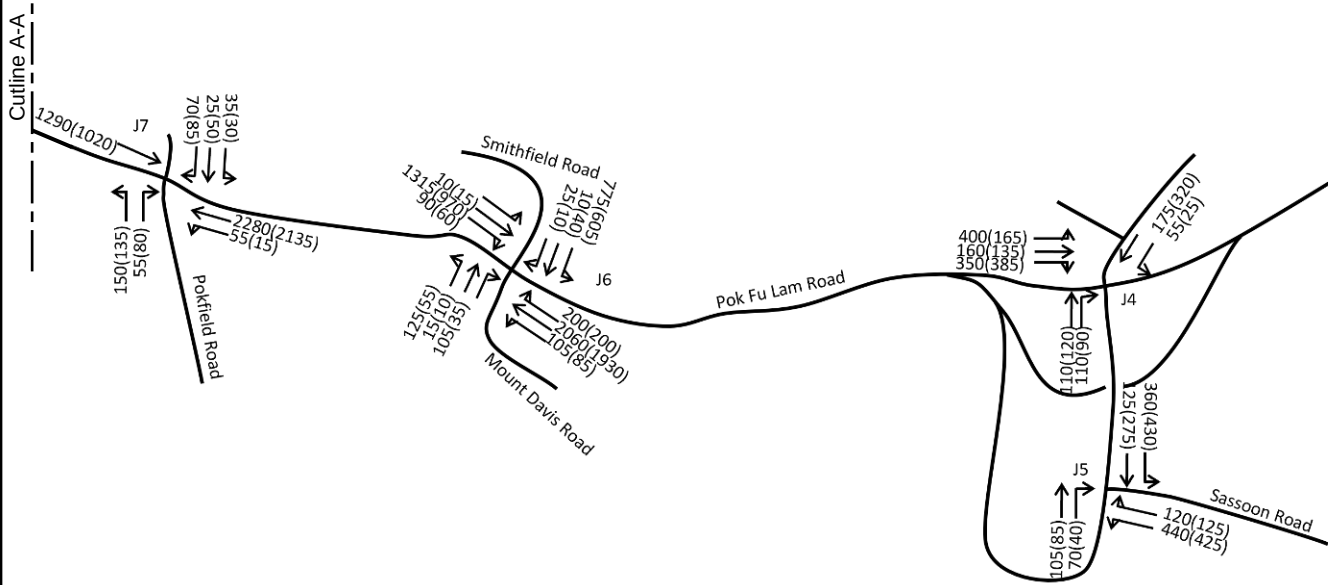
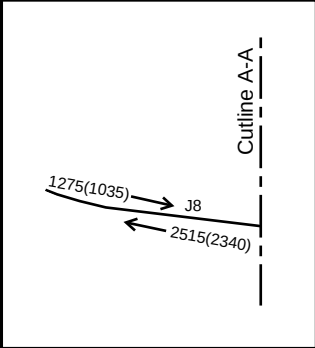
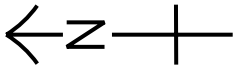
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EXISTING PUBLIC TRANSPORT SERVICES

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FIGURE 2.3

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LEGEND:

888(888) AM(PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)



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圖紙名稱

2031 REFERENCE TRAFFIC FLOWS

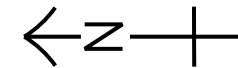
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FIGURE 5.1

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LEGEND:

888(888) AM(PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)

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KEY PLAN

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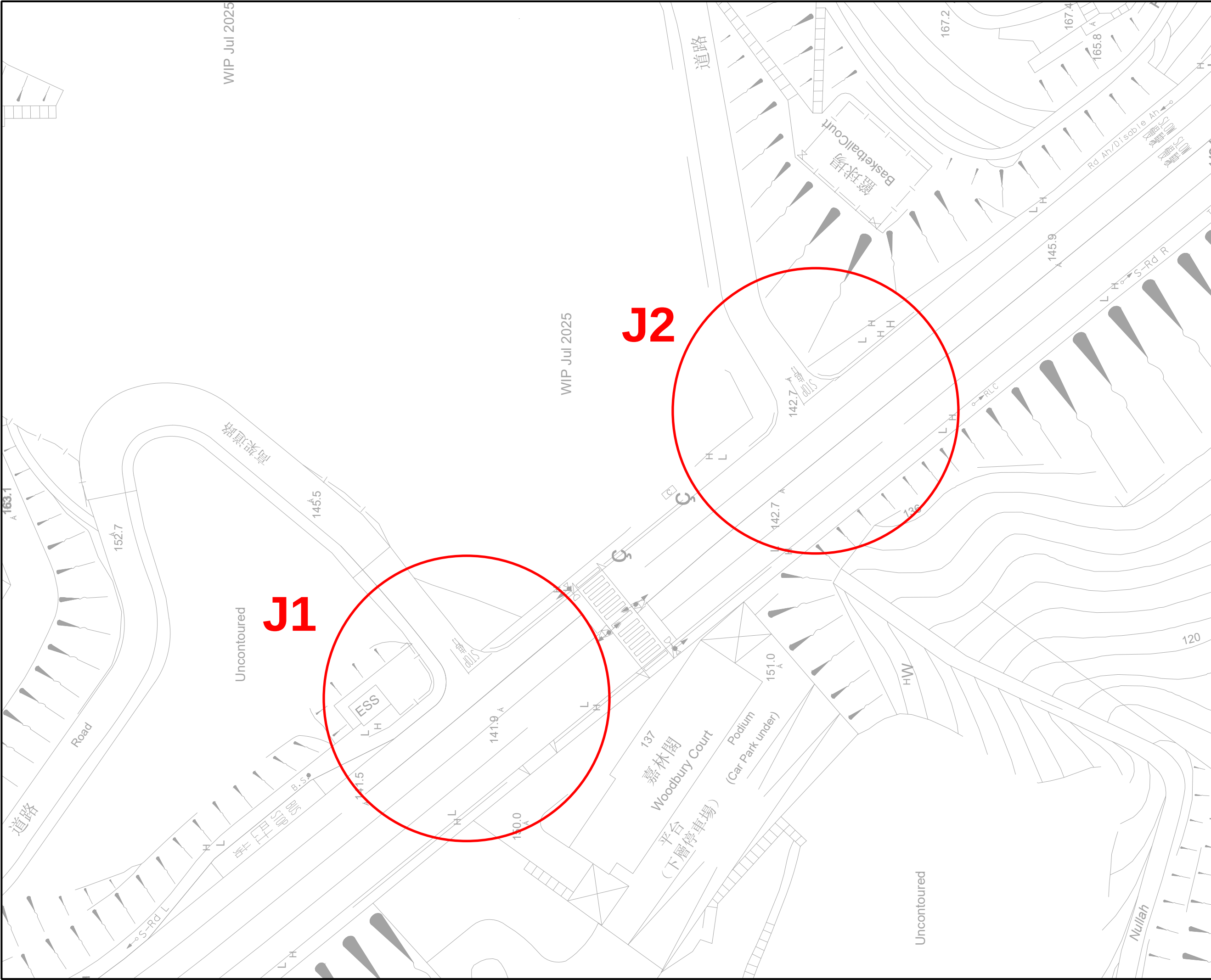
2031 DESIGN TRAFFIC FLOWS

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FIGURE 5.2

Appendix A

Existing Junction Layouts



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A3 1:500	METRES

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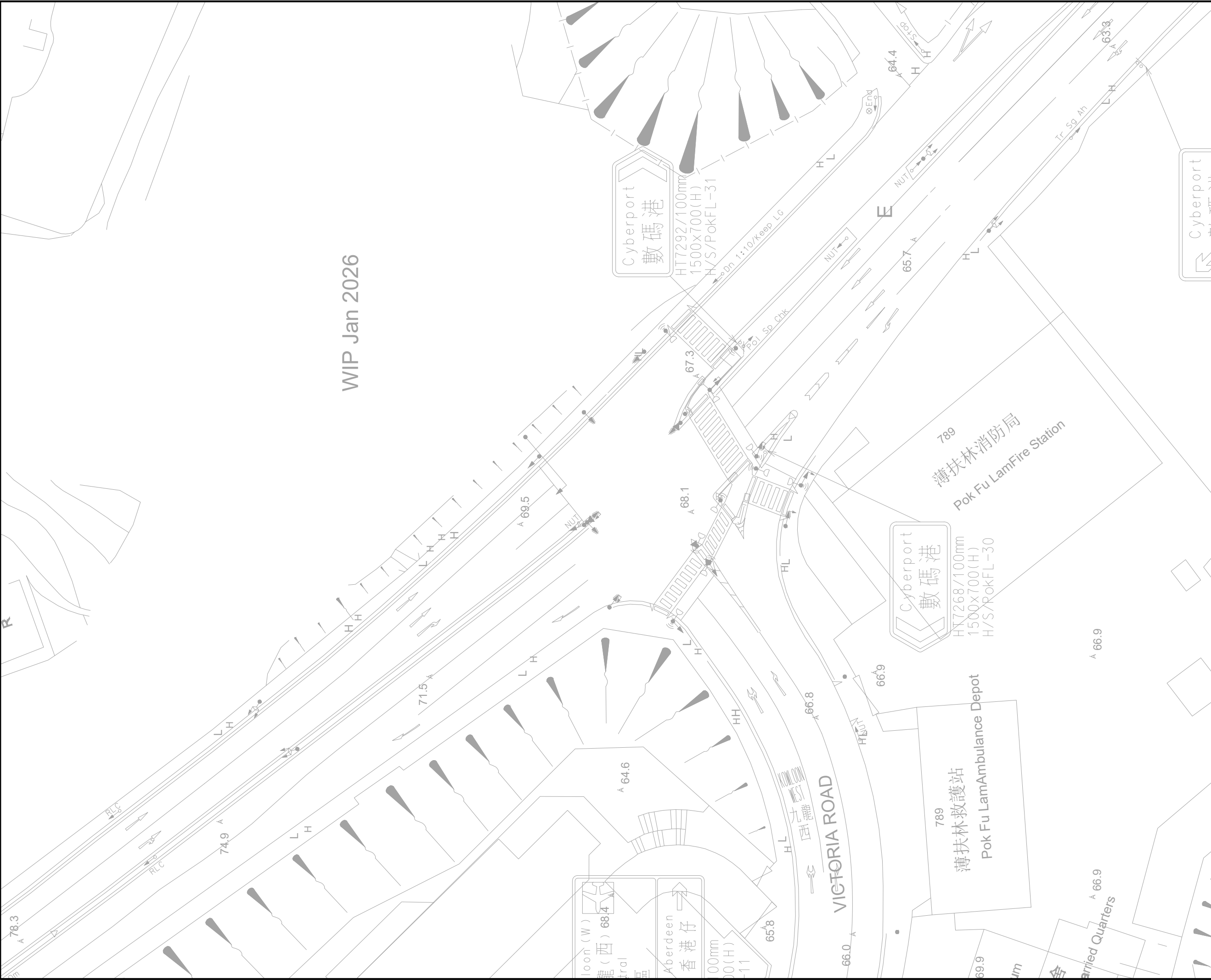
EXISTING JUNCTION LAYOUT - POK FU
LAM ROAD / ACCESS ROAD TO
MIDDLETON TOWERS (J1) & POK FU LAM
ROAD / ACCESS ROAD TO UNIVERSITY
HALL (J2)

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DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
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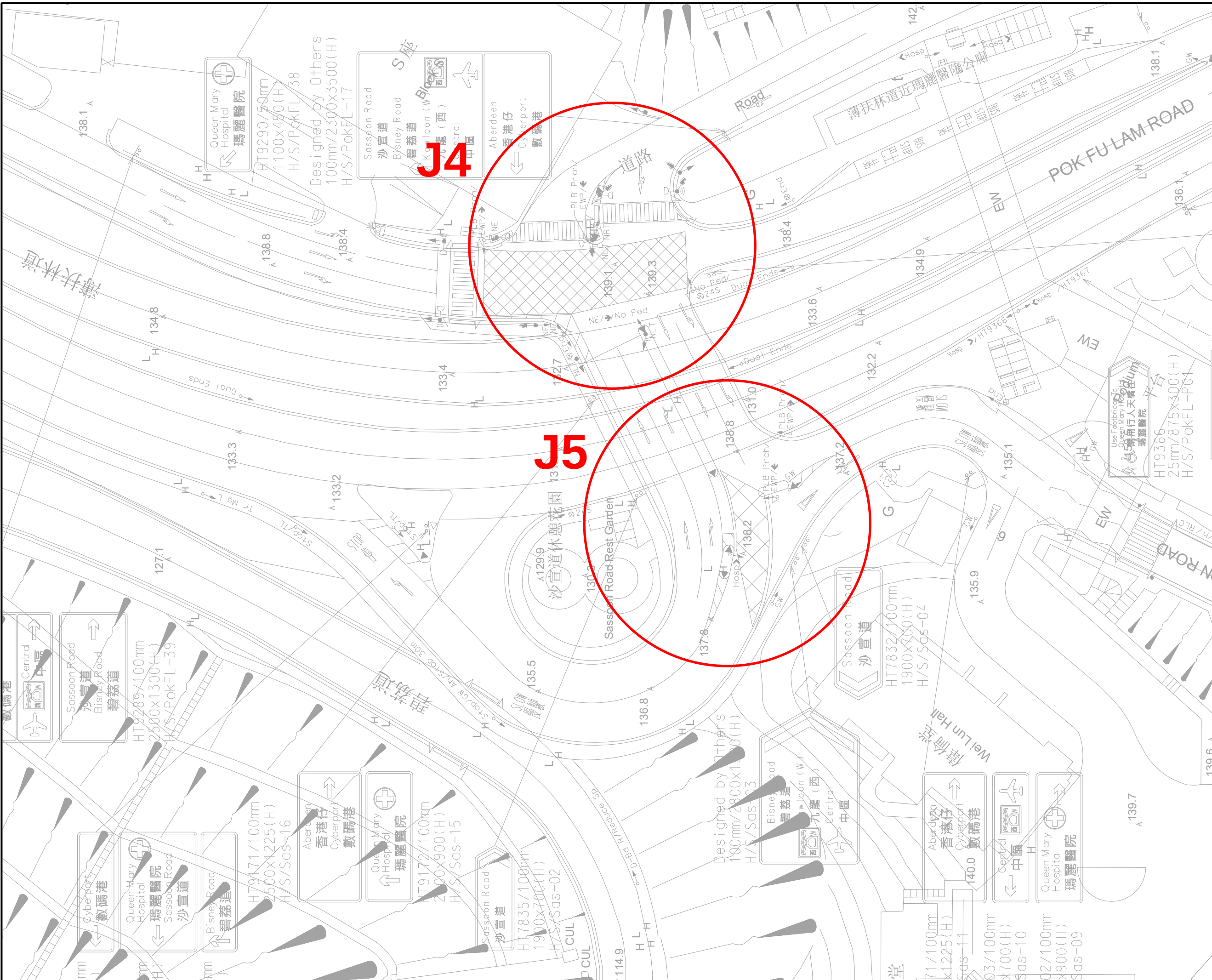
CONTRACT NO.
合約編號

EO/J/2025/005

SHEET TITLE
圖紙名稱

EXISTING JUNCTION LAYOUT -
POK FU LAM ROAD / VICTORIA
ROAD (J3)

SHEET NUMBER
圖紙編號



PROJECT

PLANNING CONSULTANCY SERVICE FOR REDEVEL- OPMENT OF MIDDLETON TOWERS TO STUDENT HOSTEL

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METRES

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CONTRACT NO.
合約編號

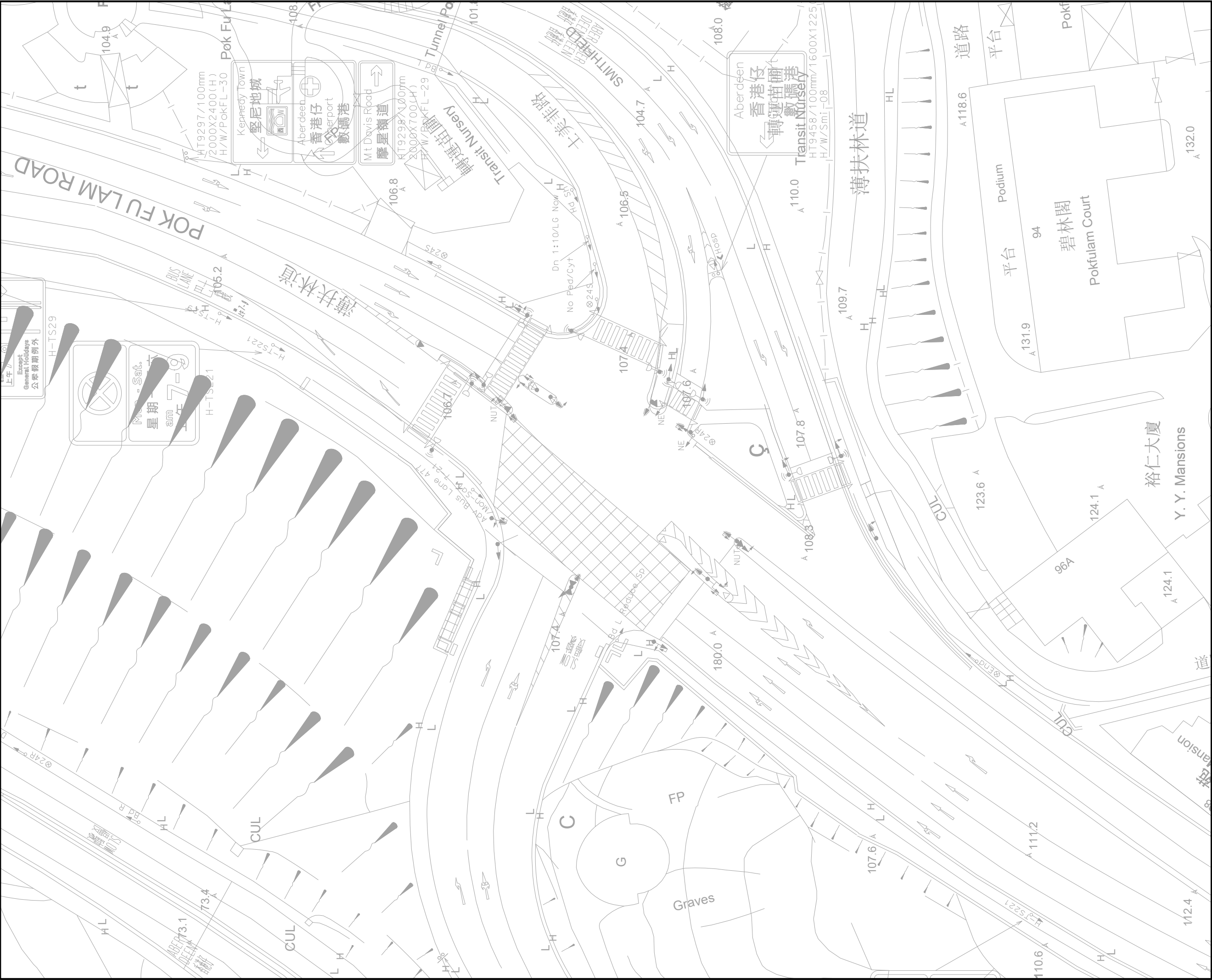
EO/J/2025/005

SHEET TITLE
圖紙名稱

EXISTING JUNCTION LAYOUT -
POK FU LAM ROAD / SASSOON
ROAD / ACCESS ROAD TO QUEEN
MARY HOSPITAL (J4) & POK FU
LAM ROAD / SASSOON ROAD (J5)

SHEET NUMBER
圖紙編號

APPENDIX A-3



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PROJECT

PLANNING CONSULTANCY
SERVICE FOR REDEVEL-
OPMENT OF MIDDLETON
TOWERS TO STUDENT
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STATUS

附設

SCALE

比例

A3 1:500

DIMENSION UNIT

尺寸單位

METRES

KEY PLAN

索引圖

PROJECT NO.

項目編號

60776275

CONTRACT NO.

合約編號

EO/J/2025/005

SHEET TITLE

圖紙名稱

EXISTING JUNCTION LAYOUT -
POK FU LAM ROAD / SMITHFIELD /
MOUNT DAVIS ROAD (J6)

SHEET NUMBER

圖紙編號

APPENDIX A-4



PROJECT

PLANNING CONSULTANCY
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STATUS

SCALE

比例	尺寸單位
A3 1:500	METRES

KEY PLAN

PROJECT NO. 755 13 4038b

項目編號	合約編號
60776275	EO/J/2025/005
SHEET TITLE	
圖底名稱	
EXISTING JUNCTION LAYOUT - POK FU LAM ROAD / POKFIELD ROAD (J7)	

SHEET NUMBER

APPENDIX A-5

Appendix B

Junction Calculation Sheets

Appendix B-1

Junction Calculation Sheet

2026 Base Case

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J1 - Pok Fu Lam Road / Access Road to Middleton Towers

2026 AM Observed Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1270
5

1065
5

(ARM A)
Pok Fu Lam Road

(ARM B)
Access Road to Middleton Towers

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J1

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 5 (pcu/hr)
q a-c = 1065 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 2.4 (metres)
Vr c-b = 100 (metres)
q c-a = 1270 (pcu/hr)
q c-b = 5 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.2 (metres)
W b-c = 2.2 (metres)
Vl b-a = 100 (metres)
Vr b-a = 100 (metres)
Vr b-c = 100 (metres)
q b-a = 10 (pcu/hr)
q b-c = 5 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.822709
E = 0.848153
F = 0.866615
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 237
Q b-c = 468
Q c-b = 478
Q b-ac = 284

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.04
DFC b-c = 0.01
DFC c-b = 0.01
DFC b-ac = 0.05

CRITICAL DFC = 0.05

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J1 - Pok Fu Lam Road / Access Road to Middleton Towers

2026 PM Observed Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1105
5

765
5

(ARM A)
Pok Fu Lam Road

(ARM B)
Access Road to Middleton Towers

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J1

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 5 (pcu/hr)
q a-c = 765 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 2.4 (metres)
Vr c-b = 100 (metres)
q c-a = 1105 (pcu/hr)
q c-b = 5 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.2 (metres)
W b-c = 2.2 (metres)
Vl b-a = 100 (metres)
Vr b-a = 100 (metres)
Vr b-c = 100 (metres)
q b-a = 5 (pcu/hr)
q b-c = 5 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.822709
E = 0.848153
F = 0.866615
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 297
Q b-c = 514
Q c-b = 525
Q b-ac = 377

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.02
DFC b-c = 0.01
DFC c-b = 0.01
DFC b-ac = 0.03

CRITICAL DFC = 0.03

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - Pok Fu Lam Road / Access Road to University Hall

2026 AM Observed Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1270
5

1055
15

(ARM A)
Pok Fu Lam Road

(ARM B)
Access Road to University Hall

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 15 (pcu/hr)
q a-c = 1055 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.5 (metres)
Vr c-b = 45 (metres)
q c-a = 1270 (pcu/hr)
q c-b = 5 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 3 (metres)
W b-c = 3 (metres)
Vl b-a = 35 (metres)
Vr b-a = 22 (metres)
Vr b-c = 22 (metres)
q b-a = 5 (pcu/hr)
q b-c = 5 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.797019
E = 0.856089
F = 0.919352
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 231
Q b-c = 474
Q c-b = 507
Q b-ac = 310

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.02
DFC b-c = 0.01
DFC c-b = 0.01
DFC b-ac = 0.03

CRITICAL DFC = 0.03

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - Pok Fu Lam Road / Access Road to University Hall

2026 PM Observed Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1105
5

765
5

(ARM A)
Pok Fu Lam Road

(ARM B)
Access Road to University Hall

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 5 (pcu/hr)
q a-c = 765 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.5 (metres)
Vr c-b = 45 (metres)
q c-a = 1105 (pcu/hr)
q c-b = 5 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 3 (metres)
W b-c = 3 (metres)
Vl b-a = 35 (metres)
Vr b-a = 22 (metres)
Vr b-c = 22 (metres)
q b-a = 5 (pcu/hr)
q b-c = 5 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.797019
E = 0.856089
F = 0.919352
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 288
Q b-c = 519
Q c-b = 557
Q b-ac = 371

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.02
DFC b-c = 0.01
DFC c-b = 0.01
DFC b-ac = 0.03

CRITICAL DFC = 0.03

JUNCTION CAPACITY CALCULATION

AECOM

Junction J3 - Pok Fu Lam Road / Victoria Road

2026 AM Observed Traffic Flows

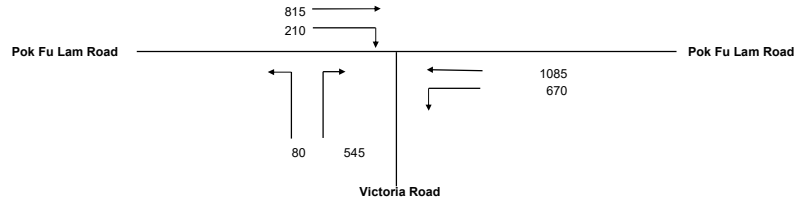
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DATE: Apr 26

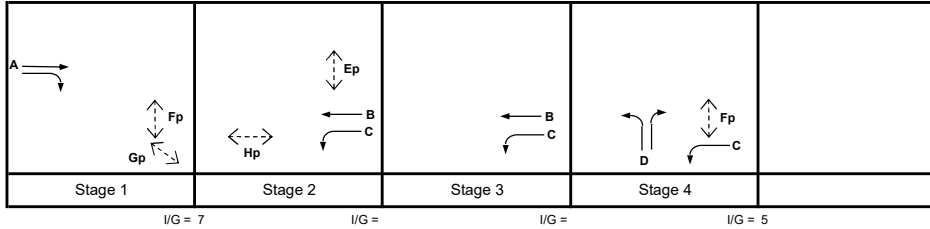
Traffic Flow Diagram
(pcu/hr)



No. of stages per cycle	N =	4
Cycle time	C =	140 sec
Sum(y)	Y =	0.611
Lost time	L =	10 sec
Total Flow	=	3,405 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	= 51 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	= 26 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	= 0.825
R.C. _{ult}	= $(Y_{ult} - Y)/Y \times 100\%$	= 35.0 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	= 31 sec
Y_{max}	= $1 - L/C$	= 0.929

J3

Stage/Phase Diagrams



Critical Case : A,C

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 37\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.600	1				1		0		1975		491				1975	0.248		53	52	0.658	12	
	A	1	3.300	1		20	0	0		0	130	2085		324	210		39%	2152	0.248	0.248	53	52	0.658	13	
	B	2,3	3.500	3				0		0		6315						6315	0.172		37		0.000	14	
	C	2,3,4	3.700	1	20			1		0		1985	670	1085			100%	1847	0.363	0.363	77	76	0.658	12	
	D	4	4.200	1	15	25	0	1		0		2035	80		223	303	26%	1901	0.160		34		0.000	12	
	D	4	3.800	1		25	0	0		0		2135			322	322	74%	2014	0.160		34		0.000	12	
Pedestrian Crossing				GM		FGM																			
	Ep	2	min.	10	+	8	=	18	sec																
	Fp	1,4	min.	7	+	9	=	16	sec																
	Gp	1	min.	14	+	5	=	19	sec																
	Hp	2	min.	10	+	8	=	18	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J3 - Pok Fu Lam Road / Victoria Road

2026 PM Observed Traffic Flows

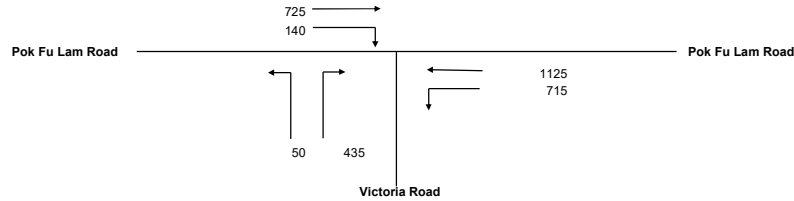
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DATE: Apr 26

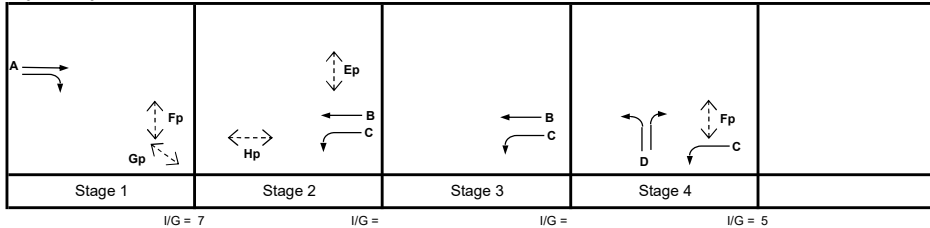
Traffic Flow Diagram
(pcu/hr)



No. of stages per cycle	N =	4
Cycle time	C =	120 sec
Sum(y)	Y =	0.596
Lost time	L =	10 sec
Total Flow	=	3,190 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	50 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	25 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.825
$R.C._{ult}$	= $(Y_{ult} - Y)/Y \times 100\%$	38.4 %
Practical Cycle Time C_p	= $0.9 \times L/(0.9 - Y)$	30 sec
Y_{max}	= $1 - L/C$	0.917

J3

Stage/Phase Diagrams



Critical Case : A,C

$$R.C.(C) = (0.9 \times Y_{max} - Y)/Y \times 100\% = 38\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.600	1				1		0		1975		413		413			1975	0.209		39	38	0.650	9
	A	1	3.300	1				0		0	130	2085		312	140	452			2165	0.209	0.209	39	38	0.650	10
	B	2,3	3.500	3				0		0		6315				1125			6315	0.178		33		0.000	12
	C	2,3,4	3.700	1	20			1		0		1985	715	1125		715	100%		1847	0.387	0.387	71	70	0.650	10
	D	4	4.200	1	15	25	0	1		0		2035	50		186	236	21%	79%	1905	0.124		23		0.000	8
	D	4	3.800	1		25	0	0		0		2135			249	249		100%	2014	0.124		23		0.000	8
Pedestrian Crossing				GM		FGM																			
	Ep	2	min.	10	+	8	=	18	sec																
	Fp	1,4	min.	7	+	9	=	16	sec																
	Gp	1	min.	14	+	5	=	19	sec																
	Hp	2	min.	10	+	8	=	18	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Pok Fu Lam Road / Sassoon Road / Access Road to Queen Mary Hospital

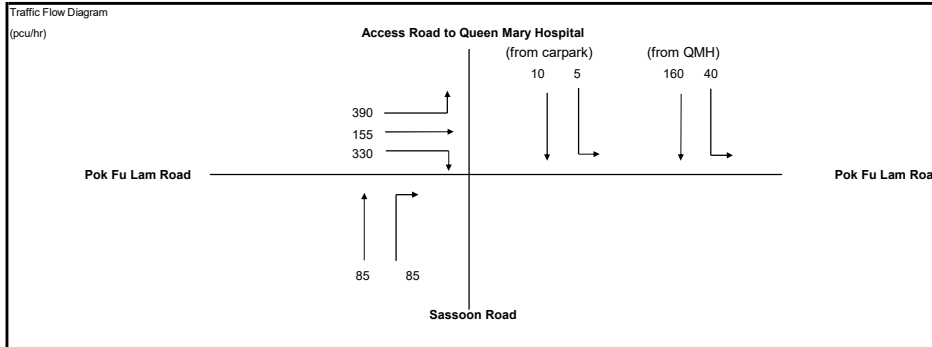
2026 AM Observed Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

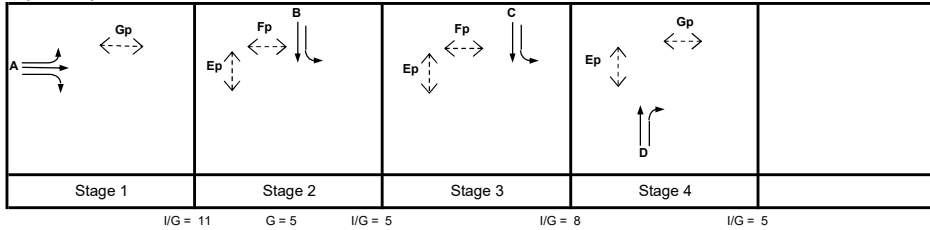
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	105 sec
Sum(y)	Y =	0.442
Lost time	L =	31 sec
Total Flow	=	1,260 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	92 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	56 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.668
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	51.2 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	61 sec
Y_{max}	= $1 - L / C$	0.705

J4

Stage/Phase Diagrams



Critical Case : A,B,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 44\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (Y + (C - L))$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.300	1	12.5			1		0	100	1945	390	155		545	72%		1883	0.289	0.289	48	47	0.627	9
	A	1	3.300	1		10	0	0		0		2085			330	330		100%	1813	0.182		31	47	0.394	5
	B	2	3.000	1	10			1		0		1915	5	10		15	33%		1824	0.008		1		0.000	0
	D	4	3.800	1				1		0		1995		85		85			1995	0.043		7	6	0.599	3
	D	4	3.800	1		12.5	0	0		0		2135			85	85		100%	1906	0.045	0.045	7	6	0.627	3
	C	3	3.000	1	10			1		0		1915	40	160		200	20%		1859	0.108	0.108	18	17	0.627	5
Pedestrian Crossing				GM		FGM																			
	Ep	2,3,4			9	+																			
	Fp	2,3			8	+																			
	Gp	1,4			5	+																			

JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Pok Fu Lam Road / Sassoon Road / Access Road to Queen Mary Hospital

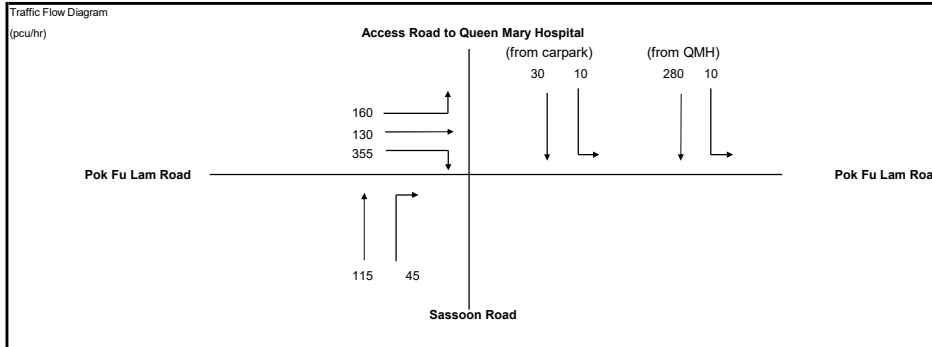
2026 PM Observed Traffic Flows

DESIGN: JW

CHECK: OC

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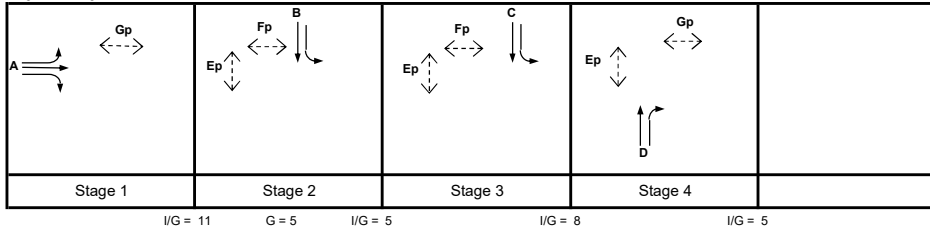
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	100 sec
Sum(y)	Y =	0.406
Lost time	L =	31 sec
Total Flow	=	1,135 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	87 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	52 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.668
R.C. _{ult}	= $(Y_{ult} - Y)/Y \times 100\%$	64.5 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	56 sec
Y_{max}	= $1 - L/C$	0.690

J4

Stage/Phase Diagrams



Critical Case : A,B,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 53\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.300	1	12.5			1		0	100	1945	160	130		290	55%		1918	0.151		26	32	0.454	5
	A	1	3.300	1		10	0	0		0		2085			355	355		100%	1813	0.196	0.196	33	32	0.588	7
	B	2	3.000	1	10			1		0		1915	10	30		40	25%		1846	0.022		4		0.000	1
	D	4	3.800	1				1		0		1995		115		115			1995	0.058	0.058	10	9	0.588	3
	D	4	3.800	1		12.5	0	0		0		2135			45	45		100%	1906	0.024		4	9	0.241	1
	C	3	3.000	1	10			1		0		1915	10	280		290	3%		1905	0.152	0.152	26	25	0.588	6
Pedestrian Crossing				GM		FGM																			
	Ep	2,3,4			9	+																			
	Fp	2,3			8	+																			
	Gp	1,4			5	+																			

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J5 - Pok Fu Lam Road / Sassoon Road

2026 AM Observed Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : May 26

Pok Fu Lam Road Slip Road
(ARM C)

55
45

120
345

(ARM A)
Sassoon Road

415

115

(ARM B)
Sassoon Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J5

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 15.5 (metres)
W cr = 1.5 (metres)
q a-b = 345 (pcu/hr)
q a-c = 120 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.1 (metres)
Vr c-b = 45 (metres)
q c-a = 55 (pcu/hr)
q c-b = 45 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.5 (metres)
W b-c = 3.7 (metres)
Vl b-a = 65 (metres)
Vr b-a = 75 (metres)
Vr b-c = 75 (metres)
q b-a = 115 (pcu/hr)
q b-c = 415 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.812133
E = 0.964010
F = 0.884290
Y = 0.465250

THE CAPACITY OF MOVEMENT :

Q b-a = 477
Q b-c = 676
Q c-b = 589
Q b-ac = 620

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.24
DFC b-c = 0.61
DFC c-b = 0.08
DFC b-ac =

CRITICAL DFC = 0.61

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J5 - Pok Fu Lam Road / Sassoon Road

2026 PM Observed Traffic Flows

Designed By : JW

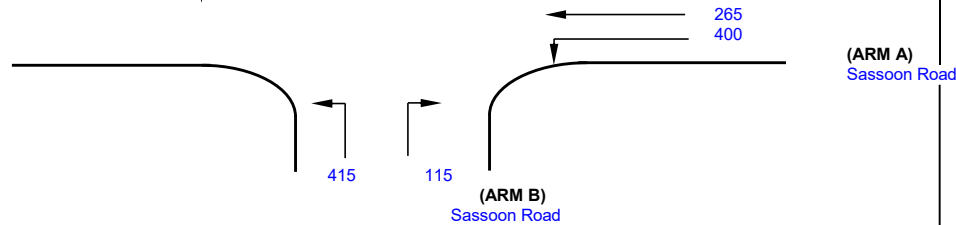
Checked By : OC

Job No. :

Date : May 26

Pok Fu Lam Road Slip Road
(ARM C)

45
15



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J5

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 15.5 (metres)
W cr = 1.5 (metres)
q a-b = 400 (pcu/hr)
q a-c = 265 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.1 (metres)
Vr c-b = 45 (metres)
q c-a = 45 (pcu/hr)
q c-b = 15 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.5 (metres)
W b-c = 3.7 (metres)
Vl b-a = 65 (metres)
Vr b-a = 75 (metres)
Vr b-c = 75 (metres)
q b-a = 115 (pcu/hr)
q b-c = 415 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.812133
E = 0.964010
F = 0.884290
Y = 0.465250

THE CAPACITY OF MOVEMENT :

Q b-a = 461
Q b-c = 649
Q c-b = 559
Q b-ac = 596

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.25
DFC b-c = 0.64
DFC c-b = 0.03
DFC b-ac =

CRITICAL DFC = 0.64

JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Pok Fu Lam Road / Smithfield / Mount Davis Road

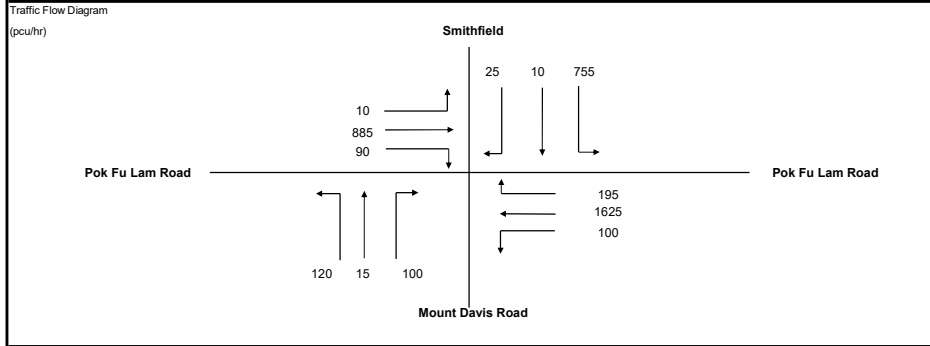
2026 AM Observed Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

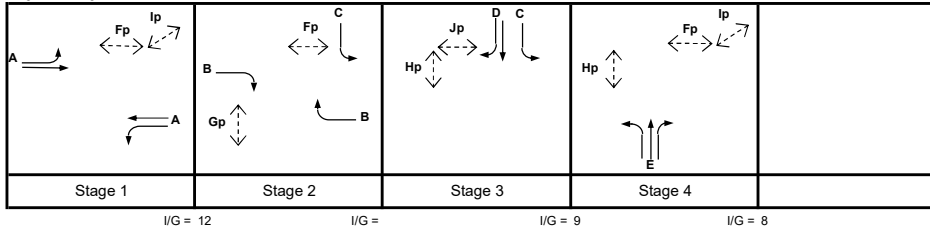
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	135 sec
Sum(y)	Y =	0.540
Lost time	L =	26 sec
Total Flow	=	3,930 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	96 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	57 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.705
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	30.5 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	65 sec
Y_{max}	= $1 - L / C$	0.807

