Annex B Revised Traffic Impact Assessment

Document Status Control Record

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

Traffic Impact Assessment Report

Originating Organisation: LLA Consultancy Limited Unit 610, 6/F Island Place Tower 510 King's Road North Point, Hong Kong	Prepared by: SKL	SKL	Date: 1 August 2024
	Approved by: SLN		Date: 1 August 2024
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1 INTRODUCTION

1.1 Background

1.1.1 The subject site (hereinafter referred to "the Application Site") is located at Lot 796 & 1008RP at D.D.77 and adjoining government land in Ping Che. The location of the Application Site is shown in **Figure 1.1**.

1.1.2 The applicant proposed to develop the Application Site into a mixed use development for residential and commercial uses. LLA Consultancy Limited was commissioned to undertake a traffic impact assessment study for the proposal. This report presents the findings of the study.

1.2 Objectives

1.2.1 The objectives of the study are as follows:

- to review the existing traffic conditions in the vicinity of the Application Site;
- to estimate the traffic generation and attraction of the proposed development;
- to project the future traffic situations in the surrounding road network;
- to appraise the potential traffic impact of the proposed development and to consider road improvement proposals, if required; and
- to recommend the internal transport facilities for the proposed development.

2 THE PROPOSED DEVELOPMENT

2.1 The Application Site

2.1.1 As shown in **Figure 1.1**, the Application Site is located in Ping Che with a total site area of about 17,822 m^2.

2.2 Development Schedule

2.2.1 **Table 2.1** summarises the development parameters of the proposed development.

Table 2.1 Proposed Development Schedule

Item		Parameters
Application Site Area		17,822 m^2
Proposed Plot Ratio		7.0
Domestic Plot Ratio		Not more than 5.9
Non-domestic Plot Ratio		Not more than 1.1
Domestic Use		
Gross Floor Area		About 105,145 m^2
No. of blocks		5
Total Number of Residential Unit		2,205
Average Flat Size		47.7 m^2
Anticipated Population		6,174
Non-domestic Use		
Gross Floor Area	Retail	2,400 m^2
	Office	About 11,500 m^2
	Hotel	About 5,703 m^2
No. of blocks		1
No. of hotel rooms		70 rooms
Day Care Centre for the Elderly (DE)		60 places
Child Care Centre (CCC)		100 places

3 EXISTING TRAFFIC SITUATION

3.1 Existing Road Network

3.1.1 At present, the Application Site is served by a local access road located along the eastern side of the Application Site, which also serves other village developments in the area.

3.1.2 Ping Che Road is a single two-lane rural road. Its northern end and southern end connect to Lin Ma Hang Road and Sha Tau Kok Road – Ma Mei Ha, respectively.

3.1.3 Sha Tau Kok Road – Ma Mei Ha is connecting between Lau Shui Heung Road and Wo Keng Shan Road. The section between Lau Shui Heung Road and Ping Che Road is a dual two carriageway while the section between Ping Che Road and Wo Keng Shan Road is a single two carriageway, except the local widening near the two junctions.

3.2 Traffic Count Surveys

3.2.1 In order to assess the existing traffic conditions, traffic count surveys were carried out on 15 June 2023 (Thursday) and 4 July 2024 (Thursday) during AM and PM peak periods at 07:30 to 09:30 and 17:00 to 19:00 at key junctions in the vicinity of the Application Site. The Area of Influence (AOI) is determined by considering the ingress and egress routings of the proposed development. For majority of the development traffic, they will travel to/from other districts by using the strategic roads such as Lung Shan Tunnel, while some of them may travel to the nearest railway station, say MTR Fanling Station and then take public transport services. Therefore, the key junctions and road links along the anticipated routings between the Application Site, strategic roads and railway stations are included in the AOI.

3.2.2 The anticipated ingress/egress routings and the locations of the surveyed junctions are presented in **Figure 3.1**.

- Sha Tau Kok Road / Heung Yuen Wai Highway
- Sha Tau Kok Road / Ping Che Road
- Sha Tau Kok Road / Lau Shui Heung Road
- Ping Che Road / Ng Chow Road
- Sha Tau Kok Road / Lung Ma Road
- Sha Tau Kok Road / Ma Sik Road
- Sha Tau Kok Road / Jockey Club Road
- Lok Yip Road / Jockey Club Road / San Wan Road
- Sha Tau Kok Road / San Wan Road / Fanling Station Road
- San Wan Road / Fanling Station Road

3.2.3 The morning and the evening peak hours identified are 08:00 – 09:00 (AM Peak) and 17:30 – 18:30 (PM Peak). The surveyed 2023 traffic flows are presented in **Figure 3.2**.

3.3 Existing Junction Capacity Assessment

3.3.1 Based on the observed traffic flows, the performance of the key junction is assessed. The results are summarized and presented in **Table 3.1**. The detailed calculation sheets are attached in **Appendix A**.

Table 3.1 Existing Junction Performance

No.	Junction Location	Type/ Capacity Index(1)	AM Peak	PM Peak
J1	Sha Tau Kok Road / Heung Yuen Wai Highway	Roundabout/DFC	0.44	0.39
J2	Sha Tau Kok Road / Ping Che Road	Roundabout/DFC	0.42	0.40
J3	Sha Tau Kok Road / Lau Shui Heung Road	Roundabout/DFC	0.54	0.58
J4	Ping Che Road / Ng Chow Road	Priority/DFC	0.19	0.11
J5	Sha Tau Kok Road / Lung Ma Road	Roundabout/DFC	0.46	0.43
J6	Sha Tau Kok Road / Ma Sik Road	Signalized/RC	73%	62%
J7	Sha Tau Kok Road / Jockey Club Road	Roundabout/DFC	0.54	0.48
J8	Lok Yip Road / Jockey Club Road / San Wan Road	Signalized/RC	37%	27%
J9	Sha Tau Kok Road / San Wan Road / Fanling Station Road	Roundabout/DFC	0.56	0.60
J10	San Wan Road / Fanling Station Road	Signalized/RC	35%	34%

Note: (1) DFC = Design Flow to Capacity ratio for priority junction.

3.3.2 From **Table 3.1**, it is noted that all junctions are operating satisfactorily during the existing AM and PM peak hours.

3.4 Existing Public Transport Facilities

3.4.1 1 franchised bus route and 1 green minibus route are operating along Ping Che Road outside the Application Site. **Table 3.2** shows the existing franchised bus/minibus route operating in the vicinity of the Application Site.

Table 3.2 Existing Road-Based Public Transport Services

Route No.	Terminal Points	Frequency
Franchised Bus		
79K	Ta Kwu Ling (Tsung Yuen Ha) – Sheung Shui	15 – 30
Green Minibus		
52K	Fanling – Ping Che	4 – 10

3.5 Existing Link Capacity Assessment

3.5.1 The Volume to Capacity (V/C) Ratios of Sha Tau Kok Road, Ping Che Road, Jockey Club Road and San Wan Road were assessed and the results are presented in **Table 3.3**.

Table 3.3 Link Capacity Assessments

Direction	Capacity (pcu/hr) (1)	Traffic Flow (pcu/hr)		V/C Ratio	
		AM	PM	AM	PM
Sha Tau Kok Road (between Ping Che Road and Heung Yuen Wai Highway)	2,250(2)	1,362	1,342	0.61	0.60
Sha Tau Kok Road (between Lau Shui Heung Road and Ping Che Road)	6,300(2)	1,704	1,744	0.27	0.28
Ping Che Road (between Sha Tau Kok Road and Hung Leng North Road)	1,910(2)	1,260	1,260	0.66	0.66
Sha Tau Kok Road (between Fan Leng Lau Road and Jockey Club Road)	6,720 (3)	2,634	2,561	0.39	0.38
Jockey Club Road (between Sha Tau Kok Road and San Wan Road)	6,240 (3)	1,108	1,125	0.18	0.18
San Wan Road (between Sha Tau Kok Road and Fanling Station Road	6,240 (3)	1,444	1,390	0.23	0.22

Note: (1) Capacity refers to TPDM Vol.2 Ch. 2.4. A factor of 1.25 is adopted to convert the capacity from veh/hr to pcu/hr.
(2) The capacity of each carriageway is reduced by 10% due to the high proportion of heavy vehicles.
(3) According to the surveyed flows, a factor of 1.2 is adopted to convert the capacity from veh/hr to pcu/hr.

3.5.2 As shown in **Table 3.3**, the concerned road sections are operating with spare capacity during both AM and PM peak hours.

4 FUTURE TRAFFIC SITUATION

4.1 Design Year

4.1.1 The proposed development will be completed in 2032. Therefore, the design year for the following traffic impact assessment will be 2035, i.e. 3 years after the completion.

4.2 Traffic Generation of the Proposed Development

4.2.1 In order to examine the traffic impact of the proposed development, traffic generated/ attracted by the proposed development should be estimated based on the development parameters as listed in **Table 2.1** and the trip rates documented in TPDM Volume 1 Chapter 3 – Transport Considerations of Town Plans.

4.2.2 As there is no established trip rates published in Transport Planning and Design Manual (TPDM) or other relevant guidelines for day care centre for the elderly and child care centre, trip generation surveys at existing day care centre for the elderly and child care centre, were arranged to collect trip rates of carpark. The trip generation survey was conducted on 15 June 2023 (Thursday) during the peak hour period from 07:30 to 09:30 and 17:00 to 19:00. The survey results and the derived trip rates are presented in **Table 4.1**.

Table 4.1 Survey Results at the Existing Buildings

Building Name (Location)	Unit / Content	AM Peak			PM Peak		
		Gen.	Att.	2-way	Gen.	Att.	2-way
Traffic Generation of Existing Day Care Centre for the Elderly (pcu/hr)							
Fung Kai Care & Attention Home for the Elderly-Day Care Centre for the Elderly (Fung Kai Social Service Complex, 22 Tin Ping Road, Sheung Shui, N.T.)	80 places	3	4	7	3	3	6
Traffic Generation of Existing Child Care Centre (pcu/hr)							
Hong Kong Society for the Protection of Children Esther Lee Day Creche (Hong Ming House, Wah Ming Estate, Fanling, N.T.)	51 places	2	2	4	2	2	4
Derived Trip Rates (pcu/hr/place)							
Day Care Centre for the Elderly		0.3750	0.5000	-	0.3750	0.3750	-
Child Care Centre		0.3922	0.3922	-	0.3922	0.3922	-

Note: Gen. – Generation; Att. – Attraction.