J6

Stage/Phase Diagrams



Critical Case : A,C,E

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 34\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = y / Y \times (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
A	A	1	3.400	1	10			1	0			1955	10	421		431	2%		1948	0.221		45	56	0.521	9
	A	1	3.400	1				0	0			2095		464		464			2095	0.221		45	56	0.521	10
	B	2	3.400	1		15	0	0	0			2095			90	90	100%		1905	0.047		10		0.000	3
	B	2	3.500	1		15	0	0	0			2105			195	195	100%		1914	0.102		21		0.000	7
	A	1	3.300	1	10			1	0			1945	100	438		538	19%		1892	0.285	0.285	57	56	0.669	12
C	A	1	3.300	2				0	0			4170		1187		1187			4170	0.285		57	56	0.669	13
	C	2,3	3.400	2	30			1	0			4050	755			755	100%		3857	0.196	0.196	39	38	0.669	10
D	D	3	3.800	1		20	0	0	0			2135		10	25	35	71%		2026	0.017		3		0.000	1
	E	4	5.000	1	10			1	0			2115	110			110	100%		1839	0.060		12	11	0.669	4
E	E	4	5.000	1	15	15	0	0	0			2255	10	15	100	125	8%	80%	2073	0.060	0.060	12	11	0.669	5
Pedestrian Crossing				GM		FGM																			
	Fp	1,2,4	min.	7	+	5	=	12	sec																
	Gp	2	min.	7	+	9	=	16	sec																
	Hp	3,4	min.	12	+	12	=	24	sec																
	Ip	1,4	min.	7	+	8	=	15	sec																
	Jp	3	min.	6	+	11	=	17	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Pok Fu Lam Road / Smithfield / Mount Davis Road

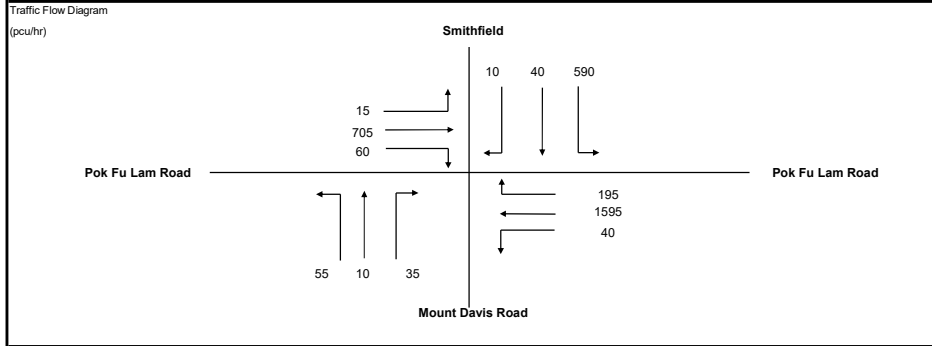
2026 PM Observed Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

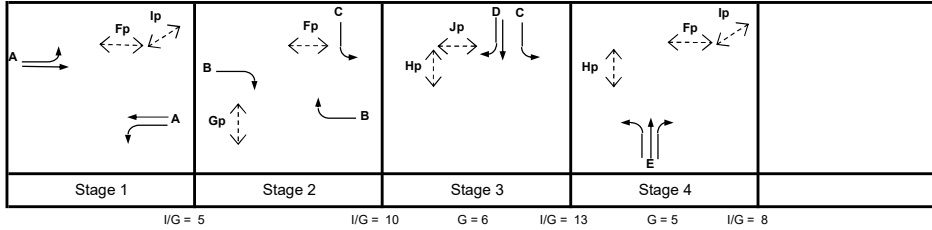
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	110 sec
Sum(y)	Y =	0.370
Lost time	L =	45 sec
Total Flow	=	3,350 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	115 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	71 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.563
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	51.9 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	76 sec
Y_{max}	= $1 - L / C$	0.591

J6

Stage/Phase Diagrams



Critical Case : A,B,Jp,E

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 44\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = y / Y \times (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.400	1	10			1		0		1955	15	331		346	4%		1942	0.178		31	46	0.416	6
	A	1	3.400	1				0		0		2095		374		374			2095	0.178		31	46	0.416	7
	B	2	3.400	1		15	0	0		0		2095			60	60		100%	1905	0.032		6	17	0.194	2
	B	2	3.500	1		15	0	0		0		2105			195	195		100%	1914	0.102	0.102	18	17	0.627	5
	A	1	3.300	1	10			1		0		1945	40	476		516	8%		1923	0.268		47	46	0.627	9
	A	1	3.300	2				0		0		4170		1119		1119			4170	0.268		47	46	0.627	10
	C	2,3	3.400	2	30			1		0		4050	590			590	100%		3857	0.153		27		0.000	9
	D	3	3.800	1		20	0	0		0		2135		40	10	50		20%	2103	0.024		4		0.000	2
	E	4	5.000	1	10			1		0		2115	47			47	100%		1839	0.025		4		0.000	1
	E	4	5.000	1	15	15	0	0		0		2255	8	10	35	53	15%	66%	2086	0.025		4		0.000	2
Pedestrian Crossing				GM		FGM																			
	Fp	1,2,4	min.	7	+	5	=	12	sec																
	Gp	2	min.	7	+	9	=	16	sec																
	Hp	3,4	min.	12	+	12	=	24	sec																
	Ip	1,4	min.	7	+	8	=	15	sec																
	Jp	3	min.	6	+	11	=	17	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Pok Fu Lam Road / Pokfield Road

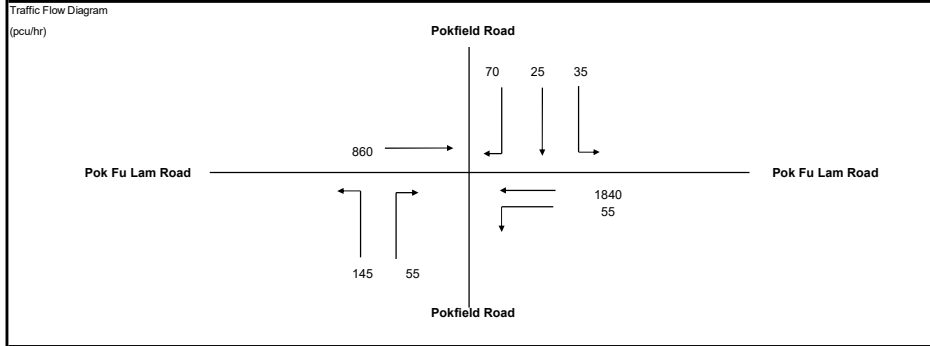
2026 AM Observed Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

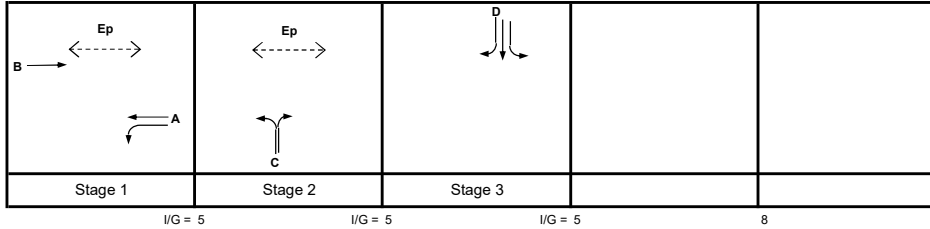
DATE: Apr 26



No. of stages per cycle	N =	3
Cycle time	C =	135 sec
Sum(y)	Y =	0.399
Lost time	L =	20 sec
Total Flow	=	3,085 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)(1 - Y)$	58 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	33 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.750
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	88.1 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	36 sec
Y_{max}	= $1 - L / C$	0.852

J7

Stage/Phase Diagrams



Critical Case : A,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 92\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N	
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT								
	A	1	3.500	1	15			1		0		1965	55	544		599	9%		1947	0.308	0.308	89	88	0.468	8	
	A	1	3.500	2				0		0		4210		1296		1296			4210	0.308		89	88	0.468	8	
	B	1	3.500	2				1		0		4070		860		860			4070	0.211		61		0.000	16	
	C	2	3.000	1	20			1		0		1915	97			97	100%		1781	0.054		16	15	0.468	3	
	C	2	3.000	1	15	20	0	0		0		2055	48		55	103	47%	53%	1891	0.054	0.054	16	15	0.468	3	
	D	3	3.500	1		15	0	0		0		2105			70	70		100%	1914	0.037	0.037	11	10	0.468	2	
	D	3	3.500	1	15			1		0		1965	35	25		60	58%		1857	0.032		9	10	0.414	2	
Pedestrian Crossing		Ep	1,2 min.	GM 12	+	FGM 14	=	26	sec																	

JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Pok Fu Lam Road / Pokfield Road

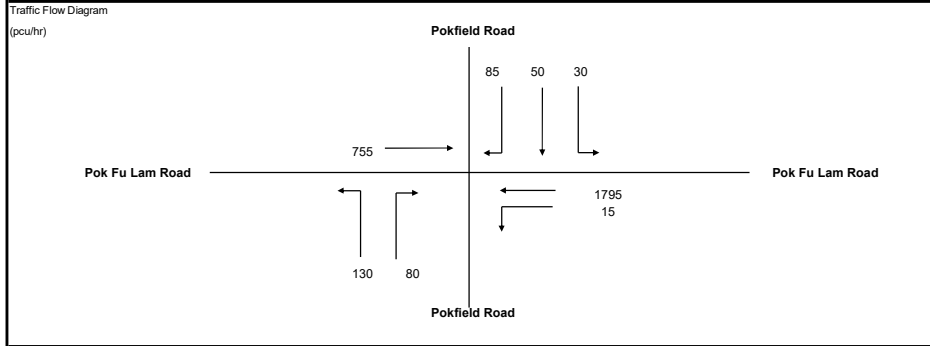
2026 PM Observed Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

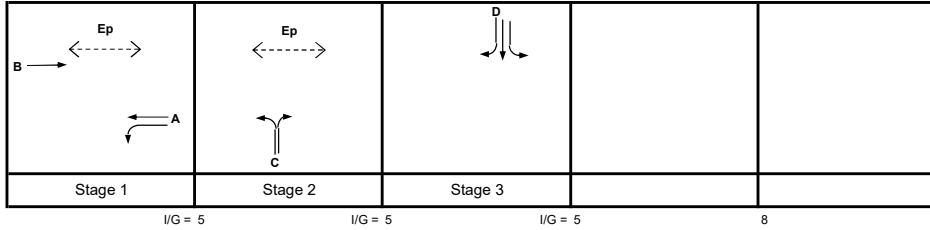
DATE: Apr 26



No. of stages per cycle	N =	3
Cycle time	C =	110 sec
Sum(y)	Y =	0.395
Lost time	L =	20 sec
Total Flow	=	2,940 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)(1 - Y)$	58 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	33 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.750
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	90.0 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	36 sec
Y_{max}	= $1 - L / C$	0.818

J7

Stage/Phase Diagrams



Critical Case : A,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 87\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.500	1	15			1		0		1965	15	560		575	3%		1960	0.293	0.293	67	66	0.483	7
	A	1	3.500	2				0		0		4210		1235		1235			4210	0.293		67	66	0.483	7
	B	1	3.500	2				1		0		4070		755		755			4070	0.186		42		0.000	11
	C	2	3.000	1	20			1		0		1915	102			102	100%		1781	0.057		13	12	0.483	3
	C	2	3.000	1	15	20	0	0		0		2055	28		80	108	26%	74%	1900	0.057	0.057	13	12	0.483	3
	D	3	3.500	1		15		0		0		2105			85	85		100%	1914	0.044	0.044	10	9	0.483	2
	D	3	3.500	1	15			1		0		1965	30	50		80	38%		1894	0.042		10	9	0.459	2
Pedestrian Crossing		Ep	1,2 min.	GM 12	+	FGM 14	=	26	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Lady Ho Tung Hall Signalized Crossing

2026 AM Observed Traffic Flows

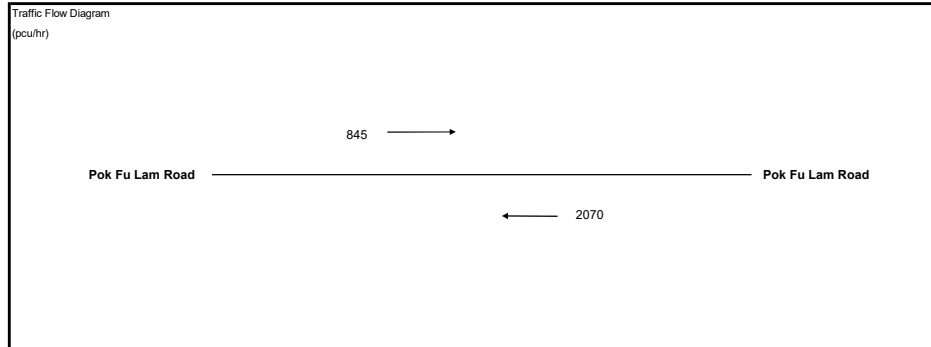
DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26

Traffic Flow Diagram
(pcu/hr)

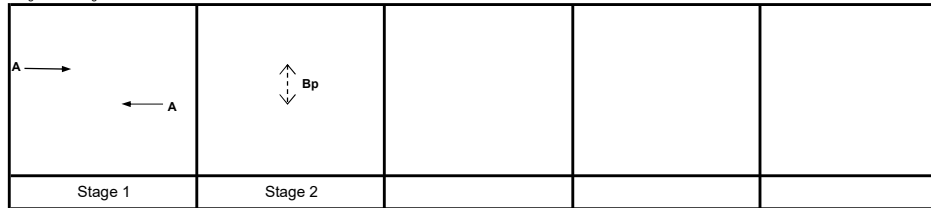


No. of stages per cycle N = 2
Cycle time C = 110 sec
Sum(y) Y = 0.509
Lost time L = 25 sec
Total Flow = 2,915 pcu

J8

Optimum Cycle $C_o = (1.5 \times L + 5) / (1 - Y) = 86$ sec
Min. Cycle Time $C_m = L / (1 - Y) = 51$ sec
 $Y_{ult} = 0.9 - 0.0075 \times L = 0.713$
 $R.C._{ult} = (Y_{ult} - Y) / Y \times 100\% = 40.1\%$
Practical Cycle Time $C_p = 0.9 \times L / (0.9 - Y) = 57$ sec
 $Y_{max} = 1 - L/C = 0.773$

Stage/Phase Diagrams



I/G = 5

G = 8

I/G = 13

Critical Case : A,Bp

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 37\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=yYx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
→	A	1	3.500	2				1		0		4070		845		845			4070	0.208		35	84	0.269	3
←	A	1	3.500	2				1		0		4070		2070		2070			4070	0.509	0.509	85	84	0.658	7
Pedestrian Crossing		Bp	2	min.	GM 8	+	FGM 10	=	18	sec											*				

JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Lady Ho Tung Hall Signalized Crossing

2026 PM Observed Traffic Flows

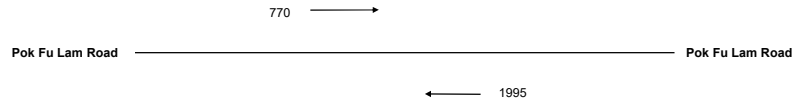
DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26

Traffic Flow Diagram
(pcu/hr)

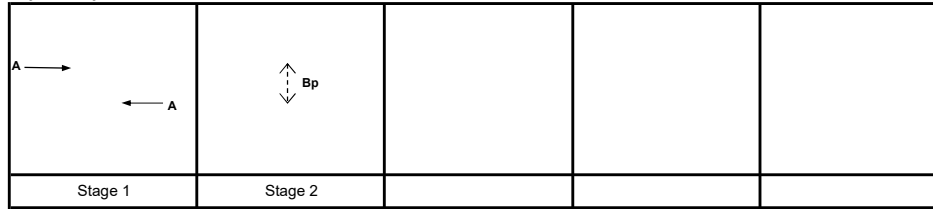


No. of stages per cycle N = 2
 Cycle time C = 110 sec
 Sum(y) Y = 0.490
 Lost time L = 25 sec
 Total Flow = 2,765 pcu

J8

Optimum Cycle $C_o = (1.5 \times L + 5) / (1 - Y) = 83$ sec
 Min. Cycle Time $C_m = L / (1 - Y) = 49$ sec
 $Y_{ult} = 0.9 - 0.0075 \times L = 0.713$
 $R.C._{ult} = (Y_{ult} - Y) / Y \times 100\% = 45.4\%$
 Practical Cycle Time $C_p = 0.9 \times L / (0.9 - Y) = 55$ sec
 $Y_{max} = 1 - L/C = 0.773$

Stage/Phase Diagrams



I/G = 5 G = 8 I/G = 13

Critical Case : A,Bp

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 42\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N	
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT								
→	A	1	3.500	2				1		0		4070		770		770			4070	0.189		33	84	0.245	3	
←	A	1	3.500	2				1		0		4070		1995		1995			4070	0.490	0.490	85	84	0.634	7	
</																										

Appendix B-2

Junction Calculation Sheet

2031 Reference Case

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J1 - Pok Fu Lam Road / Access Road to Middleton Towers

2031 AM Reference Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1635

1520

(ARM A)

Pok Fu Lam Road

30

105

(ARM B)

Access Road to Middleton Towers

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J1

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 0 (pcu/hr)
q a-c = 1520 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 2.4 (metres)
Vr c-b = 100 (metres)
q c-a = 1635 (pcu/hr)
q c-b = 0 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 3.5 (metres)
W b-c = 2.5 (metres)
Vl b-a = 100 (metres)
Vr b-a = 100 (metres)
Vr b-c = 100 (metres)
q b-a = 105 (pcu/hr)
q b-c = 30 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.939109
E = 0.875846
F = 0.866615
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 156
Q b-c = 412
Q c-b = 408
Q b-ac = 181

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.67
DFC b-c = 0.07
DFC c-b = 0.00
DFC b-ac = 0.74

CRITICAL DFC = 0.74

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J1 - Pok Fu Lam Road / Access Road to Middleton Towers

2031 PM Reference Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1420

1060

(ARM A)

Pok Fu Lam Road

25

60

(ARM B)

Access Road to Middleton Towers

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J1

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 0 (pcu/hr)
q a-c = 1060 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 2.4 (metres)
Vr c-b = 100 (metres)
q c-a = 1420 (pcu/hr)
q c-b = 0 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 3.5 (metres)
W b-c = 2.5 (metres)
Vl b-a = 100 (metres)
Vr b-a = 100 (metres)
Vr b-c = 100 (metres)
q b-a = 60 (pcu/hr)
q b-c = 25 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.939109
E = 0.875846
F = 0.866615
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 257
Q b-c = 485
Q c-b = 480
Q b-ac = 299

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.23
DFC b-c = 0.05
DFC c-b = 0.00
DFC b-ac = 0.28

CRITICAL DFC = 0.28

JUNCTION CAPACITY CALCULATION

AECOM

Junction J3 - Pok Fu Lam Road / Victoria Road

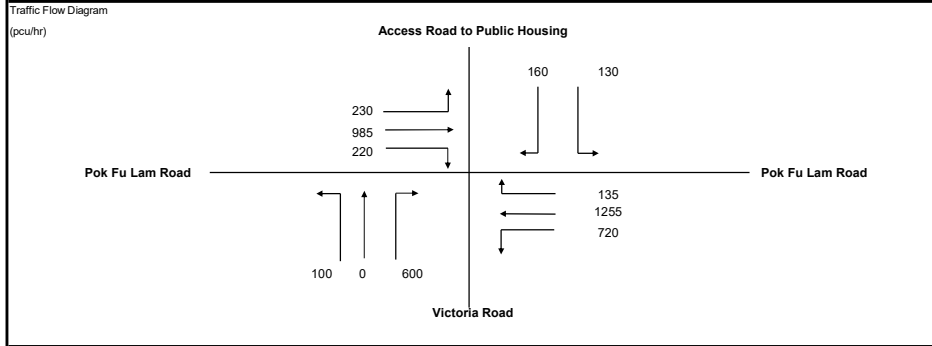
2031 AM Reference Traffic Flows

DESIGN: JW

CHECK: OC

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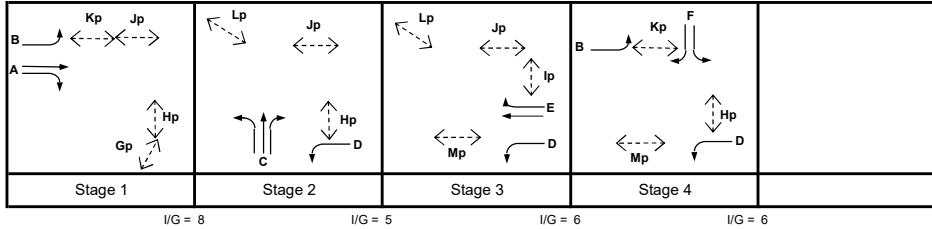
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	140 sec
Sum(y)	Y =	0.643
Lost time	L =	21 sec
Total Flow	=	4,535 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	102 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	59 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.743
R.C. _{ult}	= $(Y_{ult} - Y)/Y \times 100\%$	15.4 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	74 sec
Y_{max}	= $1 - L/C$	0.850

J3

Stage/Phase Diagrams



Critical Case : A,C,E,F

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 19\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y \times (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
A	A	1	3.700	2		30	0	0		0		4250		811	220	811		56%	4250	0.191	0.191	35	34	0.757	12
	A	1	3.650	1			0	0		0		2120		394		394			2062	0.191		35	34	0.757	12
	B	1,4	3.700	1	20		1	1		0		1985	230	174		230	100%		1847	0.125		23		0.000	9
C	C	2	3.600	1	20	25	0	1		0	100	1975	100	0	247	347	29%	71%	1950	0.178	0.178	33	32	0.757	11
	C	2	3.500	1		25	0	0		0		2105			353	353	100%		1986	0.178		33	32	0.757	11
D	D	2,3,4	3.700	1	20			1		0		1985	720			720	100%		1847	0.390		72		0.000	28
	E	3	3.500	2			0	0		0		4210		939		939			4210	0.223		41	40	0.757	13
	E	3	3.500	1		11	0	0		0		2105		316	135	451	30%		2022	0.223	0.223	41	40	0.757	12
F	F	4	3.650	1	10			1		0		1980	89			89	100%		1722	0.052		10	9	0.757	4
	F	4	3.650	1	10	20	0	0		0		2120	41		58	99	41%	59%	1917	0.052	0.052	10	9	0.757	4
	F	4	3.650	1		20	0	0		0		2120			102	102	100%		1972	0.052		10		0.000	4
Pedestrian Crossing				GM		FGM																			
	Gp	1	min.	5	+	5	=	10		sec															
	Hp	1,2,4	min.	5	+	9	=	14		sec															
	Ip	3	min.	5	+	10	=	15		sec															
	Jp	1,2,3	min.	5	+	9	=	14		sec															
	Kp	1,4	min.	5	+	6	=	11		sec															
	Lp	2,3	min.	5	+	5	=	10		sec															
	Mp	3,4	min.	5	+	10	=	15		sec															

JUNCTION CAPACITY CALCULATION

AECOM

Junction J3 - Pok Fu Lam Road / Victoria Road

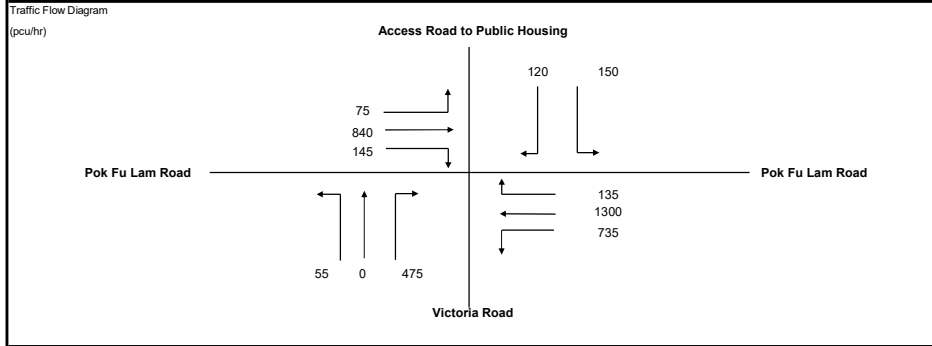
2031 PM Reference Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

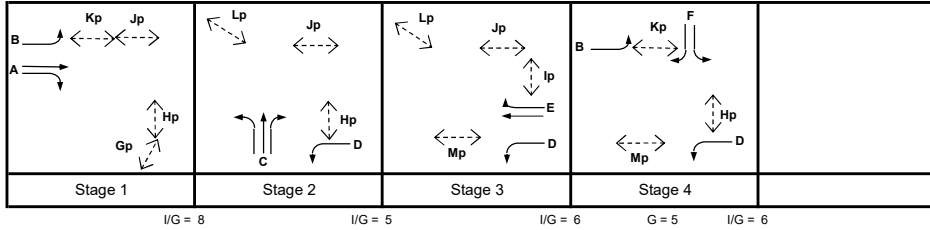
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	120 sec
Sum(y)	Y =	0.521
Lost time	L =	27 sec
Total Flow	=	4,030 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	95 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	56 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.698
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	34.0 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	64 sec
Y_{max}	= $1 - L / C$	0.775

J3

Stage/Phase Diagrams



Critical Case : A,C,E,F

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 34\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.700	2		30	0	0	0	0		4250		662	178	145	662		4250	0.156	0.156	28	27	0.672	8
	A	1	3.650	1			0	0	0	0		2120		323			323		2073	0.156		28	27	0.672	8
	B	1,4	3.700	1	20		1	1	0	0		1985	75				75	100%	1847	0.041		7		0.000	2
	C	2	3.600	1	20	25	0	1	0	0	100	1975	55	0	208	263	21%	79%	1952	0.135		24	23	0.672	7
	C	2	3.500	1		25	0	0	0	0		2105			267	267	100%	100%	1986	0.135	0.135	24	23	0.672	7
	D	2,3,4	3.700	1	20		1	1	0	0		1985	735				735	100%	1847	0.398		71		0.000	24
	E	3	3.500	2			0	0	0	0		4210		969			969		4210	0.230		41	40	0.672	11
	E	3	3.500	1		11	0	0	0	0		2105		331	135		466	29%	2025	0.230	0.230	41	40	0.672	10
	F	4	3.650	1	10			1	0	0		1980	83				83	100%	1722	0.048		9		0.000	3
	F	4	3.650	1	10	20	0	0	0	0		2120	67		24		91	73%	1876	0.048		9		0.000	3
	F	4	3.650	1		20	0	0	0	0		2120			96		96	100%	1972	0.048		9		0.000	3
Pedestrian Crossing				GM		FGM																			
	Gp	1	min.	5	+	5	=	10	sec																
	Hp	1,2,4	min.	5	+	9	=	14	sec																
	Ip	3	min.	5	+	10	=	15	sec																
	Jp	1,2,3	min.	5	+	9	=	14	sec																
	Kp	1,4	min.	5	+	6	=	11	sec																
	Lp	2,3	min.	5	+	5	=	10	sec																
	Mp	3,4	min.	5	+	10	=	15	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Pok Fu Lam Road / Sassoon Road / Access Road to Queen Mary Hospital

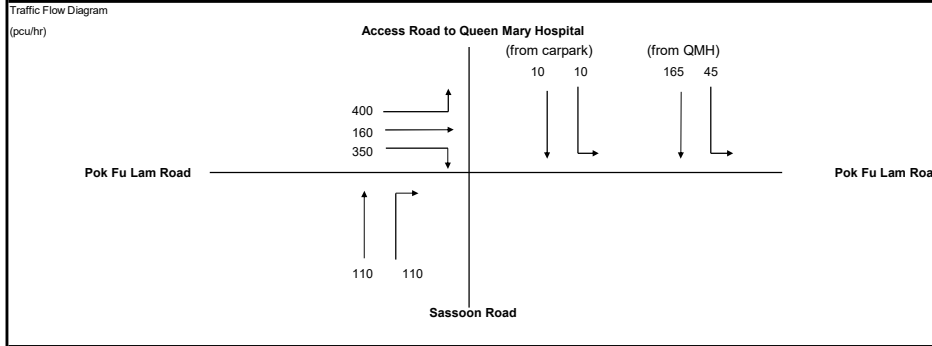
2031 AM Reference Traffic Flows

DESIGN: JW

CHECK: OC

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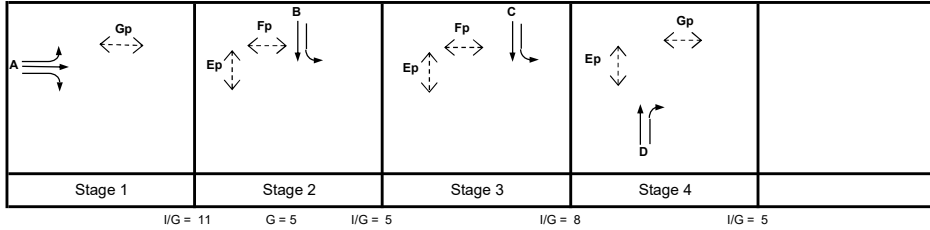
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	105 sec
Sum(y)	Y =	0.468
Lost time	L =	31 sec
Total Flow	=	1,360 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	97 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	58 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.668
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	42.6 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	65 sec
Y_{max}	= $1 - L / C$	0.705

J4

Stage/Phase Diagrams



Critical Case : A,B,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 35\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.300	1	12.5			1		0	100	1945	400	160		560	71%		1884	0.297	0.297	47	46	0.664	9
	A	1	3.300	1		10	0	0		0		2085			350	350		100%	1813	0.193		31	46	0.431	6
	B	2	3.000	1	10			1		0		1915	10	10		20	50%		1781	0.011		2		0.000	1
	D	4	3.800	1				1		0		1995		110		110			1995	0.055		9	8	0.635	3
	D	4	3.800	1		12.5	0	0		0		2135			110	110		100%	1906	0.058	0.058	9	8	0.664	3
	C	3	3.000	1	10			1		0		1915	45	165		210	21%		1855	0.113	0.113	18	17	0.664	5
Pedestrian Crossing				GM		FGM																			
	Ep	2,3,4		9	+	12	=	21	sec																
	Fp	2,3		8	+	13	=	21	sec																
	Gp	1,4		5	+	14	=	19	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Pok Fu Lam Road / Sassoon Road / Access Road to Queen Mary Hospital

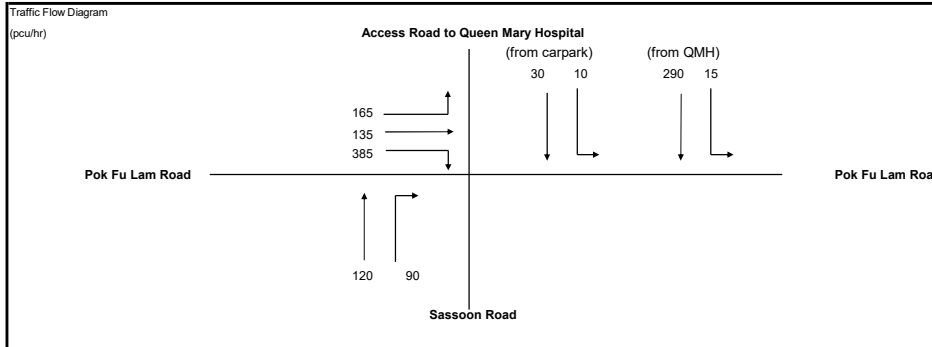
2031 PM Reference Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

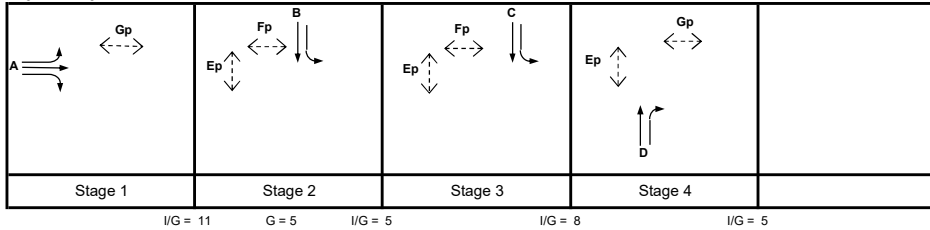
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	100 sec
Sum(y)	Y =	0.433
Lost time	L =	31 sec
Total Flow	=	1,240 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	91 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	55 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.668
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	54.2 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	60 sec
Y_{max}	= $1 - L / C$	0.690

J4

Stage/Phase Diagrams



Critical Case : A,B,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 43\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (Y + (C - L))$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.300	1	12.5			1		0	100	1945	165	135		300	55%		1918	0.156		25	33	0.462	6
	A	1	3.300	1		10	0	0		0		2085			385	385		100%	1813	0.212	0.212	34	33	0.627	7
	B	2	3.000	1	10			1		0		1915	10	30		40	25%		1846	0.022		3		0.000	1
	D	4	3.800	1				1		0		1995		120		120			1995	0.060	0.060	10	9	0.627	3
	D	4	3.800	1		12.5	0	0		0		2135			90	90		100%	1906	0.047		8	9	0.493	2
	C	3	3.000	1	10			1		0		1915	15	290		305	5%		1901	0.160	0.160	26	25	0.627	6
Pedestrian Crossing				GM		FGM																			
	Ep	2,3,4			9	+																			
	Fp	2,3			8	+																			
	Gp	1,4			5	+																			

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J5 - Pok Fu Lam Road / Sassoon Road

2031 AM Reference Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : May 26

Pok Fu Lam Road Slip Road
(ARM C)

105
70

125
360

(ARM A)
Sassoon Road

440

120

(ARM B)
Sassoon Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J5

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 15.5 (metres)
W cr = 1.5 (metres)
q a-b = 360 (pcu/hr)
q a-c = 125 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.1 (metres)
Vr c-b = 45 (metres)
q c-a = 105 (pcu/hr)
q c-b = 70 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.5 (metres)
W b-c = 3.7 (metres)
Vl b-a = 65 (metres)
Vr b-a = 75 (metres)
Vr b-c = 75 (metres)
q b-a = 120 (pcu/hr)
q b-c = 440 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.812133
E = 0.964010
F = 0.884290
Y = 0.465250

THE CAPACITY OF MOVEMENT :

Q b-a = 467
Q b-c = 675
Q c-b = 586
Q b-ac = 616

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.26
DFC b-c = 0.65
DFC c-b = 0.12
DFC b-ac =

CRITICAL DFC = 0.65

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J5 - Pok Fu Lam Road / Sassoon Road

2031 PM Reference Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : May 26

Pok Fu Lam Road Slip Road
(ARM C)

85
40

275
430

(ARM A)
Sassoon Road

(ARM B)
Sassoon Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J5

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 15.5 (metres)
W cr = 1.5 (metres)
q a-b = 430 (pcu/hr)
q a-c = 275 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.1 (metres)
Vr c-b = 45 (metres)
q c-a = 85 (pcu/hr)
q c-b = 40 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.5 (metres)
W b-c = 3.7 (metres)
Vl b-a = 65 (metres)
Vr b-a = 75 (metres)
Vr b-c = 75 (metres)
q b-a = 125 (pcu/hr)
q b-c = 425 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.812133
E = 0.964010
F = 0.884290
Y = 0.465250

THE CAPACITY OF MOVEMENT :

Q b-a = 450
Q b-c = 646
Q c-b = 553
Q b-ac = 587

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.28
DFC b-c = 0.66
DFC c-b = 0.07
DFC b-ac =

CRITICAL DFC = 0.66

JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Pok Fu Lam Road / Smithfield / Mount Davis Road

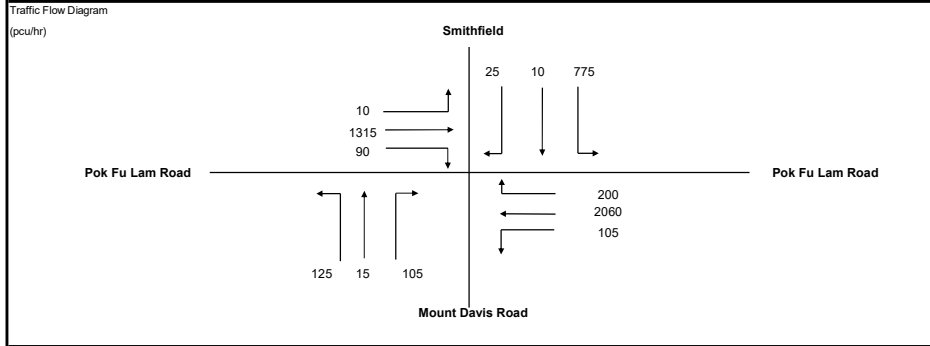
2031 AM Reference Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

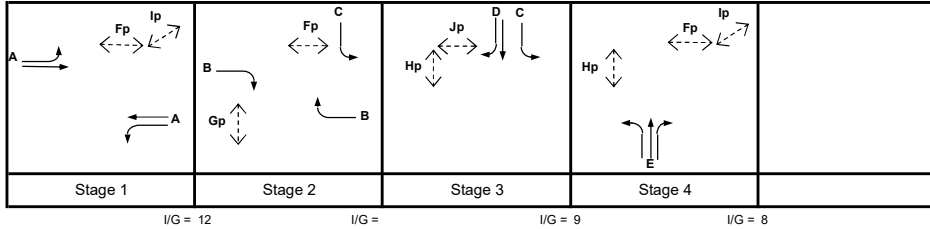
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	135 sec
Sum(y)	Y =	0.620
Lost time	L =	26 sec
Total Flow	=	4,835 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	116 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	68 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.705
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	13.7 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	84 sec
Y_{max}	= $1 - L / C$	0.807

J6

Stage/Phase Diagrams



Critical Case : A,C,E

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 17\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (Y + (C - L))$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.400	1	10			1		0		1955	10	629		639	2%		1950	0.328		58	62	0.705	13
	A	1	3.400	1				0		0		2095		686		686			2095	0.328		58	62	0.705	14
	B	2	3.400	1		15	0	0		0		2095			90	90		100%	1905	0.047		8		0.000	3
	B	2	3.500	1		15	0	0		0		2105			200	200		100%	1914	0.105		18		0.000	7
	A	1	3.300	1	10			1		0		1945	105	573		678	15%		1901	0.357	0.357	63	62	0.768	14
	A	1	3.300	2				0		0		4170		1487		1487			4170	0.357		63	62	0.768	15
	C	2,3	3.400	2	30			1		0		4050	775		25	775	100%		3857	0.201	0.201	35	34	0.768	11
	D	3	3.800	1	20		0	0		0		2135		10		35		71%	2026	0.017		3		0.000	1
	E	4	5.000	1	10			1		0		2115	115		105	115	100%		1839	0.063		11	10	0.768	5
	E	4	5.000	1	15	15	0	0		0		2255	10	15		130	8%	81%	2072	0.063	0.063	11	10	0.768	5
Pedestrian Crossing				GM		FGM																			
	Fp	1,2,4	min.	7	+	5	=	12	sec																
	Gp	2	min.	7	+	9	=	16	sec																
	Hp	3,4	min.	12	+	12	=	24	sec																
	Ip	1,4	min.	7	+	8	=	15	sec																
	Jp	3	min.	6	+	11	=	17	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Pok Fu Lam Road / Smithfield / Mount Davis Road

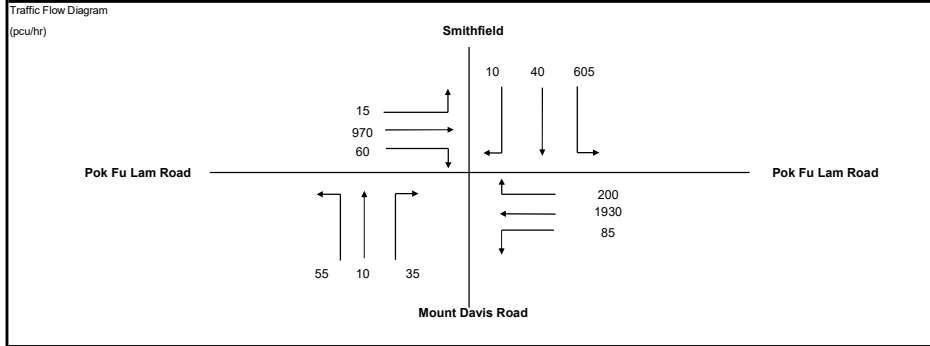
2031 PM Reference Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

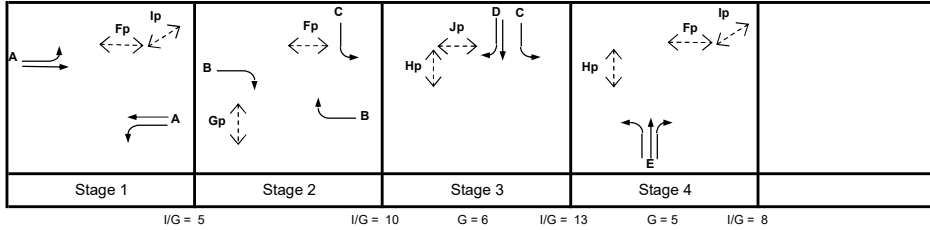
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	110 sec
Sum(y)	Y =	0.436
Lost time	L =	45 sec
Total Flow	=	4,015 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	129 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	80 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.563
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	29.0 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	87 sec
Y_{max}	= $1 - L / C$	0.591

J6

Stage/Phase Diagrams



Critical Case : A,B,Jp,E

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 22\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.400	1	10			1	0			1955	15	459		474	3%		1946	0.244		36	48	0.543	8
	A	1	3.400	1				0	0			2095		511		511			2095	0.244		36	48	0.543	9
	B	2	3.400	1		15	0	0	0			2095			60	60		100%	1905	0.032		5	15	0.222	2
	B	2	3.500	1		15	0	0	0			2105			200	200		100%	1914	0.105	0.105	16	15	0.738	6
	A	1	3.300	1	10			1	0			1945	85	547		632	13%		1907	0.332	0.332	49	48	0.738	11
	A	1	3.300	2				0	0			4170		1383		1383			4170	0.332		49	48	0.738	12
	C	2,3	3.400	2	30			1	0			4050	605		10	605	100%		3857	0.157		23		0.000	9
	D	3	3.800	1		20	0	0	0			2135		40		50		20%	2103	0.024		4		0.000	2
	E	4	5.000	1	10			1	0			2115	47			47	100%		1839	0.025		4		0.000	1
	E	4	5.000	1	15	15	0	0	0			2255	8	10	35	53	15%	66%	2086	0.025		4		0.000	2
	Pedestrian Crossing				GM	FGM															*				
	Fp	1,2,4	min.	7	+	5	=	12	sec																
	Gp	2	min.	7	+	9	=	16	sec																
	Hp	3,4	min.	12	+	12	=	24	sec																
	Ip	1,4	min.	7	+	8	=	15	sec																
	Jp	3	min.	6	+	11	=	17	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Pok Fu Lam Road / Pokfield Road

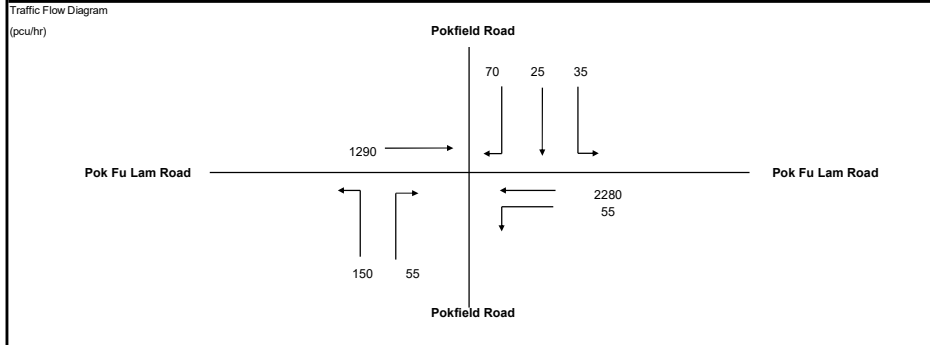
2031 AM Reference Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

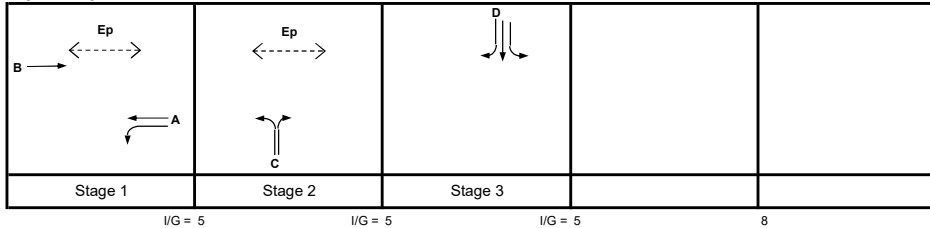
DATE: Apr 26



No. of stages per cycle	N =	3
Cycle time	C =	135 sec
Sum(y)	Y =	0.471
Lost time	L =	20 sec
Total Flow	=	3,960 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)(1 - Y)$	66 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	38 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.750
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	59.1 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	42 sec
Y_{max}	= $1 - L / C$	0.852

J7

Stage/Phase Diagrams



Critical Case : A,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 63\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.500	1	15		1		0			1965	55	684		739	7%		1950	0.379		92	91	0.553	9
	A	1	3.500	2				0		0		4210		1596		1596			4210	0.379	0.379	92	91	0.553	9
	B	1	3.500	2				1		0		4070		1290		1290			4070	0.317		77		0.000	24
	C	2	3.000	1	20			1		0		1915	99			99	100%		1781	0.056		14	13	0.553	3
	C	2	3.000	1	15	20	0	0		0		2055	51		55	106	48%	52%	1891	0.056	0.056	14	13	0.553	4
	D	3	3.500	1		15	0	0		0		2105			70	70		100%	1914	0.037	0.037	9	8	0.553	3
	D	3	3.500	1	15			1		0		1965	35	25		60	58%		1857	0.032		8	8	0.489	2
Pedestrian Crossing		Ep	1,2 min.	GM 12	+	FGM 14	=	26	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Pok Fu Lam Road / Pokfield Road

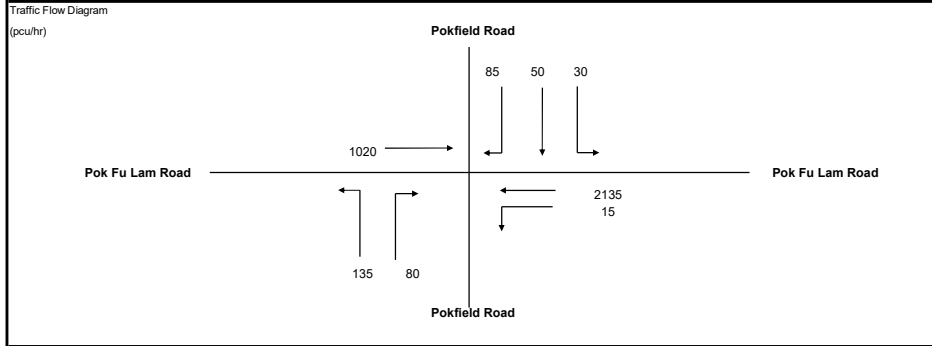
2031 PM Reference Traffic Flows

DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26



No. of stages per cycle	N =	3
Cycle time	C =	110 sec
Sum(y)	Y =	0.451
Lost time	L =	20 sec
Total Flow	=	3,550 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)(1 - Y)$	64 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	36 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.750
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	66.2 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	40 sec
Y_{max}	= $1 - L / C$	0.818

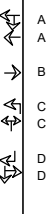
J7

Stage/Phase Diagrams

Stage 1	Stage 2	Stage 3		
I/G = 5	I/G = 5	I/G = 5		8

Critical Case : A,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 63\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.500	1	15			1		0		1965	15	668		683	2%		1961	0.348	0.348	69	68	0.552	8
	A	1	3.500	2				0		0		4210		1467		1467			4210	0.348		69	68	0.552	8
	B	1	3.500	2				1		0		4070		1020		1020			4070	0.251		50		0.000	15
	C	2	3.000	1	20			1		0		1915	104			104	100%		1781	0.058		12	11	0.552	3
	C	2	3.000	1	15	20	0	0		0		2055	31		80	111	28%	72%	1899	0.058	0.058	12	11	0.552	3
	D	3	3.500	1		15	0	0		0		2105			85	85		100%	1914	0.044	0.044	9	8	0.552	3
	D	3	3.500	1		15		1		0		1965	30	50		80	38%		1894	0.042		8	8	0.524	2
	Pedestrian Crossing	Ep	1,2 min.	GM 12	+	FGM 14	=	26	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Lady Ho Tung Hall Signalized Crossing

2031 AM Reference Traffic Flows

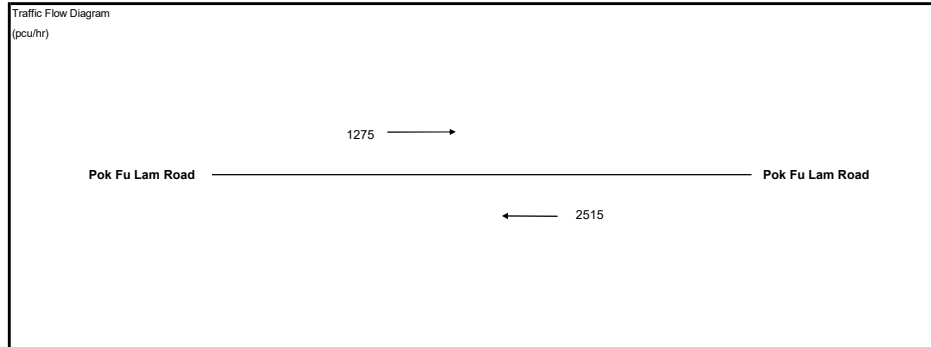
DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26

Traffic Flow Diagram
(pcu/hr)

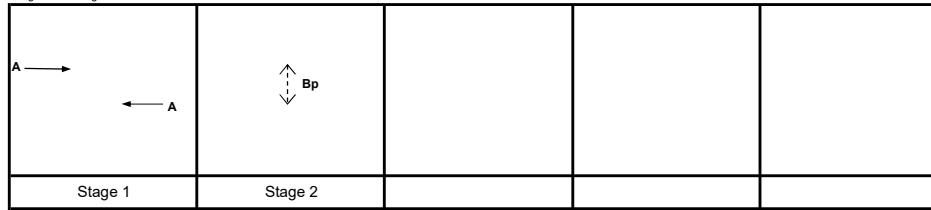


No. of stages per cycle N = 2
Cycle time C = 120 sec
Sum(y) Y = 0.618
Lost time L = 25 sec
Total Flow = 3,790 pcu

J8

Optimum Cycle $C_o = (1.5 \times L + 5) / (1 - Y) = 111$ sec
Min. Cycle Time $C_m = L / (1 - Y) = 65$ sec
 $Y_{ult} = 0.9 - 0.0075 \times L = 0.713$
 $R.C._{ult} = (Y_{ult} - Y) / Y \times 100\% = 15.3\%$
Practical Cycle Time $C_p = 0.9 \times L / (0.9 - Y) = 80$ sec
 $Y_{max} = 1 - L/C = 0.792$

Stage/Phase Diagrams



I/G = 5 G = 8 I/G = 13

Critical Case : A,Bp

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 15\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=yYx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N	
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT								
→	A	1	3.500	2				1		0		4070		1275		1275			4070	0.313		48	94	0.396	4	
←	A	1	3.500	2				1		0		4070		2515		2515			4070	0.618	0.618	95	94	0.781	9	

JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Lady Ho Tung Hall Signalized Crossing

2031 PM Reference Traffic Flows

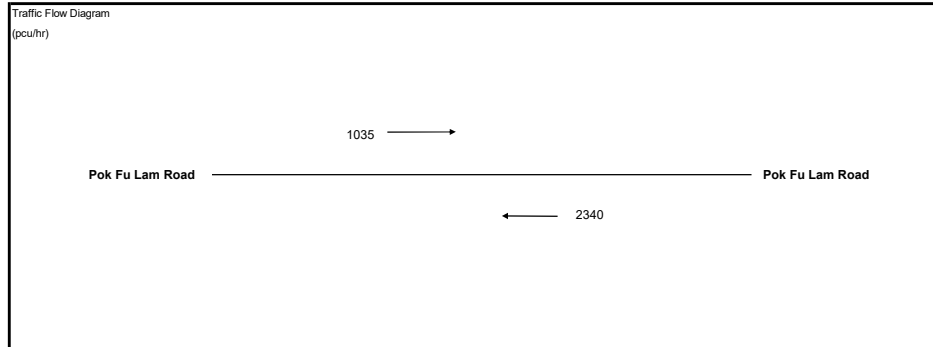
DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26

Traffic Flow Diagram
(pcu/hr)

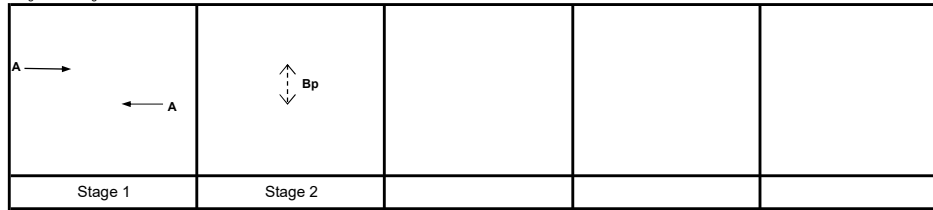


No. of stages per cycle N = 2
Cycle time C = 110 sec
Sum(y) Y = 0.575
Lost time L = 25 sec
Total Flow = 3,375 pcu

J8

Optimum Cycle $C_o = (1.5 \times L + 5) / (1 - Y) = 100$ sec
Min. Cycle Time $C_m = L / (1 - Y) = 59$ sec
 $Y_{ult} = 0.9 - 0.0075 \times L = 0.713$
 $R.C._{ult} = (Y_{ult} - Y) / Y \times 100\% = 23.9\%$
Practical Cycle Time $C_p = 0.9 \times L / (0.9 - Y) = 69$ sec
 $Y_{max} = 1 - L/C = 0.773$

Stage/Phase Diagrams



Critical Case : A,Bp

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 21\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N	
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT								
→	A	1	3.500	2				1		0		4070		1035		1035			4070	0.254		38	84	0.329	4	
←	A	1	3.500	2				1		0		4070		2340		2340			4070	0.575	0.575	85	84	0.744	8	

Appendix B-3

Junction Calculation Sheet

2031 Design Case

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J1 - Pok Fu Lam Road / Access Road to Middleton Towers

2031 AM Design Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1635

1515

(ARM A)

Pok Fu Lam Road

30

110

(ARM B)

Access Road to Middleton Towers

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J1

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 0 (pcu/hr)
q a-c = 1515 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 2.4 (metres)
Vr c-b = 100 (metres)
q c-a = 1635 (pcu/hr)
q c-b = 0 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 3.5 (metres)
W b-c = 2.5 (metres)
Vl b-a = 100 (metres)
Vr b-a = 100 (metres)
Vr b-c = 100 (metres)
q b-a = 110 (pcu/hr)
q b-c = 30 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.939109
E = 0.875846
F = 0.866615
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 157
Q b-c = 413
Q c-b = 408
Q b-ac = 181

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.70
DFC b-c = 0.07
DFC c-b = 0.00
DFC b-ac = 0.77

CRITICAL DFC = 0.77

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J1 - Pok Fu Lam Road / Access Road to Middleton Towers

2031 PM Design Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : Apr 26

Pok Fu Lam Road
(ARM C)

1420

1055

(ARM A)

Pok Fu Lam Road

25

55

(ARM B)

Access Road to Middleton Towers

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J1

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 14.6 (metres)
W cr = 0 (metres)
q a-b = 0 (pcu/hr)
q a-c = 1055 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 2.4 (metres)
Vr c-b = 100 (metres)
q c-a = 1420 (pcu/hr)
q c-b = 0 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 3.5 (metres)
W b-c = 2.5 (metres)
Vl b-a = 100 (metres)
Vr b-a = 100 (metres)
Vr b-c = 100 (metres)
q b-a = 55 (pcu/hr)
q b-c = 25 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.939109
E = 0.875846
F = 0.866615
Y = 0.496300

THE CAPACITY OF MOVEMENT :

Q b-a = 258
Q b-c = 486
Q c-b = 480
Q b-ac = 303

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.21
DFC b-c = 0.05
DFC c-b = 0.00
DFC b-ac = 0.26

CRITICAL DFC = 0.26

JUNCTION CAPACITY CALCULATION

AECOM

Junction J3 - Pok Fu Lam Road / Victoria Road

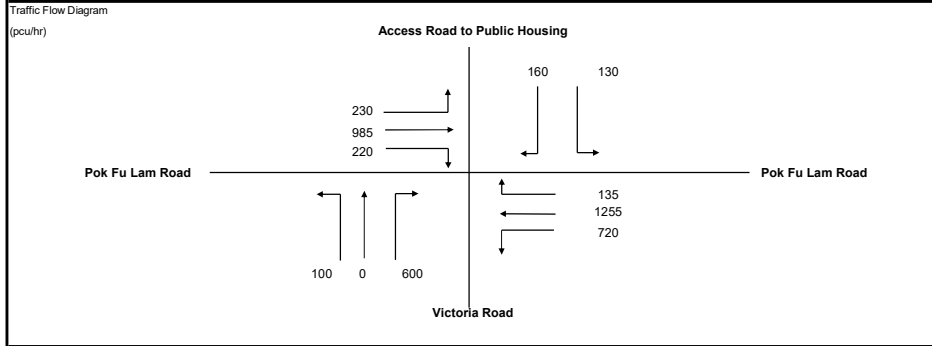
2031 AM Design Traffic Flows

DESIGN: JW

CHECK: OC

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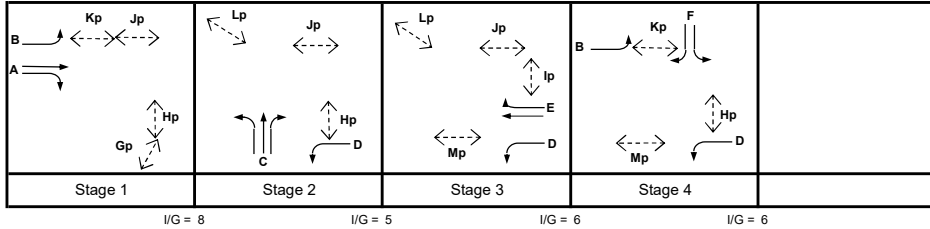
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	140 sec
Sum(y)	Y =	0.643
Lost time	L =	21 sec
Total Flow	=	4,535 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	102 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	59 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.743
R.C. _{ult}	= $(Y_{ult} - Y)/Y \times 100\%$	15.4 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	74 sec
Y_{max}	= $1 - L/C$	0.850

J3

Stage/Phase Diagrams



Critical Case : A,C,E,F

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 19\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y \times (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.700	2		30	0	0		0		4250		811	220	811		56%	4250	0.191	0.191	35	34	0.757	12
	A	1	3.650	1			0	0		0		2120		394		394			2062	0.191		35	34	0.757	12
	B	1,4	3.700	1	20		1	1		0		1985	230	174		230	100%		1847	0.125		23		0.000	9
	C	2	3.600	1	20	25	0	1		0	100	1975	100	0	247	347	29%	71%	1950	0.178	0.178	33	32	0.757	11
	C	2	3.500	1		25	0	0		0		2105			353	353	100%		1986	0.178		33	32	0.757	11
	D	2,3,4	3.700	1	20			1		0		1985	720			720	100%		1847	0.390		72		0.000	28
	E	3	3.500	2			0	0		0		4210		939		939			4210	0.223		41	40	0.757	13
	E	3	3.500	1		11	0	0		0		2105		316	135	451	30%		2022	0.223	0.223	41	40	0.757	12
	F	4	3.650	1	10			1		0		1980	89			89	100%		1722	0.052		10	9	0.757	4
	F	4	3.650	1	10	20	0	0		0		2120	41		58	99	41%	59%	1917	0.052	0.052	10	9	0.757	4
	F	4	3.650	1		20	0	0		0		2120			102	102	100%		1972	0.052		10		0.000	4
Pedestrian Crossing				GM		FGM																			
	Gp	1	min.	5	+	5	=	10	sec																
	Hp	1,2,4	min.	5	+	9	=	14	sec																
	Ip	3	min.	5	+	10	=	15	sec																
	Jp	1,2,3	min.	5	+	9	=	14	sec																
	Kp	1,4	min.	5	+	6	=	11	sec																
	Lp	2,3	min.	5	+	5	=	10	sec																
	Mp	3,4	min.	5	+	10	=	15	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J3 - Pok Fu Lam Road / Victoria Road

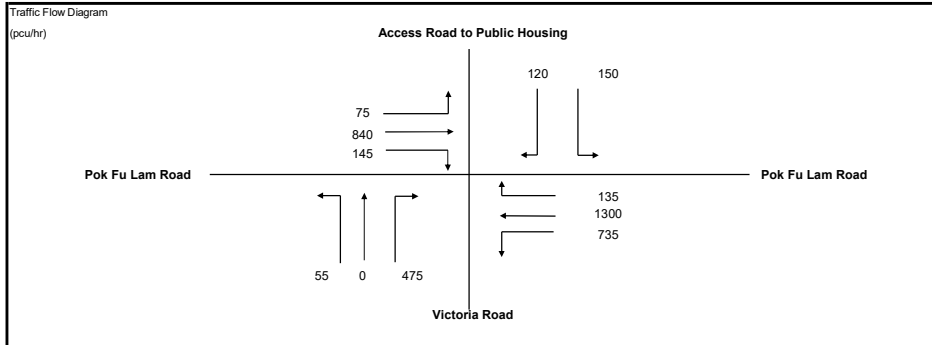
2031 PM Design Traffic Flows

DESIGN: JW

CHECK: OC

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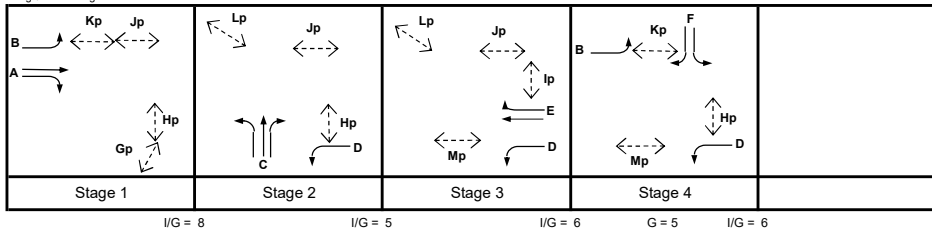
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	120 sec
Sum(y)	Y =	0.521
Lost time	L =	27 sec
Total Flow	=	4,030 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	95 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	56 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.698
R.C. _{ult}	= $(Y_{ult} - Y)/Y \times 100\%$	34.0 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	64 sec
Y_{max}	= $1 - L/C$	0.775

J3

Stage/Phase Diagrams



Critical Case : A,C,E,F

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 34\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y \times (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.700	2		30	0	0	0			4250		662	178	145	662		4250	0.156	0.156	28	27	0.672	8
	A	1	3.650	1			0	0	0			2120		323			323		2073	0.156		28	27	0.672	8
	B	1,4	3.700	1	20		0	1	0			1985	75				75	100%	1847	0.041		7		0.000	2
	C	2	3.600	1	20	25	0	1	0		100	1975	55	0	208	263	21%	79%	1952	0.135	0.135	24	23	0.672	7
	C	2	3.500	1		25	0	0	0			2105			267	267		100%	1986	0.135		24	23	0.672	7
	D	2,3,4	3.700	1	20			1	0			1985	735				735	100%	1847	0.398		71		0.000	24
	E	3	3.500	2			0	0	0			4210		969			969		4210	0.230		41	40	0.672	11
	E	3	3.500	1		11	0	0	0			2105		331	135		466	29%	2025	0.230	0.230	41	40	0.672	10
	F	4	3.650	1	10			1	0			1980	83				83	100%	1722	0.048		9		0.000	3
	F	4	3.650	1	10	20	0	0	0			2120	67		24		91	73%	1876	0.048		9		0.000	3
	F	4	3.650	1		20	0	0	0			2120			96		96	100%	1972	0.048		9		0.000	3
Pedestrian Crossing				GM		FGM																			
	Gp	1	min.	5	+	5	=	10	sec																
	Hp	1,2,4	min.	5	+	9	=	14	sec																
	Ip	3	min.	5	+	10	=	15	sec																
	Jp	1,2,3	min.	5	+	9	=	14	sec																
	Kp	1,4	min.	5	+	6	=	11	sec																
	Lp	2,3	min.	5	+	5	=	10	sec																
	Mp	3,4	min.	5	+	10	=	15	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Pok Fu Lam Road / Sassoon Road / Access Road to Queen Mary Hospital

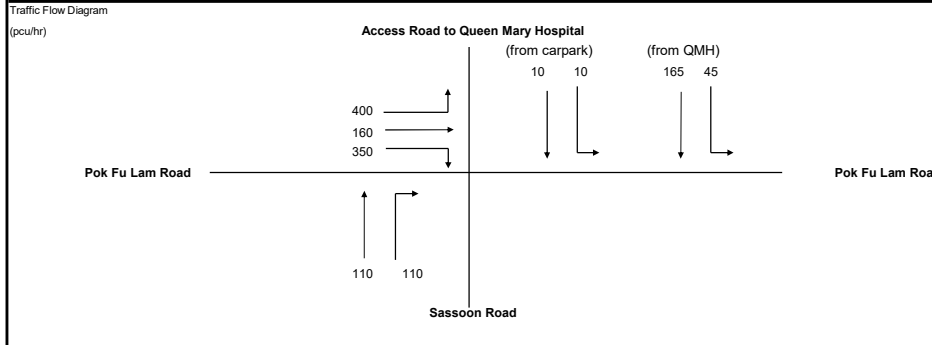
2031 AM Design Traffic Flows

DESIGN: JW

CHECK: OC

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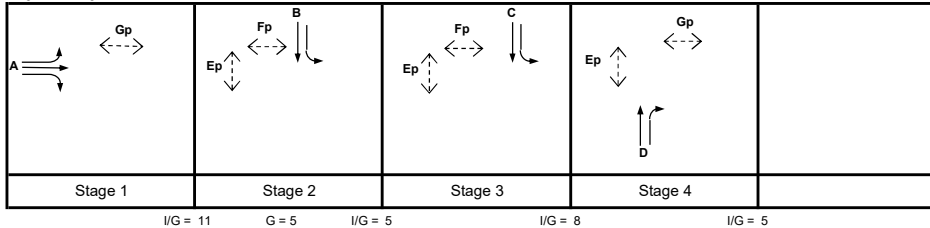
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	105 sec
Sum(y)	Y =	0.468
Lost time	L =	31 sec
Total Flow	=	1,360 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	97 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	58 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.668
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	42.6 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	65 sec
Y_{max}	= $1 - L / C$	0.705

J4

Stage/Phase Diagrams



Critical Case : A,B,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 35\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (Y + (C - L))$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.300	1	12.5			1		0	100	1945	400	160		560	71%		1884	0.297	0.297	47	46	0.664	9
	A	1	3.300	1		10	0	0		0		2085			350	350		100%	1813	0.193		31	46	0.431	6
	B	2	3.000	1	10			1		0		1915	10	10		20	50%		1781	0.011		2		0.000	1
	D	4	3.800	1				1		0		1995		110		110			1995	0.055		9	8	0.635	3
	D	4	3.800	1		12.5	0	0		0		2135			110	110		100%	1906	0.058	0.058	9	8	0.664	3
	C	3	3.000	1	10			1		0		1915	45	165		210	21%		1855	0.113	0.113	18	17	0.664	5
Pedestrian Crossing				GM		FGM																			
	Ep	2,3,4		9	+	12	=	21	sec																
	Fp	2,3		8	+	13	=	21	sec																
	Gp	1,4		5	+	14	=	19	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Pok Fu Lam Road / Sassoon Road / Access Road to Queen Mary Hospital

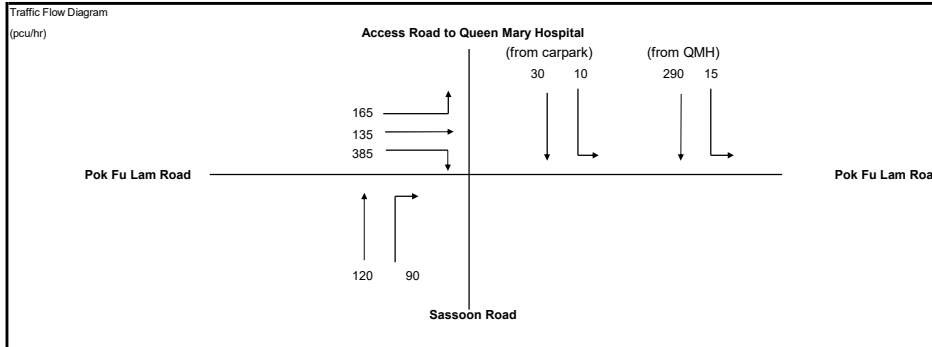
2031 PM Design Traffic Flows

DESIGN: JW

CHECK: OC

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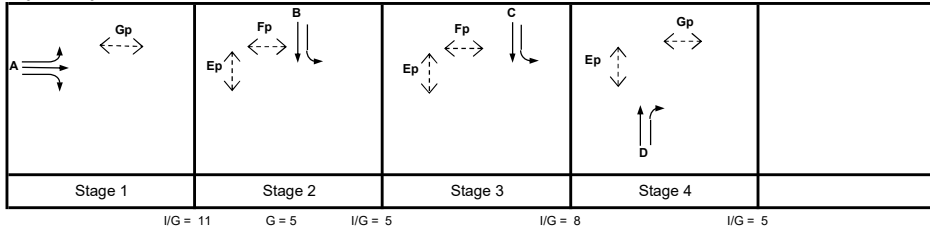
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	100 sec
Sum(y)	Y =	0.433
Lost time	L =	31 sec
Total Flow	=	1,240 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)/(1 - Y)$	91 sec
Min. Cycle Time C_m	= $L/(1 - Y)$	55 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.668
$R.C._{ult}$	= $(Y_{ult} - Y)/Y \times 100\%$	54.2 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	60 sec
Y_{max}	= $1 - L/C$	0.690

J4

Stage/Phase Diagrams



Critical Case : A,B,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 43\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y \times (C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.300	1	12.5			1		0	100	1945	165	135		300	55%		1918	0.156		25	33	0.462	6
	A	1	3.300	1		10	0	0		0		2085			385	385		100%	1813	0.212	0.212	34	33	0.627	7
	B	2	3.000	1	10			1		0		1915	10	30		40	25%		1846	0.022		3		0.000	1
	D	4	3.800	1				1		0		1995		120		120			1995	0.060	0.060	10	9	0.627	3
	D	4	3.800	1		12.5	0	0		0		2135			90	90		100%	1906	0.047		8	9	0.493	2
	C	3	3.000	1	10			1		0		1915	15	290		305	5%		1901	0.160	0.160	26	25	0.627	6
Pedestrian Crossing				GM		FGM																			
	Ep	2,3,4			9	+																			
	Fp	2,3			8	+																			
	Gp	1,4			5	+																			

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J5 - Pok Fu Lam Road / Sassoon Road

2031 AM Design Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : May 26

Pok Fu Lam Road Slip Road
(ARM C)

105
70

125
360

(ARM A)
Sassoon Road

(ARM B)
Sassoon Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J5

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 15.5 (metres)
W cr = 1.5 (metres)
q a-b = 360 (pcu/hr)
q a-c = 125 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.1 (metres)
Vr c-b = 45 (metres)
q c-a = 105 (pcu/hr)
q c-b = 70 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.5 (metres)
W b-c = 3.7 (metres)
Vl b-a = 65 (metres)
Vr b-a = 75 (metres)
Vr b-c = 75 (metres)
q b-a = 120 (pcu/hr)
q b-c = 440 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.812133
E = 0.964010
F = 0.884290
Y = 0.465250

THE CAPACITY OF MOVEMENT :

Q b-a = 467
Q b-c = 675
Q c-b = 586
Q b-ac = 616

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.26
DFC b-c = 0.65
DFC c-b = 0.12
DFC b-ac =

CRITICAL DFC = 0.65

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J5 - Pok Fu Lam Road / Sassoon Road

2031 PM Design Traffic Flows

Designed By : JW

Checked By : OC

Job No. :

Date : May 26

Pok Fu Lam Road Slip Road
(ARM C)

85
40

275
430

(ARM A)
Sassoon Road

(ARM B)
Sassoon Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J5

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 15.5 (metres)
W cr = 1.5 (metres)
q a-b = 430 (pcu/hr)
q a-c = 275 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b = 3.1 (metres)
Vr c-b = 45 (metres)
q c-a = 85 (pcu/hr)
q c-b = 40 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 2.5 (metres)
W b-c = 3.7 (metres)
Vl b-a = 65 (metres)
Vr b-a = 75 (metres)
Vr b-c = 75 (metres)
q b-a = 125 (pcu/hr)
q b-c = 425 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.812133
E = 0.964010
F = 0.884290
Y = 0.465250

THE CAPACITY OF MOVEMENT :

Q b-a = 450
Q b-c = 646
Q c-b = 553
Q b-ac = 587

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.28
DFC b-c = 0.66
DFC c-b = 0.07
DFC b-ac =

CRITICAL DFC = 0.66

JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Pok Fu Lam Road / Smithfield / Mount Davis Road

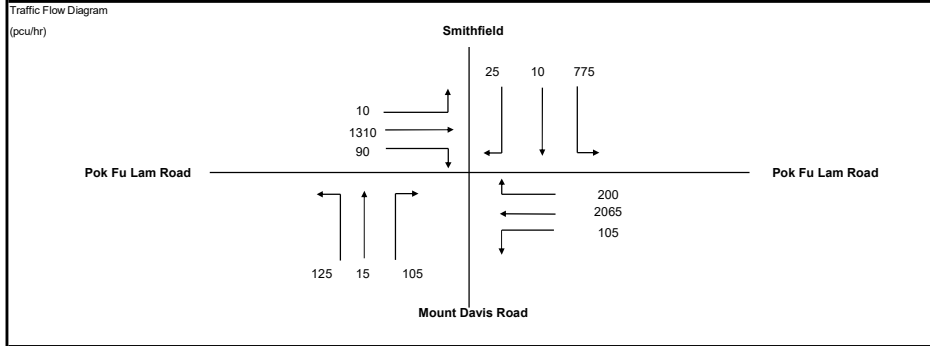
2031 AM Design Traffic Flows

DESIGN: JW

CHECK: OC

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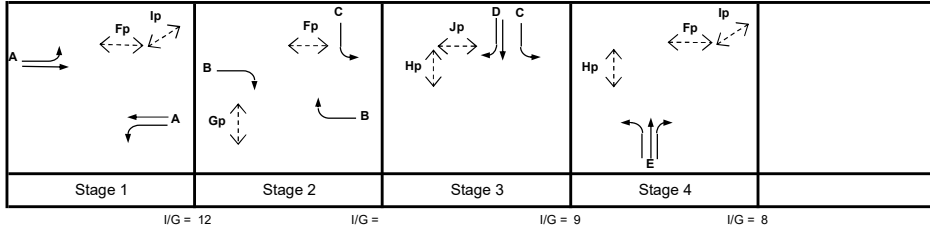
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	135 sec
Sum(y)	Y =	0.621
Lost time	L =	26 sec
Total Flow	=	4,835 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	116 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	69 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.705
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	13.5 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	84 sec
Y_{max}	= $1 - L / C$	0.807

J6

Stage/Phase Diagrams



Critical Case : A,C,E

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 17\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (Y + C - L)$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.400	1	10			1	0			1955	10	626		636	2%		1950	0.326		57	62	0.702	13
	A	1	3.400	1				0	0			2095		684		684			2095	0.326		57	62	0.702	14
	B	2	3.400	1		15	0	0	0			2095			90	90		100%	1905	0.047		8		0.000	3
	B	2	3.500	1		15	0	0	0			2105			200	200		100%	1914	0.105		18		0.000	7
	A	1	3.300	1	10			1	0			1945	105	574		679	15%		1901	0.357	0.357	63	62	0.769	14
	A	1	3.300	2				0	0			4170		1491		1491			4170	0.357		63	62	0.769	15
	C	2,3	3.400	2	30			1	0			4050	775			775	100%		3857	0.201	0.201	35	34	0.769	11
	D	3	3.800	1		20	0	0	0			2135		10	25	35		71%	2026	0.017		3		0.000	1
	E	4	5.000	1	10			1	0			2115	115			115	100%		1839	0.063		11	10	0.769	5
	E	4	5.000	1	15	15	0	0	0			2255	10	15	105	130	8%	81%	2072	0.063	0.063	11	10	0.769	5
Pedestrian Crossing				GM		FGM																			
	Fp	1,2,4	min.	7	+	5	=	12	sec																
	Gp	2	min.	7	+	9	=	16	sec																
	Hp	3,4	min.	12	+	12	=	24	sec																
	Ip	1,4	min.	7	+	8	=	15	sec																
	Jp	3	min.	6	+	11	=	17	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Pok Fu Lam Road / Smithfield / Mount Davis Road

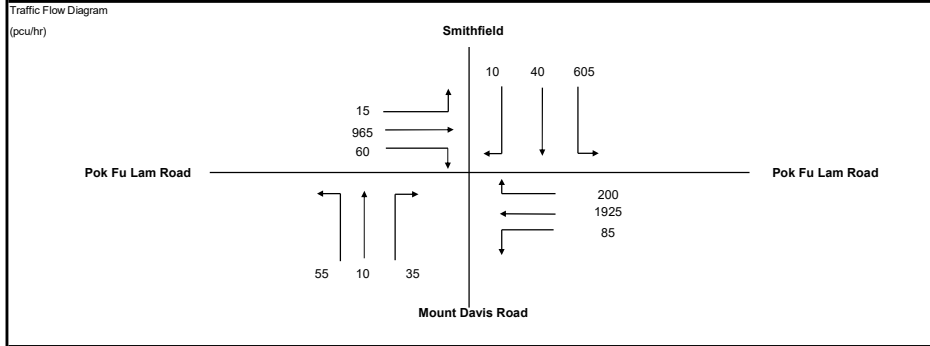
2031 PM Design Traffic Flows

DESIGN: JW

CHECK: OC

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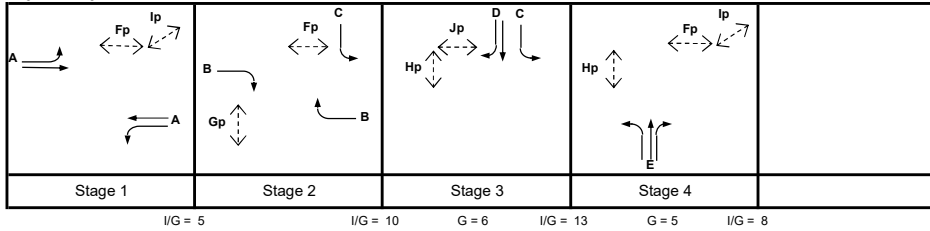
DATE: Apr 26



No. of stages per cycle	N =	4
Cycle time	C =	110 sec
Sum(y)	Y =	0.435
Lost time	L =	45 sec
Total Flow	=	4,005 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	128 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	80 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.563
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	29.2 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	87 sec
Y_{max}	= $1 - L / C$	0.591

J6

Stage/Phase Diagrams



Critical Case : A,B,Jp,E

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 22\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN $g = Y / (Y + (C - L))$ (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.400	1	10			1	0			1955	15	457		472	3%		1946	0.243		36	48	0.540	8
	A	1	3.400	1				0	0			2095		508		508			2095	0.243		36	48	0.540	9
	B	2	3.400	1		15	0	0	0			2095			60	60		100%	1905	0.032		5	15	0.222	2
	B	2	3.500	1		15	0	0	0			2105			200	200		100%	1914	0.105	0.105	16	15	0.737	6
	A	1	3.300	1	10			1	0			1945	85	546		631	13%		1906	0.331		49	48	0.737	11
	A	1	3.300	2				0	0			4170		1379		1379			4170	0.331		49	48	0.737	12
	C	2,3	3.400	2	30			1	0			4050	605			605	100%		3857	0.157		23		0.000	9
	D	3	3.800	1		20	0	0	0			2135		40	10	50		20%	2103	0.024		4		0.000	2
	E	4	5.000	1	10			1	0			2115	47			47	100%		1839	0.025		4		0.000	1
	E	4	5.000	1	15	15	0	0	0			2255	8	10	35	53	15%	66%	2086	0.025		4		0.000	2
	Pedestrian Crossing				GM	FGM																			
	Fp	1,2,4	min.	7	+	5	=	12	sec																
	Gp	2	min.	7	+	9	=	16	sec																
	Hp	3,4	min.	12	+	12	=	24	sec																
	Ip	1,4	min.	7	+	8	=	15	sec																
	Jp	3	min.	6	+	11	=	17	sec																

JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Pok Fu Lam Road / Pokfield Road

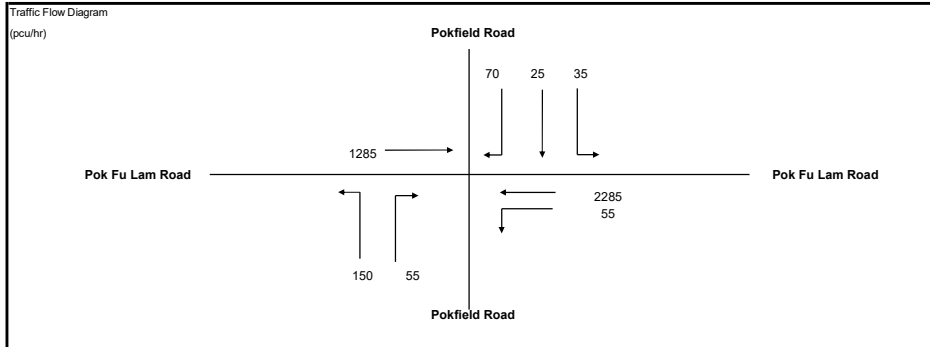
2031 AM Design Traffic Flows

DESIGN: JW

CHECK: OC

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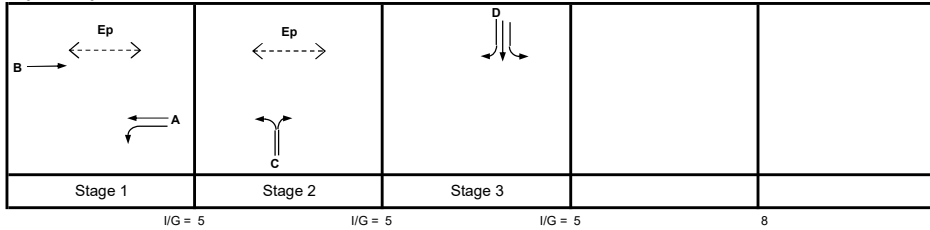
DATE: Apr 26



No. of stages per cycle	N =	3
Cycle time	C =	135 sec
Sum(y)	Y =	0.472
Lost time	L =	20 sec
Total Flow	=	3,960 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5)(1 - Y)$	66 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	38 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.750
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	58.8 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	42 sec
Y_{max}	= $1 - L / C$	0.852

J7

Stage/Phase Diagrams



Critical Case : A,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 62\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
     	A	1	3.500	1	15		1		0			1965	55	686		741	7%		1951	0.380	0.380	92	91	0.554	9
	A	1	3.500	2				0		0		4210		1599		1599			4210	0.380		92	91	0.554	9
	B	1	3.500	2				1		0		4070		1285		1285			4070	0.316		77		0.000	24
	C	2	3.000	1	20			1		0		1915	99			99	100%		1781	0.056		14	13	0.554	3
	C	2	3.000	1	15	20	0	0		0		2055	51		55	106	48%	52%	1891	0.056	0.056	14	13	0.554	4
	D	3	3.500	1		15		0	0	0		2105			70	70		100%	1914	0.037	0.037	9	8	0.554	3
D	3	3.500	1		15		1		0		1965	35	25		60	58%		1857	0.032		8	8	0.490	2	
Pedestrian Crossing				GM 12	+	FGM 14	=	26	sec																
	Ep	1,2	min.																						

JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Pok Fu Lam Road / Pokfield Road

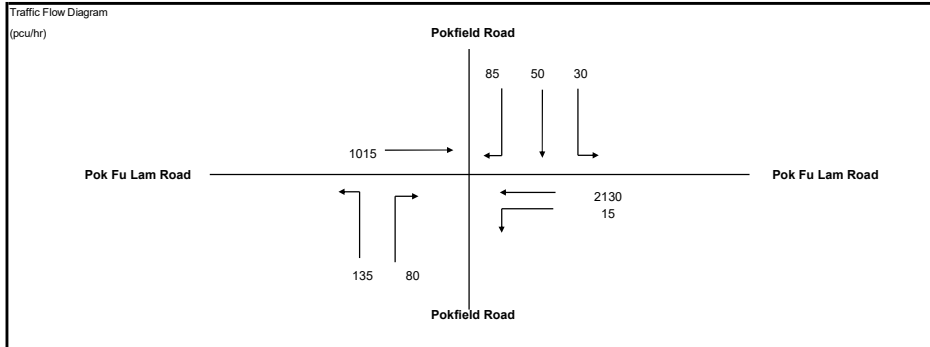
2031 PM Design Traffic Flows

DESIGN: JW

CHECK: OC

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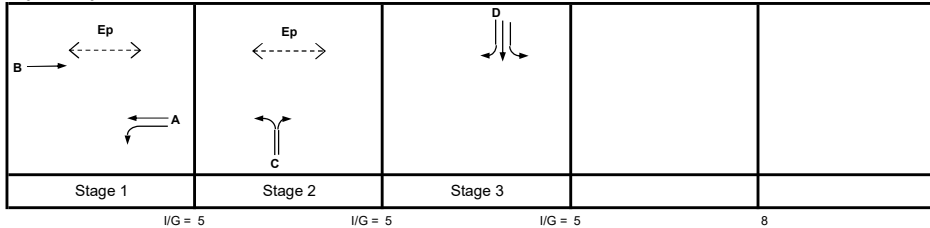
DATE: Apr 26



No. of stages per cycle	N =	3
Cycle time	C =	110 sec
Sum(y)	Y =	0.450
Lost time	L =	20 sec
Total Flow	=	3,540 pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	64 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	36 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.750
R.C. _{ult}	= $(Y_{ult} - Y) / Y \times 100\%$	66.5 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	40 sec
Y_{max}	= $1 - L / C$	0.818

J7

Stage/Phase Diagrams



Critical Case : A,C,D

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 63\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.500	1	15			1		0		1965	15	667		682	2%		1961	0.348	0.348	69	68	0.551	8
	A	1	3.500	2				0		0		4210		1463		1463			4210	0.348		69	68	0.551	8
	B	1	3.500	2				1		0		4070		1015		1015			4070	0.249		50		0.000	15
	C	2	3.000	1	20			1		0		1915	104			104	100%		1781	0.058		12	11	0.551	3
	C	2	3.000	1	15	20	0	0		0		2055	31		80	111	28%	72%	1899	0.058	0.058	12	11	0.551	3
	D	3	3.500	1		15	0	0		0		2105			85	85		100%	1914	0.044	0.044	9	8	0.551	3
	D	3	3.500	1	15			1		0		1965	30	50		80	38%		1894	0.042		8	8	0.524	2
Pedestrian Crossing				GM 12	+	FGM 14	=	26	sec																
	Ep	1,2	min.																						

JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Lady Ho Tung Hall Signalized Crossing

2031 AM Design Traffic Flows

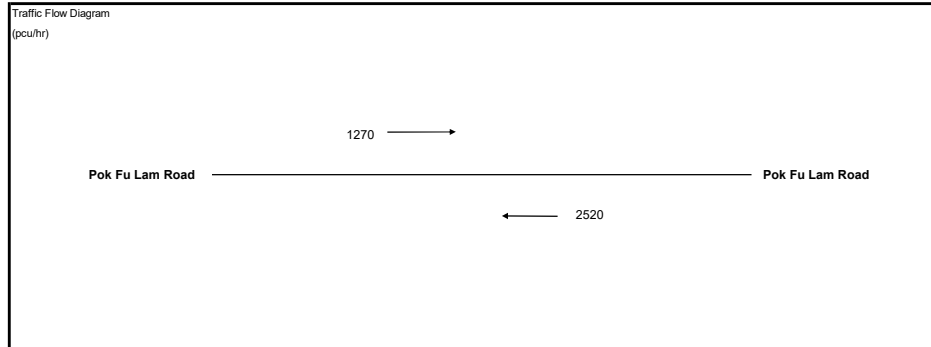
DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26

Traffic Flow Diagram
(pcu/hr)

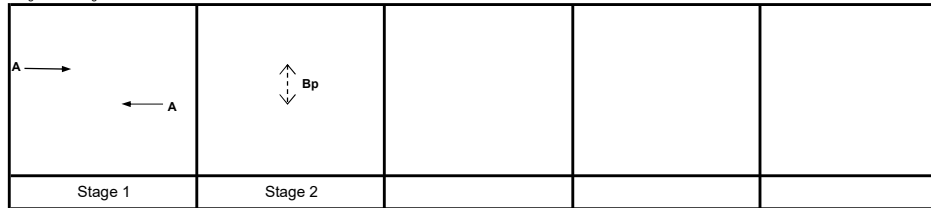


No. of stages per cycle N = 2
Cycle time C = 120 sec
Sum(y) Y = 0.619
Lost time L = 25 sec
Total Flow = 3,790 pcu

J8

Optimum Cycle $C_o = (1.5 \times L + 5) / (1 - Y) = 112$ sec
Min. Cycle Time $C_m = L / (1 - Y) = 66$ sec
 $Y_{ult} = 0.9 - 0.0075 \times L = 0.713$
 $R.C._{ult} = (Y_{ult} - Y) / Y \times 100\% = 15.1\%$
Practical Cycle Time $C_p = 0.9 \times L / (0.9 - Y) = 80$ sec
 $Y_{max} = 1 - L/C = 0.792$

Stage/Phase Diagrams



I/G = 5

G = 8

I/G = 13

Critical Case : A,Bp

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 15\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
→	A	1	3.500	2				1		0		4070		1270		1270			4070	0.312		48	94	0.394	4
←	A	1	3.500	2				1		0		4070		2520		2520			4070	0.619	0.619	95	94	0.782	9
Pedestrian Crossing		Bp	2 min.	GM 8	+	FGM 10	=	18	sec												*				

JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Lady Ho Tung Hall Signalized Crossing

2031 PM Design Traffic Flows

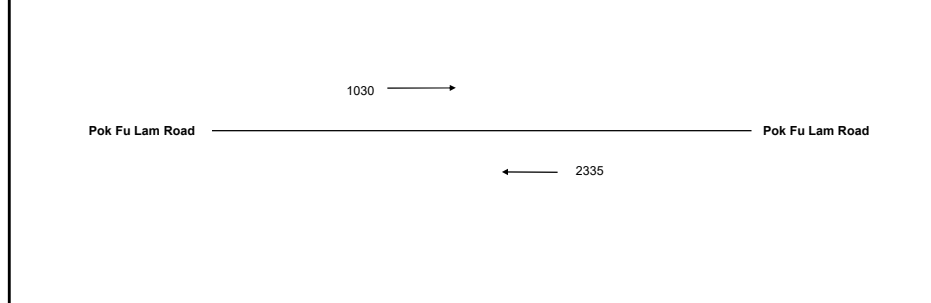
DESIGN: JW

CHECK: OC

#VALUE!

DATE: Apr 26

Traffic Flow Diagram
(pcu/hr)

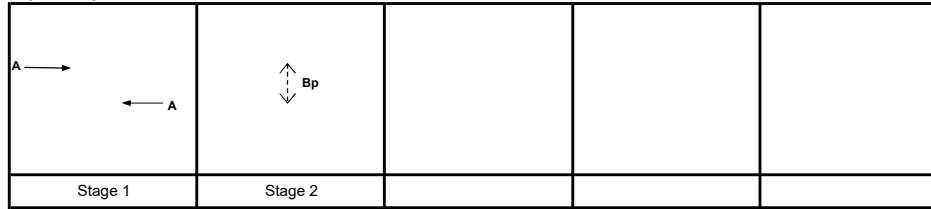


No. of stages per cycle N = 2
Cycle time C = 110 sec
Sum(y) Y = 0.574
Lost time L = 25 sec
Total Flow = 3,365 pcu

J8

Optimum Cycle $C_o = (1.5 \times L + 5) / (1 - Y) = 100$ sec
Min. Cycle Time $C_m = L / (1 - Y) = 59$ sec
 $Y_{ult} = 0.9 - 0.0075 \times L = 0.713$
 $R.C._{ult} = (Y_{ult} - Y) / Y \times 100\% = 24.2\%$
Practical Cycle Time $C_p = 0.9 \times L / (0.9 - Y) = 69$ sec
 $Y_{max} = 1 - L/C = 0.773$

Stage/Phase Diagrams



I/G = 5 G = 8 I/G = 13

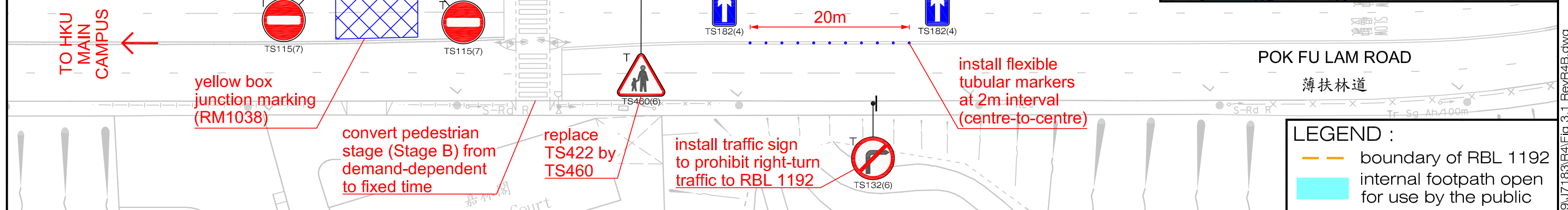
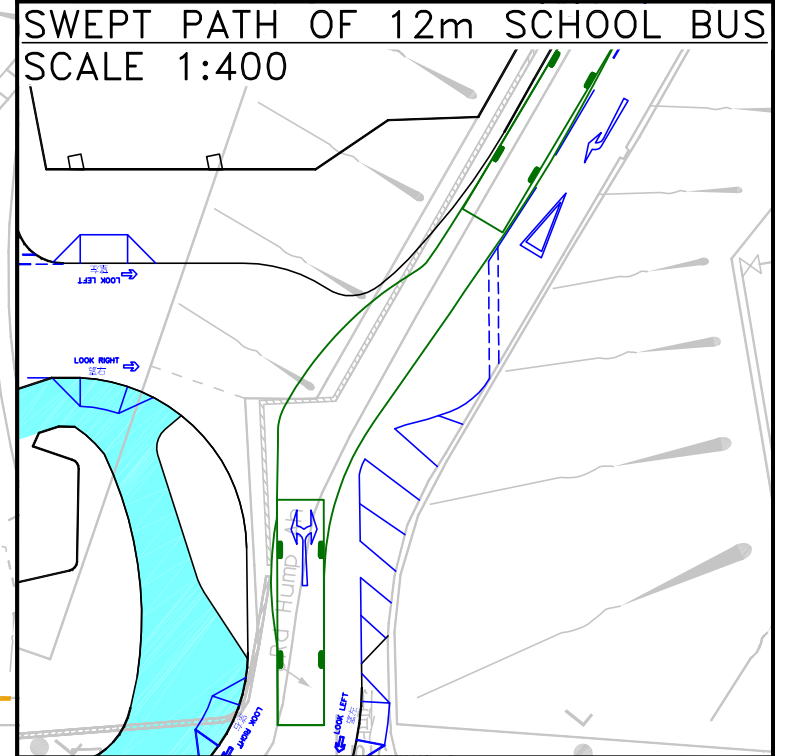
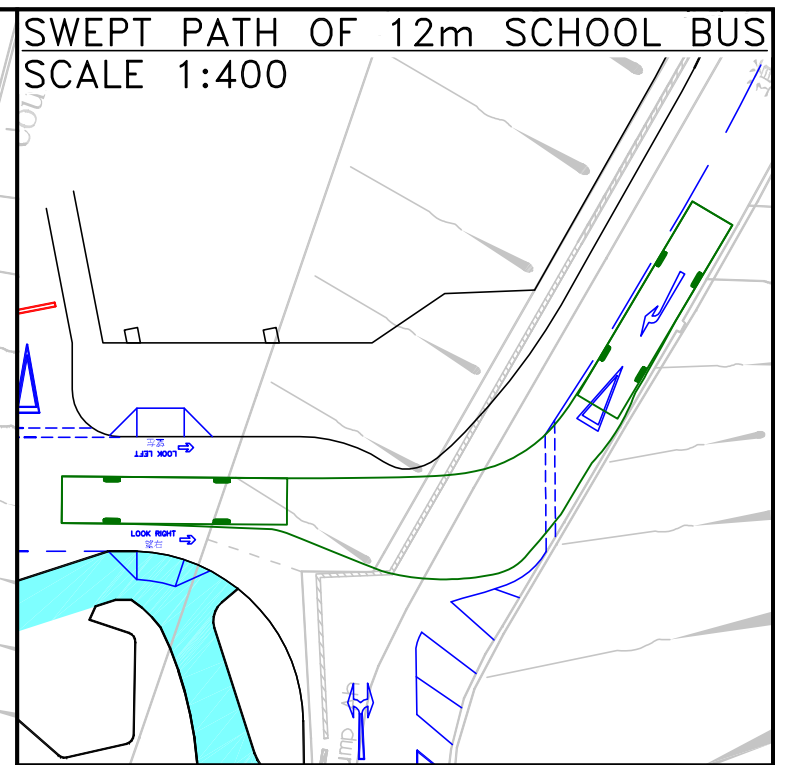
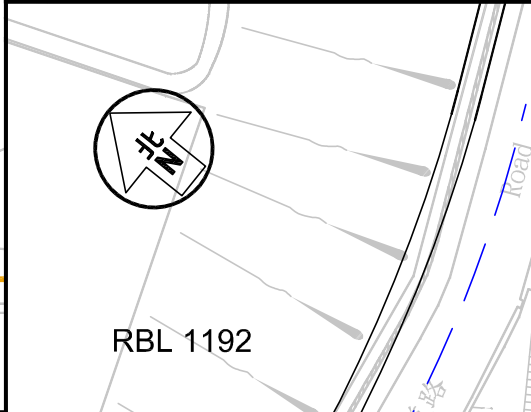
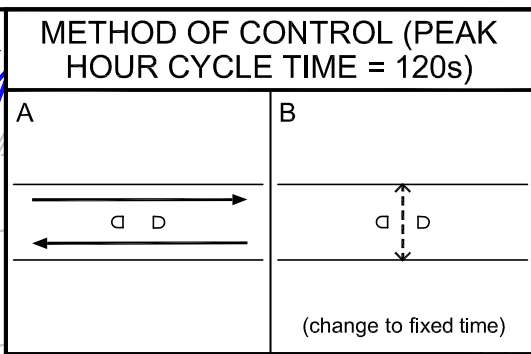
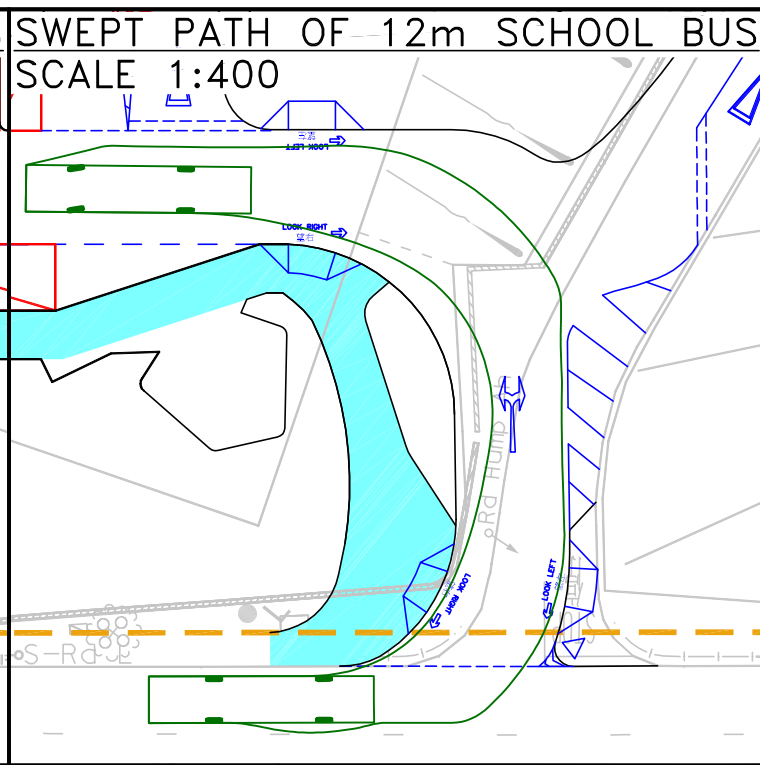
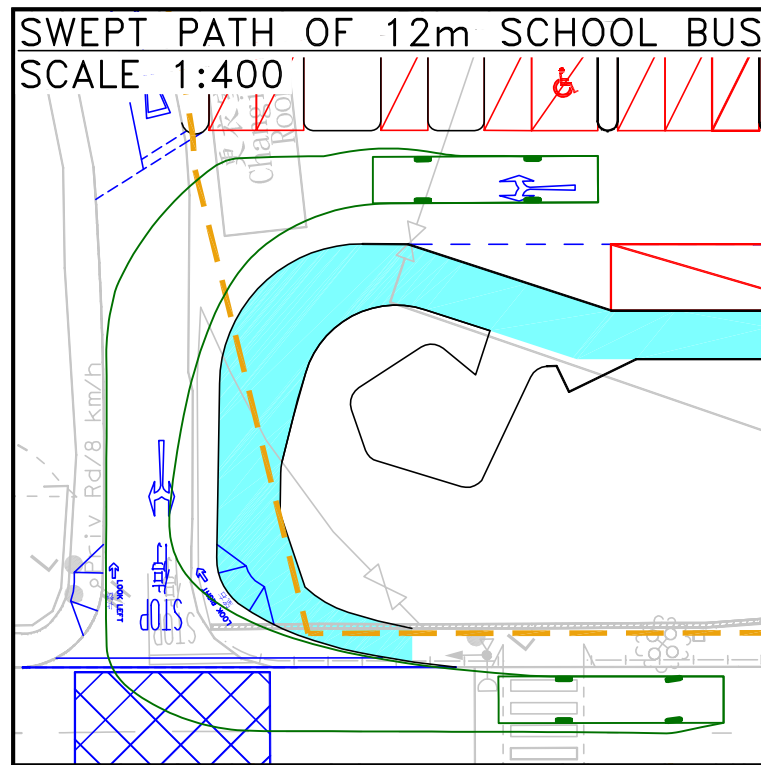
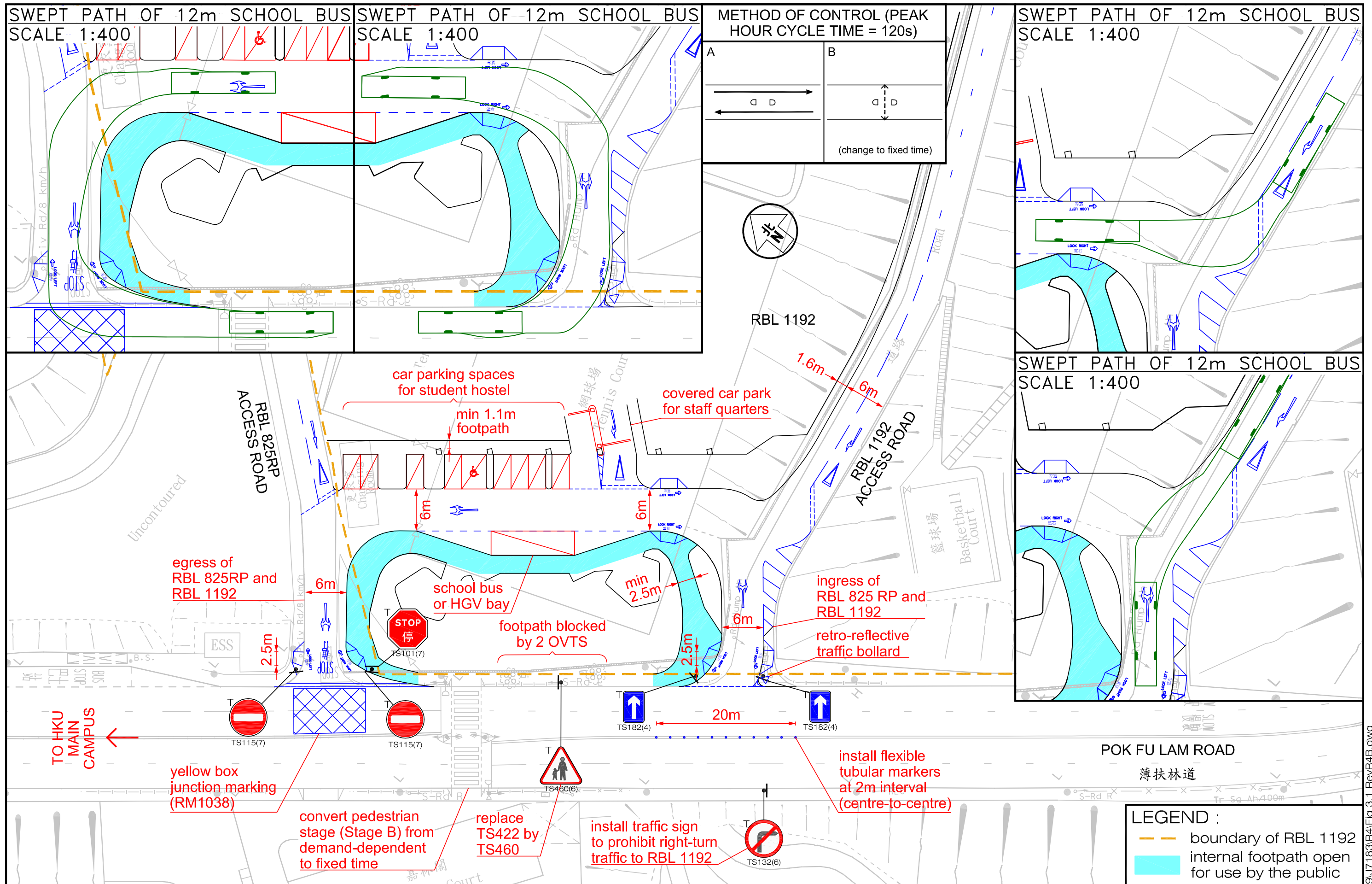
Critical Case : A,Bp

$$R.C.(C) = (0.9 \times Y_{max} - Y) / Y \times 100\% = 21\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=yYx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
→	A	1	3.500	2				1		0		4070		1030		1030			4070	0.253		37	84	0.328	4
←	A	1	3.500	2				1		0		4070		2335		2335			4070	0.574	0.574	85	84	0.742	8
Pedestrian Crossing																									
	Bp	2	min.	GM 8	+	FGM 10	=	18	sec												*				

Appendix C

Rearranged Traffic Layout at J1 & J2



Project Title	RBL 1192, HIGH WEST, 142 POK FU LAM ROAD, HKU			Figure No.	3.1	Revision	R4B	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Figure Title	VEHICULAR ACCESS ARRANGEMENT OF RBL 1192			Designed by	T H C	Drawn by	C C L	
				Checked by	K C			
				Scale in A3	1 : 500	Date	07 OCT 2022	

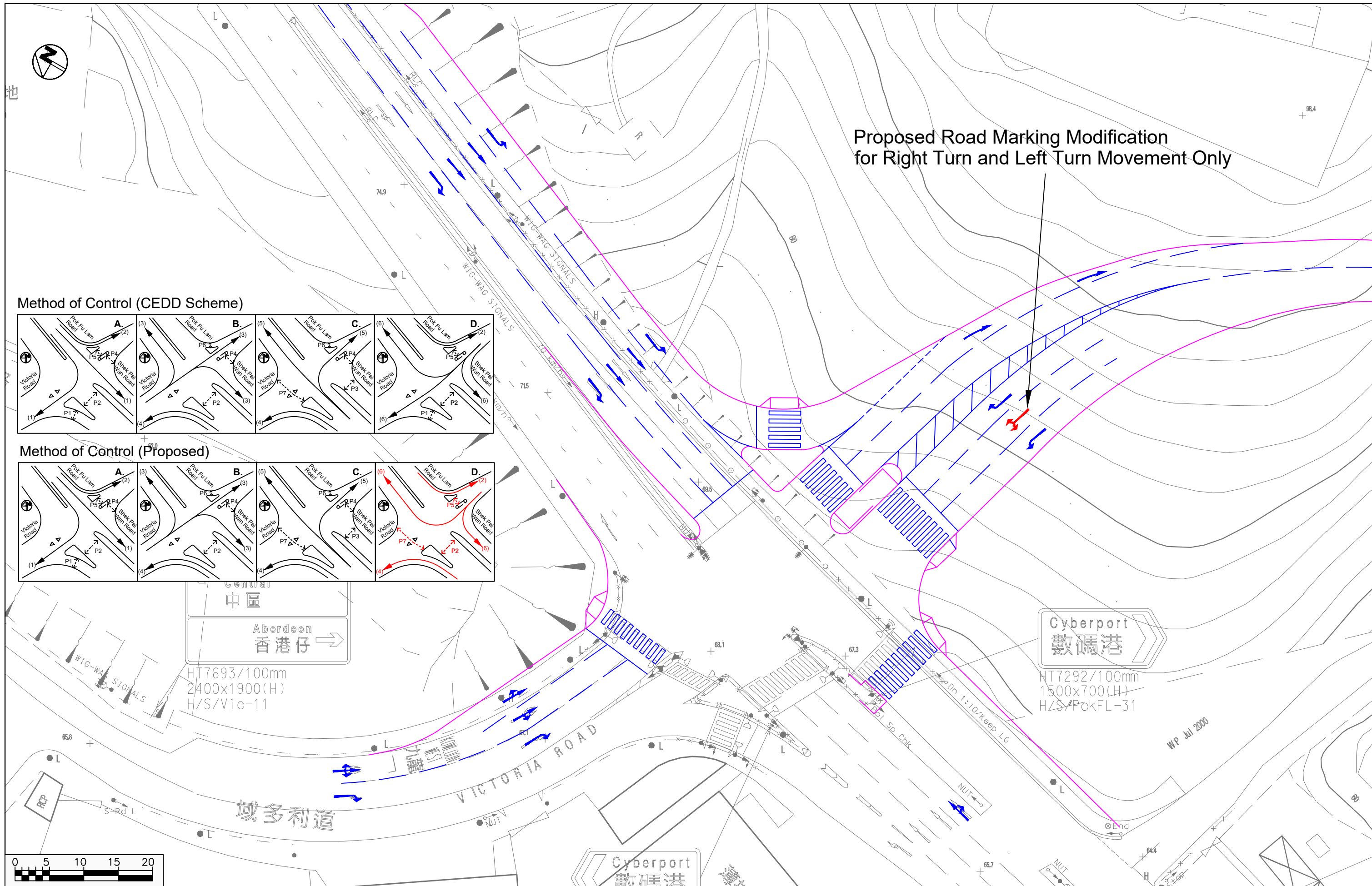
Appendix D

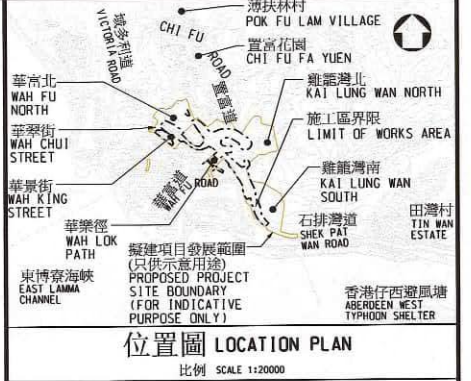
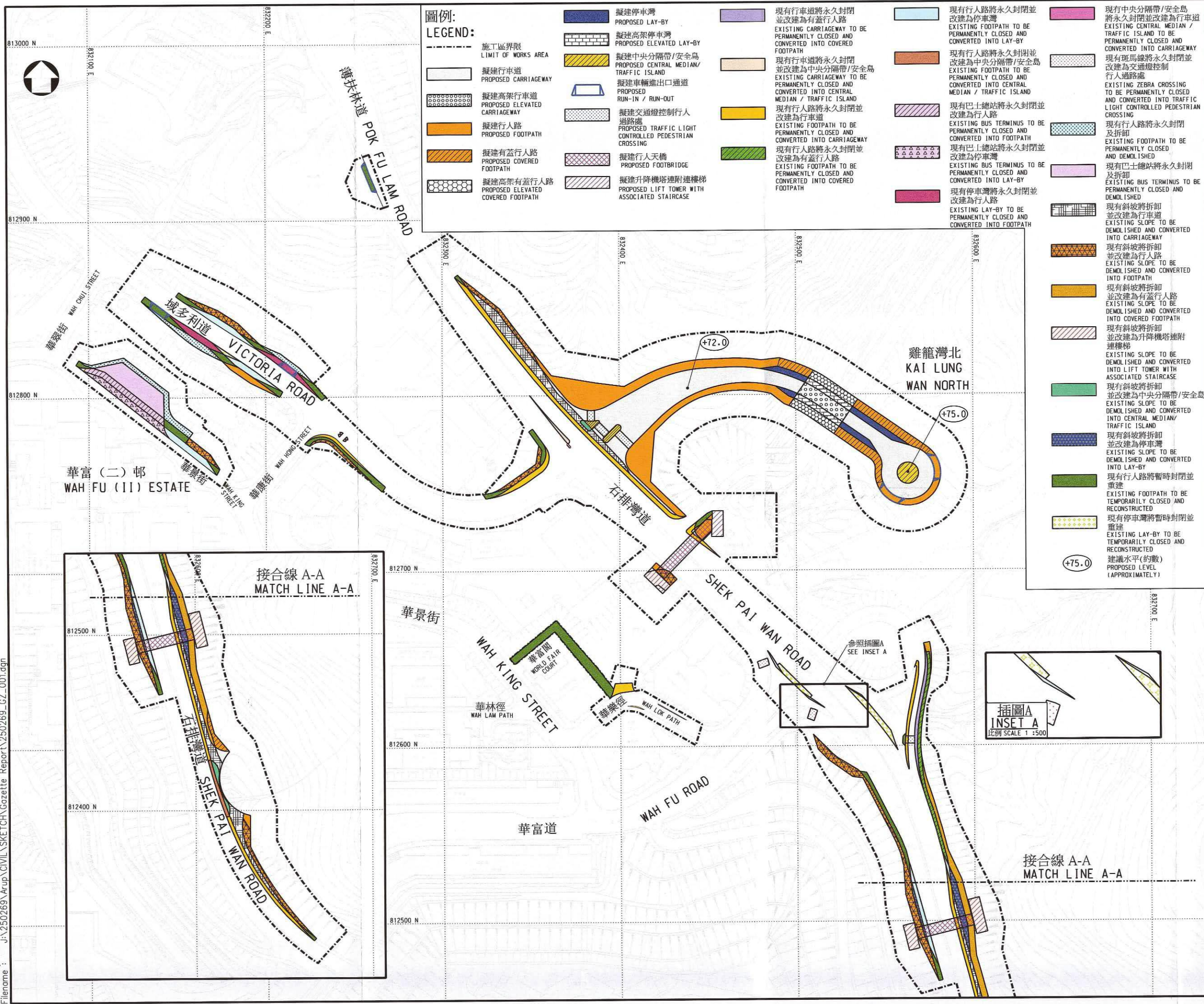
Planned Junction Improvements

Appendix D-1

Planned Junction Layout

Pok Fu Lam Road / Victoria Road (J3)





- 註釋 NOTES**
- 除在其他方面指定外，所有量度以米為單位。
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - 所有水平均為約數，以米為單位，並在香港主水平基準上。
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
 - 如有需要，施工區界限內部分現有的行車道、行人路、停車灣和中央分隔帶/安全島或將分階段暫時封閉。
SECTIONS OF THE EXISTING CARRIAGEWAYS, FOOTPATHS, LAY-BYS AND CENTRAL MEDIANS / TRAFFIC ISLANDS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

批簽 ENDORSED BY

黎以德 JOSEPH Y. T. LAI

運輸及房屋局
常任秘書長(運輸)

PERMANENT SECRETARY FOR
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日期: 14 SEP 2018
DATE:

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CHIEF ENGINEER / HOUSING PROJECTS 3
CIVIL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

日期: 12 SEP 2018
DATE:

工程名稱 PROJECT TITLE

工務計劃項目第B795CL號
薄扶林南公營房屋發展之
工地平整及基礎設施工程
PWP ITEM NO. B795CL
SITE FORMATION AND INFRASTRUCTURE WORKS
FOR PUBLIC HOUSING DEVELOPMENTS AT
POK FU LAM SOUTH

圖則名稱 PLAN TITLE

根據《道路(工程、使用及補償)條例》(第370章)
而在憲報公布之圖則
PLAN FOR GAZETTING UNDER ROADS
(WORKS, USE AND COMPENSATION)
ORDINANCE (CHAPTER 370)

圖則編號 PLAN NO.

GZ/001

比例 SCALE

1:1000 (A1)

辦事處 OFFICE

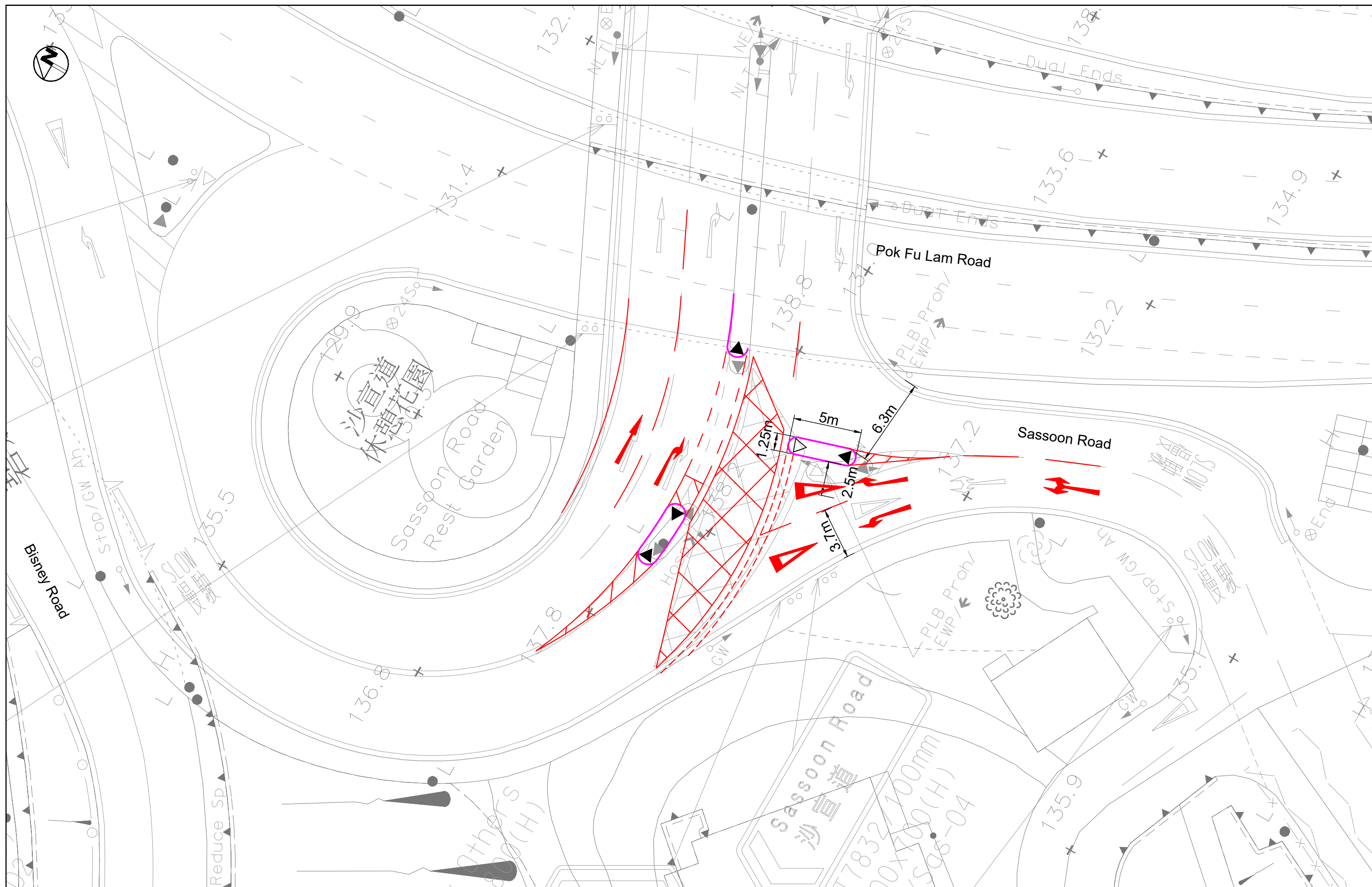
土木工程處 房屋工程3部
HOUSING PROJECTS 3 DIVISION
CIVIL ENGINEERING OFFICE

土木工程拓展署
Civil Engineering and
Development Department

Appendix D-2

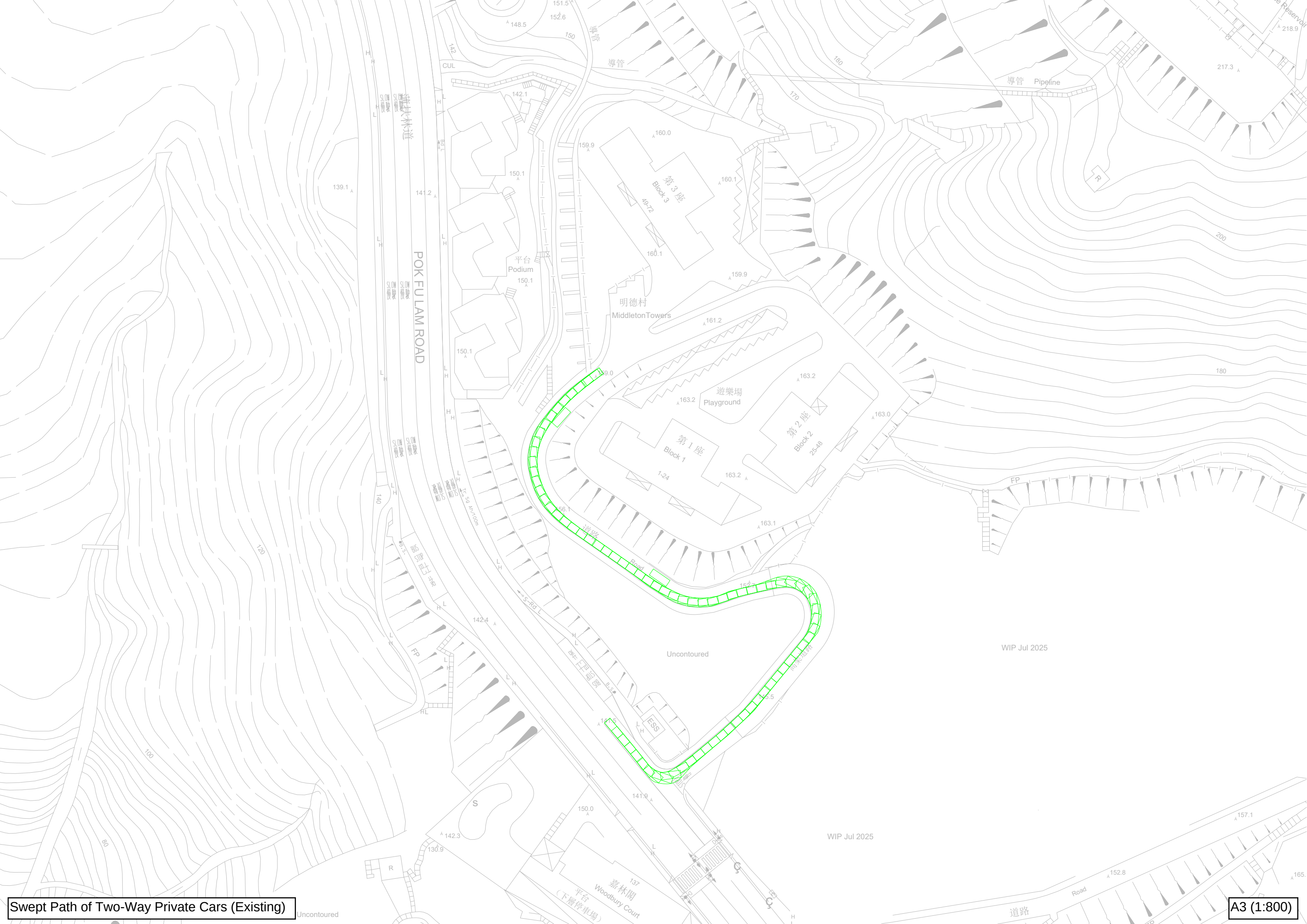
Planned Junction Layout

Pok Fu Lam Road / Sassoon Road (J5)