4.2.3 Based on the above, the traffic generation of the proposed development is estimated and presented in **Table 4.2**.

Table 4.2 Traffic Generations of the Proposed Development

Proposed Use	Unit / Content	AM Peak Hour			PM Peak Hour		
		Gen.	Att.	Total	Gen.	Att.	Total
Adopted Trip Rates(1)							
Residential – 60m^2	pcu/hr/flat	0.1021	0.0709	-	0.0415	0.0464	-
Retail	pcu/hr/100m^2 GFA	0.3307	0.3342	-	0.3839	0.4504	-
Office	pcu/hr/100m^2 GFA	0.2361	0.3257	-	0.1928	0.1510	-
Hotel	pcu/hr/guestroom	0.1814	0.2082	-	0.1697	0.2183	-
Day Care Centre for the Elderly	pcu/hr/place	0.3750	0.5000	-	0.3750	0.3750	-
Child Care Centre	pcu/hr/place	0.3922	0.3922	-	0.3922	0.3922	-
Traffic Generation/Attraction							
Residential	2,205 flats	226	157	383	92	103	195
Retail	2,400 m^2 GFA	8	9	17	10	11	21
Office	11,503 m^2 GFA	28	38	66	23	18	41
Hotel	70 guestrooms	13	15	28	12	16	28
Day Care Centre for the Elderly	60 places	10	11	21	10	11	21
Child Care Centre	100 places	3	3	6	3	3	6
	Total	**282**	**226**	**508**	**144**	**155**	**299**

Notes: (1) Upper limit trip rates from TPDM are adopted.

4.2.4 As shown in **Table 4.2**, the proposed development would generate a two-way traffic flow of 508 pcu/hr in the AM peak and 299 pcu/hr in the PM peak. The corresponding traffic distribution patterns are estimated and presented in **Figure 4.1**.

4.3 Traffic Generation of the Planned/Committed Developments

4.3.1 To estimate the future traffic flows, updated information has been obtained from available information regarding the planned and approved developments in the vicinity of the study area. Details of these developments are given in **Table 4.3**.

Table 4.3 Details of Planned and Approved Developments

Site	Location	Use	Content
S1	Lots 825, 834 and 836 in D.D. 77 and adjoining government land, Ping Che (Planning Application No. A/NE-TKL/608)	Industrial	1,871 m^2 GFA
S2	Queen's Hill Development – Site 1	Public Housing	8,840 flats
		Subsidized Sale Flat	3,260 flats
		Primary School	2 (30 classrooms)
		Kindergarten	3 (2 with 30 classrooms and 1 with 7 classrooms)
		Welfare Facilities	8,140 m^2 GFA
		Retail	12,500 m^2 GFA
	Queen's Hill Development – Site 2	Private Housing	2,670 flats
	Queen's Hill Development – Site 3	International School	1
	Queen's Hill Development – Others	Primary School	1
		Community Facilities	5,000 m^2 GFA
S3	Government Land in D.D. 82, Ping Che, Ta Kwu Ling, New Territories (Planning Application No. A/NE-TKL/692)	Transitional Housing	596 flats

4.3.2 Reference was also made to the latest set of traffic generation and attraction rates published by TD for the estimation of the traffic generated by these developments. The traffic generation/attractions by these nearby developments are taken into account in the following assessment.

4.4 Future Traffic Flows

4.4.1 Reference was made to the 2017 to 2021 Annual Traffic Census Reports published by the Transport Department. The traffic data recorded at counting stations in the vicinity of the Application Site are shown in **Table 4.4**.

Table 4.4 Annual Traffic Census Data

Stn. No.	Road Section			AADT(1)					Avg. Growth%
	Road	From	To	2017	2018	2019	2020	2021	
5660	Sha Tau Kok Rd	On Kui St	Ping Che Rd	33,050	33,870 (2.5%)	33,630 (-0.7%)	23,740 (-29.4%)	22,980 (-3.2%)	-8.7%
5860	Sha Tau Kok Rd	Ping Che Rd	Shun Lung St	6,460	6,620 (2.5%)	6,570 (-0.8%)	6,300 (-4.1%)	5,970 (-5.2%)	-2.0%
6653	Ping Che Rd	Sha Tau Kok Rd	Lin Ma Hang Rd	11,360	11,430 (0.6%)	11,820 (3.4%)	11,030 (-6.7%)	11,870 (7.6%)	1.1%
Total				**50,870**	**51,920 (2.1%)**	**52,020 (0.2%)**	**41,070 (-21%)**	**40,820 (-0.6%)**	**-5.4%**

Note: (1) Figures in bracket indicated the % increase/decrease between two years.

4.4.2 As shown in **Table 4.4**, the average annual growth rate with reference to the AADT is -5.4% between 2017 to 2021. For conservative assessment purpose, a nominal growth rate of +1.0% will be adopted in the following assessments.

4.5 2035 Reference and Design Traffic Flows

4.5.1 The 2035 Reference Flows, i.e. the traffic flows in the local road without the proposed development, were estimated based on the following equation.

2035 Reference Flows = 2023 Existing Flows x $(1+1.0\%)^{12}$ + Traffic Generated by Approved/Planned Development

4.5.2 The 2035 Design Flows, i.e. the traffic flows in the local road network with the proposed development, were estimated based on the following equation:

2035 Design Flows = 2035 Reference Flows + Additional Traffic Induced by the Proposed Development

4.5.3 The 2035 Reference and Design Flows are shown in **Figures 4.2 and 4.3**, respectively.

4.6 Junction Capacity Assessment

4.6.1 Junction capacity analysis is carried out for the assessment year 2035. For J4 – Ping Che Road / Ng Chow Road, the section of the local road to the south of Ping Che Road, which is along the Application Site boundary, will be upgraded to a 7.3m carriageway with local widening to 10.3m near it's junction with Ping Che Road. A short section of Ping Che Road will be widened to provide a right-turn pocket at this junction as well. The schematic junction layout is shown in **Figure 4.4**. The assessment results are shown in **Table 4.5** and the detailed calculation sheets are attached in **Appendix B**.

Table 4.5 Future Junction Performance

Ref.	Junction Location	Type/ Index[1]	2035 Reference		2035 Design	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Sha Tau Kok Road / Heung Yuen Wai Highway	Roundabout/DFC	0.61	0.53	0.72	0.60
J2	Sha Tau Kok Road / Ping Che Road	Roundabout/DFC	0.51	0.48	0.64	0.54
J3	Sha Tau Kok Road / Lau Shui Heung Road	Roundabout/DFC	0.64	0.68	0.65	0.68
J4	Ping Che Road / Ng Chow Road [2]	Priority/DFC	0.26	0.17	0.76	0.42
J5	Sha Tau Kok Road / Lung Ma Road	Roundabout/DFC	0.76	0.76	0.77	0.76
J6	Sha Tau Kok Road / Ma Sik Road	Signalized/RC	52%	40%	51%	39%
J7	Sha Tau Kok Road / Jockey Club Road	Roundabout/DFC	0.72	0.65	0.73	0.66
J8	Lok Yip Road / Jockey Club Road / San Wan Road	Signalized/RC	11%	16%	11%	16%
J9	Sha Tau Kok Road / San Wan Road / Fanling Station Road	Roundabout/DFC	0.71	0.74	0.73	0.75
J10	San Wan Road / Fanling Station Road	Signalized/RC	9%	8%	7%	7%

Notes: (1) DFC = Design Flow to Capacity ratio for priority junction and roundabout.
(2) The proposed junction improvement scheme (see **Figure 4.4**) has been incorporated.

4.6.2 As shown in **Table 4.5**, all concerned junctions will operate with capacities in future scenarios, except the J8 Lok Yip Road / Jockey Club Road / San Wan Road and J10 San Wan Road / Fanling Station Road. However, the above assessment has not considered Fanling Bypass for conservative assessment purposes, but upon the completion of Fanling Bypass, the traffic condition would be better since some traffic would be diverted to Fanling Bypass without entering Fanling's local road network.

4.6.3 Nevertheless, the junction capacity of these junctions remains almost the same in both reference and design scenarios, which implies that the additional traffic generated by the proposed development will not induce significant traffic impact to these junctions.

4.7 Link Capacity Assessment

4.7.1 The V/C Ratios of the concerned road links were assessed and the results are presented in **Table 4.6**.

Table 4.6 Year 2035 Link Capacity Assessments

Direction	Capacity (pcu/hr) (1)	Traffic Flow (pcu/hr)		V/C Ratio	
		AM	PM	AM	PM
2035 Reference Scenario					
Sha Tau Kok Road (between Ping Che Road and Heung Yuen Wai Highway)	2,250(2)	1,620	1,577	0.72	0.70
Sha Tau Kok Road (between Lau Shui Heung Road and Ping Che Road)	6,300(2)	2,001	2,026	0.32	0.32
Ping Che Road (between Sha Tau Kok Road and Hung Leng North Road)	1,910(2)	1,455	1,415	0.76	0.74
Sha Tau Kok Road (between Fan Leng Lau Road and Jockey Club Road)	6,720 (3)	3,306	3,196	0.49	0.48
Jockey Club Road (between Sha Tau Kok Road and San Wan Road)	6,240 (3)	1,267	1,270	0.20	0.20
San Wan Road (between Sha Tau Kok Road and Fanling Station Road	6,240 (3)	1,684	1,592	0.27	0.26
2035 Design Scenario					
Sha Tau Kok Road (between Ping Che Road and Heung Yuen Wai Highway)	2,250(2)	1,898	1,741	0.84	0.77
Sha Tau Kok Road (between Lau Shui Heung Road and Ping Che Road)	6,300(2)	2,052	2,056	0.33	0.33
Ping Che Road (between Sha Tau Kok Road and Hung Leng North Road)	1,910(2)	1,784	1,609	0.93	0.84
Sha Tau Kok Road (between Fan Leng Lau Road and Jockey Club Road)	6,720 (3)	3,357	3,226	0.50	0.48
Jockey Club Road (between Sha Tau Kok Road and San Wan Road)	6,240 (3)	1,267	1,270	0.20	0.20
San Wan Road (between Sha Tau Kok Road and Fanling Station Road	6,240 (3)	1,712	1,606	0.27	0.26

Notes: (1) Capacity refers to TPDM Vol.2 Ch. 2.4. A factor of 1.25 is adopted to convert the capacity from veh/hr to pcu/hr.
(2) The capacity of each carriageway is reduced by 10% due to the high proportion of heavy vehicles.
(3) According to the surveyed flows, a factor of 1.2 is adopted to convert the capacity from veh/hr to pcu/hr.