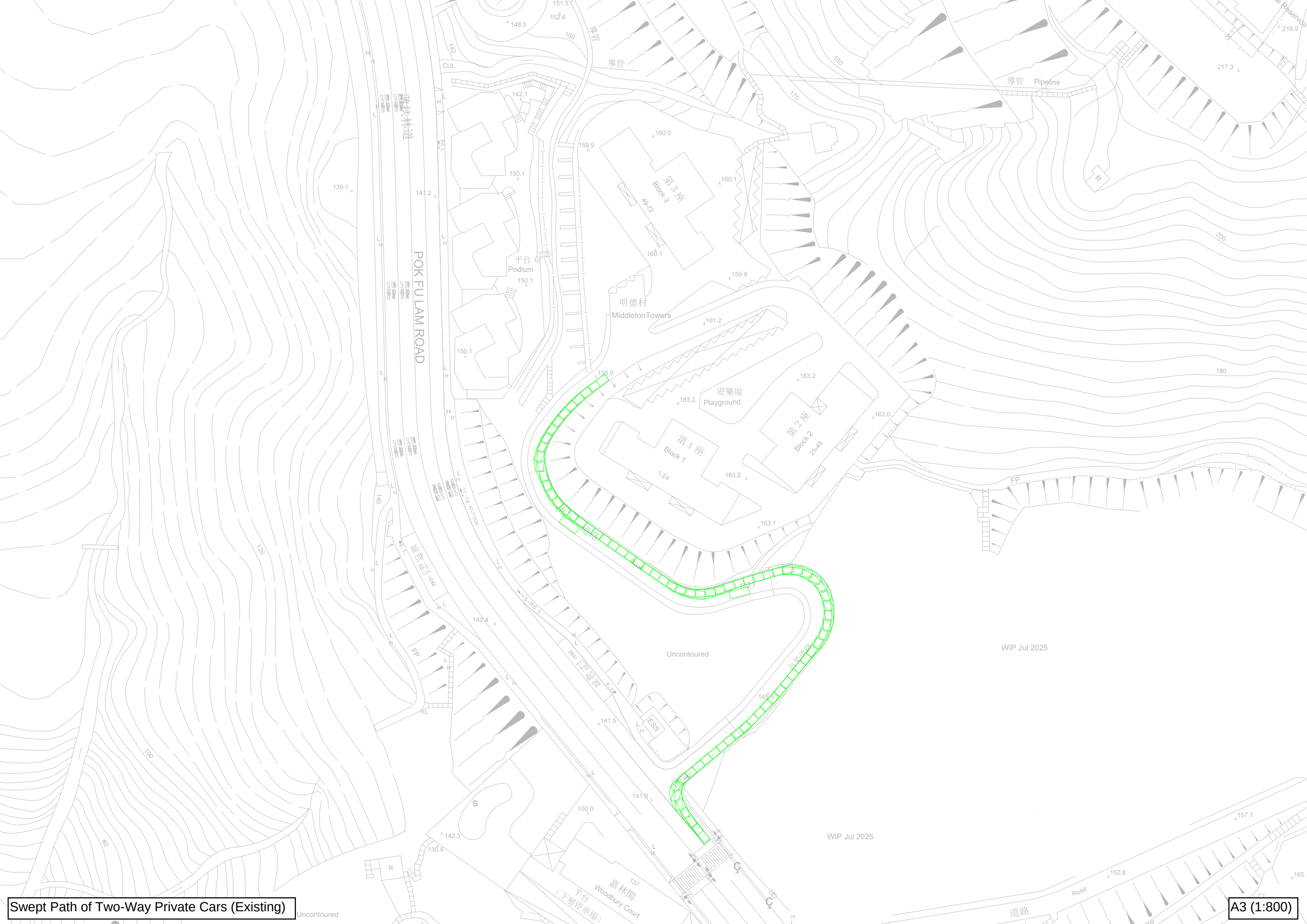
Appendix E

Swept Path Analysis of Existing Access Road



Swept Path of Two-Way Private Cars (Existing)

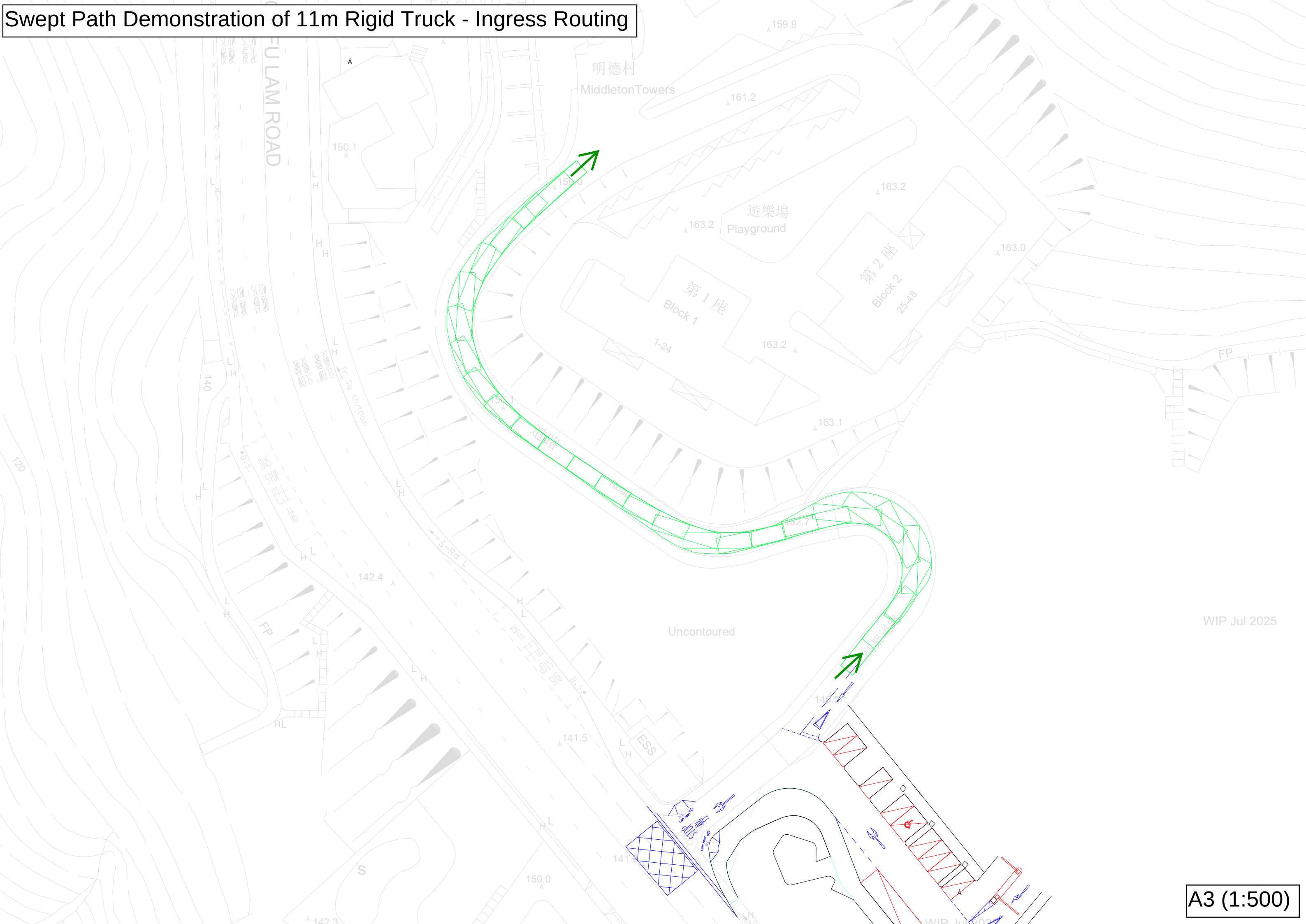
A3 (1:800)



Swept Path of Two-Way Private Cars (Existing)

A3 (1:800)

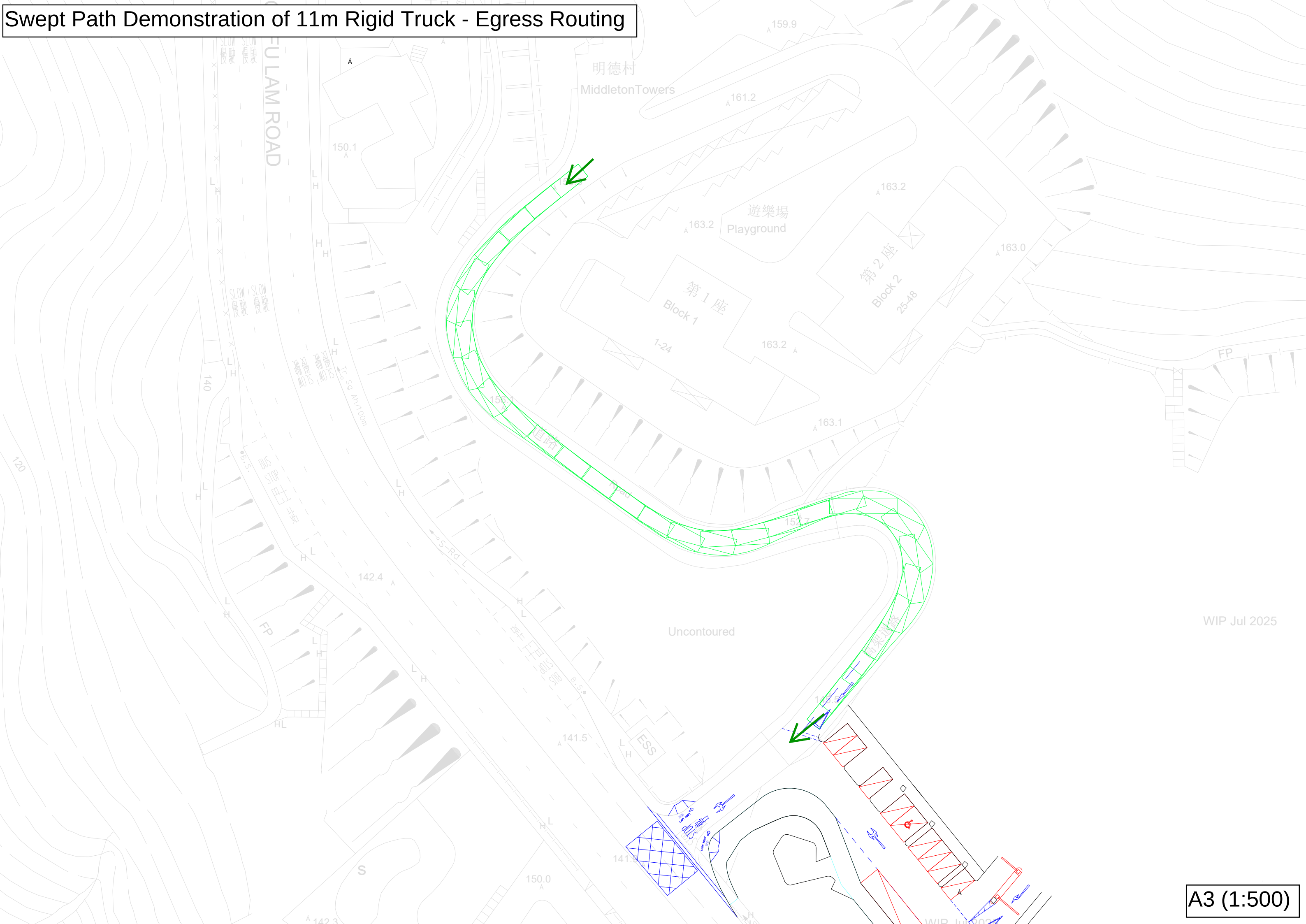
Swept Path Demonstration of 11m Rigid Truck - Ingress Routing



WIP Jul 2025

A3 (1:500)

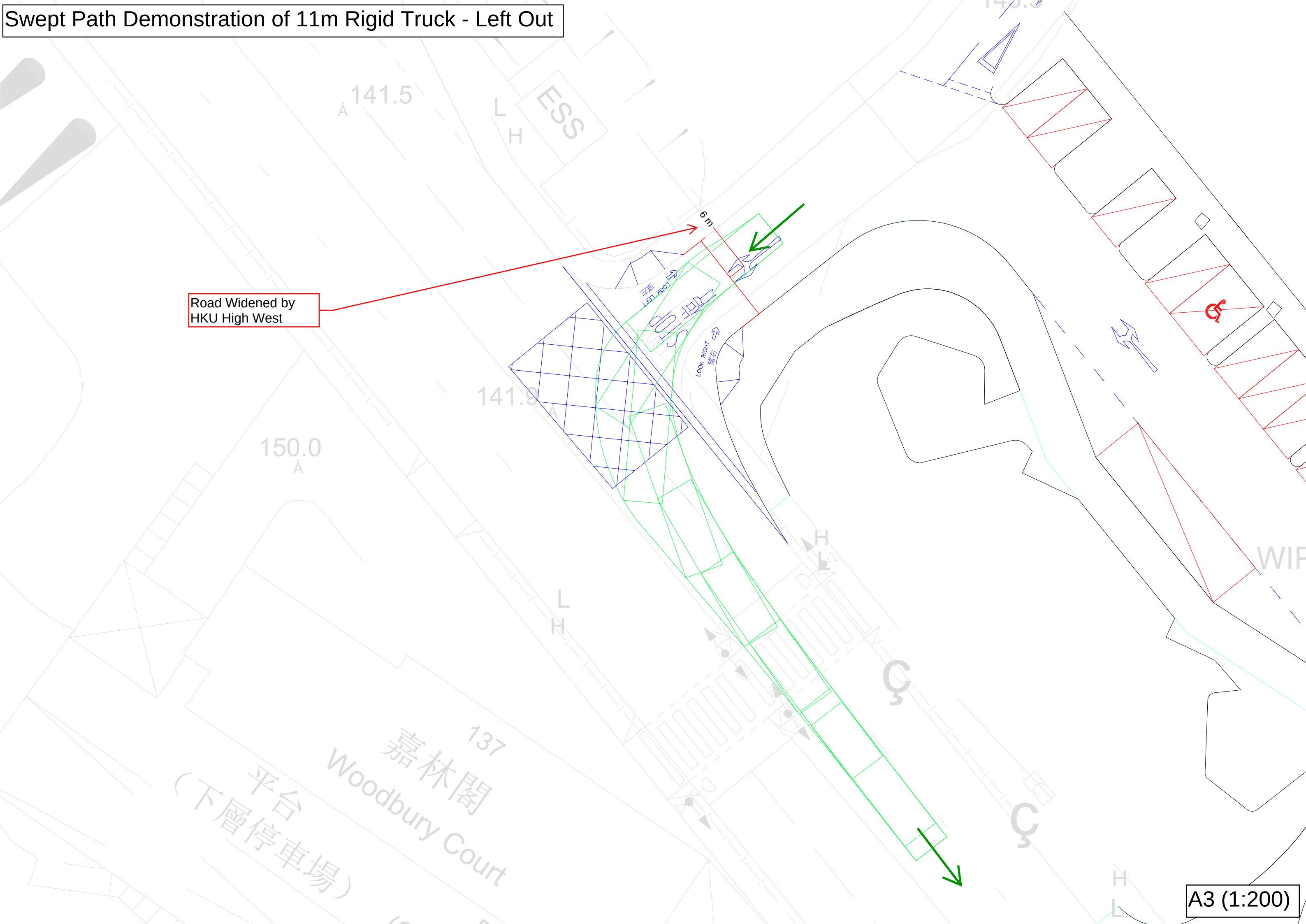
Swept Path Demonstration of 11m Rigid Truck - Egress Routing



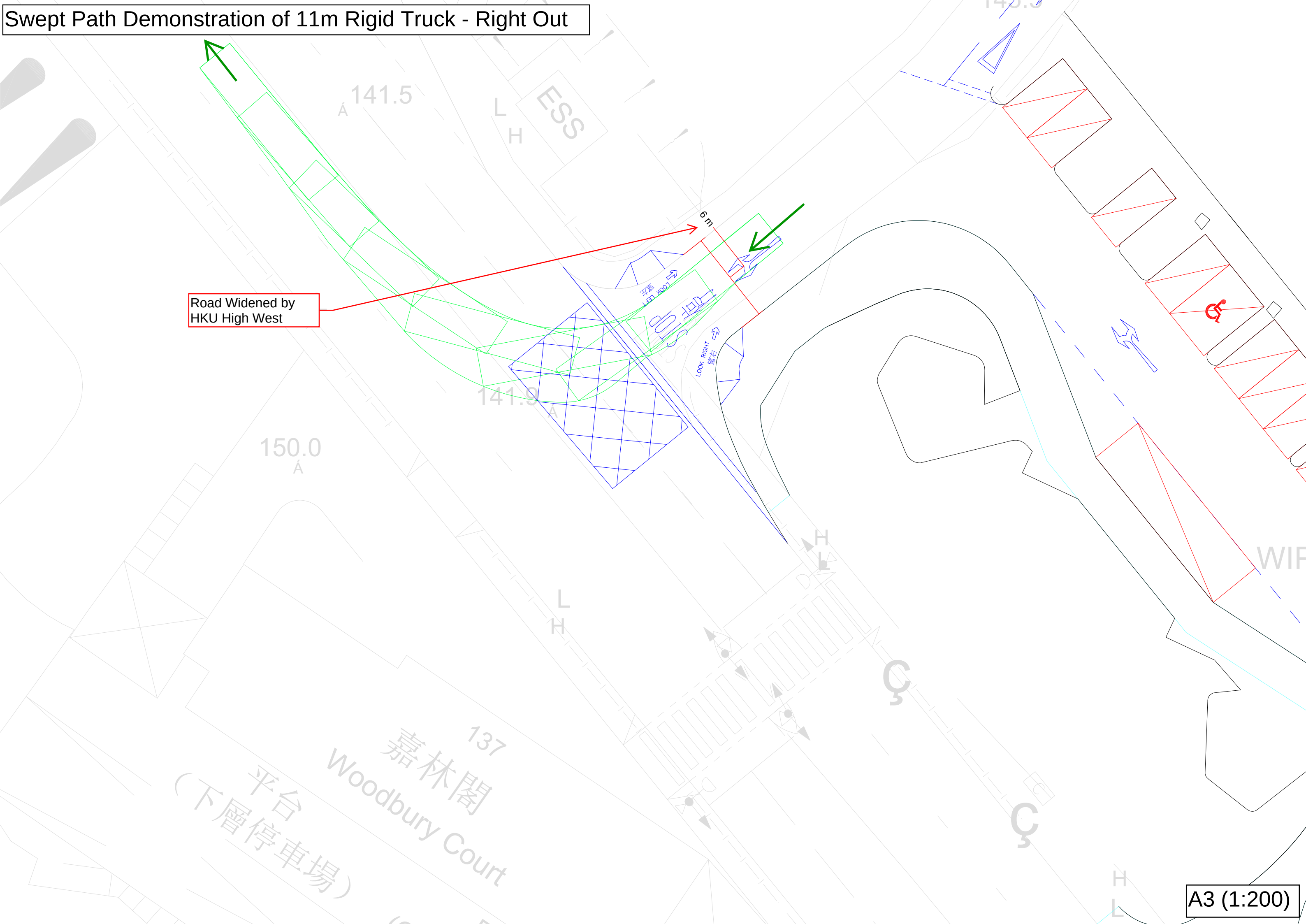
WIP Jul 2025

A3 (1:500)

Swept Path Demonstration of 11m Rigid Truck - Left Out



Swept Path Demonstration of 11m Rigid Truck - Right Out



Prepared by

Ramboll Hong Kong Limited

REDEVELOPMENT OF MIDDLETON TOWERS AT POK FU LAM

DRAINAGE AND SEWERAGE IMPACT ASSESSMENT

Date **May 2026**

Prepared by **Sally Chiu**
Assistant Environmental Consultant



Signed _____

Approved by **Tony Cheng**
Senior Manager



Signed _____

Project Reference **P&TJBCPSI00**

Document No. **R10049_v1.0_260505.docx**

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CHAPTERS

	Page
1. INTRODUCTION	1-3
1.1 Project Background.....	1-3
1.2 Proposed use	1-3
1.3 Sewerage Impact	1-3
1.4 Drainage Impact	1-3
2. SEWERAGE IMPACT ASSESSMENT.....	2-1
2.1 Scope of Work.....	2-1
2.2 Assessment Criteria and Methodology	2-1
2.3 Sewerage System.....	2-1
2.4 Wastewater Generated by the Proposed Use	2-1
2.5 Assessment of Sewerage Impact	2-2
3. DRAINAGE IMPACT ASSESSMENT	3-4
3.1 Discussion	3-4
4. CONCLUSION	4-5

TABLES

Table 1.1	Development Parameters of the Proposed use.....	1-3
Table 2.1	Estimated Peak Flow	2-1

FIGURES

Figure 1.1	The Location of the Subject Site and its Environs
Figure 2.1	Existing Sewerage System in the Vicinity of the Subject Site
Figure 2.2	Existing Sewerage System and Catchment Areas in the Vicinity of the Subject Site

APPENDICES

Appendix 1.1	The Typical Floor Plans of the Planning Statement
Appendix 2.1	Detailed Sewerage Impact Assessment Calculations

1. INTRODUCTION

1.1 Project Background

- 1.1.1 The Subject Site is mainly zoned as "Residential (Group C)" ("R(C)") with minor portion zoned as "Green Belt" ("GB") under the Approved Pok Fu Lam Outline Zoning Plan (OZP) (No. S/H10/23). It is generally surrounded by University Hall to the Southeast, Woodbury Court to the southwest, and Alberose to the northwest.
- 1.1.2 **Figure 1.1** shows the location of the Subject Site and its environment.
- 1.1.3 Ramboll Hong Kong Limited has been appointed to conduct the sewerage impact assessment for the Subject Site.

1.2 Proposed use

- 1.2.1 It consists of student hostel. Development Parameters for the Proposed use is summarised in **Table 1.1**.

Table 1.1 Development Parameters of the Proposed use

	Parameters
Site Area (m ²)	About 8,900
No. of Student Hostel (Rooms)	900

- 1.2.2 The typical floor plans of the planning statement of the Proposed use are shown in **Appendix 1.1**.
- 1.2.3 The tentative completion year for the Proposed use is 2028.

1.3 Sewerage Impact

- 1.3.1 The potential sewerage impact arising from the operation phase should be assessed and mitigated to fulfil the requirements under the relevant legislations and guidelines. The details will be discussed in **Section 2**.

1.4 Drainage Impact

- 1.4.1 The potential drainage impact arising from the operation phase should be assessed and mitigated to fulfil the requirements under the relevant legislations and guidelines. The details will be discussed in **Section 3**.

2. SEWERAGE IMPACT ASSESSMENT

2.1 Scope of Work

- 2.1.1 The aim of this study is to compare the sewage flow generated from the Subject Site with the sewage flow from the existing usage, and to determine whether adverse sewerage impact is anticipated.

2.2 Assessment Criteria and Methodology

- 2.2.1 According to the Drainage Record obtained from the Geoinfo map and the approved SIA report of Student Residences and Residential Development for the University of Hong Kong at 142 Pok Fu Lam Road prepared by Ramboll (Report No. R7842_v4.0), there is public sewer network serving the Subject Site and the surrounding environment. **Figure 2.1** shows the location of the sewer sections concerned.
- 2.2.2 The Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, Version 1 (GESF) is referred to estimate the quantity of the sewage generated from the Subject Site and the existing development. Sewage flow parameters and global peaking factors in this document are adopted.
- 2.2.3 The Commercial and Industrial Floor Space Utilization Survey (CIFSUS) conducted by the Planning Department is used to determine the worker density for various economic activities and planned usage type.
- 2.2.4 In order to represent worst-case scenario, the sewerage impact assessment was conducted based on the assumption that all phases of the Subject Site have been completed.
- 2.2.5 Based on the designed use, the sewage flow from the proposed hotel development is determined and compared with the capacity of the existing sewerage system in order to investigate the necessity of sewerage system upgrading work.

2.3 Sewerage System

- 2.3.1 With reference to the approved SIA report of Student Residences and Residential Development for the University of Hong Kong at 142 Pok Fu Lam Road prepared by Ramboll (Report No. R7842_v4.0) and the sewerage system shown in Geoinfo Map, the sewage generated from the Proposed use will be discharged to the manhole FMH1.
- 2.3.2 The sewerage system is shown in **Figure 2.1**.

2.4 Wastewater Generated by the Proposed Use

- 2.4.1 The sewage generated by the Proposed use is given in **Table 2.1** shown below. Detailed Calculation refers to **Appendix 2.1**.

Table 2.1 Estimated Peak Flow

Calculation for Sewage Generation Rate of the Proposed use			
1. Dormitory for Student and Staff			
Number of residents	=	900	people
Unit Flow Factors	=	0.19	m ³ /people/day (refer to Table T-1 of GESF – Institutional and Special Class)
Sewage generation rate	=	171	m ³ / day

Total Flow from the Proposed use

Flow rate	=	171.0	m ³ /day
Flow rate with P _{CIF}	=	171.0	m ³ /day (refer to Table T-4 of GESF – Sandy Bay - 1.0)
Contributing Population	=	633	people
Peaking Factor	=	8	Refer to Table T-5 of GESF for population 1,000-5,000 incl. stormwater allowance
Peak Flow	=	15.8	L/s

2.5 Assessment of Sewerage Impact

- 2.5.1 As shown in **Figure 2.1**, sewerage generated from the Proposed use will be discharged from the 3 proposed terminal manholes located within the Subject Site to Manhole MH7022565 which is located at the Pok Fu Lam Road.
- 2.5.2 Catchments in the vicinity of the Application Site are shown in **Figure 2.2**. Detailed calculation of sewage generation, peak flow estimation and the capacity of the public sewer can be referred to **Appendix 2.1**. Based on the assessment results, the capacity sufficient for the sewerage generated from the Proposed use and the surrounding catchment. Therefore, no upgrading works on the public sewers are required.

3. DRAINAGE IMPACT ASSESSMENT

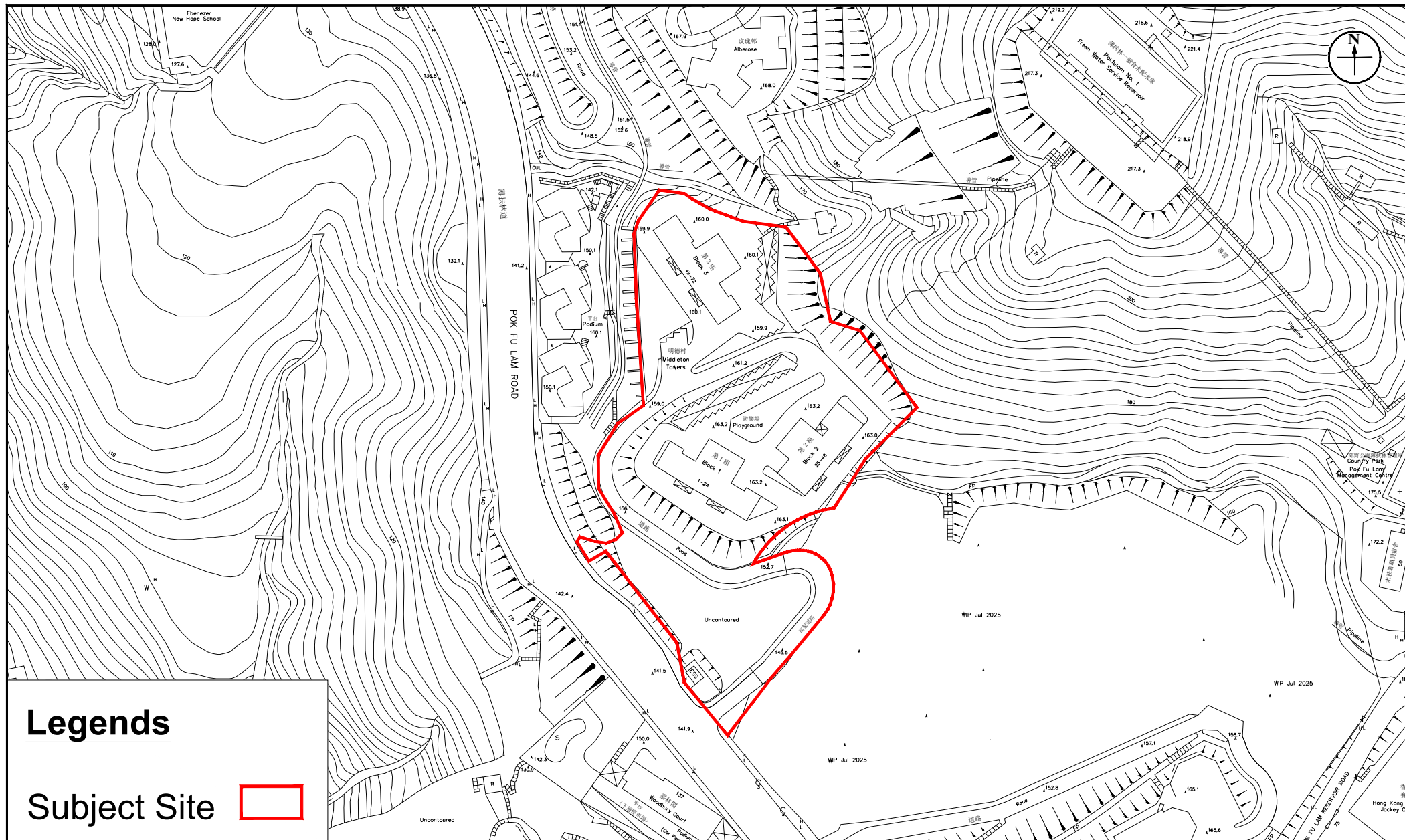
3.1 Discussion

- 3.1.1 Surface runoff is mainly from rainfall and it will be directed to existing public storm drains. As the existing site is currently on hard-paved ground, it is anticipated that the proposed development will not affect the drainage path or lead to any changes in the runoff behaviour.
- 3.1.2 There is no change or abandonment of existing drains and hence no extra stormwater discharge is imposed. Therefore, adverse impact on the existing drainage system is not anticipated and a detailed drainage impact assessment is therefore unnecessary.

4. CONCLUSION

- 4.1.1 The Subject Site is mainly zoned as "R(C)" with minor portion zoned as "GB" on the Approved Pok Fu Lam Outline Zoning Plan (OZP) (No. S/H10/23).
- 4.1.2 The Proposed use consists of student hostel. The estimated sewage generation rate of the Proposed use has been quantitatively addressed.
- 4.1.3 The estimated peak sewage generation from the Proposed use is about 15.8 litre/sec.
- 4.1.4 Based on the calculations, as shown in **Appendix 2.1**, the capacity of existing sewers are sufficient to cater for the sewage generated from the Proposed use. No upgrading works on the existing public sewers are required and therefore there would not have any adverse impact on the public sewerage system.
- 4.1.5 Surface runoff is mainly from rainfall and it will be directed to existing public storm drains. As the existing site is currently on hard-paved ground, it is anticipated that the proposed development will not affect the drainage path or lead to any changes in the runoff behaviour.
- 4.1.6 There is no change or abandonment of existing drains and hence no extra stormwater discharge is imposed. Therefore, adverse impact on the existing drainage system is not anticipated and a detailed drainage impact assessment is therefore unnecessary.

Figures



Legends

Subject Site



Figure: 1.1

Title: Location of Subject Site and its Environs

Project: Redevelopment of Middleton Towers at Pok Fu Lam

RAMBOLL

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Checked by: TC

Rev.: 1.0

Date: Feb 2026

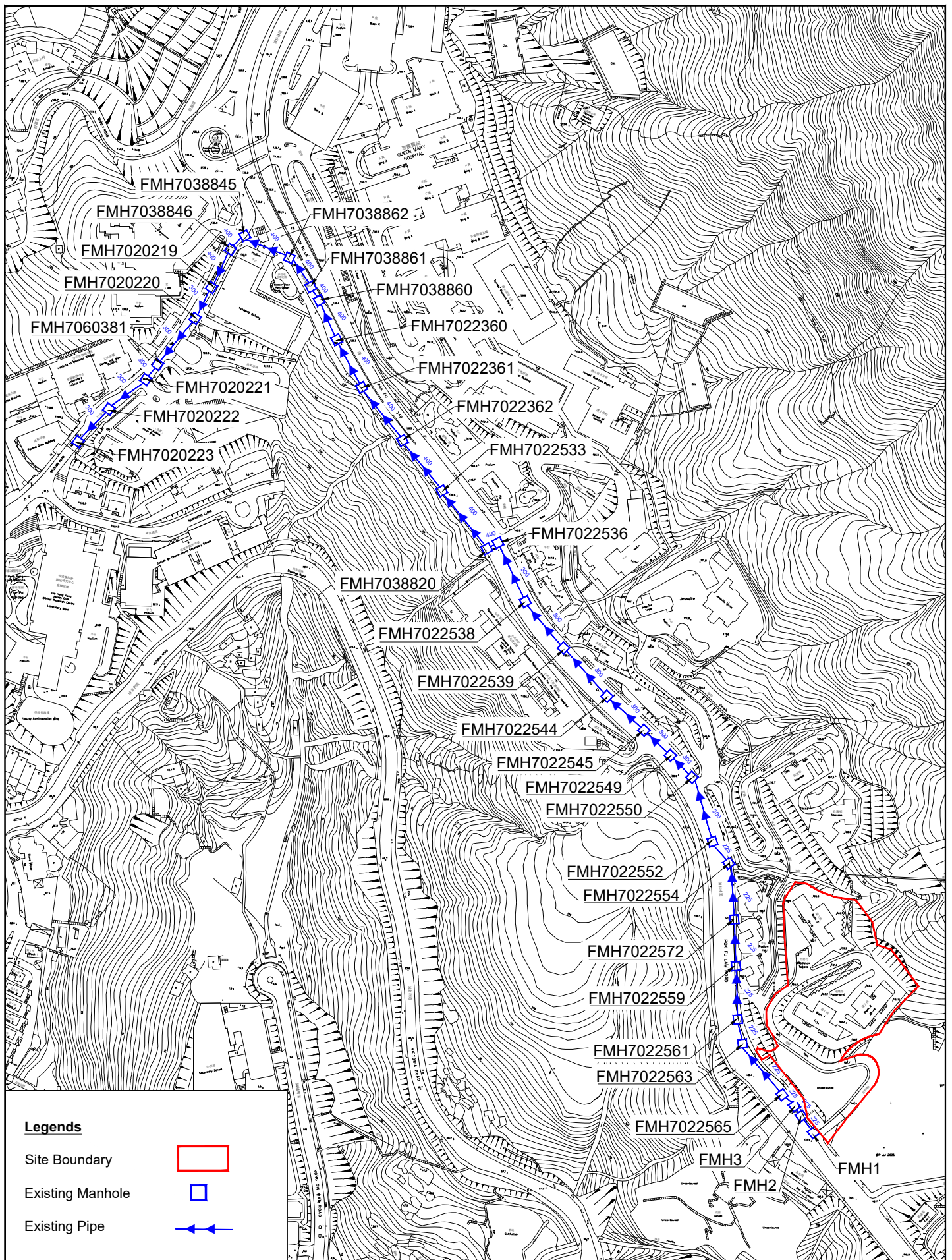


Figure: 2.1

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

Project: Proposed Redevelopment of Middleton Towers at Pok Fu Lam

RAMBOLL

Drawn by: SC

Checked by: TC

Rev.: 1.0

Date: Feb 2026

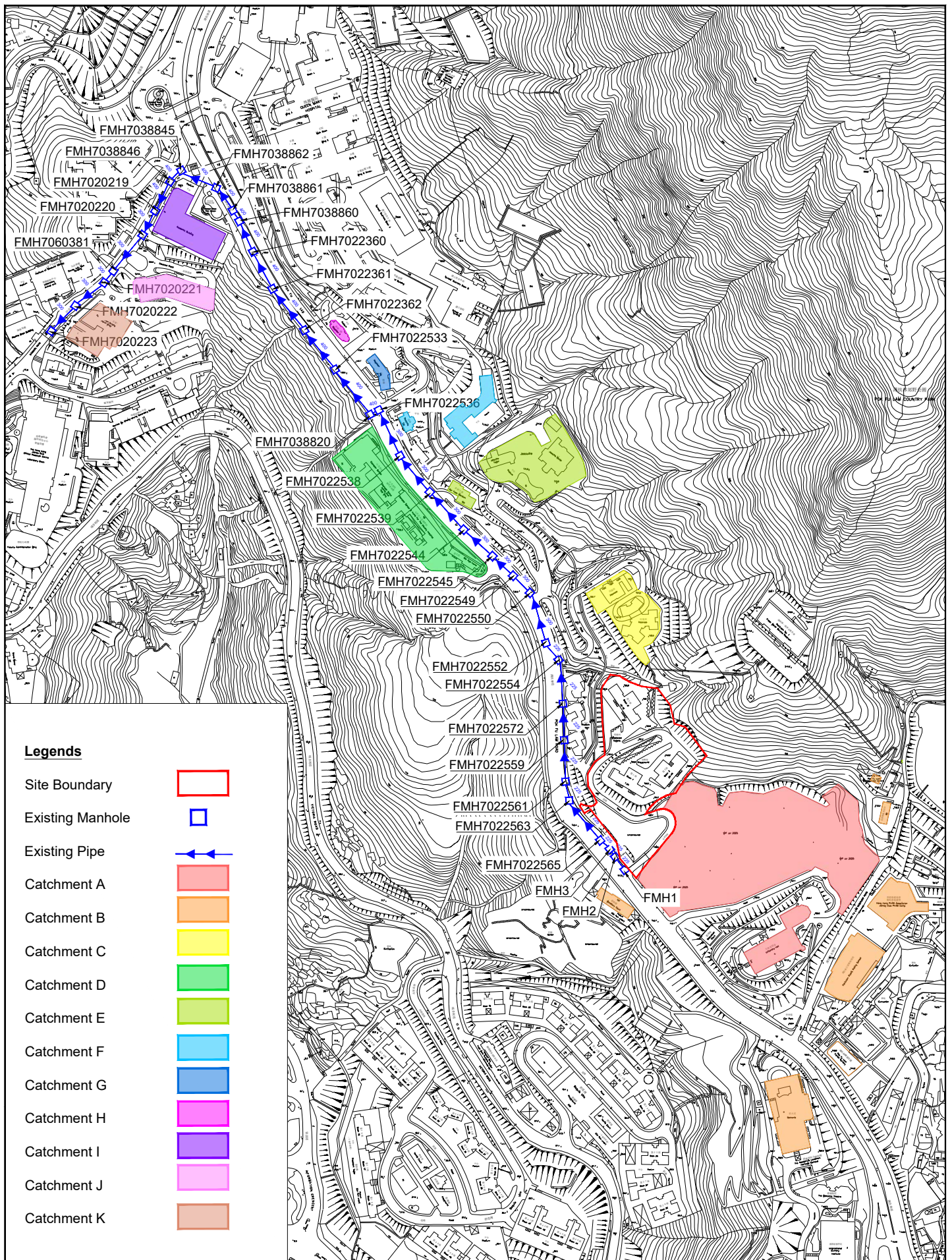


Figure: 2.2

Title: Existing Sewerage System and Catchment Areas in the Vicinity of the Subject Site

Project: Proposed Redevelopment of Middleton Towers at Pok Fu Lam

RAMBOLL

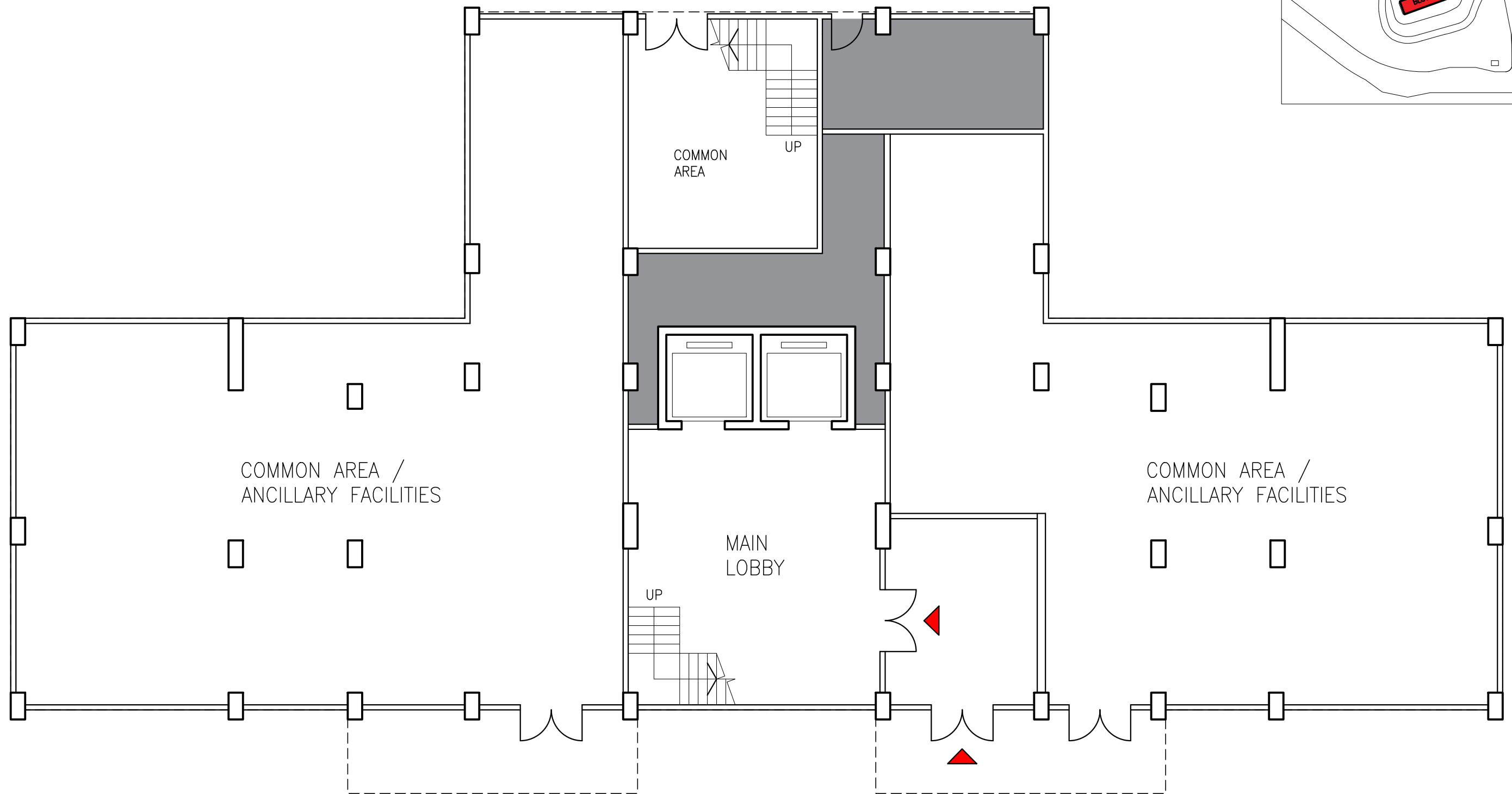
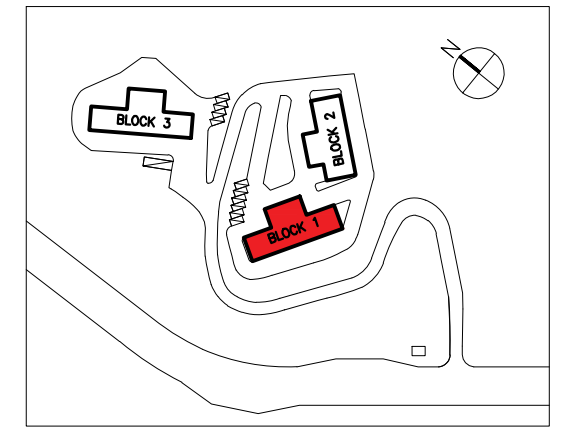
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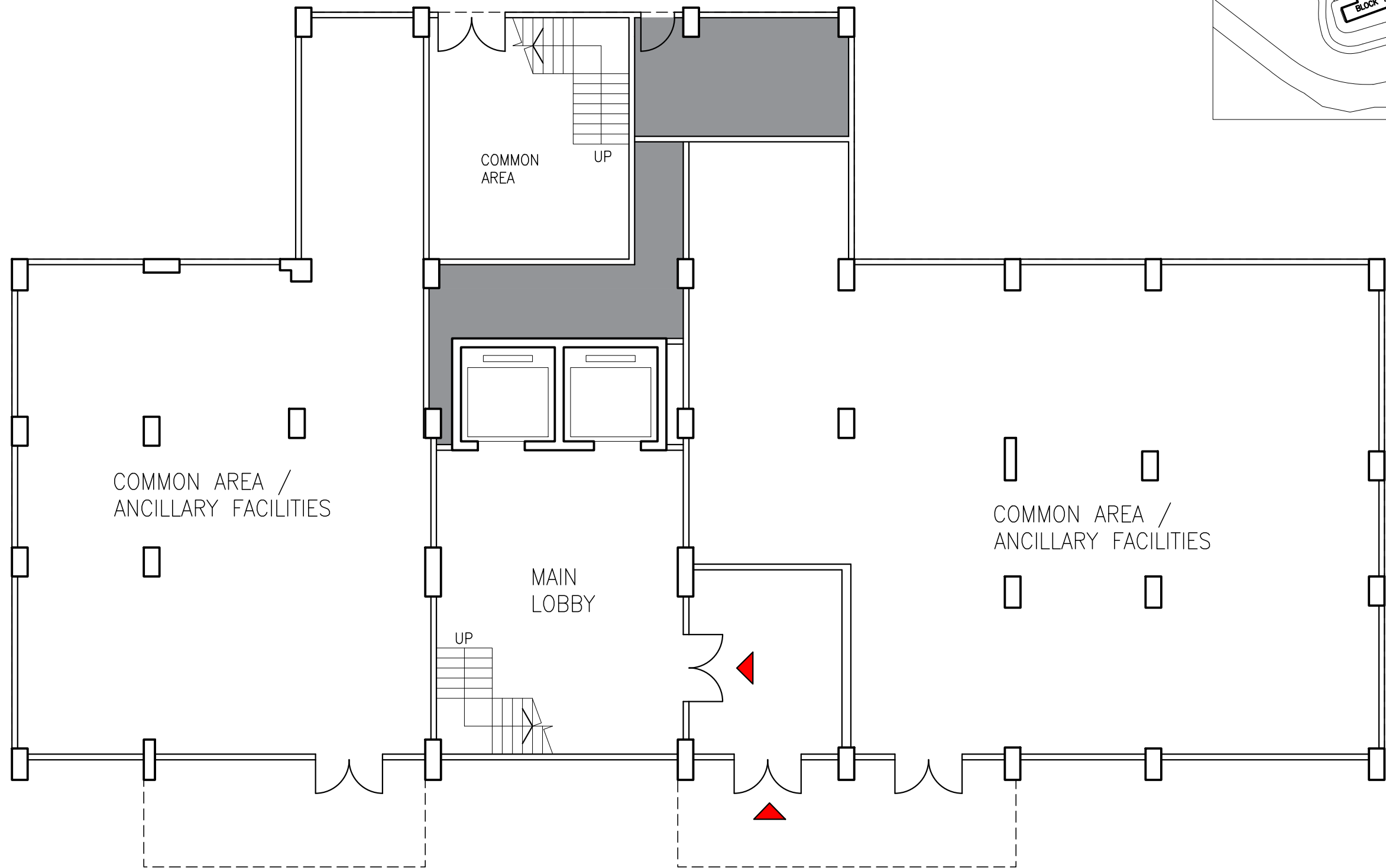
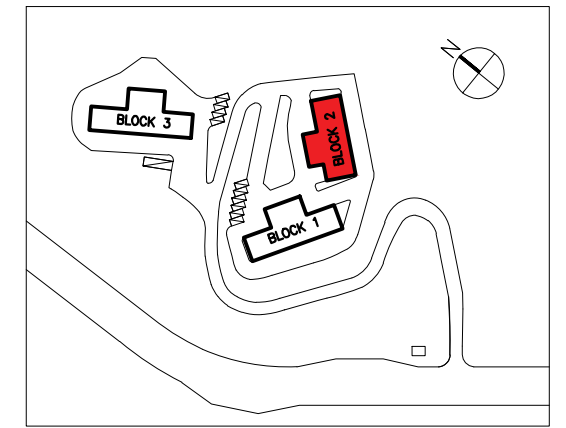
Date: Feb 2026

Appendix 1.1 The Typical Floor Plans of the Planning Statement



BLOCK 1 – G/F LAYOUT

SCALE 1:100



BLOCK 2 – G/F LAYOUT

SCALE 1:100



BLOCK 2 TYPICAL (1/F – 12/F ; 12 STOREYS)
SCALE 1:100

BLOCK B TYPICAL FLOOR = 23 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS = 900 UNITS
 BLOCK 1 TYP = 26 APPROX.
 BLOCK 2 TYP = 23 APPROX.
 BLOCK 3 TYP = 26 APPROX.
 SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 2 WITH ACCESSIBLE ROOM SCALE 1:100

BLOCK B TYPICAL FLOOR = 23 UNITS APPROX.

BLOCK 1 TO 3

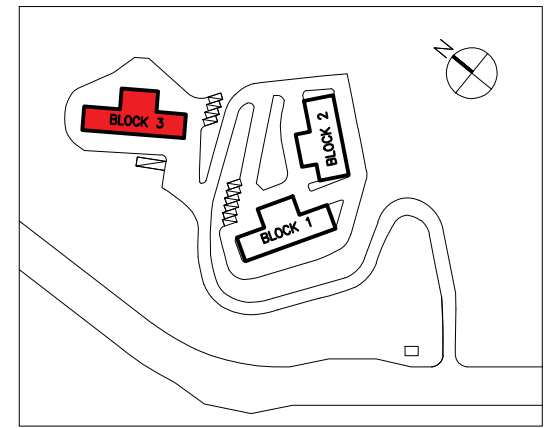
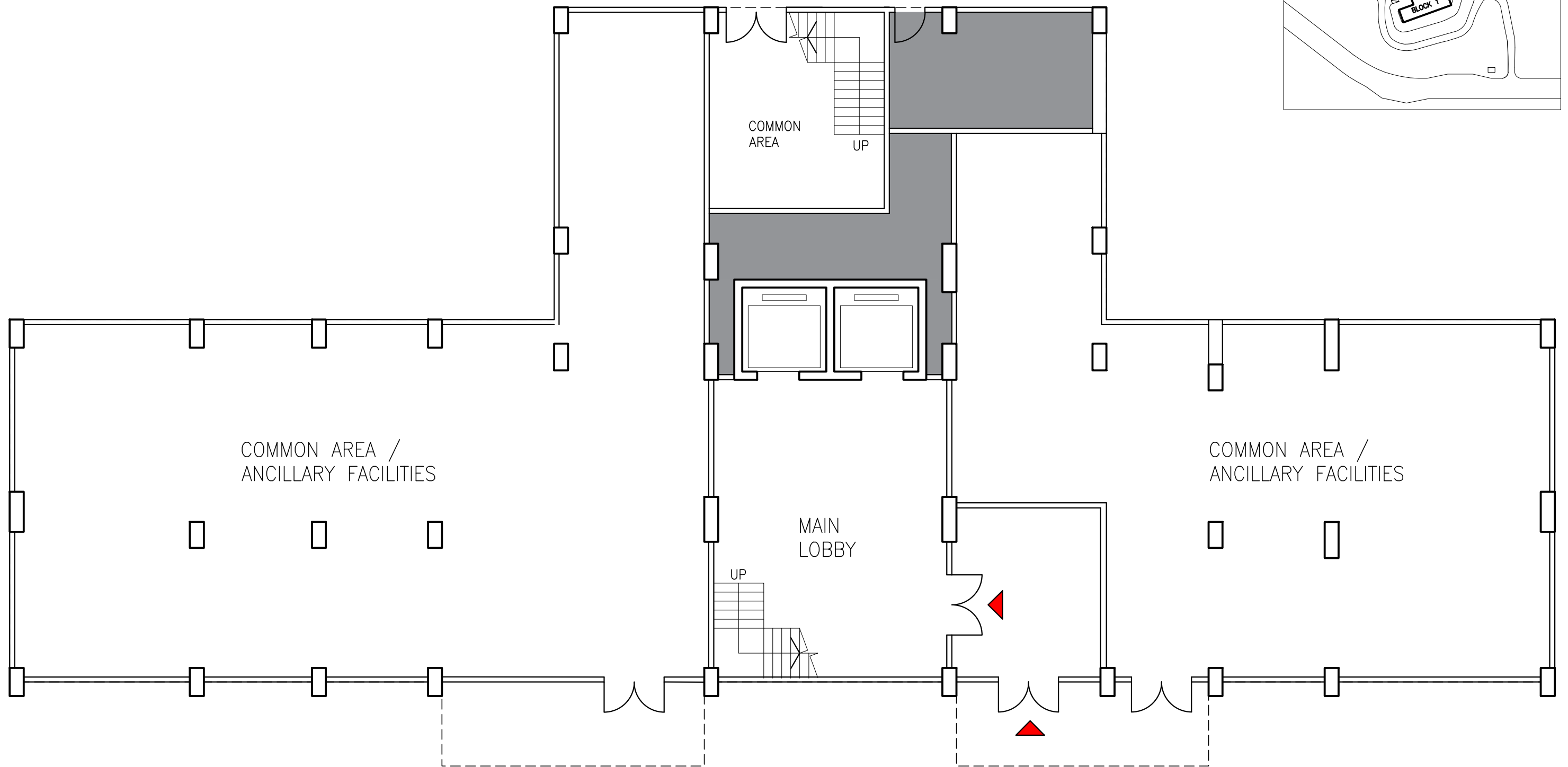
TOTAL PROPOSED UNITS = 900 UNITS

BLOCK 1 TYP = 26 APPROX.

BLOCK 2 TYP = 23 APPROX.

BLOCK 3 TYP = 26 APPROX.

SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 3 – G/F LAYOUT

SCALE 1:100



B = BATH ROOM / SHARED BATH ROOM

BALCONY

BALCONY

BLOCK 3 TYP (1/F – 12/F ; 12 STOREYS)
SCALE 1:100

BLOCK C TYPICAL FLOOR = 26 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS = 900 UNITS
BLOCK 1 TYP = 26 APPROX.
BLOCK 2 TYP = 23 APPROX.
BLOCK 3 TYP = 26 APPROX.
SUBJECT TO FUTURE DETAIL DESIGN

Appendix 2.1 Detailed Sewerage Impact Assessment Calculations

Table 1 Calculation for Sewage Generation Rate of the Proposed Development

Estimated Sewage Flow from Proposed Development

1a. Dormitory for Student and Staff

Number of residents	=	900	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	171	m ³ /day	

Total Flow from Proposed Development

Total ADWF in Catchment A1	=	171.0	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	171.0	m ³ /day	

				(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷ 0.27, while 0.27 is the average unit flow factor of all typical residents plus employees)
Contributing Population	=	633	people	
Peaking factor	=	8		Refer to Table T-5 of GESF for population <1,000 incl. stormwater allowance
Peak Flow	=	<u>15.8</u>	L/s	

Table 2 - Estimated Sewage Flow for Catchment Areas (Catchment A)

Catchment A -				
1a. Unviveraity Hall				
Number of residents	=	110	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	20.9	m ³ /day	
1b. Unviveraity Hall				
Total number of staff	=	20	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	5.6	m ³ /day	
2a. High West- Students Hostels				
Number of residents	=	984	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	187.0	m ³ /day	
2b. High West- Staff Quarters 1&2				
Number of residents	=	819	people	
Unit Flow Factors	=	0.27	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	221.1	m ³ /day	
2c. High West- Student Canteen				
Total number of staff	=	31	people	
Design flow for staff	=	1.58	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	49.0	m ³ /day	
2d. High West- Student Canteen				
Total number of staff	=	35	people	
Design flow for staff	=	0.28	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	9.8	m ³ /day	
Estimated Sewage Flow from Catchment A				
<u>Catchment A</u>				
Total ADWF in Catchment A	=	466.9	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	466.9	m ³ /day	
Contributing Population	=	1729	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment A	=	<u>32.4</u>	L/s	
Total Flow from the Proposed Development and Catchment A				
Total ADWF with Catchment Inflow Factor P _{CIF}	=	637.9	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	637.9	m ³ /day	
Contributing population	=	2362		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷ 0.27, while 0.27 is the average unit flow factor of all typical residents plus emp
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	<u>44.3</u>	litre/sec	

Table 3 - Estimated Sewage Flow for Catchment Areas (Catchment B)

Catchment B

1. Bethanie

Number of residents	=	50	people	
Unit Flow Factors	=	0.28	m ³ /day	(R2 in Table T-1 of GESF)
Sewage generation rate	=	14.0	m ³ /day	

2a. Po Fu Lam Transit Nursery

Total number of staff	=	10	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	2.8	m ³ /day	

3a.Country Park Pok Fu Lam Management Centre

Number of residents	=	5	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	1.0	m ³ /day	

3b.Country Park Pok Fu Lam Management Centre- Swimming pool

Instant Peak Flow	=	46.2	L/s	
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4. Woodbury Court

=	30.8			
---	------	--	--	--

5. WSD Staff Quarters

Number of residents	=	24	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	4.6	m ³ /day	

6a.Hong Kong PHAB Association Jockey Club PHAB Camp

Number of residents	=	160	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	30.4	m ³ /day	

6b.Hong Kong PHAB Association Jockey Club PHAB Camp

Number of residents	=	20	people	
Unit Flow Factors	=	0.28	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	5.6	m ³ /day	

7.Hong Kong PHAB Association Jockey Club PHAB Camp- Swimming pool

Instant Peak Flow	=	45.1	L/s	
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8.Pokfulam Public Riding School

Number of residents	=	170	people	
Unit Flow Factors	=	0.28	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	47.6	m ³ /day	

Estimated Sewage Flow from Catchment B

Total ADWF in Catchment B	=	136.7	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	136.7	m ³ /day	
Contributing Population	=	506	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment B	=	12.7	L/s	

Total Flow from the Proposed Development and Catchment A and B

Total ADWF with Catchment Inflow Factor P _{CIF}	=	774.6	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	774.6	m ³ /day	
Contributing population	=	2869		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	53.8	litre/sec	

Table 4 - Estimated Sewage Flow for Catchment Areas (Catchment C)

Catchment C

1. Alberose

Number of residents	=	8	people	
Unit Flow Factors	=	0.37	m ³ /day	(R3 in Table T-1 of GESF)
Sewage generation rate	=	3.0	m ³ /day	

Estimated Sewage Flow from Catchment C

Total ADWF in Catchment C	=	3.0	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	3.0	m ³ /day	
Contributing Population	=	11	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment C	=	0.3	L/s	

Total Flow from the Proposed Development and Catchment A, B and C

Total ADWF with Catchment Inflow Factor P _{CIF}	=	777.6	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	777.6	m ³ /day	
Contributing population	=	2880		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	54.0	litre/sec	

Table 5 - Estimated Sewage Flow for Catchment Areas (Catchment D)

Catchment D

1a. Ebenezer New Hope School & Home for the Visually imparier (Residents)

Number of residents	=	259	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	49.2	m ³ /day	

1b. Ebenezer New Hope School & Home for the Visually imparier (Staff)

Total number of staff	=	8	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	2.2	m ³ /day	

Estimated Sewage Flow from Catchment D

Total ADWF in Catchment D	=	51.5	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	51.5	m ³ /day	
Contributing Population	=	191	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment D	=	4.8	L/s	

Total Flow from the Proposed Development and Catchment A, B, C and D

Total ADWF with Catchment Inflow Factor P _{CIF}	=	829.0	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	829.0	m ³ /day	
Contributing population	=	3070		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	57.6	litre/sec	

Table 6 - Estimated Sewage Flow for Catchment Areas (Catchment E)

Catchment E

1a. Dor Fook Mansion (Residents)

Number of residents	=	93	people	
Unit Flow Factors	=	0.27	m ³ /day	(R2 in Table T-1 of GESF)
Sewage generation rate	=	25.1	m ³ /day	

1b. Dor Fook Mansion (Staff)

Total number of staff	=	3	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	0.8	m ³ /day	

2a. Jessville Manor (Residents)

Number of residents	=	15	people	
Unit Flow Factors	=	0.27	m ³ /day	(R2 in Table T-1 of GESF)
Sewage generation rate	=	4.1	m ³ /day	

2b. Jessville Manor (Staff)

Total number of staff	=	5	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	1.4	m ³ /day	

3a. Jessville Tower (Residents)

Number of residents	=	104	people	
Unit Flow Factors	=	0.27	m ³ /day	
Sewage generation rate	=	28.1	m ³ /day	

3b. Jessville Manor (Staff)

Total number of staff	=	5	people	
Design flow for staff	=	0.28	m ³ /person/day	
Sewage generation rate	=	1.4	m ³ /day	

Estimated Sewage Flow from Catchment E

Total ADWF in Catchment E	=	60.9	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	60.9	m ³ /day	
Contributing Population	=	225	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment E	=	5.6	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D and E

Total ADWF with Catchment Inflow Factor P _{CIF}	=	889.9	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	889.9	m ³ /day	
Contributing population	=	3296		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	61.8	litre/sec	

Table 7 - Estimated Sewage Flow for Catchment Areas (Catchment F)

Catchment F

1a. Radcliffe (Residents)

Number of residents	=	37	people	
Unit Flow Factors	=	0.27	m ³ /day	(R2 in Table T-1 of GESF)
Sewage generation rate	=	10.0	m ³ /day	

1b. Radcliffe (Staff)

Total number of staff	=	2	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	0.6	m ³ /day	

2a. Government Quarters (Residents)

Number of residents	=	320	people	
Unit Flow Factors	=	0.19	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	60.8	m ³ /day	

2b. Government Quarters (Staff)

Total number of staff	=	30	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	8.4	m ³ /day	

3. Hospital Authority

Total number of staff	=	126	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	35.3	m ³ /day	

Estimated Sewage Flow from Catchment F

Total ADWF in Catchment F	=	115.0	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	115.0	m ³ /day	
Contributing Population	=	426	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment F	=	10.7	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D, E and F

Total ADWF with Catchment Inflow Factor P _{CIF}	=	1004.9	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	1004.9	m ³ /day	
Contributing population	=	3722		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	69.8	litre/sec	

Table 8 - Estimated Sewage Flow for Catchment Areas (Catchment G)

Catchment G

1a. Roytalton (Residents)

Number of residents	=	111	people	
Unit Flow Factors	=	0.27	m ³ /day	(R2 in Table T-1 of GESF)
Sewage generation rate	=	30.0	m ³ /day	

1b. Royalton (Staff)

Total number of staff	=	6	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	1.7	m ³ /day	

Estimated Sewage Flow from Catchment G

Total ADWF in Catchment G	=	31.7	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	31.7	m ³ /day	
Contributing Population	=	117	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment G	=	2.9	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D, E, F and G

Total ADWF with Catchment Inflow Factor P _{CIF}	=	1036.6	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	1036.6	m ³ /day	
Contributing population	=	3839		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	72.0	litre/sec	

Table 9 - Estimated Sewage Flow for Catchment Areas (Catchment H)

Catchment H

1a. Roytalton II (Residents)

Number of residents	=	63	people	
Unit Flow Factors	=	0.27	m ³ /day	(R2 in Table T-1 of GESF)
Sewage generation rate	=	17.0	m ³ /day	

1b. Royalton II (Staff)

Total number of staff	=	3	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	0.8	m ³ /day	

Estimated Sewage Flow from Catchment H

Total ADWF in Catchment H	=	17.9	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	17.9	m ³ /day	
Contributing Population	=	66	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment H	=	1.7	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D, E, F, G and H

Total ADWF with Catchment Inflow Factor P _{CIF}	=	1054.4	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	1054.4	m ³ /day	
Contributing population	=	3905		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	73.2	litre/sec	

Table 10 - Estimated Sewage Flow for Catchment Areas (Catchment I)

Catchment I

1a. HKU Med Academic Building

Total number of staff	=	40	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	11.2	m ³ /day	

Estimated Sewage Flow from Catchment I

Total ADWF in Catchment I	=	11.2	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	11.2	m ³ /day	
Contributing Population	=	41	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment I	=	1.0	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D, E, F, G, H and I

Total ADWF with Catchment Inflow Factor P _{CIF}	=	1065.6	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	1065.6	m ³ /day	
Contributing population	=	3947		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	74.0	litre/sec	

Table 11 - Estimated Sewage Flow for Catchment Areas (Catchment J)

Catchment J

1a. HKU Hong Kong Jockey Club Building for Interdisciplinary Research

Total number of staff	=	20	people	
Design flow for staff	=	0.28	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	5.6	m ³ /day	

Estimated Sewage Flow from Catchment J

Total ADWF in Catchment J	=	5.6	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	5.6	m ³ /day	
Contributing Population	=	21	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	8		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment J	=	0.5	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D, E, F, G, H, I and J

Total ADWF with Catchment Inflow Factor P _{CIF}	=	1071.2	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	1071.2	m ³ /day	
Contributing population	=	3967		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	74.4	litre/sec	

Table 12 - Estimated Sewage Flow for Catchment Areas (Catchment K)

Catchment K

1a. Development at No.7 Sassoon

Number of Employee	=	933	people	
Unit Flow Factors	=	0.28	m ³ /day	(Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	261.2	m ³ /day	

1b. Development at No.7 Sassoon

Total number of staff	=	1400	people	
Design flow for staff	=	0.04	m ³ /person/day	(refer to Table T-2 of GESF , Community, Social & Personal Services)
Sewage generation rate	=	56.0	m ³ /day	

Estimated Sewage Flow from Catchment K

Total ADWF in Catchment K	=	317.2	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Total ADWF with Catchment Inflow Factor PCIF	=	317.2	m ³ /day	
Contributing Population	=	1175	people	Refer to S12.1 of GESF, Contributing Population = Calculated total average flow/ UFF
Peaking factor	=	6		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak Flow in Catchment K	=	22.0	L/s	

Total Flow from the Proposed Development and Catchment A, B, C, D, E, F, G, H, I, J and K

Total ADWF with Catchment Inflow Factor P _{CIF}	=	1388.5	m ³ /day	
Catchment Inflow Factor PCIF	=	1.0		Refer to Table T-4 of GESF - Sandy Bay
Flow rate with P _{CIF}	=	1388.5	m ³ /day	
Contributing population	=	5142		(refer to Section 12 of GESF -- Contributing population is the Flow rate with PCIF ÷
Peaking factor	=	5		Refer to Table T-5 of GESF for population 1,000 - 5,000 incl. stormwater allowance
Peak flow	=	80.4	litre/sec	

Table 13 - Estimated Sewage Flow from Swimming Pools

PHAB				Jessville Tower			
Assumed area	=	500	m ²	Assumed area	=	240	m ²
Assumed depth of water	=	1.5	m	Assumed depth of water	=	1.5	m
Volume of water	=	750.0	m ³	Volume of water	=	360.0	m ³
Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))	Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))
Surface loading rate of filter	=	50.0	m ³ /m ² /hr	Surface loading rate of filter	=	50.0	m ³ /m ² /hr
Filter areas required	=	2.5	m ²	Filter areas required	=	1.2	m ²
Backwashing flow rate	=	30.0	m ³ /m ² /hr	Backwashing flow rate	=	30.0	m ³ /m ² /hr
Design flow for backwashing	=	75.0	m ³ /hr	Design flow for backwashing	=	36.0	m ³ /hr
Backwash duration	=	7.0	min/day	Backwash duration	=	7.0	min/day
Backwash generation rate	=	8.75	m ³ /day	Backwash generation rate	=	4.20	m ³ /day
Backwash generation rate	=	20.8	litre/sec	Backwash generation rate	=	10.0	litre/sec
Woodbury Court				Radcliffe			
Assumed area	=	105	m ²	Assumed area	=	290	m ²
Assumed depth of water	=	1.5	m	Assumed depth of water	=	1.5	m
Volume of water	=	157.5	m ³	Volume of water	=	435.0	m ³
Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))	Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))
Surface loading rate of filter	=	50.0	m ³ /m ² /hr	Surface loading rate of filter	=	50.0	m ³ /m ² /hr
Filter areas required	=	0.5	m ²	Filter areas required	=	1.5	m ²
Backwashing flow rate	=	30.0	m ³ /m ² /hr	Backwashing flow rate	=	30.0	m ³ /m ² /hr
Design flow for backwashing	=	15.8	m ³ /hr	Design flow for backwashing	=	43.5	m ³ /hr
Backwash duration	=	7.0	min/day	Backwash duration	=	7.0	min/day
Backwash generation rate	=	1.84	m ³ /day	Backwash generation rate	=	5.08	m ³ /day
Backwash generation rate	=	4.4	litre/sec	Backwash generation rate	=	12.1	litre/sec
131 PFL Road				Royalton			
Assumed area	=	150	m ²	Assumed area	=	70	m ²
Assumed depth of water	=	1.5	m	Assumed depth of water	=	1.5	m
Volume of water	=	225.0	m ³	Volume of water	=	105.0	m ³
Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))	Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))
Surface loading rate of filter	=	50.0	m ³ /m ² /hr	Surface loading rate of filter	=	50.0	m ³ /m ² /hr
Filter areas required	=	0.8	m ²	Filter areas required	=	0.4	m ²
Backwashing flow rate	=	30.0	m ³ /m ² /hr	Backwashing flow rate	=	30.0	m ³ /m ² /hr
Design flow for backwashing	=	22.5	m ³ /hr	Design flow for backwashing	=	10.5	m ³ /hr
Backwash duration	=	7.0	min/day	Backwash duration	=	7.0	min/day
Backwash generation rate	=	2.63	m ³ /day	Backwash generation rate	=	1.23	m ³ /day
Backwash generation rate	=	6.3	litre/sec	Backwash generation rate	=	2.9	litre/sec
Royalton II							
Assumed area	=	105	m ²				
Assumed depth of water	=	1.5	m				
Volume of water	=	157.5	m ³				
Turnover Rate	=	6.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (open air pool))				
Surface loading rate of filter	=	50.0	m ³ /m ² /hr				
Filter areas required	=	0.5	m ²				
Backwashing flow rate	=	30.0	m ³ /m ² /hr				
Design flow for backwashing	=	15.8	m ³ /hr				
Backwash duration	=	7.0	min/day				
Backwash generation rate	=	1.84	m ³ /day				
Backwash generation rate	=	4.4	litre/sec				

Table 3 - Sewerage Capacity Calculation

B. Backwater Analysis for Surcharged Sections

Sewer Sections	Flow Under the Assumed Hydraulic Gradient						Peak Flow w/ SF		Water Level		FreeBoard		Crown Level	
	Friction Loss	Local Loss	Velocity	Hydraulic Gradient S	Q		Q with Safety Factor	ΔQ	Up Stream	Down Stream	Up Stream	Down Stream	Up Stream	Down Stream
	m	m	m/s		m³/s	L/s	1	L/s	mPD	mPD	m	m	mPD	mPD
FMH1 ~ FMH2	0.14	0.09	1.11	9E-03	0.044	44.3	44.3	0.0	132.18	131.95	9.68	10.48	140.43	140.28
FMH2 ~ FMH3	0.13	0.09	1.11	9E-03	0.044	44.3	44.3	0.0	131.95	131.72	10.48	11.01	140.28	140.14
FMH3 ~ FMH7022565	0.04	0.09	1.11	9E-03	0.044	44.3	44.3	0.0	131.72	131.59	11.01	11.42	140.14	140.10
FMH7022565 ~ FMH7022563	0.53	0.09	1.11	1E-02	0.044	44.3	44.3	0.0	131.59	130.96	11.42	11.08	139.96	139.61
FMH7022563 ~ FMH7022561	0.19	0.09	1.11	1E-02	0.044	44.3	44.3	0.0	130.96	130.67	11.08	10.98	139.58	139.47
FMH7022561 ~ FMH7022559	0.43	0.09	1.11	1E-02	0.044	44.3	44.3	0.0	130.67	130.15	10.98	11.50	139.45	139.17
FMH7022559 ~ FMH7022572	0.38	0.09	1.11	1E-02	0.044	44.3	44.3	0.0	130.15	129.68	11.50	11.32	139.12	138.94
FMH7022572 ~ FMH7022554	0.46	0.09	1.11	1E-02	0.044	44.3	44.3	0.0	129.68	129.13	11.32	11.48	138.94	138.63
FMH7022554 ~ FMH7022552	0.13	0.09	1.11	7E-03	0.04	44.3	44.3	0.0	129.13	128.90	11.48	10.86	138.63	138.19
FMH7022552 ~ FMH7022550	0.49	0.20	1.62	1E-02	0.11	114.8	114.8	0.0	128.90	128.21	10.86	11.01	138.26	137.77
FMH7022550 ~ FMH7022549	0.22	0.20	1.62	1E-02	0.11	114.8	114.8	0.0	128.21	127.78	11.01	11.00	137.62	137.53
FMH7022549 ~ FMH7022545	0.45	0.21	1.68	2E-02	0.12	118.4	118.4	0.0	127.78	127.12	11.00	11.50	137.52	137.37
FMH7022545 ~ FMH7022544	0.62	0.21	1.68	2E-02	0.12	118.4	118.4	0.0	127.12	126.29	11.50	12.45	137.37	137.19
FMH7022544 ~ FMH7022539	0.86	0.23	1.73	2E-02	0.12	122.6	122.6	0.0	126.29	125.19	12.45	13.70	137.19	137.04
FMH7022539 ~ FMH7022538	0.80	0.23	1.73	2E-02	0.12	122.6	122.6	0.0	125.19	124.16	13.70	14.86	137.04	136.82
FMH7022538 ~ FMH7022536	0.97	0.26	1.85	2E-02	0.13	130.6	130.6	0.0	124.16	122.93	14.86	16.05	136.82	136.65
FMH7022536 ~ FMH7038820	0.02	0.08	1.04	3E-03	0.13	130.6	130.6	0.0	122.93	122.82	16.05	15.89	136.73	136.66
FMH7038820 ~ FMH7022533	0.16	0.09	1.06	3E-03	0.13	132.8	132.8	0.0	122.82	122.58	15.89	15.79	136.66	136.31
FMH7022533 ~ FMH7022362	0.14	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	122.58	122.35	15.79	15.65	136.29	135.95
FMH7022362 ~ FMH7022361	0.15	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	122.35	122.12	15.65	16.28	135.94	135.66
FMH7022361 ~ FMH7022360	0.12	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	122.12	121.91	16.28	16.52	135.94	135.05
FMH7022360 ~ FMH7038860	0.10	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	121.91	121.72	16.52	16.52	135.05	134.51
FMH7038860 ~ FMH7038861	0.04	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	121.72	121.60	16.52	16.03	134.51	134.03
FMH7038861 ~ FMH7038862	0.40	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	121.60	121.11	16.03	14.31	134.03	133.40
FMH7038862 ~ FMH7038845	0.11	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	121.11	120.91	14.31	14.43	133.40	132.90
FMH7038845 ~ FMH7038846	0.05	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	120.91	120.77	14.43	13.41	132.90	132.00
FMH7038846 ~ FMH7020219	0.10	0.09	1.07	3E-03	0.13	134.1	134.1	0.0	120.77	120.59	13.41	11.30	132.16	130.19
FMH7020219 ~ FMH7020220	0.35	0.28	1.91	1E-02	0.13	134.8	134.8	0.0	120.59	119.96	11.30	10.49	130.09	128.65
FMH7020220 ~ FMH7060381	0.62	0.28	1.91	1E-02	0.14	135.2	135.2	0.0	119.96	119.06	10.49	7.47	128.65	124.76
FMH7060381 ~ FMH7020221	0.21	0.30	2.00	2E-02	0.14	141.2	141.2	0.0	119.06	118.55	7.47	5.93	124.76	122.98
FMH7020221 ~ FMH7020222	0.53	0.30	2.00	2E-02	0.14	141.2	141.2	0.0	118.55	117.71	5.93	1.80	122.98	117.71
FMH7020222 ~ FMH7020223	0.51	0.30	2.00	2E-02	0.14	141.2	141.2	0.0	117.71		1.80	115.59	117.71	113.19

Min FreeBoard 1.80 1.80

- 1 For this assessment, the Colebrook-White Equation has been used to calculate the friction loss. (Sewerage Manual section 5.2.1)
2 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
3 Freeboard > 1m will fulfil the requirement of section 5.1.1 of minimum freeboard stipulated in DSD Sewerage Manual under Surcharged Condition.
4 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 15 - Sewerage Capacity Calculation

A. Hydraulic Capacity of Sewers and Comparison of Sewer Capacity to Sewage Generated from Proposed Development under Surge Contidion with Safety Factor = 1.15

Sewer Pipe ID	Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	US CL	DS CL	US IL	DS IL	Gradient	g	k _s	s	v	V	Area	Area	Perimeter	R=A/P (Full Bore Radius)	Q (Full)	Estimated Capacity	Remarks on Material Assumption
			mm	m	mPD	mPD	mPD	mPD	1 in	m/s ²	m		m ² /s	m/s	m ²	m ²	m	m	m ³ /s	L/s	
S1-S2	FMH1	FMH2	225	15.0	141.86	142.43	140.20	140.05	100	9.81	0.0015	0.010	1.00E-06	1.15	0.04	0.04	0.71	0.06	0.05	46	Clay ^[1]
S2-S3	FMH2	FMH3	225	14.0	142.43	142.73	140.05	139.91	100	9.81	0.0015	0.010	1.00E-06	1.15	0.04	0.04	0.71	0.06	0.05	46	Clay ^[1]
S3-S4	FMH3	FMH7022565	225	4.0	142.73	143.01	139.91	139.87	100	9.81	0.0015	0.010	1.00E-06	1.15	0.04	0.04	0.71	0.06	0.05	46	Clay ^[1]
S4-S5	FMH7022565	FMH7022563	225	44.9	143.01	142.04	139.73	139.38	128	9.81	0.003	0.008	1.00E-06	0.90	0.04	0.04	0.71	0.06	0.04	36	Clay ^[1]
S5-S6	FMH7022563	FMH7022561	225	16.3	142.04	141.65	139.35	139.24	148	9.81	0.003	0.007	1.00E-06	0.84	0.04	0.04	0.71	0.06	0.03	33	Clay ^[1]
S6-S7	FMH7022561	FMH7022559	225	36.2	141.65	141.65	139.22	138.94	129	9.81	0.003	0.008	1.00E-06	0.90	0.04	0.04	0.71	0.06	0.04	36	Clay ^[1]
S7-S8	FMH7022559	FMH7022572	225	31.8	141.65	141.00	138.89	138.71	177	9.81	0.003	0.006	1.00E-06	0.77	0.04	0.04	0.71	0.06	0.03	31	Clay ^[1]
S8-S9	FMH7022572	FMH7022554	225	38.8	141.00	140.61	138.71	138.40	125	9.81	0.003	0.008	1.00E-06	0.92	0.04	0.04	0.71	0.06	0.04	36	Clay ^[1]
S9-S10	FMH7022554	FMH7022552	225	18.2	140.61	139.76	138.40	137.96	41	9.81	0.0006	0.024	1.00E-06	2.04	0.04	0.04	0.71	0.06	0.08	81	Clay ^[1]
S10-S11	FMH7022552	FMH7022550	300	45.9	139.76	139.22	137.96	137.47	94	9.81	0.0006	0.011	1.00E-06	1.63	0.07	0.07	0.94	0.08	0.11	115	Clay ^[1]
S11-S12	FMH7022550	FMH7022549	300	20.9	139.22	138.78	137.32	137.23	232	9.81	0.0006	0.004	1.00E-06	1.03	0.07	0.07	0.94	0.08	0.07	73	Clay ^[1]
S12-S13	FMH7022549	FMH7022545	300	24.8	138.78	138.62	137.22	137.07	165	9.81	0.003	0.006	1.00E-06	0.97	0.07	0.07	0.94	0.08	0.07	68	Clay ^[1]
S13-S14	FMH7022545	FMH7022544	300	34.1	138.62	138.74	137.07	136.89	189	9.81	0.003	0.005	1.00E-06	0.90	0.07	0.07	0.94	0.08	0.06	64	Clay ^[1]
S14-S15	FMH7022544	FMH7022539	300	44.3	138.74	138.89	136.89	136.74	295	9.81	0.003	0.003	1.00E-06	0.72	0.07	0.07	0.94	0.08	0.05	51	Clay ^[1]
S15-S16	FMH7022539	FMH7022538	300	41.2	138.89	139.02	136.74	136.52	187	9.81	0.003	0.005	1.00E-06	0.91	0.07	0.07	0.94	0.08	0.06	64	Clay ^[1]
S16-S17	FMH7022538	FMH7022536	300	44.1	139.02	138.98	136.52	136.35	259	9.81	0.003	0.004	1.00E-06	0.77	0.07	0.07	0.94	0.08	0.05	55	Clay ^[1]
S17-S18	FMH7022536	FMH7038820	400	7.4	138.98	138.71	136.33	136.26	106	9.81	0.0006	0.009	1.00E-06	1.84	0.13	0.13	1.26	0.10	0.23	231	Clay ^[1]
S18-S19	FMH7038820	FMH7022533	400	50.2	138.71	138.37	136.26	135.91	143	9.81	0.0006	0.007	1.00E-06	1.57	0.13	0.13	1.26	0.10	0.20	198	Clay ^[1]
S19-S20	FMH7022533	FMH7022362	400	44.0	138.37	138.00	135.89	135.55	129	9.81	0.0006	0.008	1.00E-06	1.66	0.13	0.13	1.26	0.10	0.21	208	Clay ^[1]
S20-S21	FMH7022362	FMH7022361	400	46.0	138.00	138.40	135.54	135.26	164	9.81	0.0006	0.006	1.00E-06	1.47	0.13	0.13	1.26	0.10	0.18	185	Clay ^[1]
S21-S22	FMH7022361	FMH7022360	400	38.0	138.40	138.43	135.54	134.65	43	9.81	0.0006	0.023	1.00E-06	2.90	0.13	0.13	1.26	0.10	0.36	364	Clay ^[1]
S22-S23	FMH7022360	FMH7038860	400	31.0	138.43	138.24	134.65	134.11	57	9.81	0.0006	0.017	1.00E-06	2.50	0.13	0.13	1.26	0.10	0.31	314	Clay ^[1]
S23-S24	FMH7038860	FMH7038861	400	11.0	138.24	137.63	134.11	133.63	23	9.81	0.0006	0.044	1.00E-06	3.96	0.13	0.13	1.26	0.10	0.50	497	Clay ^[1]
S24-S25	FMH7038861	FMH7038862	400	125.0	137.63	135.42	133.63	133.00	198	9.81	0.0006	0.005	1.00E-06	1.34	0.13	0.13	1.26	0.10	0.17	168	Clay ^[1]
S25-S26	FMH7038862	FMH7038845	400	35.0	135.42	135.34	133.00	132.50	70	9.81	0.0006	0.014	1.00E-06	2.26	0.13	0.13	1.26	0.10	0.28	284	Clay ^[1]
S26-S27	FMH7038845	FMH7038846	400	14.0	135.34	134.18	132.50	131.60	16	9.81	0.0006	0.064	1.00E-06	4.81	0.13	0.13	1.26	0.10	0.60	604	Clay ^[1]
S27-S28	FMH7038846	FMH7020219	400	30.0	134.18	131.89	131.76	129.79	15	9.81	0.0006	0.066	1.00E-06	4.86	0.13	0.13	1.26	0.10	0.61	610	Clay ^[1]
S28-S29	FMH7020219	FMH7020220	300	24.0	131.89	130.45	129.79	128.35	17	9.81	0.0006	0.060	1.00E-06	3.87	0.07	0.07	0.94	0.08	0.27	274	Clay ^[1]
S29-S30	FMH7020220	FMH7060381	300	42.0	130.45	126.53	128.35	124.46	11	9.81	0.0006	0.093	1.00E-06	4.81	0.07	0.07	0.94	0.08	0.34	340	Clay ^[1]
S30-S31	FMH7060381	FMH7020221	300	13.0	126.53	124.48	124.46	122.68	7	9.81	0.0006	0.137	1.00E-06	5.85	0.07	0.07	0.94	0.08	0.41	414	Clay ^[1]
S31-S32	FMH7020221	FMH7020222	300	33.0	124.48	119.51	122.68	117.41	6	9.81	0.0006	0.160	1.00E-06	6.32	0.07	0.07	0.94	0.08	0.45	447	Clay ^[1]
S32-S33	FMH7020222	FMH7020223	300	32.0	119.51	115.59	117.41	112.89	7	9.81	0.0006	0.141	1.00E-06	5.94	0.07	0.07	0.94	0.08	0.42	420	Clay ^[1]

Notes:

[1] Clayware (Clay) Pipe, reference to slimed clayware in poor condition in Sewerage Design Manual (SDM) Part 1, assumed Ks of 0.6mm