4.7.2 As shown in **Table 4.6**, the concerned road links will operate with capacity with V/Cs under 0.93 during both AM and PM peak hours in all scenarios.

4.8 Pedestrian Traffic Generation

4.8.1 In order to identify the sufficiency of public transport services, additional passenger generated by the proposed development should be estimated. As there are no pedestrian trip rates established in TPDM, pedestrian generation and attraction for residential component would be estimated based on design population and the pedestrian generation and attraction for the rest components would be estimated based on in-house pedestrian trip generation surveys conducted at buildings with similar uses. Since the proposed child care centre is targeted for the local community, it is anticipated that the children will be brought to the centre by the parents on foot, the pedestrian trips induced is therefore excluded from the public transport demand estimation.

4.8.2 The overall population of the development is about 6,174. Reference has been made to the published "Travel Characteristics Survey (TCS) 2011 Final Report". According to the Report, the daily mechanized trip rate per population is 1.83 trips (two-way) and the morning and evening peak hour accounted for about 12% of the daily trips for the two-way trips. It is assumed that 90% of the trips are in outbound direction in the AM peak hour. Based on the above, the estimated outbound and inbound trips in AM peak hour are about 1,221 persons/hr (i.e. 6,174 x 1.83 x 0.12 x 0.9) and 136 persons/hr (i.e. 6,174 x 1.83 x 0.12 x 0.1), respectively. The outbound and inbound trips are swapped for PM peak hour, which about 136 persons/hr (i.e. 6,174 x 1.83 x 0.12 x 0.1) would be generated and 1,221 persons/hr (i.e. 6,174 x 1.83 x 0.12 x 0.9) would be attracted by the proposed development.

4.8.3 The in-house pedestrian trip rates were retrieved for estimating the pedestrian generation and attraction for each type of development. The additional pedestrian generation and attraction of the proposed development are estimated and tabulated in **Table 4.7**.

Table 0.7 Estimated Pedestrian Generation and Attraction of the Proposed Development

Use	Unit/ Content	AM Peak Hour			PM Peak Hour		
		Gen.	Att.	Total	Gen.	Att.	Total
Derived Pedestrian Trip rates (1)							
Retail	persons/hr/100 m^2 GFA	3.82	3.98	–	5.76	6.01	–
Office	persons/hr/100 m^2 GFA	0.13	2.73	–	2.16	0.16	–
Hotel	persons/hr/guestroom	0.80	0.28	–	0.52	0.51	–
Day Care Centre for the Elderly	persons/hr/10-place	0.29	2.86	–	2.14	0.40	–
Estimated Pedestrian Generation and Attraction of the Proposed Development							
Residential (2)	2,205 flats	1,221	136	1,357	136	1,221	1,357
Retail	2,400 m^2 GFA	92	96	188	139	145	284
Office	11,503 m^2 GFA	15	315	330	249	19	268
Hotel	70 guestrooms	56	20	76	37	36	73
Day Care Centre	60 places	2	18	20	13	3	16

Use	Unit/ Content	AM Peak Hour			PM Peak Hour		
		Gen.	Att.	Total	Gen.	Att.	Total
for the Elderly							
Total		**1,386**	**585**	**1,971**	**574**	**1,424**	**1,998**

Notes: Gen. – Generation; Att. – Attraction.
(1) The pedestrian trip rates derived in **Table 4.7** are adopted.
(2) Please refer to **Section 4.8.2** for the pedestrian generation and attraction for the residential component.

4.8.4 The proposed development is estimated to generate 2-way pedestrian flows of 1,971 and 1,998 persons/hour during AM and PM hours respectively.

4.8.5 In order to establish the pedestrian flow pattern to the different public transport facilities, reference was made to the 2021 Population Census. The Application Site is located within Housing Market Area 164 (HMA164), Ta Ku Ling area in the census, the modal split is therefore formulated by referring to the main mode of transport to place of work of HMA164. The modal split is adjusted to suit the local condition. The modal split of the public transport for the proposed development was estimated as shown in **Table 4.8**.

Table 0.8 Estimated Modal Split for the Proposed Development

Mode		Percentage distribution of working population with fixed place of work in Hong Kong by main mode of transport to place of work (1)	Adjusted Modal Split for the Proposed Development
Road-based Public Transport	Bus	23.1%	60.5%
	Public Light Bus	19.7%	
Railway		28.0%	39.5%
On foot only		5.6%	N.A. (2)
Others		23.7%	N.A. (2)
Total		**100.10%**	**100%**

Notes: (1) Source: HMA164 (Ta Ku Ling) in 2021 Population Census
(2) For conservative approach, only public transport modes are considered for assessment.

4.8.6 Based on the above, the pedestrian induced by the proposed development to / from public transport facilities is estimated in **Table 4.9**.

Table 0.9 Estimated Pedestrian Generation to the Public Transport Facilities in the AM and PM Peak Hour

Public Transport Facilities	Modal Split (for the Proposed Development)	Estimated Peak Hour Pedestrian Flows (persons / hr)					
		AM Peak Hour			PM Peak Hour		
		Gen.	Att.	Total	Gen.	Att.	Total
Road-based Public Transport	60.5%	838	353	1,191	347	861	1,208
Railway	39.5%	548	232	780	227	563	790
Total	**100.00%**	**1,386**	**585**	**1,971**	**574**	**1,424**	**1,998**

Note: Gen. – Generation; Att. – Attraction.

4.9 Railway Patronage Capacity

4.9.1 In order to ensure sufficient railway capacity will be able to accommodate for the proposed development, an assessment was conducted to review the rail patronage capacity. Since railway services in AM are generally busier than that in PM, AM peak hour is considered more than critical in conducting railway capacity assessment, the AM scenario is used for analysis purpose.

4.9.2 As shown in **Table 4.9**, 780 persons/hour will be induced by the proposed development and all of them are anticipated to use railway services during AM peak hour, which 548 persons/hour will be generated from the Proposed Development and 232 persons/hour will be attracted to the proposed development.

4.9.3 According to the Legislative Council Paper FCRI(2022-23)18 published in April 2023, the existing morning peak hour loading factor of East Rail Line at critical section (Tai Wai to Kowloon Tong) in 2022 is 60%, which the passenger demand and capacity (based on 6 passengers per square meter) are 37,500 persons/hour and 62,500 persons /hour, respectively.

4.9.4 In 2035, the passenger demand is projected to be increased to approximately 42,700 persons /hour. The 2035 railway capacity performance is then evaluated by considering the 2035 passenger demand and the additional passengers to be induced by the proposed development. The results are tabulated in **Table 4.10**.

Table 0.10 2035 Railway Capacity Performance

Items	Capacity (persons /hour /direction)	Reference Scenario (1)	Design Scenarios (1)(2)(3)
2035 Projected Morning Peak Hour Passenger Demand (persons/hour)	-	42,700	43,248 [+548]
Loading factor - Existing Peak Hour Capacity	62,500	68%	69%

Notes: (1) 2035 Reference Scenario = 2022 morning peak hour passenger demand x $(1+1.0\%)^{13}$
(2) 2035 Design Scenario = 2035 Reference Scenario + Additional passenger demand induced by the Proposed Development.
(3) Figures in square brackets indicate the increase in passengers due to the proposed development.

4.9.5 From **Table 4.10**, after accommodating the additional passengers induced by the proposed development, the 2035 morning peak hour loading factor of East Rail Line at critical sections, based on existing peak hour capacity, will be 69% (6 passengers per square meter).

4.9.6 It should be noted that the increase in passenger during the morning peak hour at East Rail Line due to the proposed development, are only 548 persons. The increase in passengers only constitute 1.3% of the passenger demand of East Rail Line, which are considered insignificant.

4.10 Road-based Public Transport Provision

4.10.1 It is proposed to provide 1 bus route and 1 minibus route within the proposed public transport terminus to serve part of the road-based public transport demand induced by the proposed development. The bus route is anticipated to travel to/from other districts, while the minibus route is anticipated to travel to/from MTR Fanling Station.

4.10.2 For conservative assessment purpose, it is assumed all passengers will use the public transport facilities within the public transport terminus, without using the public transport facilities along Ping Che Road. As shown in **Table 4.9**, 838 persons/hr and 548 persons/hr would be generated by the proposed development during AM peak hour to use road-based public transport and railway services, respectively. It is assumed that passengers targeted for road-based public transport would use the proposed bus route and for those targeted for railway services would use the proposed minibus route.

4.10.3 The capacity of a typical bus is about 120 passengers, to cater for the road-based public transport demand, 7 bus trips (838 / 120 = 6.9, say 7 nos.) are required, which means the proposed bus route would have a headway of around 8.5 minutes. While the capacity of a typical minibus is about 19 passengers, 29 minibus trips are required which means the proposed minibus route would have a headway of around 2 minutes.

4.10.4 Passengers can also use the existing road-based public transport facilities along Ping Che Road to the station. As such, the number of road-based public transport trips within the public transport terminus could be reduced.

5 PROPOSED TRANSPORT FACILITIES PROVISIONS

5.1 Vehicular Access Arrangement and Public Transport Terminus

5.1.1 At present, the Application Site is served by a local access road located along the eastern side of the Application Site, which also serves other village developments in the area. Under the proposed development scheme, the local access road will be upgraded to a standard 7.3m single carriageway with footpaths on both sides.

5.1.2 Two vehicular accesses are provided at the local access road to serve the development. One access will be located to the southern side of the Application Site to serve the residential blocks while another access will be located at the mid-way along the access road to serve mainly the commercial building and as the secondary access for the residential blocks.

5.1.3 Taking into consideration the future planning at Ping Che area and the relatively large area of the Application Site, a public transport terminus (PTT) is proposed at the northern part of the Application Site along Ping Che Road. The PTT will comprise of a double width bus bay and a GMB bay. The ingress point is located at the upgraded access road and the egress point is located at Ping Che Road to provide better circulations within the PTT.

5.2 Internal Transport Facilities

5.2.1 The internal transport facilities for the proposed development uses will be provided in accordance with the Hong Kong Planning Standards and Guidelines (HKPSG). The required provisions for the proposed development are shown in **Table 5.1**.