[2] Catchment Inflow Factor of 1.0 applied to existing catchments respectively

Table 3 - Sewerage Capacity Calculation

B. Backwater Analysis for Surcharged Sections

Sewer Sections	Flow Under the Assumed Hydraulic Gradient						Peak Flow w/ SF		Water Level		FreeBoard		Crown Level	
	Friction Loss	Local Loss	Velocity	Hydrallic Gradient S	Q		Q with Safety Factor	ΔQ	Up Stream	Down Stream	Up Stream	Down Stream	Up Stream	Down Stream
	m	m	m/s		m³/s	L/s	1.15	L/s	mPD	mPD	m	m	mPD	mPD
FMH1 ~ FMH2	0.19	0.13	1.28	1E-02	0.051	50.9	50.9	0.0	136.83	136.52	5.03	5.91	140.43	140.28
FMH2 ~ FMH3	0.17	0.13	1.28	1E-02	0.051	50.9	50.9	0.0	136.52	136.22	5.91	6.51	140.28	140.14
FMH3 ~ FMH7022565	0.05	0.13	1.28	1E-02	0.051	50.9	50.9	0.0	136.22	136.05	6.51	6.96	140.14	140.10
FMH7022565 ~ FMH7022563	0.70	0.13	1.28	2E-02	0.051	50.9	50.9	0.0	136.05	135.22	6.96	6.82	139.96	139.61
FMH7022563 ~ FMH7022561	0.25	0.13	1.28	2E-02	0.051	50.9	50.9	0.0	135.22	134.84	6.82	6.81	139.58	139.47
FMH7022561 ~ FMH7022559	0.57	0.13	1.28	2E-02	0.051	50.9	50.9	0.0	134.84	134.15	6.81	7.50	139.45	139.17
FMH7022559 ~ FMH7022572	0.50	0.13	1.28	2E-02	0.051	50.9	50.9	0.0	134.15	133.53	7.50	7.47	139.12	138.94
FMH7022572 ~ FMH7022554	0.61	0.13	1.28	2E-02	0.051	50.9	50.9	0.0	133.53	132.79	7.47	7.82	138.94	138.63
FMH7022554 ~ FMH7022552	0.17	0.13	1.28	1E-02	0.05	50.9	50.9	0.0	132.79	132.49	7.82	7.27	138.63	138.19
FMH7022552 ~ FMH7022550	0.65	0.27	1.87	1E-02	0.13	132.1	132.1	0.0	132.49	131.58	7.27	7.64	138.26	137.77
FMH7022550 ~ FMH7022549	0.29	0.27	1.87	1E-02	0.13	132.1	132.1	0.0	131.58	131.02	7.64	7.76	137.62	137.53
FMH7022549 ~ FMH7022545	0.59	0.28	1.93	2E-02	0.14	136.2	136.2	0.0	131.02	130.14	7.76	8.48	137.52	137.37
FMH7022545 ~ FMH7022544	0.82	0.28	1.93	2E-02	0.14	136.2	136.2	0.0	130.14	129.04	8.48	9.70	137.37	137.19
FMH7022544 ~ FMH7022539	1.14	0.30	2.00	3E-02	0.14	141.0	141.02514	0.0	129.04	127.60	9.70	11.29	137.19	137.04
FMH7022539 ~ FMH7022538	1.06	0.30	2.00	3E-02	0.14	141.0	141.02514	0.0	127.60	126.23	11.29	12.79	137.04	136.82
FMH7022538 ~ FMH7022536	1.29	0.35	2.13	3E-02	0.15	150.2	150.21156	0.0	126.23	124.60	12.79	14.38	136.82	136.65
FMH7022536 ~ FMH7038820	0.03	0.11	1.20	4E-03	0.15	150.2	150.2	0.0	124.60	124.46	14.38	14.25	136.73	136.66
FMH7038820 ~ FMH7022533	0.21	0.11	1.22	4E-03	0.15	152.7	152.7	0.0	124.46	124.14	14.25	14.23	136.66	136.31
FMH7022533 ~ FMH7022362	0.19	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	124.14	123.84	14.23	14.16	136.29	135.95
FMH7022362 ~ FMH7022361	0.20	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	123.84	123.53	14.16	14.87	135.94	135.66
FMH7022361 ~ FMH7022360	0.16	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	123.53	123.25	14.87	15.18	135.94	135.05
FMH7022360 ~ FMH7038860	0.13	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	123.25	123.01	15.18	15.23	135.05	134.51
FMH7038860 ~ FMH7038861	0.05	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	123.01	122.84	15.23	14.79	134.51	134.03
FMH7038861 ~ FMH7038862	0.53	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	122.84	122.20	14.79	13.22	134.03	133.40
FMH7038862 ~ FMH7038845	0.15	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	122.20	121.93	13.22	13.41	133.40	132.90
FMH7038845 ~ FMH7038846	0.06	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	121.93	121.76	13.41	12.42	132.90	132.00
FMH7038846 ~ FMH7020219	0.13	0.12	1.23	4E-03	0.15	154.2	154.2	0.0	121.76	121.52	12.42	10.37	132.16	130.19
FMH7020219 ~ FMH7020220	0.47	0.37	2.19	2E-02	0.16	155.1	155.1	0.0	121.52	120.68	10.37	9.77	130.09	128.65
FMH7020220 ~ FMH7060381	0.82	0.37	2.20	2E-02	0.16	155.5	155.5	0.0	120.68	119.49	9.77	7.04	128.65	124.76
FMH7060381 ~ FMH7020221	0.28	0.40	2.30	2E-02	0.16	162.4	162.4	0.0	119.49	118.81	7.04	5.67	124.76	122.98
FMH7020221 ~ FMH7020222	0.70	0.40	2.30	2E-02	0.16	162.4	162.4	0.0	118.81	117.71	5.67	1.80	122.98	117.71
FMH7020222 ~ FMH7020223	0.68	0.40	2.30	2E-02	0.16	162.4	162.4	0.0	117.71		1.80	115.59	117.71	113.19

Min FreeBoard 1.80 1.80

- 1 For this assessment, the Colebrook-White Equation has been used to calculate the friction loss. (Sewerage Manual section 5.2.1)
- 2 According to DSD'sSewerage 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
- 3 Freeboard > 1m will fulfill the requirement of section 5.1.1 of minimum freeboard stipulated in DSD Sewerage Manual under Surcharged Condition.
- 4 Friction loss is deduced by required hydraulic gradient x pipe length, while the local loss is deduced by the equation:

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

Prepared by

Ramboll Hong Kong Limited

REDEVELOPMENT OF MIDDLETON TOWERS AT POK FU LAM

WATER SUPPLY IMPACT ASSESSMENT

Date **May 2026**

Prepared by **Sally Chiu**
Assistant Environmental Consultant

Signed 

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Senior Manager

Signed 

Project Reference **AECHUMT_EI00**

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CHAPTERS

	Page
1. INTRODUCTION	1-1
1.1 Project Background	1-1
1.2 Proposed Use	1-1
2. WATER SUPPLY IMPACT ASSESSMENT	2-1
2.1 Scope of Work	2-1
2.2 Assessment Criteria and Methodology	2-1
2.3 Assessment of Water Demand	2-1
2.4 Fire-Fighting	2-1
2.5 Existing Water Supply System	2-2
2.6 Construction and Maintenance	2-2
3. CONCLUSION	3-1

FIGURES

Figure 1.1 Location of Subject Site and Its Environs

APPENDICES

Appendix 1.1	The Typical Floor Plans of the Planning Statement
Appendix 2.1	Water Main Records Provided by Client
Appendix 2.2	Detailed Water Supply Impact Assessment Calculations

1. INTRODUCTION

1.1 Project Background

- 1.1.1 The Subject Site is mainly zoned as "Residential (Group C)" ("R(C)") with minor portion zoned as "Green Belt" ("GB") under the Approved Pok Fu Lam Outline Zoning Plan (OZP) (No. S/H10/23). It is generally surrounded by University Hall to the southeast, Woodbury Court to the southwest, and Alberose to the northwest.
- 1.1.2 **Figure 1.1** shows the location of the Subject Site and its environment.
- 1.1.3 The Water Supply Impact Assessment (WSIA) is prepared as a technical supporting document to estimate the water demand arising from the Proposed use.

1.2 Proposed Use

- 1.2.1 It consists of student hostel. Development Parameters for the Proposed use is summarised below.

Table 1.1 Development Parameters for Proposed Use

	Parameters
Site Area (m²)	8,900
No. of Student Hostel (Rooms)	900

- 1.2.2 The typical floor plans of the planning statement of the Proposed use are shown in **Appendix 1.1**
- 1.2.3 The tentative completion year for the Proposed use is 2028.

2. WATER SUPPLY IMPACT ASSESSMENT

2.1 Scope of Work

- 2.1.1 The aim of this study is to assess whether the capacity of the existing water supply facilities serving the Subject Site is sufficient to cope with the water demands from the Proposed use. Data and record plans from Water Supplies Department (WSD) were obtained to facilitate the WSIA.

2.2 Assessment Criteria and Methodology

- 2.2.1 The Proposed use will be served by Pokfulam No.1 Fresh Water Service Reservoir and Pok Fu Lam Salt Water Service Reservoir (PSL SWSR), which has a capacity of 1,184m³ and 2,000m³ respectively. There is existing water main in the vicinity of the sites. The existing water supply network is shown in **Appendix 2.1**.
- 2.2.2 Reference has been made to the Water Supplies Department's Departmental Instruction 1309 (WSD DI 1309), as well as Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF). In addition, Planning Department's (PlanD) Commercial and Industrial Floor Space Utilization Survey (CIFUS) have also been used.
- 2.2.3 WSD DI 1309 sets out the design criteria for water supplies in Hong Kong and includes unit water demands for various classes of consumer. Apart from the above, EPD's GESF includes unit sewage flow factors for various residential development.
- 2.2.4 For this WSIA, WSD's data from DI 1309 has been referenced to provide unit water demands for the various population categories with the relevant EPD GESF unit sewage flow factors to determine overall unit water demand factors. PlanD's CIFUS has been also referenced for calculation of the population density where necessary.
- 2.2.5 The unit water demand has been combined with the relevant development parameters to assess the future water demands, from which the potential impacts have been assessed. Calculations for the water demands of the Proposed use are included in **Appendix 2.2**.

2.3 Assessment of Water Demand

- 2.3.1 The water demand from the Proposed use has been assessed in **Table 2.1** below and detailed calculation is shown in **Appendix 2.2**.

Table 2.1 Water Demand from the Proposed use

	Daily Water Demand (m ³ /day)	Peaking Factor	Peak Water Demand (m ³ /day)
Freshwater	225	3	675
Flushing Water	0.9	2	1.8

2.4 Fire-Fighting

- 2.4.1 Fire-fighting requirement for residential zone is 6,000m³/day with discharge pressure of 17m head. The fire hydrant should be of standard pattern with minimum output pressure of not less than 25 psi. With multiple hydrants operating at the same time, total output of not less than 4,000L/min shall last for 60 minutes. summarizes the fire-fighting requirements. **Table 2.2** summarizes the fire-fighting requirements.

Table 2.2 Fire Fighting Requirements

Requirements	Minimum Values
Minimum fresh water supply	6,000 m ³ /day
Discharge pressure	17m
Minimum output not less than 25 psi	4,000 L/min (5,760m ³ /day) which lasts for an hour (i.e., 4,000x60 = 240,000L/hour/day or 240m ³ /hour/day)

2.5 Existing Water Supply System

- 2.5.1 **Appendix 2.1** shows the existing fresh water and flushing water supply scheme.
- 2.5.2 For freshwater supply, there is an existing 100mm freshwater main on the northwest of the Subject Site, which tee-off from an existing 200mm freshwater main. The freshwater main arrangement for the Proposed use remains unchanged as the existing development. 66% of the existing 100mm freshwater main will be occupied by the Proposed use.
- 2.5.3 For flushing water supply, there is an existing 100mm flushing water main on the west of the Subject Site. The saltwater main arrangement for the Proposed use remains unchanged as the existing development. 0.2% of the existing 100mm saltwater main will be occupied by the Proposed use.

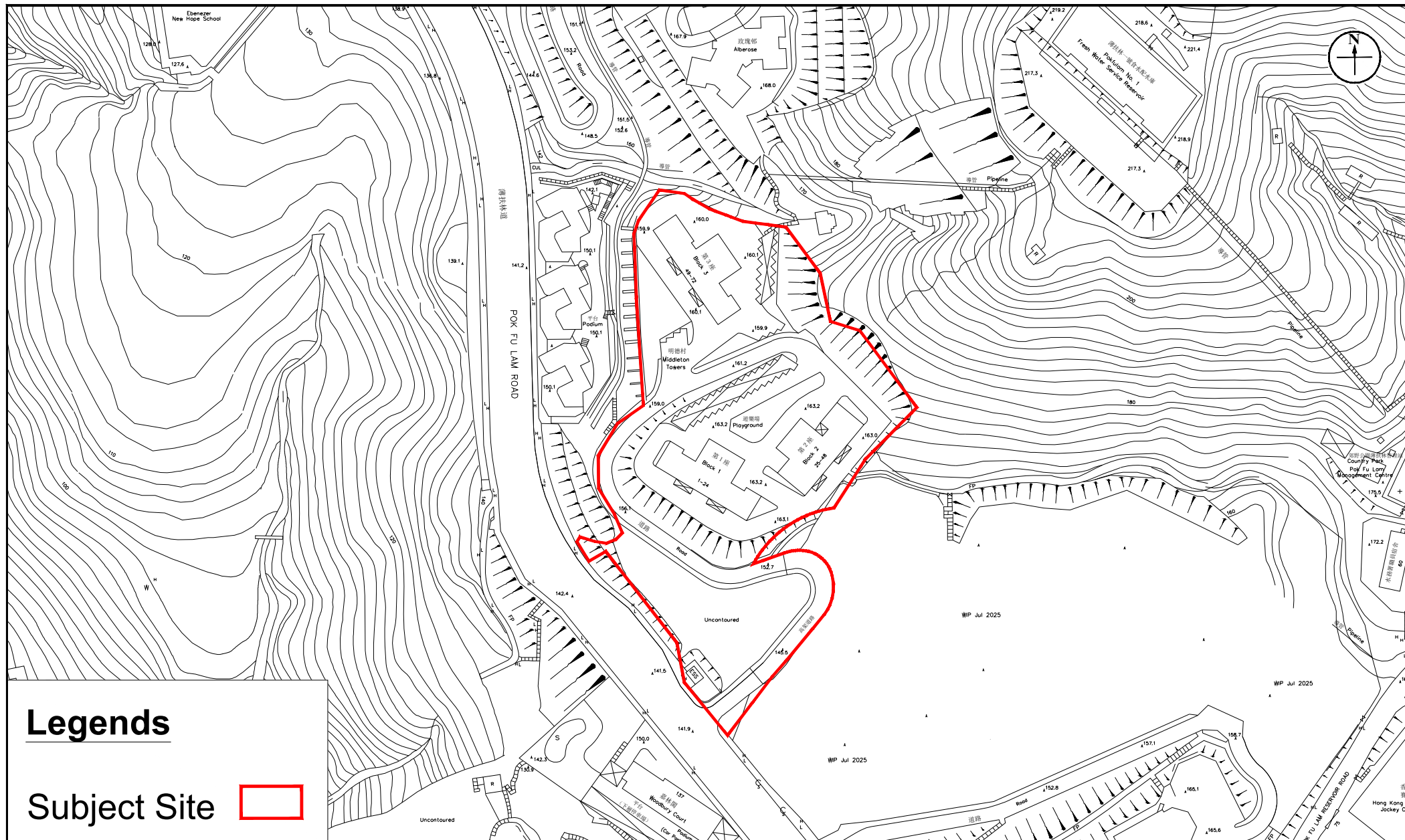
2.6 Construction and Maintenance

- 2.6.1 The responsibility for operation and maintenance of the waterworks will be discussed and agreed with WSD and relevant departments during detailed design stage.

3. CONCLUSION

- 3.1.1 The water supply impact assessment has been carried out for the Proposed use. The assessment results show that the peak freshwater and flushing water demand for the Proposed use is 675 m³/day and 0.9 m³/day.
- 3.1.2 Connections of the existing water mains to serve the Proposed use will remain unchanged as the existing development. Based on the assessment, the existing water main are adequate to serve the Proposed use. No upgrading works of the existing pumping stations, service reservoirs and water mains are recommended.
- 3.1.3 The responsibility for operation and maintenance of the proposed waterworks will be discussed and agreed with WSD and relevant departments during detailed design stage.
- 3.1.4 It is concluded that the Proposed use can be implemented without insurmountable water supply impacts.

Figures



Legends

Subject Site



Figure: 1.1

Title: Location of Subject Site and its Environs

Project: Redevelopment of Middleton Towers at Pok Fu Lam

RAMBOLL

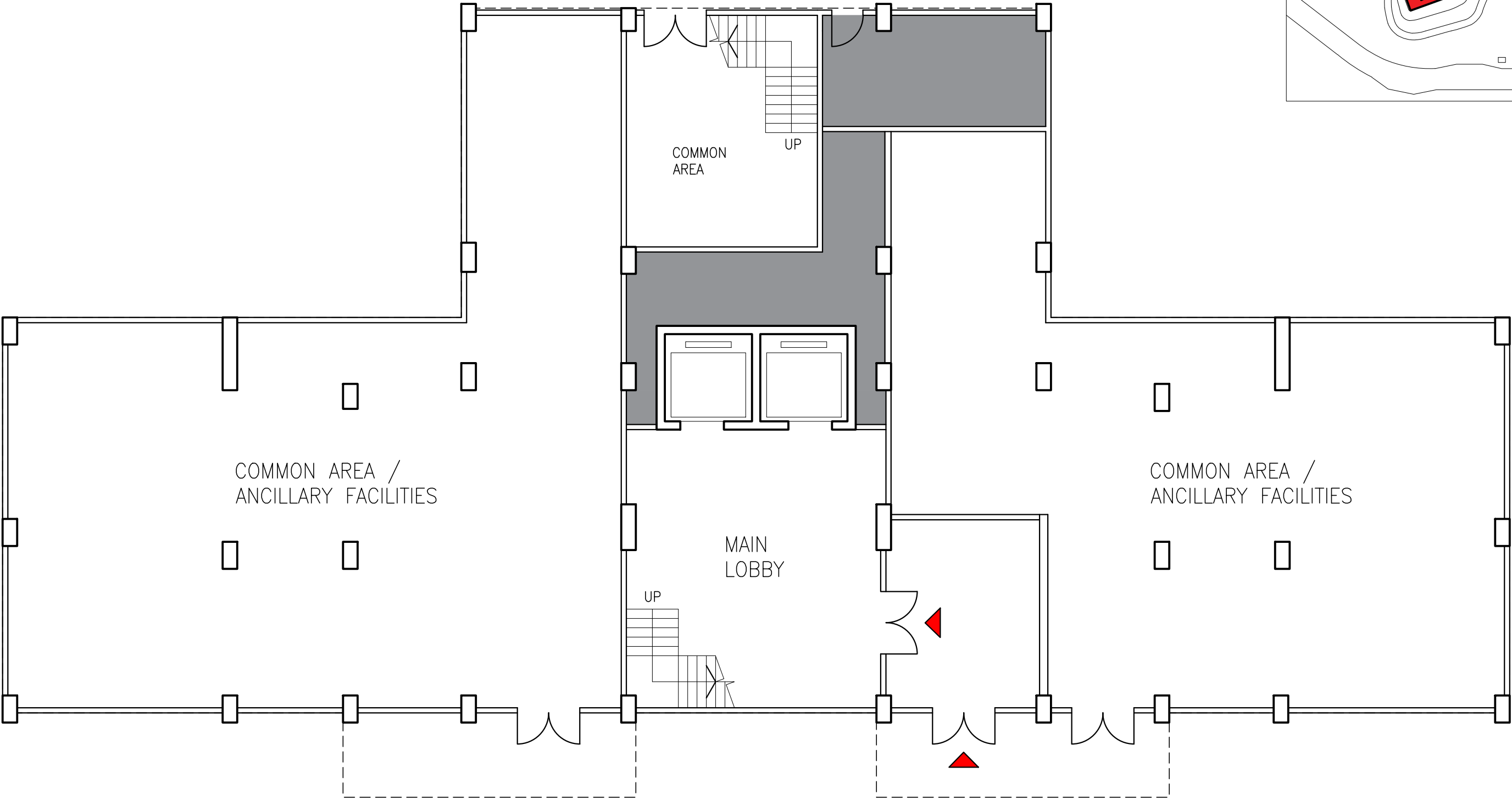
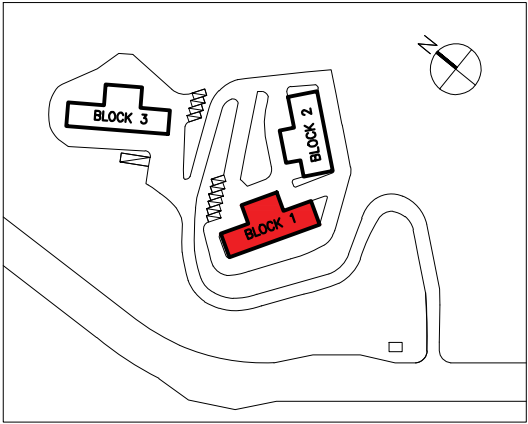
Drawn by: SC

Checked by: TC

Rev.: 1.0

Date: Feb 2026

Appendix 1.1 The Typical Floor Plans of the Planning Statement



BLOCK 1 – G/F LAYOUT
SCALE 1:100

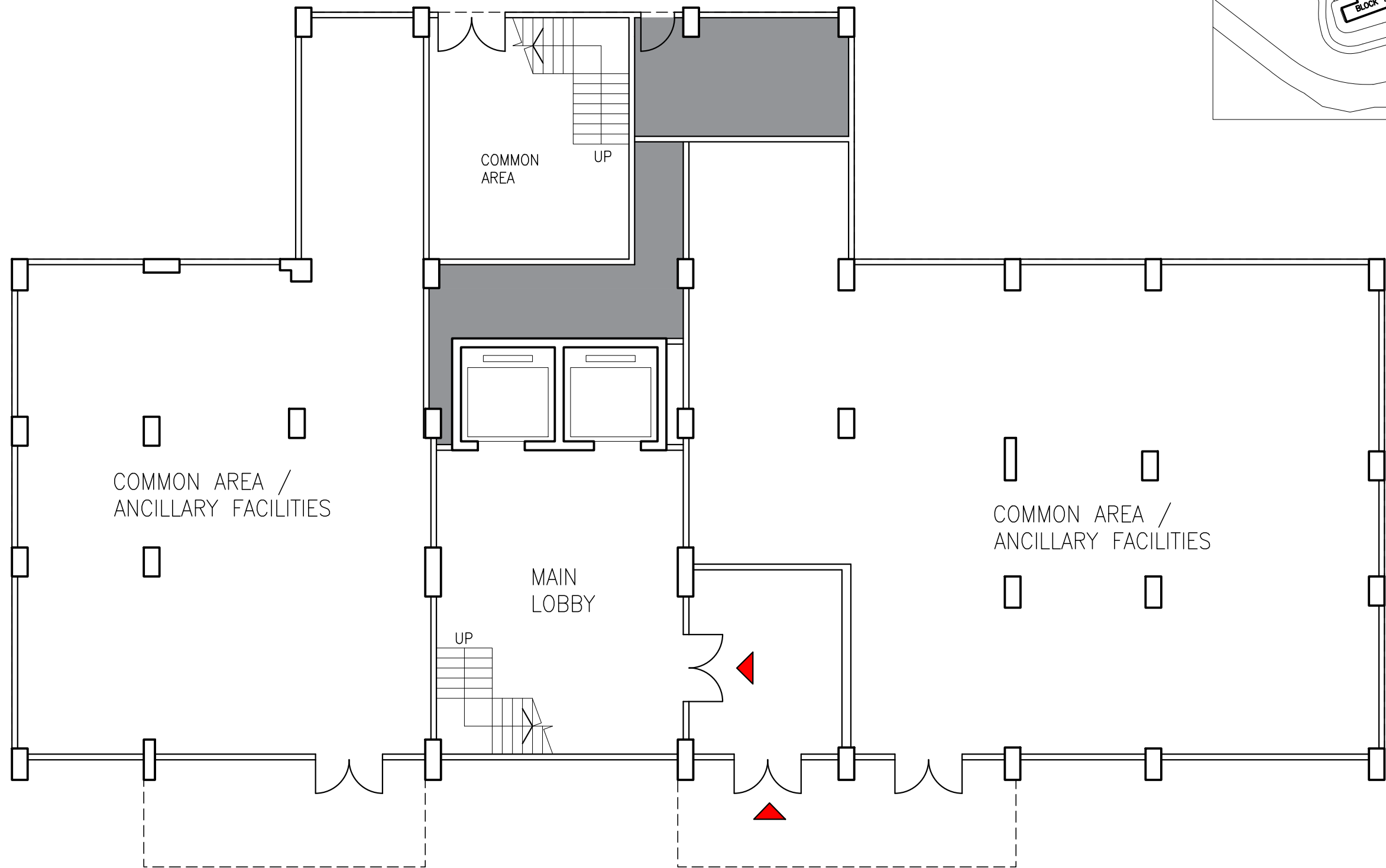
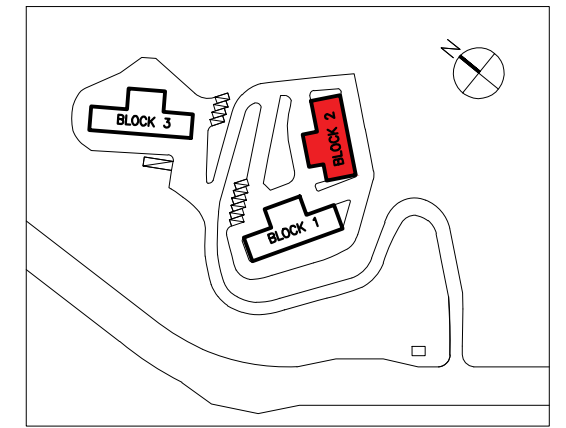


BLOCK 1 TYPICAL (1/F – 12/F ; 12 STOREYS)
SCALE 1:100

BLOCK A TYPICAL FLOOR = 26 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS = 900 UNITS
 BLOCK 1 TYP = 26 APPROX.
 BLOCK 2 TYP = 23 APPROX.
 BLOCK 3 TYP = 26 APPROX.
 SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 2 - G/F LAYOUT

SCALE 1:100



BLOCK 2 TYPICAL (1/F – 12/F ; 12 STOREYS)

SCALE 1:100

BLOCK B TYPICAL FLOOR = 23 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS	=	900 UNITS
BLOCK 1 TYP	=	26 APPROX.
BLOCK 2 TYP	=	23 APPROX.
BLOCK 3 TYP	=	26 APPROX.
SUBJECT TO FUTURE DETAIL DESIGN		



BLOCK 2 WITH ACCESSIBLE ROOM

SCALE 1:100

BLOCK B TYPICAL FLOOR = 23 UNITS APPROX.

BLOCK 1 TO 3

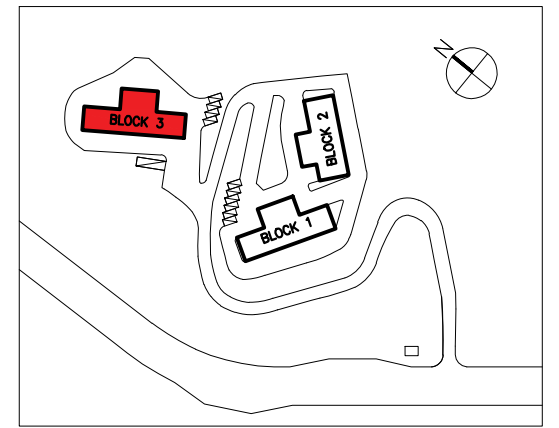
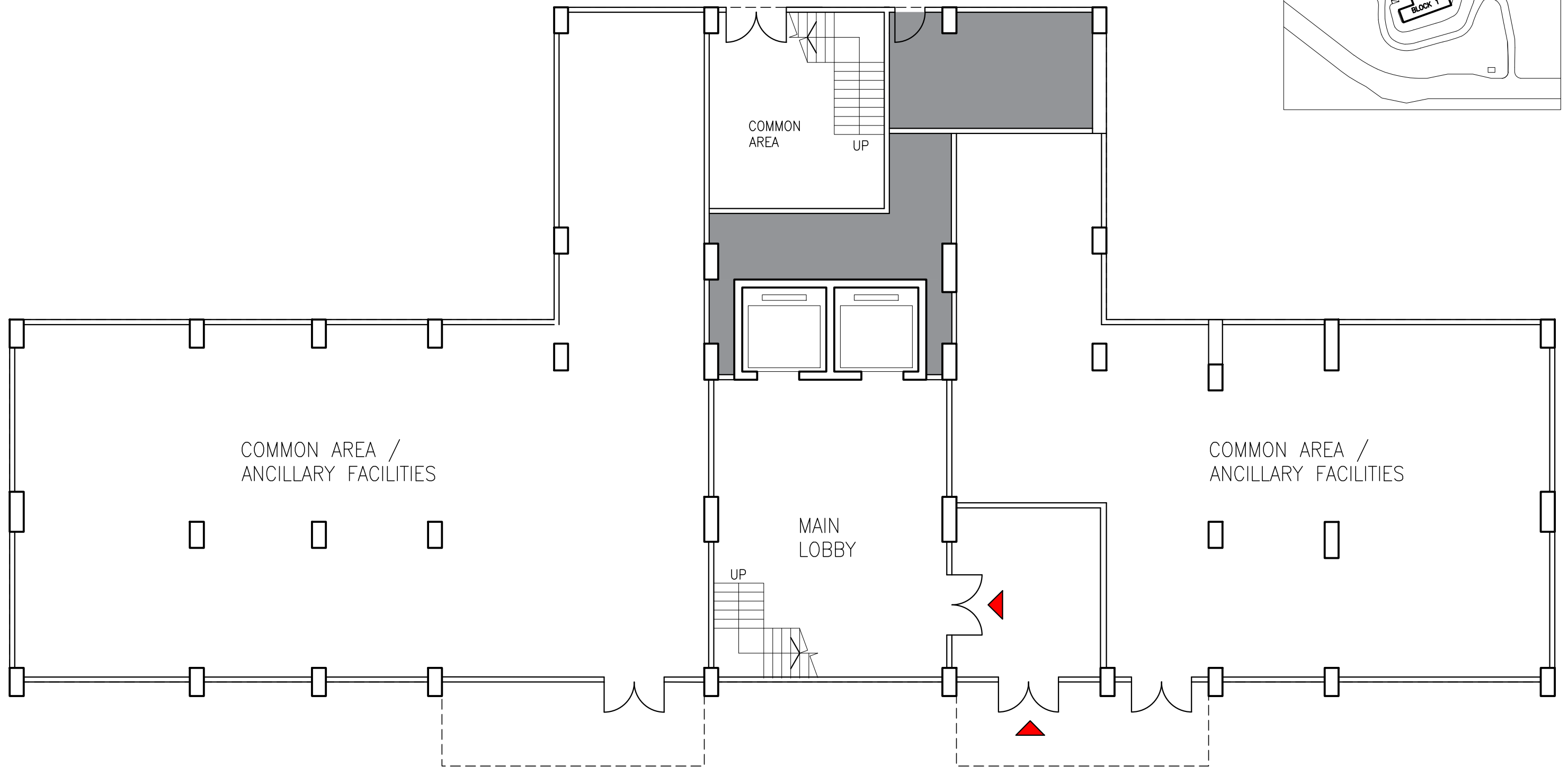
TOTAL PROPOSED UNITS = 900 UNITS

BLOCK 1 TYP = 26 APPROX.

BLOCK 2 TYP = 23 APPROX.

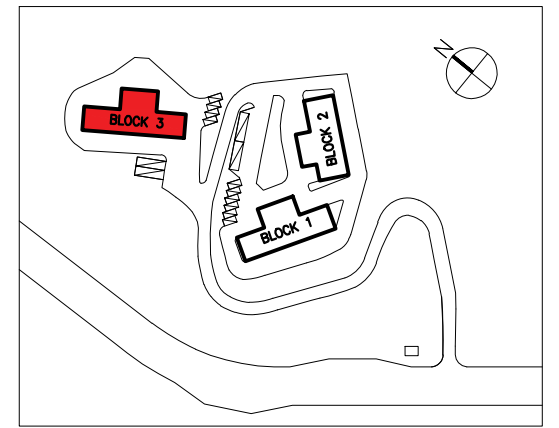
BLOCK 3 TYP = 26 APPROX.

SUBJECT TO FUTURE DETAIL DESIGN



BLOCK 3 – G/F LAYOUT

SCALE 1:100



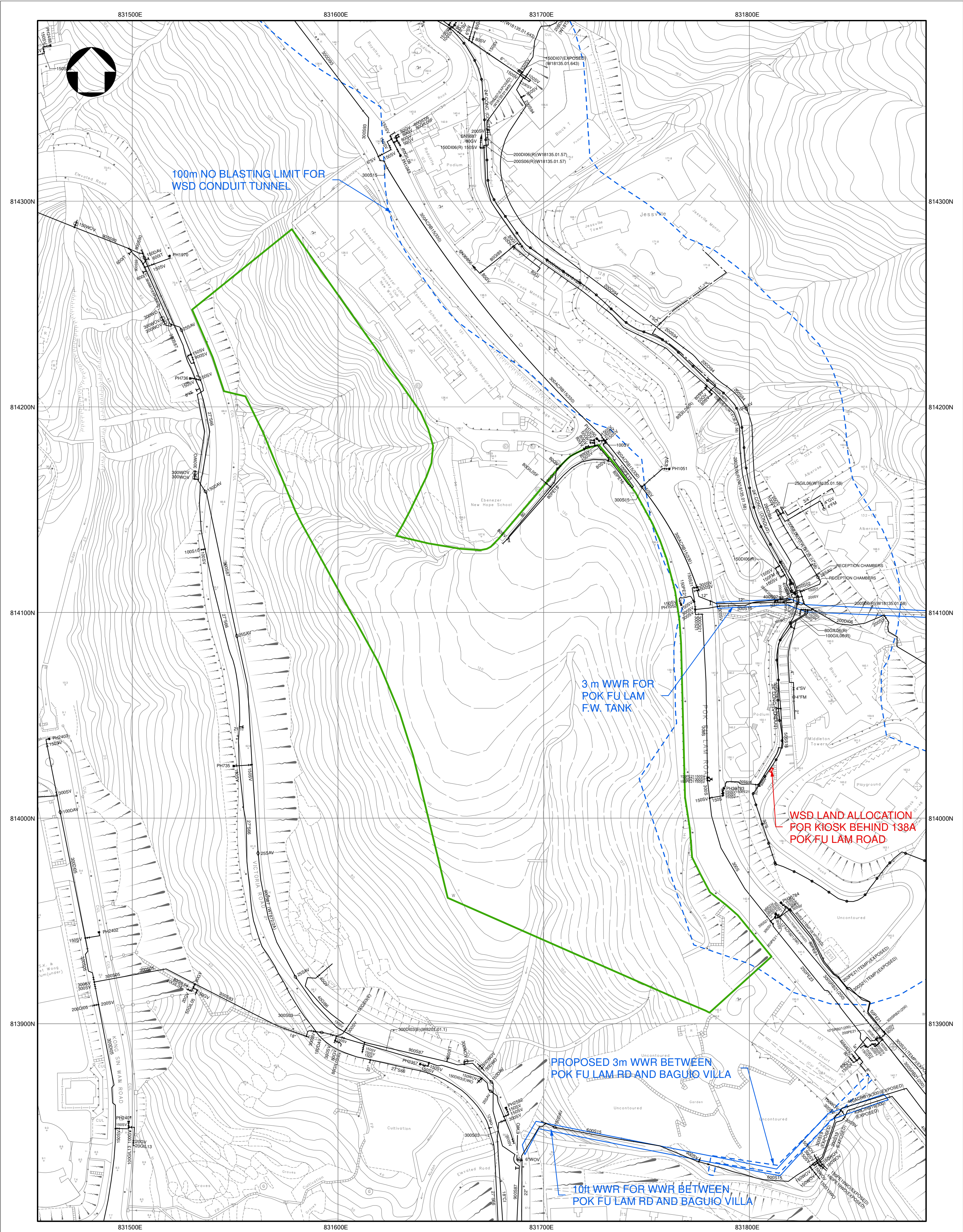
BLOCK 3 TYP (1/F – 12/F ; 12 STOREYS)
SCALE 1:100

BLOCK C TYPICAL FLOOR = 26 UNITS APPROX.

BLOCK 1 TO 3

TOTAL PROPOSED UNITS	=	<u>900</u> UNITS
BLOCK 1 TYP	=	26 APPROX.
BLOCK 2 TYP	=	23 APPROX.
BLOCK 3 TYP	=	26 APPROX.
SUBJECT TO FUTURE DETAIL DESIGN		

Appendix 2.1 Water Main Records



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
 2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
 3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
 4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
 5. NO PROPOSED WATER MAINS IN THE VICINITY OF THE SITE.
 6. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.

SUBJECT SITE



PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/11-SW-16B & 17A

FILE REF: (3) IN WSD/M/SP 3055/41S/25 PT.1

REF. CODE: 02W26M

SHEET 1 OF 1

SCALE 1:1200



水務署
Water Supplies Department

Appendix 2.2 Detailed Water Supply Impact Assessment Calculations

Table 1 - Population Estimation

Future Condition	Student Hall (Block 1)		
	Total number of residents (students)	=	300 people
	Student Hostel (Block 2)		
	Total number of residents (students)	=	300 people
	Student Hostel (Block 3)		
	Total number of residents (students)	=	300 people
	Total A+B+C =		900 people

Table 2a - Future Daily Water Demands Calculation

Type	Population (head)	Freshwater		Flushing Water	
		Daily Unit Demand (m ³ /head/day)	Daily Demand (m ³ /day)	Daily Unit Demand (m ³ /head/day)	Daily Demand (m ³ /day)
Housing R1 (Tower 1+2+3)	900	0.250	225.00	0.001	0.90
TOTAL			225.0		0.9

Total Freshwater Demand (m³/day)

Total Flushing water Demand (m³/day)

=

=

225.0

0.9

m³/day

m³/day

Note:

1. For Domestic and Service Trade uses, the Daily Unit Demand Rate refer to WSD Departmental Instruction 1309 (DI 1309)
2. Service Trade (Pok Fu Lam Supply Zone) of 0.02 m³/day is adopted for fresh water demand

Water Main Assessment of the Proposed Water Supply Systems

Table 3b Hydraulic Capacity of Fresh Water Main for Future Condition

Type	Portion	Diameter (mm)	Peak factor ⁽¹⁾	Fresh Water Demand, Q (cu. m/day)	Area (m ²)	Factored Q (cu. m/s)	Velocity of Water Main (m/s) ⁽²⁾	Flow Rate of Water Main (m ³ /s)	% of water main occupied by the Proposed Site
Block 1+2+3	100 GIL	100	3	225.0	0.008	0.008	1.50	0.012	66%

⁽¹⁾ Peak factor for distribution mains refers to Departmental Instruction No. 1309 from WSD

⁽²⁾ Velocity of 1.5m/s is assumed

Table 3c Hydraulic Capacity of the Flushing Water Main for Future Scanario

Type	Portion	Diameter (mm)	Peak factor ⁽¹⁾	Demand, Q (cu. m/day)	Area (m ²)	Factored Q (cu. m/s)	Velocity of Water Main (m/s) ⁽²⁾	Flow Rate of Water Main (m ³ /s)	% of water main occupied by the Proposed Site
Block 1+2+3	100SV	100	2	0.9	0.008	0.000	1.50	0.012	0.2%

⁽¹⁾ Peak factor for distribution mains refers to Departmental Instruction No. 1309 from WSD

⁽²⁾ Velocity of 1.5m/s is assumed

Appendix VI

Response to Departmental Comments

A. Response to Departmental Comments on Initial Enquiry on Planning Application Requirement as Submission dated 23 January 2026

Item	Department	Comment	Response
1.	Chief Town Planner/Town Planning Board, Planning Department (Received via email dated 30.1.2026)	The Site is zoned “Residential (Group C)” (“R(C)”) on the approved Pok Fu Lam Outline Zoning Plan (OZP) No. S/H10/23 (the OZP). According to the Notes of the OZP for “R(C)” zone, ‘Flat’ use [1] is always permitted. ‘Residential Institution’ [2] and ‘Hotel’ [3], which are Column 2 uses, require planning permission from TPB.	Noted, a s.16 planning application is prepared and submitted for TPB’s approval.
2.		The enquirer claimed that the proposed student hostel would resemble residential-type service apartment, which should be regarded as a ‘Flat’ use always permitted within the “R(C)” zone. However, there is no information in the current submission on whether each apartment is self-contained (i.e. with its own entrance, kitchen/ kitchenette/ pantry, living/ dining room, bedroom, bathroom/toilet) that conformed to the definition for ‘Flat’ use.	Same as above.
3.		Based on the information currently available, the proponent is advised to seek planning permission for operating the proposed student hostel as ‘Residential Institution’ use. If the proponent would like to opt for operating the proposed student hostel in the form of non-domestic building, subject to EDB’s confirmation of eligibility of the proposed student hostel under the Hostels in the City	Same as above.

		Scheme, the proponent may seek planning permission for 'Hotel (Student Hostel)' use.	
4.		In any case, when preparing planning application for the proposed student hostel, the proponent should provide schematic layout and detailed development parameters (e.g. domestic and/or non-domestic plot ratio, building height, site coverage, etc.), and indicate any proposed ancillary facilities (such as the convenience store for exclusive use by the hostel users as indicated in the current submission) in the planning application. Notes: [1] means any self-contained apartment, usually on one floor of a building, which has its own entrance, kitchen/ kitchenette/ pantry, living/ dining room, bedroom, bathroom/ toilet, and sometimes servant's quarters according to the Definitions of Terms. It includes duplex apartment, penthouse and apartment-like service apartment provided with central services and/or central management and communal facilities. It also includes staff quarters and Government staff quarters in the form of apartment blocks. [2] means any institution established within a building which is wholly owned and managed or operated by a body or organization and which provides residential accommodation for persons who meet the eligibility criteria as	Same as above.

		prescribed by the body or organization according to the Definitions of Terms. It normally refers to residential facilities in a wholly owned development managed or operated by an institution, society, college, religious/voluntary/charitable body or other organizations. It includes hostel, dormitory, and elderly housing provided not as a form of social welfare facility but excludes hotel and guesthouse regulated under the Hotel and Guesthouse Accommodation Ordinance (Cap. 349), and other residential facilities provided as a form of social welfare facility such as boys'/girls' homes, residential care home for the elderly, drug treatment centre, etc. [3] means any premises which are held out as providing sleeping accommodation to any person presenting themselves who are willing to pay a fee for the sleeping accommodation according to the Definitions of Terms. It includes a boarding house (but not one which falls within the definition of 'Social Welfare Facility'), common lodging house, guesthouse, holiday house, and hotel-like service apartment. It also includes student hostels supported by Government's policy but excludes those student hostels provided in the form of 'Residential Institution'.	
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5.	Antiquities and Monuments Office (Received via email dated 4.2.2026)	Please be informed that the Buildings are not declared monuments, graded historic buildings, new items for grading assessment by the Antiquities Advisory Board (AAB) nor government historic sites identified by AMO. Nevertheless, Pok Fu Lam Conduit (Conduit Bridges and Inverted Syphon Piers)(the "Conduit"), a proposed Grade 2 historic structure, is located in the close vicinity of the Buildings. The grading of the Conduit is expected to be finalised during the AAB meeting scheduled for 11 June 2026. The project proponent should ensure that the structural stability and historic fabrics associated with the Conduit will not be adversely affected by the proposed works arising from the captioned project. Prior consultation with AMO should be sought before the commencement of works if there are any proposed works that may affect the Conduit.	The project only involves internal repartitioning works and do not involve piling, demolition or vibration-intensive activities. Construction traffic will continue to be routed via the current Pok Fu Lam Road, avoiding any additional impact on the Pok Fu Lam Conduit. Based on the above, the conduit shall not be affected and the project team will further address comments from AMO as appropriate.
6.	Commissioner for Transport (Received via email dated 11.2.2026)	With reference to the submission from the applicant, the applicant proposed to covert the existing staff quarter to student hostels with 900 to 1000 beds. The subject application would involve changes of use from 'flat' to 'residential institution' with increase in population. The project proponent should assess the traffic impact induced by the proposed development and submit the traffic impact assessment (TIA) report for review.	Noted, TIA is prepared and submitted together with the s.16 application for review. The proposed number of bed spaces remains at 900.

7.	Chief Highway Engineer/Hong Kong, Highways Department (Received via email dated 9.2.2026)	Please clarify if the conversion proposal would involve modifications of run-in/out of the site, the access road connecting the private lot RBL825 RP and Pok Fu Lam Road, public road and the associated street furniture, public lighting, slope features maintained by this office.	The southern end of the access road connecting to the site will be converted from existing 2-way to 1-way southbound in accordance with High West Development's planned road layout. The modified layout is included in the s.16 application submission.
8.	Railway Development Office (Received via email dated 4.2.2026)	The subject site does not fall within any railway protection boundary or administrative route protection boundary. We have no adverse comments on the plans from railway development point of view. Please keep this Office posted on any updates to this project in due course.	Noted.
9.	Director of Environmental Protection (Received via email dated 30.1.2026)	According to the information provided, it is noted that the sewerage discharge from the subject site is anticipated to increase after the proposed conversion, and there will be a series of planned developments in the vicinity located at upstream and downstream of the site. As such, a Sewerage Impact Assessment (SIA) with hydraulic calculations shall be required to identify the necessary sewage upgrading works for the proposed developments.	Relevant technical assessment has been conducted and included in the submission of planning application.
10.	Director of Agriculture, Conservation and Fisheries	It is noted that the proposed conversion only involves internal alterations and renovation works within the existing structures. No	Noted.

	(Received via email dated 27.1.2026)	ecological impact assessment would be required for the subject project.	
11.	Chief Engineer/Water Services Department	Please provide the net increase / decrease in the fresh water / flushing water demands due to the conversion of the Middleton Towers of HKU to student hostels, for our consideration.	Relevant technical assessment has been conducted and included in the submission of planning application.
12.	(Received via email dated 11.2.2026)	Please find attached partprint of our mains record plans showing the existing water mains in the vicinity of the captioned site for your information. Please note that the alignments of the water mains are indicative only. The exact lines and levels of our water mains should be established by hand dug trial pits on site if they are of significance to your works. Some changes might have been made to the information shown on the drawings in the course of time and that digging of trial holes to ascertain the exact alignment and depth of water mains would still be necessary before any road excavation.	Noted.
13.	Head (Geotechnical Engineering Office), Civil Engineering and Development Department	He has no comment on the proposed conversion of the Middleton Towers into student hostels, Please be advised that geotechnical assessments are not required.	Noted.

	(Received via email dated 30.1.2026)		
14.	Chief Town Planner/Urban Design and Landscape (Received via email dated 4.2.2026 and 6.2.2026)	Urban Design It is noted from self-explanatory letter from the consultant that the HKU proposed to convert the existing Middleton Towers (staff quarters) into student hostels, which involves internal renovation works only. As the submission only involves conversion/regularisation of uses within existing buildings without any urban design	Noted.
15.		Landscape It is noted that the project is restricted to a modification of the existing buildings internally, without alterations to the bulk of the existing buildings, landscaping or external works. As there is no adverse impact on distinctive landscape character/resources within the Site, Landscape Assessment in accordance with Annex B of the TPB Guidance Notes under s.16 is not required.	Noted.
16.	Chief Engineer/Hong Kong and Islands, Drainage	The existing development is nearly fully paved and there should not be any significant drainage impact after the proposed development. As such, Drainage Impact Assessment is not required.	Noted.
17.	Services Department	The existing 72-flat development will be re-developed as a student hostel with 900-1,000 beds and additional sewage generation is	Relevant technical assessment has been conducted and included in the submission of planning application.

	(Received via email dated 11.2.2026)	expected. As such, Sewage Impact Assessment is required.	
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B. Response to Departmental Comments on draft S.16 Submission Package as submitted 23 March 2026

Item	Department	Comment	Response
18.	Education Bureau (EDB) and Development Projects Facilitation	The application site is the subject of the “Hostels in the City Scheme” (the Scheme) received by the EDB. On 4.3.2026, EDB confirmed the eligibility of the application under the Scheme	Noted and received EDB’s confirmation.
19.	(Received via email dated 15.4.2026)	The proposed layout shown in the subject pre-application enquiry is generally in line with that of the Scheme. On 30.3.2026, the applicant updated our office on the number of bed spaces, which is about 900, and this figure will be adopted throughout the s.16 application. We have no adverse comments on the subject pre-application enquiry.	Noted, 900 number of bed spaces are adopted for this s.16 application.
20.		The applicant should be advised that for any subsequent change(s) to the information provided under the Scheme, the applicant should notify EDB and the DPFO as soon as possible. EDB and DPFO reserve the comments on the details of the subject proposed student hostel development at the building plan	Noted. EDB will be notified should there be changes to the Scheme in the future.

		submission stage and EDB also reserves the right to revoke the confirmation of the eligibility of the Scheme having regard to any changes to the Scheme.	
21.	Director of Environmental Protection (Received via email dated 15.4.2026)	He has no in-principle objection to the planning application, as there is no adverse environment impact observed. Having said that, the sewerage infrastructure in the region is marginal, and it is desirable to add an approval condition for sewerage impact assessment submission in the future planning application	Noted.
22.	Chief Engineer/Water Services Department	His comments on your pre-submission dated 23 January 2026 were not added to your R-to-C table. Please add them accordingly.	The comments on initial enquiry dated 23 January 2026 were well-received and documented in Item 11 and 12 above.
23.	(Received via email dated 15.4.2026)	Table 2a - Noted that an allowance has been adopted for the service trades fresh water demand, hence, no additional fresh water demand shall be computed for F&B.	Noted. Relevant technical assessment has been updated and included in the submission of planning application.
24.		Table 2a – For salt water unit demand, please adopt our latest ceiling value of 100 l/h/d (per residential population) and this computation shall have included the salt water demand for both domestic and service trades.	Noted. Relevant technical assessment has been updated and included in the submission of planning application.
25.	Commissioner for Police	Traffic Management	Noted.

	(Received via email dated 9.4.2026)	- During the construction and initial move-in phases, it is recommended that HKU, Police, and TD work together to develop a coordinated traffic plan to manage heavy vehicle movements effectively. - Upon the conversion from staff quarters to higher-occupancy student housing, - the frequency of taxi, delivery, and visitor movements on Pok Fu Lam Road will likely increase, particularly during peak hours. Given the limited on-site parking and loading spaces, the primary concern is potential roadside congestion. - It is recommended that property management implement a robust plan for pick-up/drop-off activities to minimize the impact on the public carriageway.	There is sufficient parking and L/UL space for student move-in, as well as queuing area, within Middleton Tower. Nevertheless, there are over 180m road distance between Middleton Tower and Pok Fu Lam Road, allowing incoming traffic queuing before causing roadside congestion to Pok Fu Lam Road. Pick-up/drop-off activities will be done within the Middleton Tower and unlikely to impact the public carriageway.
26.		Community Impact and Activity Levels - The demographic shift from families to a larger student population will naturally increase activity levels in the area. Proactive management of communal spaces and retail hours will help the project integrate smoothly into this quiet residential neighbourhood. - It is recommended that property management establish clear guidelines for the use of ancillary shops and	The HKU currently manages multiple student hostels and has established guidelines governing the uses of common space, as well as organization of events. Relevant provisions will be incorporated into the specification to ensure that future operators comply accordingly.

		common spaces, especially during evening hours.	
27.		Operational Use of Facilities Should the facilities be used for large-scale student functions or external events beyond standard residential use, it is recommended that property management prepare crowd management plans to ensure the safety and convenience of both residents and the public.	The HKU currently manages multiple student hostels and has established guidelines governing the uses of common space, as well as organization of events. Relevant provisions will be incorporated into the specification to ensure that future operators comply accordingly.
28.	District Lands Officer / Hong Kong West and South (Received by post dated 22.4.2026)	1. I refer to your captioned submission dated 23 March 2026 (“the Pre-submission”) to the Planning Department which was received by this Office on 24 March 2026. My preliminary comments and observations from the land administration point of view on the Pre-submission are set out below. 2. According to paras. 1.2.2 and 3.1.1 of the Pre-submission, the project is limited to internal modification of existing buildings (i.e. Middleton Towers which fall within the Remaining Portion of Rural Building Lot No. 825 (“the Lot”)), existing internal roads, footpaths, landscaping and building bulk shall be maintained. However, it is noted in Table 3-1 and Figure 1.2 that Government land in-between the Lot of about 1,900m² is	The area that falls within Government land in-between the Lot currently functions as a service road and is related to the existing and proposed site access arrangements. It is therefore included within the application boundary to allow a holistic assessment of traffic and access arrangements.

		included in the proposed Section 16 planning application. Please clarify. 3. Pursuant to the Government Lease dated 22 May 1970 governing the Lot, the proposed conversion of the existing buildings to student hostel with ancillary shop and services does not comply with the lease conditions, including but not limited to the restrictions relating to user, parking requirements, restriction on alienation and non-offensive trades clause. If the subject Section 16 planning application is approved by the Town Planning Board, the owner of the Lot will need to apply to this Office for a lease modification or temporary waiver for implementation of the proposal. The proposal will only be considered upon receipt of formal application from the owner of the Lot. However, there is no guarantee that the application, if received by this Office, will be approved. The application will be considered by Lands Department acting in the capacity as the landlord at its sole discretion. In the event that the application is approved, it will be subject to such terms and conditions as the Government shall see fit, including among others, payment of a premium and an administrative fee, subject	Please be advised that the application on the Lifetime Waiver has been submitted to LandsD on 9 April 2026.
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		to relevant Bureaux's policy supports, as may be imposed by Lands Department. 4. It is noted that you have proposed in Section 7 of the Form No. S16-1 attached to the Pre-submission a tentative completion year of the development proposal in 2027. Having considered that the proposal is subject to approval of the Section 16 planning application, the higher authority's approval or relevant Bureaux's policy supports and detailed requirements of relevant departments, it would be pre-mature for this Office to make any comment on the tentative timeline. 5. Given the various technical assessments in the appendices of the Pre-submission are technical in nature, I shall defer to other relevant departments to comment. 6. Please note that the comments given above are not exhaustive and my comments are hereby reserved upon receipt of further information/clarifications on the Pre-submission and the formal Section 16 planning application.	Noted. Please note the tentative completion year of the development proposal will be in 2028. Noted. Noted.
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29.	Antiquities and Monuments Office (Received via email dated 24.4.2026)	Please note that Heritage Impact Assessment (HIA) mechanism is applicable to all Government capital works projects since 1 January 2008. You may refer to the Development Bureau Technical Circular (Works) No. 1/2022 (the Circular) for detailed workflow of HIA mechanism. In essence, HIA is applicable to capital works projects (including both projects approved individually by Public Works Subcommittee / Finance Committee as well as Category D items but excluding certain items specified in the Circular). You may also refer to Financial Circular No. 7/2017 for the definition and categories of capital works projects. If the proposed project is regarded as a capital works project, the project proponent should follow the Circular for the procedures and requirements necessary to assess the heritage impact arising from the proposed project. As a gentle reminder, the project proponent is advised to observe the following heritage conservation requirements – (i) to check the following websites for the updated list of the declared monuments, proposed monuments, graded sites and buildings/structures, new items for grading assessment, sites of archaeological interest in Hong Kong,	Noted. Please note this project is not Government capital works projects. The project is confined entirely to internal repartitioning works. No external structural works, piling, demolition, excavation, or vibration-intensive activities are involved. Construction traffic will continue to be routed via the current Pok Fu Lam Road, avoiding any additional impact on the Pok Fu Lam Conduit. Accordingly, the conduit shall not be affected by the proposed works.
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		and Government historic sites identified by AMO (the Heritage Sites). This information, including site plan with the name and address of the Heritage Sites, and photos, should be presented in an organised manner. (a) Heritage Site Lists by AMO (https://www.amo.gov.hk/en/historic-buildings/heritage-sites/lists/index.html) for “List of Declared Monuments and Proposed Monuments”, “List of Graded Historic Buildings”, “List of New Items for Grading Assessment”, “List of Sites of Archaeological Interest in Hong Kong” and “List of Government Historic Sites Identified by Antiquities and Monuments Office”; and (b) Geographical Information System on Hong Kong Heritage by AMO (https://gish.amo.gov.hk) (ii) as a general heritage conservation principle, to ensure that the proposed project does not cause any disturbance or damage to the Heritage Sites; the project proponent is required to conduct a heritage appraisal to assess whether	
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		the proposed project has any direct or indirect impacts on the aforementioned items; to recommend and to implement the necessary mitigation or protective measures to safeguard them, presented in an organised manner in the submissions. All works should be carried out with the utmost care, with precautionary, protective, and monitoring measures devised and implemented during all stages of the project, to the satisfaction of the AMO; and (iii) to notify AMO should any items of possible heritage value, in addition to the Heritage Sites, be identified, and to seek guidance from AMO on the appropriate actions to be taken Besides, we would like to take this opportunity to update you that the Pok Fu Lam Conduit (Conduit Bridges and Inverted Syphon Piers), a Grade 2 historic structure, is situated in the vicinity of the proposed works site. The project proponent should pay attention to its grading boundary which is available at the AAB's website (https://www.aab.gov.hk/en/historic-buildings/search-for-information-on-individualbuildings/index.html) to ensure that	
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		the proposed works will not cause any physical damages to this graded structure	
30.	Commissioner for Transport (Received via email dated 24.4.2026)	<u>Vehicular and Pedestrian Access</u> (a) Please indicate the width of the two-way access road connecting High West and the proposed development in the Master Layout Plan. According to the swept path analysis in Appendix III, the truck with 11m long would severely encroach onto the opposite lane of the access road. Please consider appropriate traffic improvement measures to resolve the conflict. (b) According to the Master Layout Plan, all pedestrians and vehicles must access the proposed redevelopment via a narrow and steep access road with a footpath on one side. HKU should consider linking the proposed redevelopment to HKU High West to improve the accessibility.	The width of the proposed carriageway connecting to High West is 6m, while the existing access road connecting to Middleton Tower is around 4.5m - 5m. Currently, there are shuttle bus services going up to Middleton Towers via the access road with a footpath on one side. In future operation, traffic flow of heavy vehicle is expected to be small, and therefore the existing access road is considered sufficient. Nevertheless, traffic control management will be implemented to minimize vehicle conflicts.
31.		<u>Internal Transport Facilities</u> (c) According to para 2.2.2 of the Technical Note, HKU had made reference to the internal transport facilities at Jockey Club Student Village I and Jockey Club Student Village II to support their proposed provision of 10 nos. of car parking spaces and 1 no. of goods vehicle loading/unloading bays in the redevelopment site. The two reference sites are located near to the HKU MTR Station and Kennedy Town MTR	Parking provision of Middleton Tower has make reference to Student Hall at Sasson Road and planned High West redevelopment in appended TIA in this submission, where they are away from MTR station.

		Station, which is differ from the location of redevelopment site. HKU should demonstrate is it representative to use these projects as reference for the current redevelopment.	
32.		<u>Trip Generation/Attraction</u> (d) It was noted that the trip generation surveys were conducted during January and February 2026. Please ensure that the surveys were not carried out during the non-school days of HKU (e.g. Semester break, Chinese New Year holidays, etc.). (e) HKU proposed to apply the trip-generation survey results from Tam Towers & Garden to estimate the trip generation of existing Middleton Towers. Please explain why the existing trip generation of Middleton Towers are not adopted. (f) HKU should demonstrate that the trip-generation of Tam Towers & Garden could represent the traffic trip pattern of the existing Middleton Towers. Besides, please provide the detailed information on Tam Towers & Garden, including its internal transport facilities, the flat sizes, and the respective number of flats. (g) HKU should demonstrate that the trip-generation survey results from the University Hall could represent the trip	The trip generation surveys were conducted after the semester break in January and not in the week of Chinese New Year Holidays in February. As mentioned in section 3.2.1 of the technical notes, it would lead to great variation for the projected trip generation for full occupancy if the trip rate is based on the current low occupancy condition. As such, a higher occupancy staff quarter in the vicinity is adopted for the surveys. In view of the accessibility to existing public transport and shuttle bus provision, the travel characteristic of Tam Towers & Garden and existing Middleton Tower are considered similar. There are around a total of 120 flats, area ranging from 165m² to 315m². As University Hall is immediately next to Middleton Tower, their travel characteristic as student hostel is expected to be similar. There are a number of 110 twin rooms with area of 14m². On survey date, there are no TTA in the public roads affecting the vehicular and pedestrian access. Survey data is collected immediate outside of University Hall, excluding the construction traffic to/from High West site,

		generation of the proposed Student Hostel in the redevelopment. HKU should supply detailed information on the University Hall, including its internal transport facilities, the flat sizes, the respective number of flats, existing shuttle bus service, and pedestrian and vehicular connectivity. (h) According to para. 3.2.4 of the Technical Note, there is currently construction work at the University Hall. To demonstrate that the estimated trip generation of the proposed Student Hostel would not be underestimated, please advise the utilization of student hostel of University Hall, and any Temporary Traffic Arrangements (TTA) that might affect vehicular and pedestrian access to University Hall during the survey. In addition, please indicate the survey locations for reference.	and also surveyed at Pok Fu Lam Reservoir Road for the pick-up/drop-off activities.
33.		<u>Shuttle Bus Services</u> (i) Please provide the details of the proposed shuttle bus services, including the routes, stops, frequency, service hours, and utilization, for reference.	Our school bus services proposal is to enhance the provision as proposed under High West Development. With 3 additional bus trips per hour, the new headway of school bus services is 6-7 mins.

		(j) Please indicate the proposed shuttle bus stop for the proposed redevelopment in the drawing. (k) Please advise the size of shuttle bus and provide the relevant swept path analysis to demonstrate that the proposed shuttle bus could manoeuvre smoothly within the redevelopment site for accessing the proposed shuttle bus stop. (l) Please present the methodology, calculations and assumptions for estimating the patronage demand of school buses in Table 3-6. (m) According to Chapter 2.3 of Volume 2 of TPDM, a passenger-car unit (PCU) value of 3.0 would be assumed for a bus operating on hilly terrain. Please justify your assumption in Table 3-7 that one school bus is equivalent to 2 PCU.	Attached Annex A shows the proposed location of the bus stop for High West school bus services. The details of school bus operation will be further considered at a later stage subject to future population needs. A 12m long Coach is expected to be a 50-seater bus. Annex A demonstrated the turning is sufficient to access the bus stop. The patronage demand is based on the pedestrian generation rate derived from the trip generation survey, presented in Table 3-5, and multiple by 1,000 units. The Pok Fu Lam Road section from Middleton Tower to HKU main campus has a gradient less than 4%, which is not consider as hilly for PCU conversation.
34.		<u>Traffic Assessment</u> (n) The proposed redevelopment would convert the existing staff quarter (total 72 nos. of staff	

		quarters units) into student hostels (approximately 1,000 beds). Given the increase in population by the proposed redevelopment, HKU should provide the relevant traffic assessment for the nearby footpath and crossing facilities. (o) For Table 3-8, HKU assumed full occupancy of the existing staff quarters at Middleton Towers. However, only 22% of the flats are currently occupied. The actual traffic induced by the existing Middleton Towers is thus far lower than the figures indicated in Table 3-8. With the proposed redevelopment, additional trips will be induced onto the surrounding road network. HKU should evaluate the traffic impact induced by the redevelopment in the Traffic Impact Assessment and consider appropriate mitigation measures, such as widening footpaths or crossings and extending the bus lay-by on Pok Fu Lam Road. (p) HKU has submitted the TIA for the proposed Global Innovation Centre, which has taken into account the traffic impact by the subject redevelopment. In particular, the methodology and assumptions for deriving the traffic trip induced by the redevelopment in the TIA is different with the Technical Note. HKU is reminded to review and update their TIA and	Instead of a technical note, we have detailed a TIA for the redevelopment of Middleton Tower for your consideration. A TIA attached with junction assessment along Pok Fu Lam Road is attached under this round of submission for your review. The redevelopment of Middleton Tower has reduced from 1,000 student units to 900 units under this round of submission. The TIA of GIC provides a worsen scenario of Middleton Tower with 1,000 units.
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		Technical Note to ensure consistent assumptions and holistic assessment.	
35.	Chief Building Surveyor/Hong Kong West, Buildings Department (Received via email dated 24.4.2026)	We have no objection in principle for the proposed conversion at 140 Pok Fu Lam Road from building point of view. Detailed consideration will be made at building plan submission stage.	Noted.
36.	Director of Fire Services (Received via email dated 24.4.2026)	Please be informed that he has no specific comment on the captioned application subject to water supplies for firefighting and fire service installations being provided to the satisfaction of the Director of Fire Services. Should the application be confirmed to fall under the regulatory regimes as stipulated in PlanD's memo dated 31.8.2023, i.e. lands, buildings, licensing and other control regimes, or be referred by Independent Checking Unit for consultation on FS requirements, we have no objection to removing the relevant approval conditions without the need for further consultation from FSD.	Noted.

		Nonetheless, the following advisory clauses shall be delivered to the applicant: Detailed fire safety requirements will be formulated upon receipt of the formal submission of STT/STW, general building plans or referral of application via relevant licensing authority. Furthermore, the emergency vehicular access (EVA) provision in the captioned work shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011, which is administered by the Buildings Department.	
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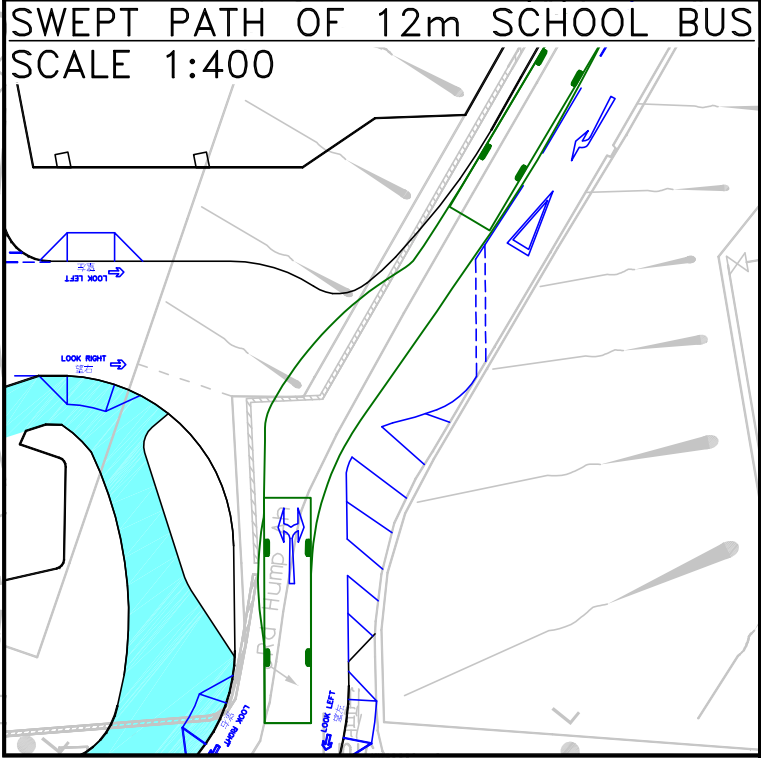
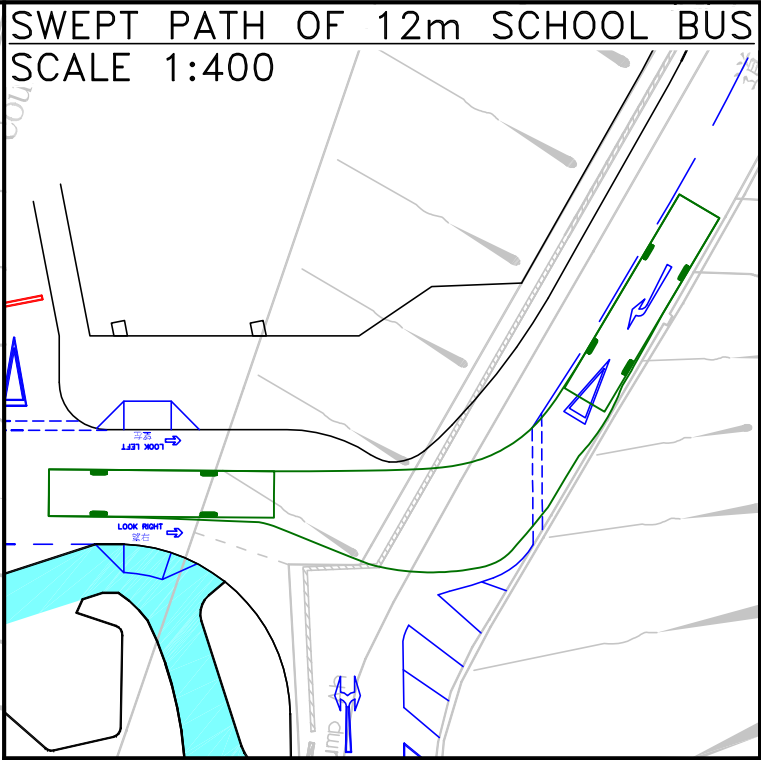
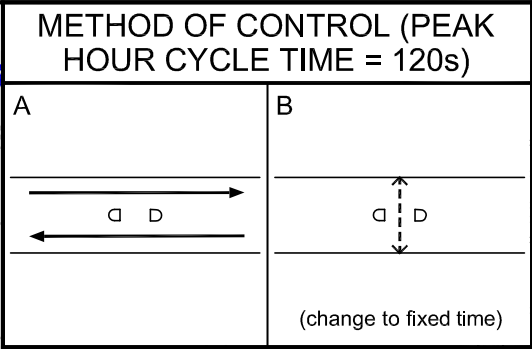
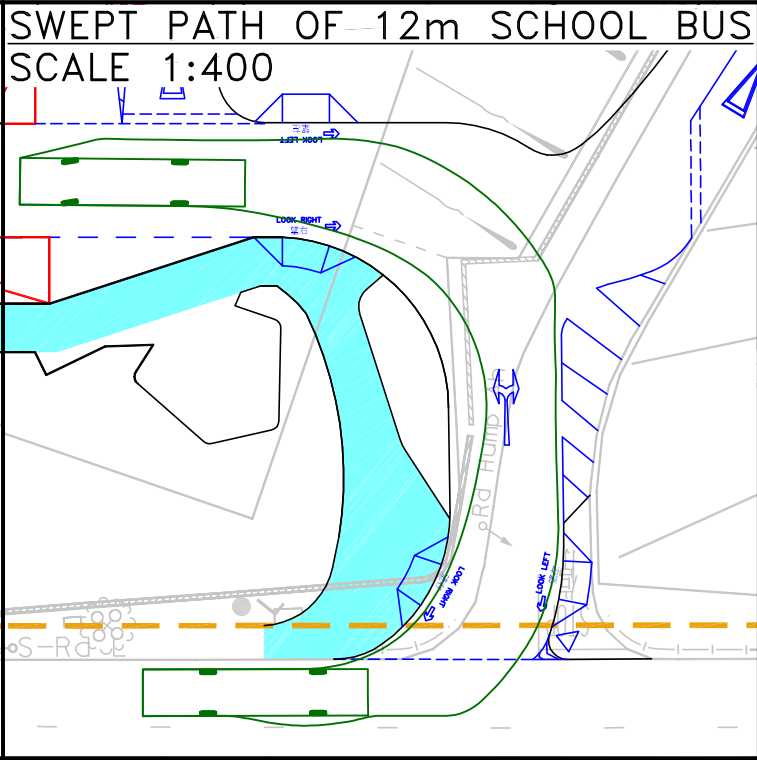
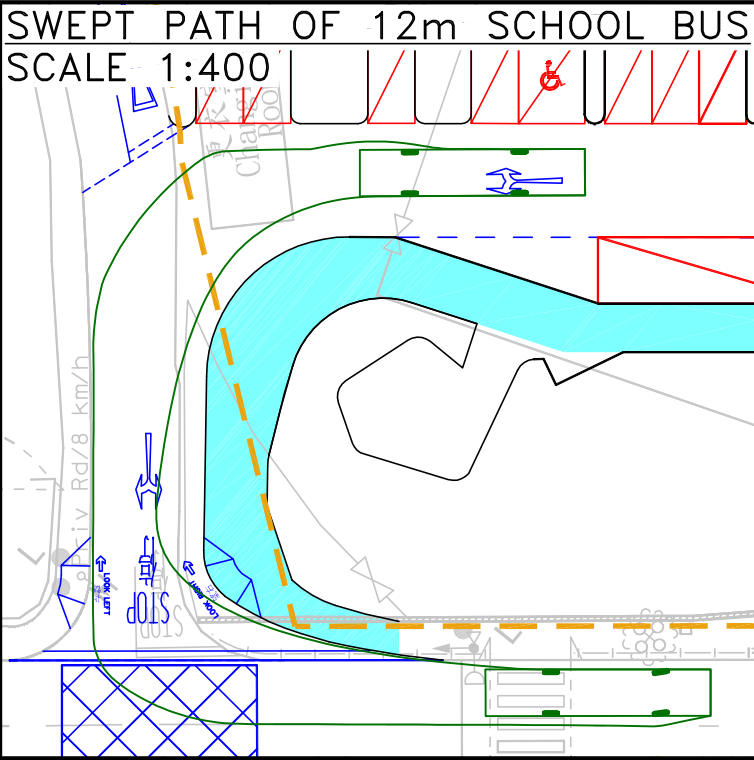
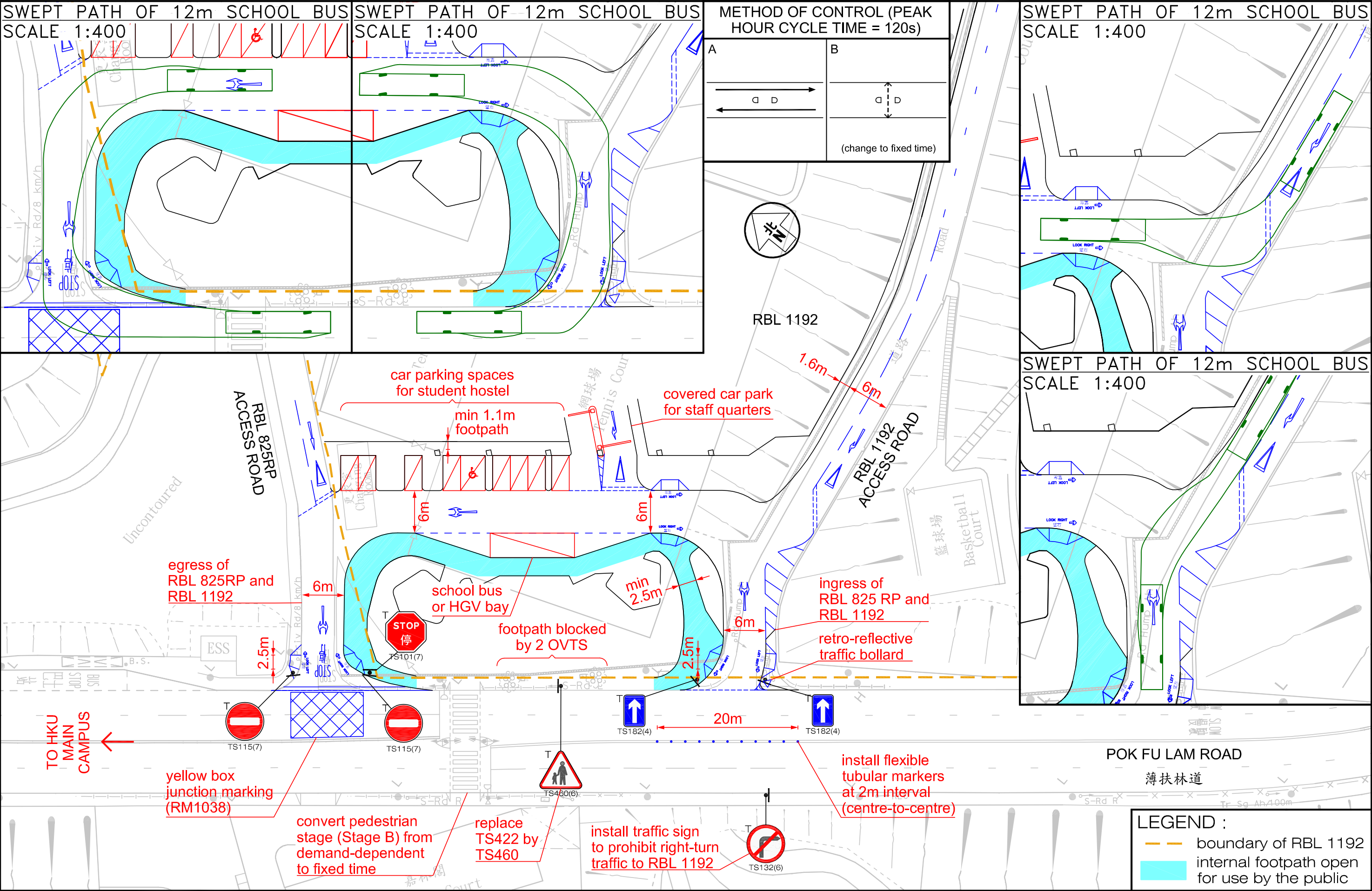
*The following Government departments have no comment / no adverse comments on the application:

- Chief Highway Engineer/Hong Kong, Highways Department;
- Railway Development Office;
- Director of Agriculture, Conservation and Fisheries;
- Head (Geotechnical Engineering Office), Civil Engineering and Development Department (CEDD);
- Project Manager (South and Sustainable Lantau), CEDD;
- Director of Leisure and Cultural Services;
- Director of Electrical and Mechanical Services; and
- Chief Town Planner/Urban Design and Landscape, Planning Department.

*Pending comments from the following Government departments:

- Chief Engineer/ Hong Kong and Island, Drainage Services Department; and
- District Officer/ Southern, Home Affairs Department

ANNEX A



LEGEND :

	boundary of RBL 1192
	internal footpath open for use by the public

Project Title	RBL 1192, HIGH WEST, 142 POK FU LAM ROAD, HKU				Figure No.	3.1	Revision	R4B	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Figure Title	VEHICULAR ACCESS ARRANGEMENT OF RBL 1192				Designed by	Drawn by	Checked by		
					T H C	C C L	K C		
					Scale in A3	Date			
					1 : 500	07 OCT 2022			

Appendix VII

Reply Letter from Education Bureau confirming Eligibility for “Hostels in the City Scheme”



中華人民共和國香港特別行政區政府
教育局
Education Bureau
The Government of the Hong Kong Special Administrative Region
of the People's Republic of China

本局檔號 Our Ref.: (9) in EDB/FHE/SH/AP-0031(R)

電話 Telephone 3509 8533

來函檔號 Your Ref.: [REDACTED]

傳真 Fax Line:

電郵地址 Email: studenthostel@edb.gov.hk

By email and post

4 March 2026

Ms. Fan, Mei Mary
Assistant Director of Estates, HKU
The University of Hong Kong

Dear Ms. Fan,

Hostels in the City Scheme (“the Scheme”)

I refer to your application received on 13 February 2026 under the Scheme for the proposed student hostel development at 140 Pokfulam Road, Hong Kong.

I am pleased to inform you that, based on the information provided in the application form, the application is, prima facie, eligible under the Scheme.

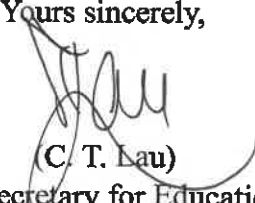
To take forward the proposed development, you may liaise with the Development Projects Facilitation Office (DPFO) under the Development Bureau for the subsequent development procedures as necessary. You may also wish to take note of the preliminary comments in relation to the proposed development from the relevant departments as appended at Annex.

According to the signed statutory declaration, the relevant conversion works of the proposed development should be completed within 18 months from the date of this letter, i.e. 4 March 2026. Upon completion of the works, please provide us and DPFO with a copy of the acknowledgement letter for certificate on completion of building works or the relevant occupation permit, as appropriate. Should an extension of time be required, please submit an application supported by relevant justifications at least two months prior to the end of the said 18-month period.

Please be reminded that this letter serves only to confirm the eligibility of your application for facilitation under the Scheme and it does not constitute any form of approval for subsequent development applications (as necessary).

For enquiries on eligibility of the application, please contact Mr. Martin NG [Education Officer (Higher Education)] at 3509 7399 or the undersigned [Planning Coordinator (Further and Higher Education)] at 3509 8533, or through email to studenthostel@edb.gov.hk. For enquiries on development facilitation, please contact Miss Ada CHAN [Executive Assistant/Planning & Lands] at 3841 7286, or through email to dpfo@devb.gov.hk.

Yours sincerely,



(C. T. Lau)

for Secretary for Education

c.c.

DPFO, DEVB

PlanD

LandsD

BD

(Attn: Miss Ada CHAN)

(Attn: Ms LEE Kai Chuk, Bonnie)

(Attn: Mr LAU Hei, Jack)

(Attn: Mr HO Chi Kin, Eric)

(Attn: Mr. YEUNG Pak Shing, Perry)

Annex

Preliminary Comments from Relevant Departments

1. Comments from the Planning Department:

- (a) The subject site falls within an area zoned “Residential (Group C)” (“R(C)”) on the approved Pok Fu Lam Outline Zoning Plan (OZP) No. S/H10/23. According to the Notes of the OZP for the “R(C)” zone, ‘Residential Institution’ and ‘Hotel’ (which includes student hostels supported by Government’s policy) are Column 2 uses which require planning permission from the Town Planning Board (TPB).
- (b) The subject application involves wholesale conversion of the three existing blocks of staff quarters into a student hostel. Hostel rooms will be provided on 1/F to 12/F of each block, with a main lobby on G/F and common areas on each floor. Based on the information currently available, **planning permission from the TPB is required for operating the proposed student hostel as ‘Residential Institution’ or ‘Hotel (Student Hostel)’ use.** However, whether the proposed student hostel will exceed the Plot Ratio (PR) and Site Coverage (SC) permissible under the OZP or the PR and SC of the existing building will be subject to the Buildings Department’s advice.

2. Comments from the Lands Department:

- (a) Subject to the detailed proposal to be submitted by HKU, the proposed student hostel by conversion of the existing buildings does not comply with the lease conditions, including but not limited to the restrictions relating to user, parking requirement, restriction on alienation and non-offensive trade clause. HKU will need to **apply to Lands Department for a lease modification or temporary waiver or licence** for implementation of the proposal. The proposal will only be considered upon receipt of formal application from HKU. However, there is no guarantee that the application, if received by Lands Department, will be approved. The application will be considered by Lands Department acting in the capacity as the landlord at its sole discretion. In the event that the application is approved, it will be subject to such terms and conditions as the Government shall see fit.
- (b) The Lot falls within the Pokfulam Moratorium (“the Moratorium”). You may wish to consult the Transport Department as to whether partial-uplifting of the Moratorium is required for land application for the proposal.

3. Comments from the Buildings Department:

- (a) Student hostel is a domestic use under the Buildings Ordinance (BO), and is subject to compliance with the relevant criteria as stipulated in the Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-173, application for modifications / exemptions to the following items is required and may be considered at the building plan submission stage to:
 - (i) treat a student hostel as a non-domestic building for the purposes of regulations 19, 20 and 21 of the Building (Planning) Regulations (B(P)R);
 - (ii) allow the non-provision of open space and service lane under regulations 25 and 28 of the B(P)R; and
 - (iii) permit the non-provision of kitchens in individual hostel units under regulation 45 of B(P)R.
- (b) The provision of natural lighting and ventilation for guest rooms should be demonstrated in compliance with regulations 30 and 31 of the B(P)R at the building plan submission stage.
- (c) The provision of barrier free access and facilities for hostel use (such as initial access at the building entrance on G/F from a prominent point on the lot boundary, accessible lift, accessible guest rooms, accessible lavatories, and additional assistive provisions, etc) should comply with regulation 72 of the B(P)R and the Design Manual: Barrier Free Access 2008 (2025 Edition).
- (d) Adequate fire resisting construction under regulation 35 of the Building (Construction) Regulation should be provided.
- (e) Provision of adequate means of escape in accordance with regulation 41(1) of the B(P)R and the Code of Practice for Fire Safety in Buildings 2011 (2024 Edition) (FS Code) is required. In particular, provision of temporary refuge spaces should be demonstrated.
- (f) The applicant should particularly pay attention to the following issues at the plans submission stage:
 - (i) The additional SC and PR resulting from the “built-over light well” in compliance with First Schedule of B(P)R should be demonstrated.
 - (ii) Provision of fireman’s lift in accordance with regulation 41B of the B(P)R and the FS Code should be demonstrated.

- (g) Detailed comments on all aspects under the BO will be given at the building plan submission stage. The applicant is also reminded to follow the requirements as stipulated in PNAP APP-173.