Table 5.1 Parking Requirement for Proposed Development

Development Type		HKPSG Requirements					HKPSG Required Nos.	Proposed No.
Car parking	Residential	Parking Requirements = GPS x R1 x R2 x R3 where GPS = 1 space per 4 – 7 units						
		Flat Size (FS)	No. of Unit	R1	R2	R3		
		40 m^2 < FS <= 70 m^2	2,205	1.2	1.00	0.9	341 – 596	596
		<u>For Visitors:</u> 5 visitor spaces per block					25	25
	Retail (2,400 m^2)	1 car parking space per 150 – 300 m^2 GFA					8 – 16	16
	Office (11,503 m^2)	1 car parking space per 150 – 200 m^2 GFA					58 – 77	77
	Hotel (70 rooms)	1 car parking space per 100 rooms					1	1
	DE	No specific requirements under HKPSG					–	5
	CCC	No specific requirements under HKPSG					–	5
TOTAL CAR PARKING							**433 – 715**	**725**
Loading /unloading	Residential	Minimum of 1 loading / unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block					5	5

Development Type		HKPSG Requirements	HKPSG Required Nos.	Proposed No.
	Retail	1 loading/unloading bay for goods vehicles for every 800 – 1,200m^2 or part thereof, GFA	2 – 3	3
	Office	1 loading/unloading bay for goods vehicles for every 2,000 – 3,000m^2 or part thereof, GFA	4 – 6	6
	Hotel	0.5 – 1 loading/unloading bay per 100 rooms	1	1
	DE	No specific requirements under HKPSG	–	2
	CCC	No specific requirements under HKPSG	–	1
TOTAL LOADING/UNLOADING			**12 – 15**	**18**
Motorcycle Parking	Residential	1 space per 100 – 150 flats	15 – 23	23
	Retail, Office and Hotel	10% of Total Provision of Private Car Spaces (94 spaces)	10	10
TOTAL MOTORCYCLE PARKING			**25 – 33**	**33**
Lay-by for Taxi and Private Car	Hotel	2 lay-bys for less than 300 rooms	2	2
TOTAL LAY-BY FOR TAXI AND PRIVATE CAR			**2**	**2**
Lay-by for Single-deck Tour Bus	Hotel	1 lay-by for less than 300 rooms	1	1
TOTAL LAY-BY FOR SINGLE-DECK TOUR BUS			1	1

5.2.2 As shown in **Table 5.1**, 725 private car parking spaces (including 6 no. of parking space for disabled users), 18 goods vehicle loading / unloading bays, 33 motorcycle parking spaces, 2 lay-bys for taxi and private car and 1 lay-by for single-deck tour bus will be provided to fulfil the HKPSG requirements. Preliminary layouts of car parking and loading/unloading facilities of the proposed development are enclosed in **Appendix C**.

5.3 Swept path Analysis

5.3.1 To ensure smooth manoeuvring of the parking area, swept path analysis was conducted to demonstrate that adequate space is provided for the vehicles for manoeuvring and presented in **Appendix C**.

6 SUMMARY AND CONCLUSION

6.1 Summary

6.1.1 The Application Site is located at Lot 796 & 1008RP at D.D.77 and adjoining government land in Ping Che and the Applicant proposed to develop the Application Site into a mixed use development for residential and commercial uses.

6.1.2 A traffic count survey was carried out on 15 June 2023 (Thursday) and 4 July 2024 (Thursday) during the peak hour period from 07:30 to 9:30 and 17:00 to 19:00 at the identified key junctions, and the AM and PM peak hours were found to be 08:00 – 09:00 and 17:30 – 18:30, respectively. The capacity of the key junctions and road links in the vicinity of the Application Site was analysed and they are operating satisfactorily.

6.1.3 The proposed development would generate two-way traffic flows of 508 pcu/hr in the AM peak hour and 299 pcu/hr in the PM peak hour. These two-way trips will be adopted for the subsequent assessments. By assigning the additional development traffic to the 2035 Reference Flows, the 2035 Design Flows were obtained.

6.1.4 Junction and link capacity assessments were carried out at the key junctions in the vicinity for the year 2035. The results have indicated that most of the junctions and all road links will operate satisfactorily for both reference and design scenarios. Upon the completion of Fanling Bypass, the traffic condition would be better since some traffic would be diverted to Fanling Bypass without entering Fanling's local road network. Therefore, it is anticipated that the proposed development will not induce significant traffic impact to the surrounding road network.

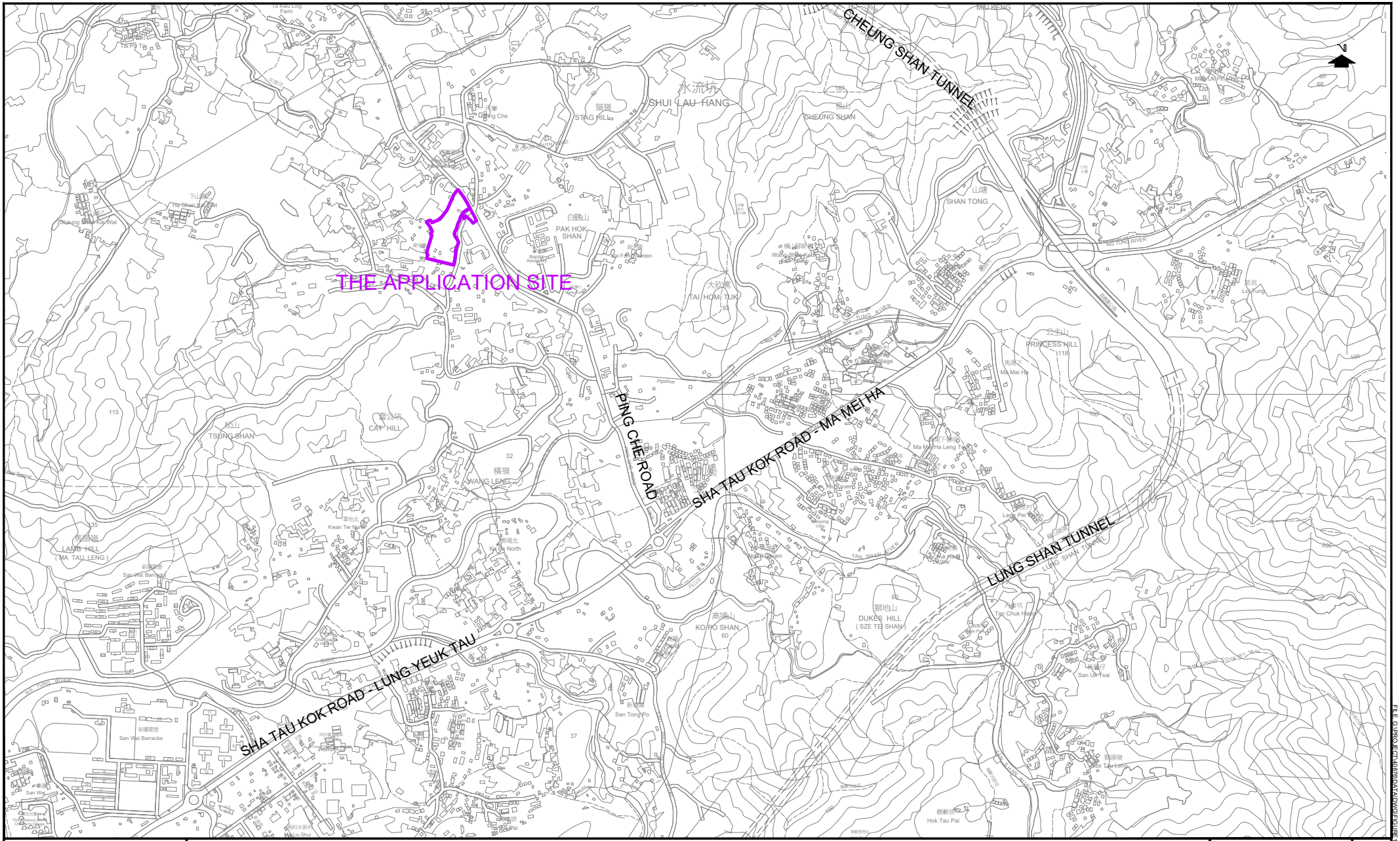
6.1.5 At present, the Application Site is served by a local access road located along the eastern side of the Application Site, which also serves other village developments in the area. Under the proposed development scheme, the local access road will be upgraded to a standard 7.3m single carriageway with footpaths on both sides. Two vehicular accesses are provided at the local access road to serve the development. One access will be located to the southern side of the Application Site to serve the residential blocks while another access will be located at the mid-way along the access road to serve mainly the commercial building and as the secondary access for the residential blocks.

6.1.6 Taking into consideration the future planning at Ping Che area and the relatively large area of the Application Site, a public transport terminus (PTT) is proposed at the northern part of the Application Site along Ping Che Road. The PTT will comprise of a double width bus bay and a GMB bay. The ingress point is located at the upgraded access road and the egress point is located at Ping Che Road to provide better circulations within the PTT.

6.1.7 The proposed development will provide 725 nos. of private car parking spaces (including 6 nos. of parking space for disabled users), 18 goods vehicle loading / unloading bays, 33 motorcycle parking spaces, 2 lay-bys for taxi and private car and 1 lay-by for single-deck tour bus to fulfil the HKPSG requirements.

6.2 Conclusion

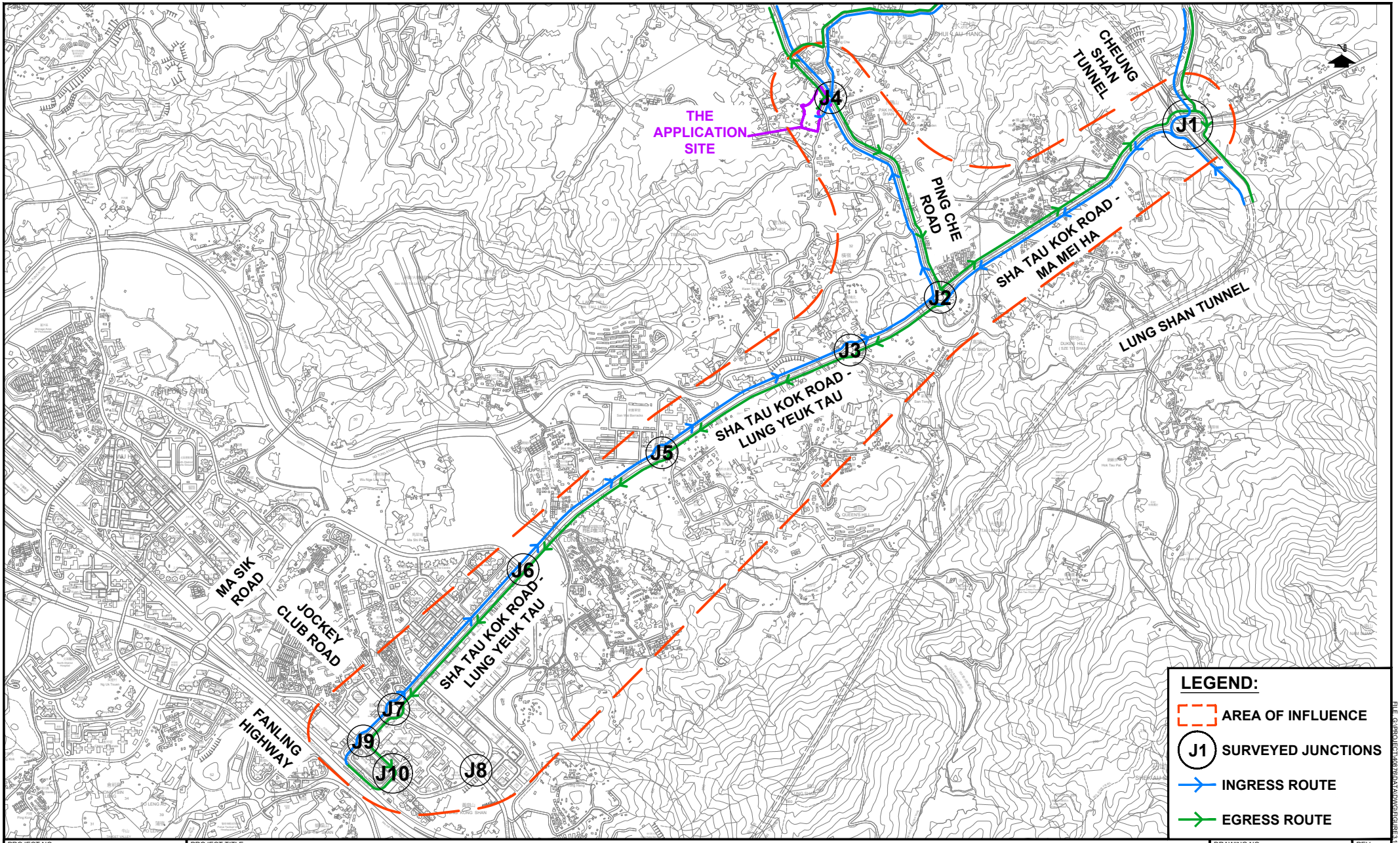
6.2.1 Based on the assessment result, it can be concluded that the proposed development will not induce significant traffic impact on the surrounding road network. The development proposal is considered acceptable from traffic engineering point of view.



PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 1.1	REV. ·
DESIGNED SLN / DATE SEP 2023	DRAWING TITLE		
DRAWN CLL / SCALE 1:15000 @ A4	**LOCATION PLAN**	LLA 顧問有限公司 Consultancy Limited	
CHECKED SLN			

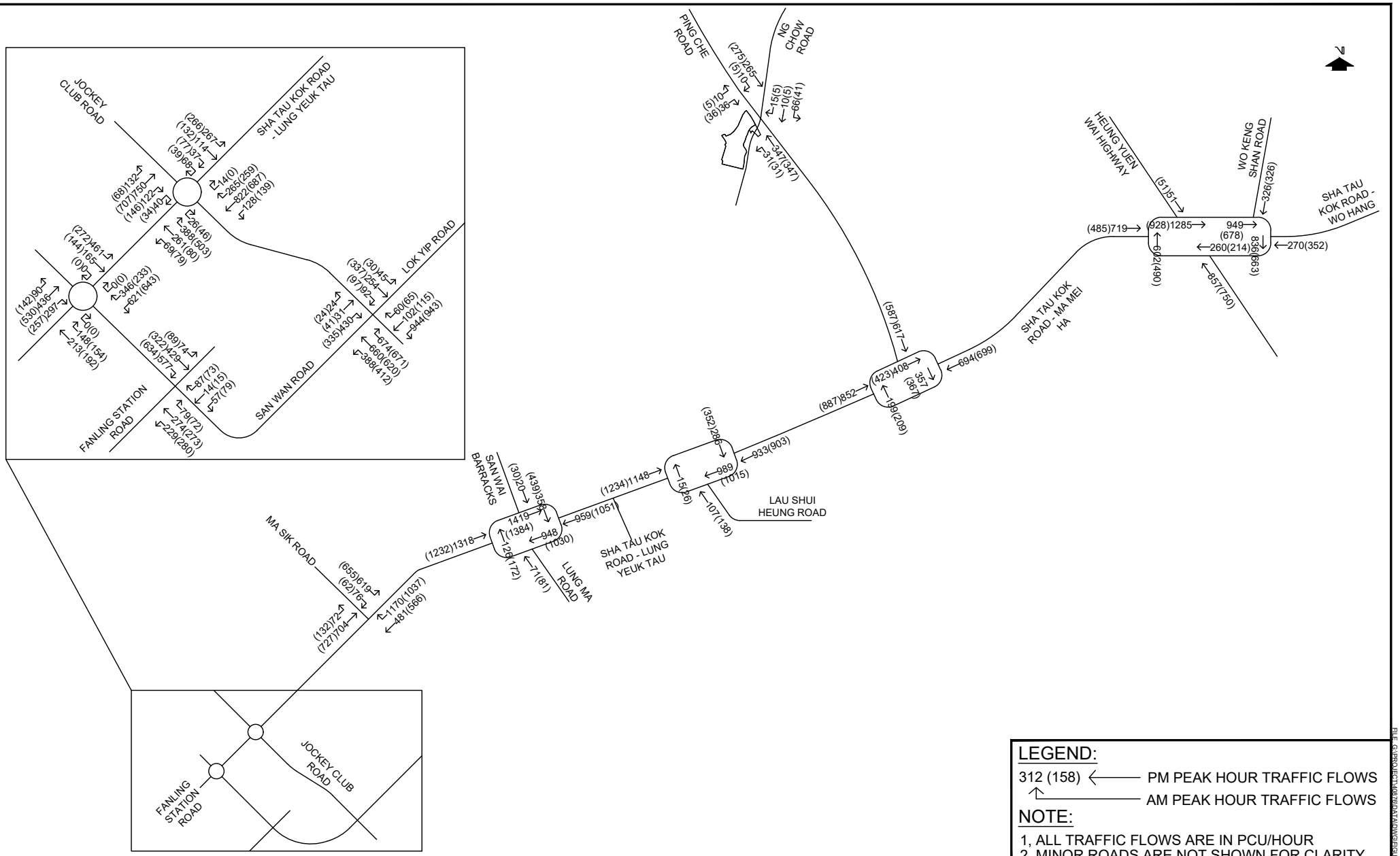
FILE: G:\PROJECT\40876\DATA\DWG\FIGURE1.1.DWG PLOT SCALE : 1 = 1

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE1.1.DWG PLOT SCALE : 1 = 1



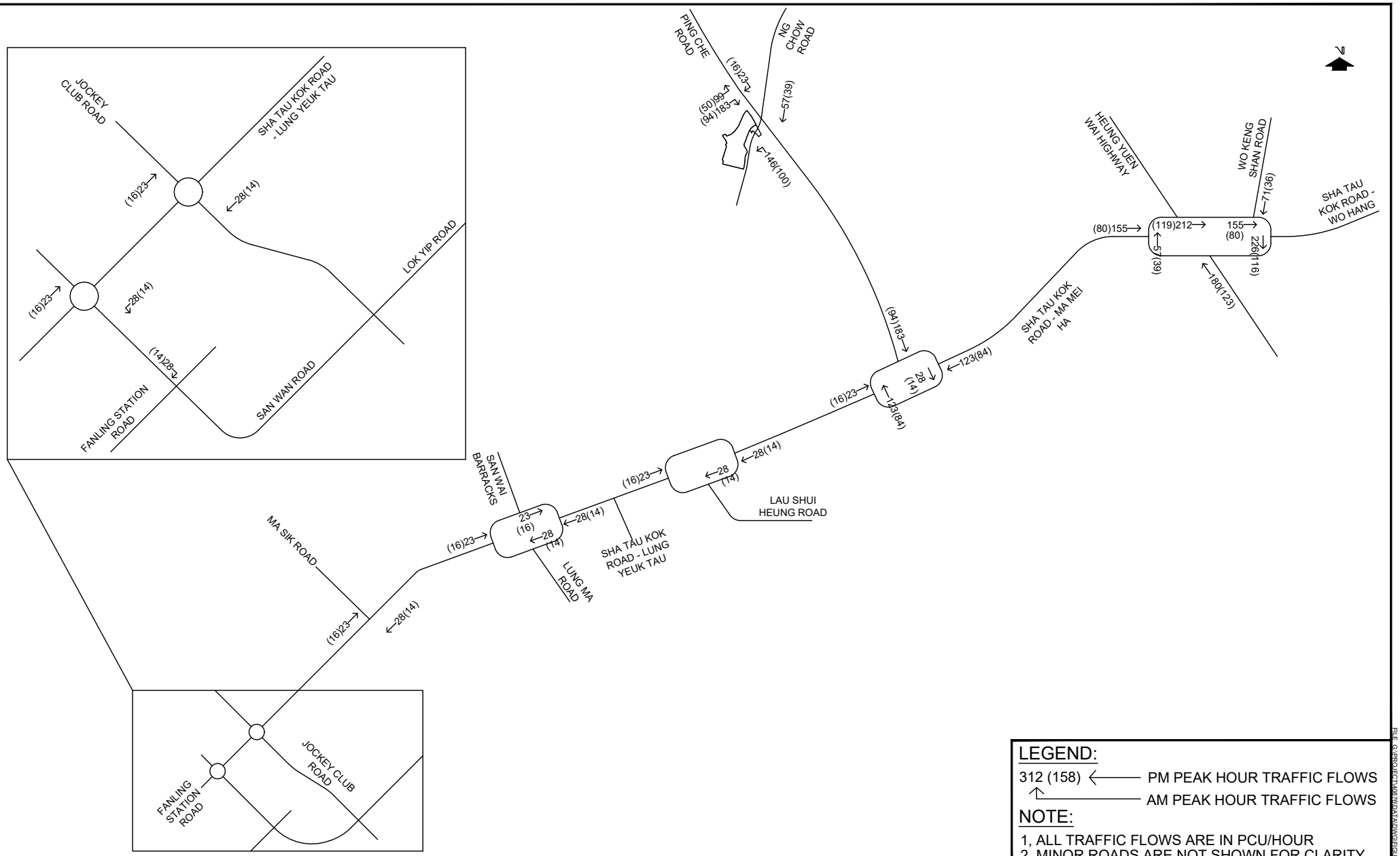
PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 3.1	REV. B
DESIGNED SLN / DATE AUG 2024	DRAWING TITLE LOCATION OF SURVEYED JUNCTIONS AND AREA OF INFLUENCE	LLA 顧問有限公司 Consultancy Limited	
DRAWN CLL / SCALE 1:25000 @ A4			
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE3.1B.DWG PLOT SCALE : 1 = 1



PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 3.2	REV. B
DESIGNED SLN / DATE JUL 2024	DRAWING TITLE 2023 EXISTING TRAFFIC FLOWS	LLA 顧問有限公司 Consultancy Limited	
DRAWN CLL / SCALE N.T.S.			
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE3.2B.DWG PLOT SCALE : 1 = 1



LEGEND:

312 (158) ← PM PEAK HOUR TRAFFIC FLOWS

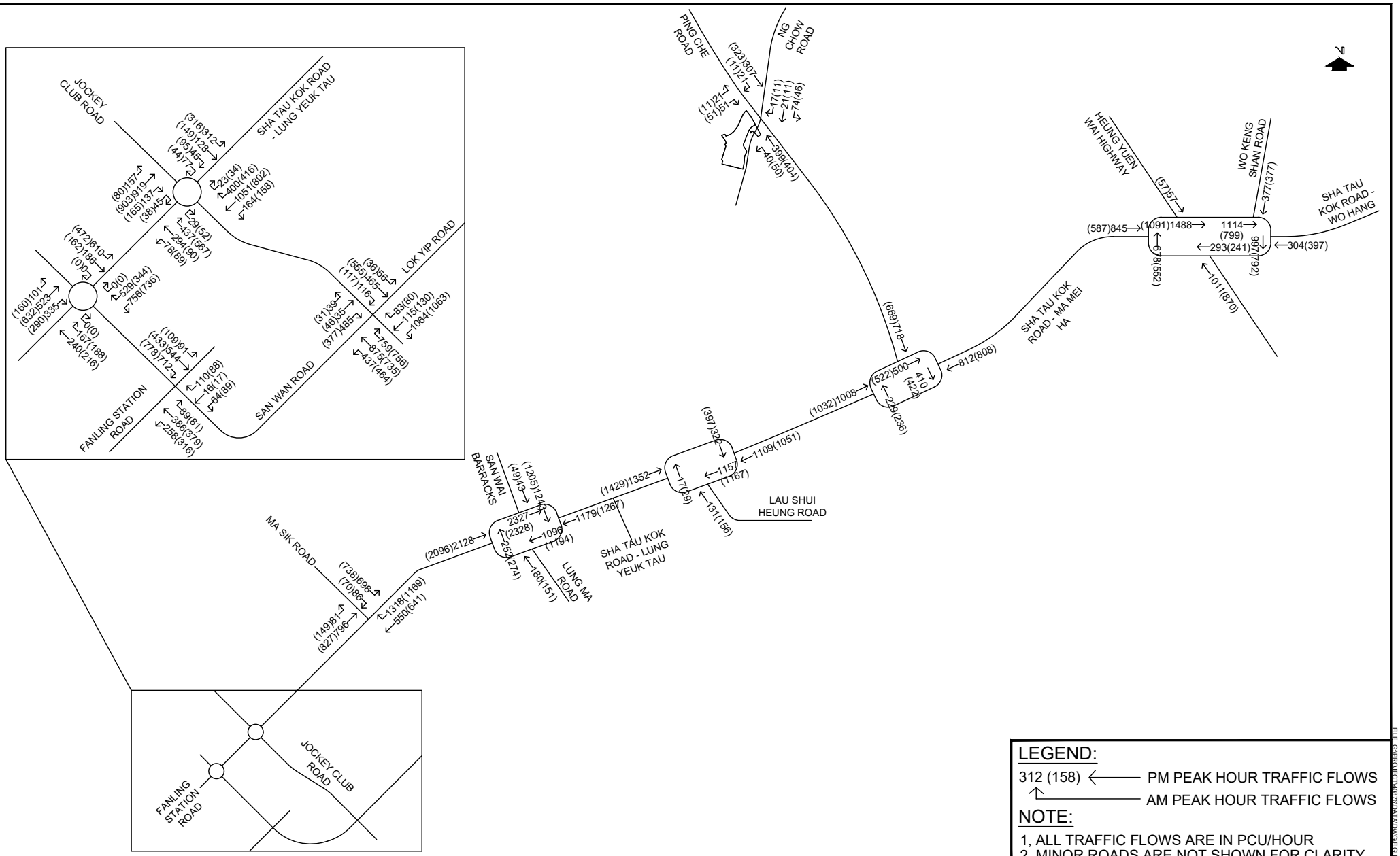
↑ AM PEAK HOUR TRAFFIC FLOWS

NOTE:

1, ALL TRAFFIC FLOWS ARE IN PCU/HOUR
2. MINOR ROADS ARE NOT SHOWN FOR CLARITY

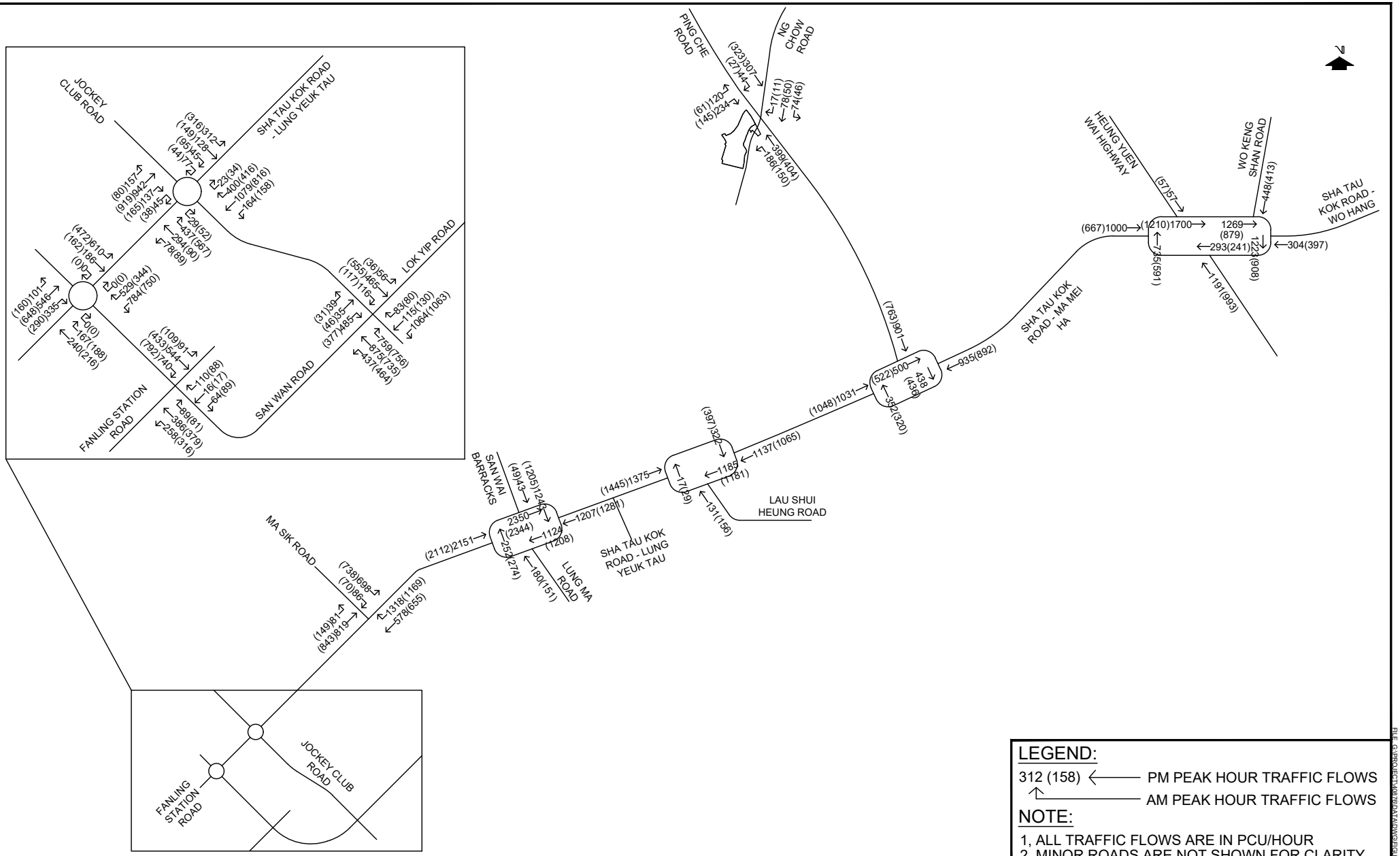
PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 4.1	REV. B
DESIGNED SLN / DATE AUG 2024	DRAWING TITLE DEVELOPMENT TRAFFIC FLOWS	LLA 顧問有限公司 Consultancy Limited	
DRAWN CLL / SCALE N.T.S.			
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE4.1B.DWG PLOT SCALE : 1 = 1



PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 4.2	REV. B
DESIGNED SLN / DATE AUG 2024	DRAWING TITLE 2035 REFERENCE TRAFFIC FLOWS		
DRAWN CLL / SCALE N.T.S.		LLA 顧問有限公司 Consultancy Limited	
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE4.2B.DWG PLOT SCALE : 1 = 1



LEGEND:

312 (158) ← PM PEAK HOUR TRAFFIC FLOWS

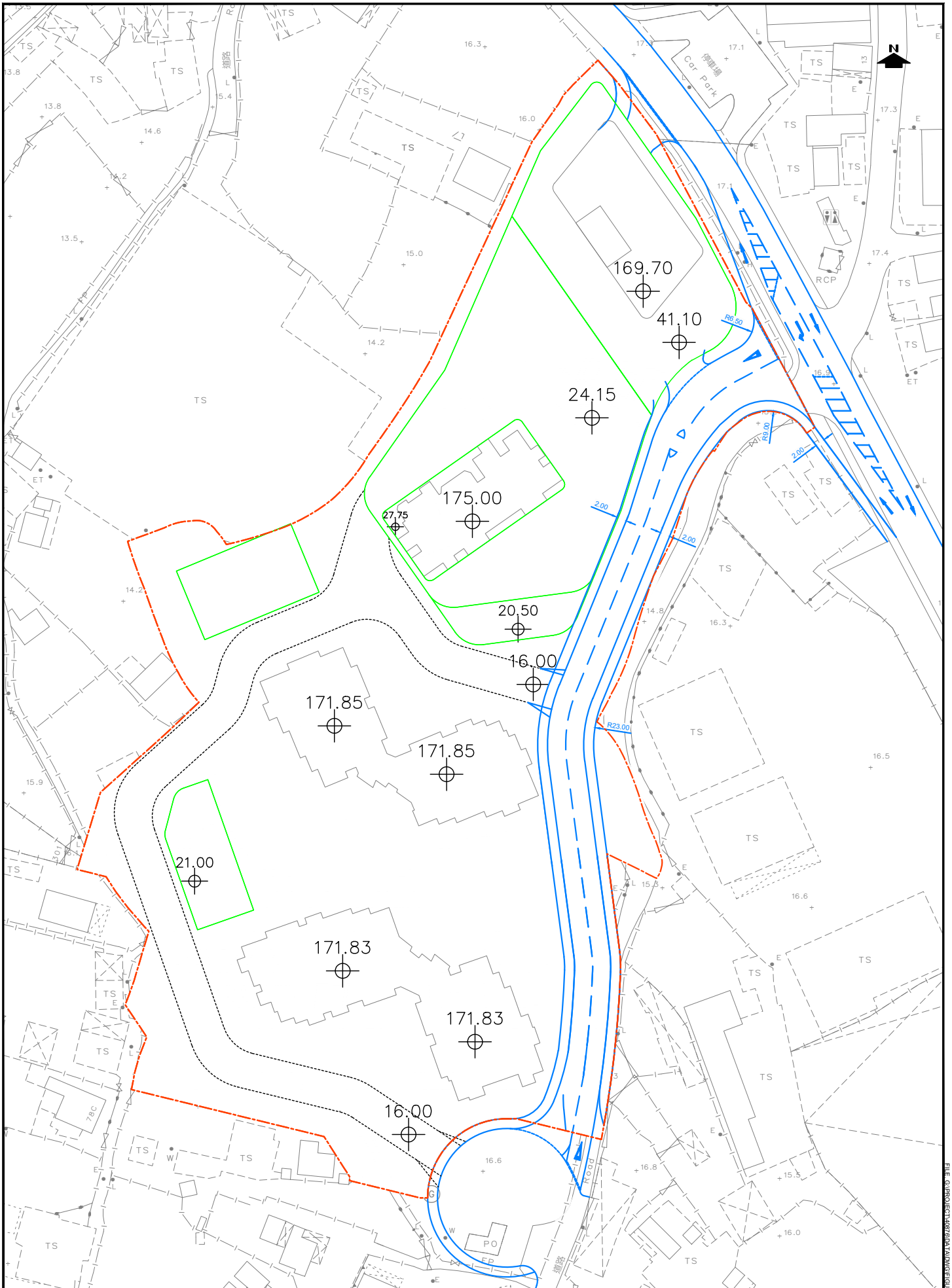
↑ AM PEAK HOUR TRAFFIC FLOWS

NOTE:

1, ALL TRAFFIC FLOWS ARE IN PCU/HOUR
2. MINOR ROADS ARE NOT SHOWN FOR CLARITY

PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 4.3	REV. B
DESIGNED SLN / DATE AUG 2024	DRAWING TITLE 2035 DESIGN TRAFFIC FLOWS	LLA 顧問有限公司 Consultancy Limited	
DRAWN CLL / SCALE N.T.S.			
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE4.3B.DWG PLOT SCALE : 1 = 1



PROJECT NO. 40876	PROJECT TITLE: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 4.4	REV. .
DESIGNED SKL / DATE MAR 2024	DRAWING TITLE: SCHEMATIC JUNCTION LAYOUT		
DRAWN CLL / SCALE 1:1000			
CHECKED SLN		LLA 顧問有限公司 Consultancy Limited	

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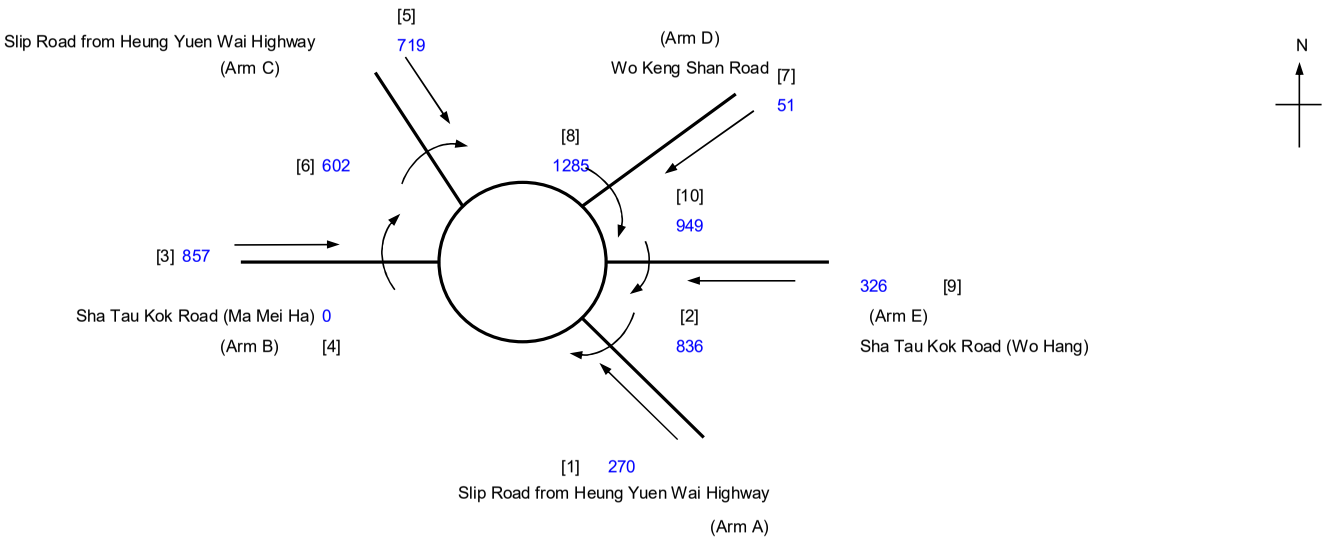
Appendix A

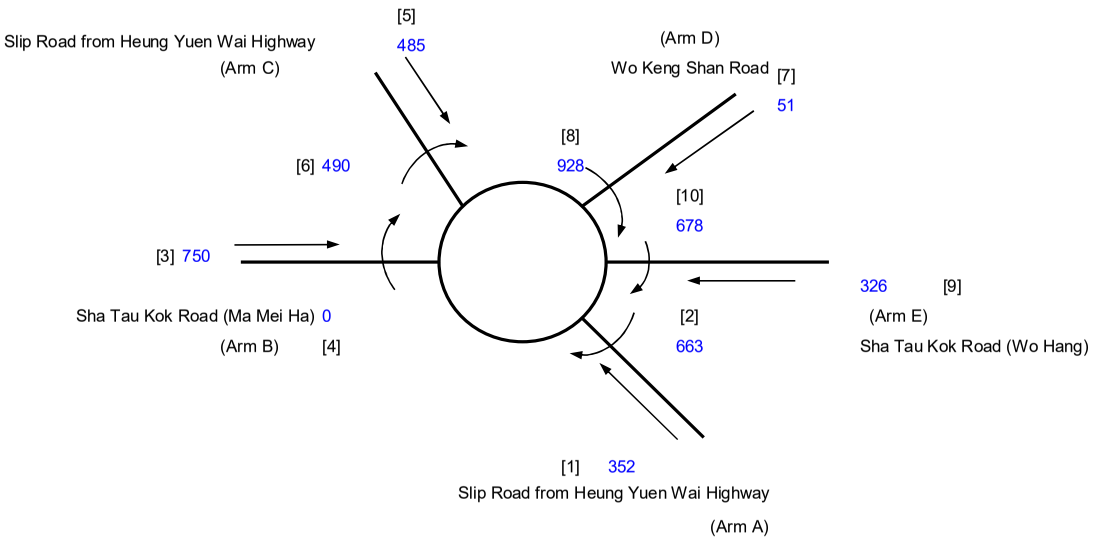
Junction Capacity Assessments
- Existing Scenario

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
			FILENAME: J1_STKR_HYWH.xls	CHECKED BY:	SLN	Oct-23
J1	Sha Tau Kok Road / Heung Yuen Wai Highway		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23



ARM			A	B	C	D	E			
INPUT PARAMETERS:										
V	=	Approach half width (m)	4.00	3.30	4.00	3.90	3.70			
E	=	Entry width (m)	9.90	7.60	9.80	7.70	7.70			
L	=	Effective length of flare (m)	24.00	33.00	28.00	27.00	35.00			
R	=	Entry radius (m)	60.00	40.00	40.00	44.00	27.00			
D	=	Inscribed circle diameter (m)	50.00	50.00	50.00	50.00	50.00			
A	=	Entry angle (degree)	35.00	35.00	35.00	35.00	10.00			
Q	=	Entry flow (pcu/h)	270	857	719	51	326			
Qc	=	Circulating flow across entry (pcu/h)	836	0	602	1285	949			
OUTPUT PARAMETERS:										
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.21	0.33	0.23	0.18			
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.01	1.01	1.01	1.08			
X2	=	V + ((E-V)/(1+2S))	7.30	6.33	7.49	6.52	6.63			
M	=	EXP((D-60)/10)	0	0	0	0	0			
F	=	303*X2	2213	1919	2269	1976	2009			
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37	1.37			
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.65	0.72	0.66	0.67			
Qe	=	K(F-Fc*Qc)	1647	1933	1851	1137	1489	Total In Sum =	2223	PCU
DFC	=	Design flow/Capacity = Q/Qe	0.16	0.44	0.39	0.04	0.22	DFC of Critical Approach =	0.44	

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
			FILENAME: J1_STKR_HYWH.xls	CHECKED BY:	SLN	Oct-23
J1	Sha Tau Kok Road / Heung Yuen Wai Highway		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23

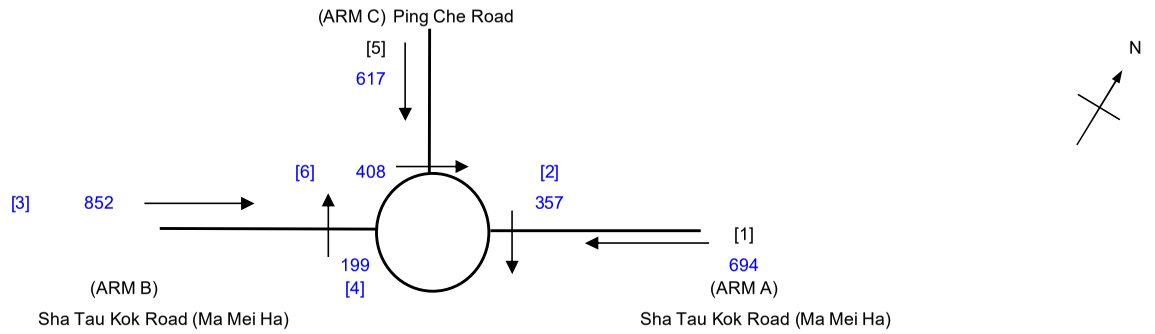


ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	4.00	3.30	4.00	3.90	3.70
E	=	Entry width (m)	9.90	7.60	9.80	7.70	7.70
L	=	Effective length of flare (m)	24.00	33.00	28.00	27.00	35.00
R	=	Entry radius (m)	60.00	40.00	40.00	44.00	27.00
D	=	Inscribed circle diameter (m)	50.00	50.00	50.00	50.00	50.00
A	=	Entry angle (degree)	35.00	35.00	35.00	35.00	10.00
Q	=	Entry flow (pcu/h)	352	750	485	51	326
Qc	=	Circulating flow across entry (pcu/h)	663	0	490	928	678
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.21	0.33	0.23	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.01	1.01	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	7.30	6.33	7.49	6.52	6.63
M	=	EXP((D-60)/10)	0	0	0	0	0
F	=	303*X2	2213	1919	2269	1976	2009
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.65	0.72	0.66	0.67
Qe	=	K(F-Fc*Qc)	1771	1933	1932	1375	1684
DFC	=	Design flow/Capacity = Q/Qe	0.20	0.39	0.25	0.04	0.19

Total In Sum = 1964 PCU

DFC of Critical Approach = 0.39

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title: Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
		FILENAME: J2_STKR_PCR.xlsx	CHECKED BY:	SLN	Oct-23
J2 Sha Tau Kok Road / Ping Che Road		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23

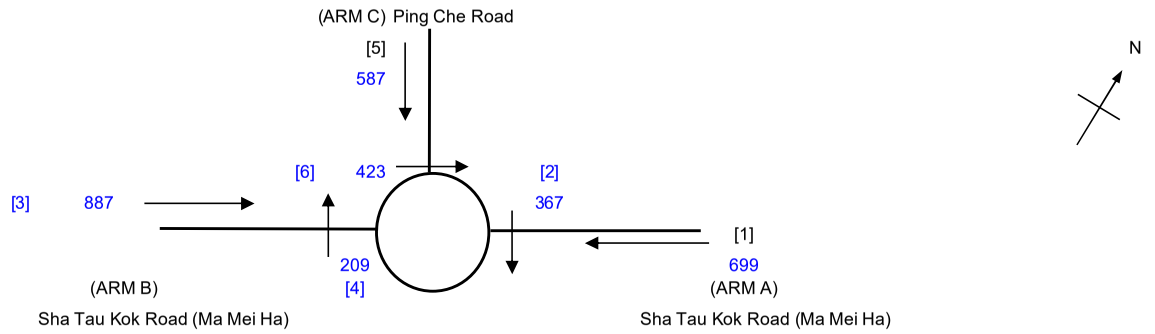


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.40	7.30	4.10
E	=	Entry width (m)	8.20	7.90	8.10
L	=	Effective length of flare (m)	1.00	1.00	5.00
R	=	Entry radius (m)	75.00	60.00	40.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	10.00	15.00	10.00
Q	=	Entry flow (pcu/h)	694	852	617
Qc	=	Circulating flow across entry (pcu/h)	357	199	408
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	1.28	0.96	1.28
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08	1.09
X2	=	V + ((E-V)/(1+2S))	7.62	7.51	5.22
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	2310	2274	1583
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.70	0.57
Qe	=	K(F-Fc*Qc)	2274	2315	1476
DFC	=	Design flow/Capacity = Q/Qe	0.31	0.37	0.42

Total In Sum = 3127 PCU

DFC of Critical Approach = 0.42

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title: Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
		FILENAME: J2_STKR_PCR.xlsx	CHECKED BY:	SLN	Oct-23
J2 Sha Tau Kok Road / Ping Che Road		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23

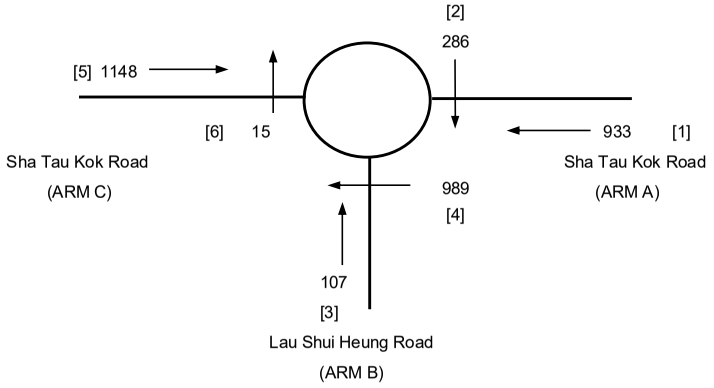


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.40	7.30	4.10
E	=	Entry width (m)	8.20	7.90	8.10
L	=	Effective length of flare (m)	1.00	1.00	5.00
R	=	Entry radius (m)	75.00	60.00	40.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	10.00	15.00	10.00
Q	=	Entry flow (pcu/h)	699	887	587
Qc	=	Circulating flow across entry (pcu/h)	367	209	423
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	1.28	0.96	1.28
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08	1.09
X2	=	V + ((E-V)/(1+2S))	7.62	7.51	5.22
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	2310	2274	1583
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.70	0.57
Qe	=	K(F-Fc*Qc)	2267	2308	1466
DFC	=	Design flow/Capacity = Q/Qe	0.31	0.38	0.40

Total In Sum = 3172 PCU

DFC of Critical Approach = 0.40

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
			FILENAME : J3_STKR_LSHR.x	CHECKED BY:	SLN	Oct-23
J3	Sha Tau Kok Road / Lau Shui Heung Road		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23

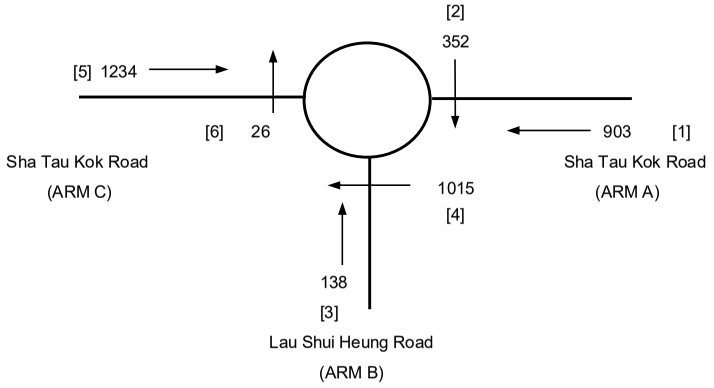


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	6.30	3.60	6.60
E	=	Entry width (m)	6.90	5.60	7.00
L	=	Effective length of flare (m)	1.00	7.00	1.00
R	=	Entry radius (m)	80.00	110.00	16.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	15.00	15.00	15.00
Q	=	Entry flow (pcu/h)	933	107	1148
Qc	=	Circulating flow across entry (pcu/h)	286	989	15
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.46	0.64
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.09	1.09	1.04
X2	=	V + ((E-V)/(1+2S))	6.51	4.64	6.78
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	1971	1407	2053
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.64	0.54	0.66
Qe	=	K(F-Fc*Qc)	1945	953	2124
DFC	=	Design flow/Capacity = Q/Qe	0.48	0.11	0.54

Total In Sum = 2188 PCU

DFC of Critical Approach = 0.54

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
			FILENAME : J3_STKR_LSHR.x	CHECKED BY:	SLN	Oct-23
J3	Sha Tau Kok Road / Lau Shui Heung Road		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23

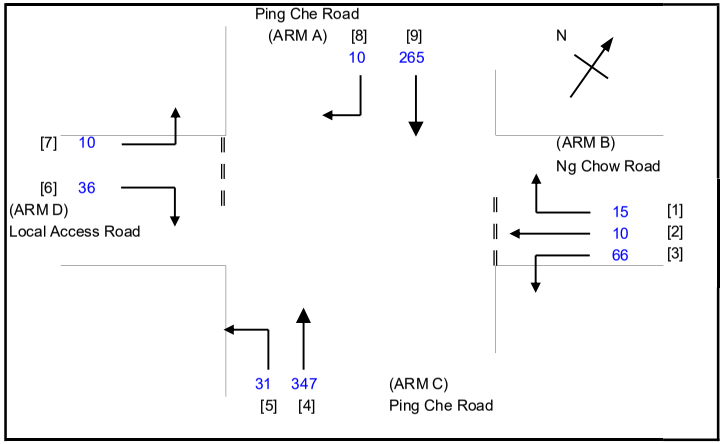


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	6.30	3.60	6.60
E	=	Entry width (m)	6.90	5.60	7.00
L	=	Effective length of flare (m)	1.00	7.00	1.00
R	=	Entry radius (m)	80.00	110.00	16.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	15.00	15.00	15.00
Q	=	Entry flow (pcu/h)	903	138	1234
Qc	=	Circulating flow across entry (pcu/h)	352	1015	26
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.46	0.64
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.09	1.09	1.04
X2	=	V + ((E-V)/(1+2S))	6.51	4.64	6.78
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	1971	1407	2053
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.64	0.54	0.66
Qe	=	K(F-Fc*Qc)	1899	938	2117
DFC	=	Design flow/Capacity = Q/Qe	0.48	0.15	0.58

Total In Sum = 2275 PCU

DFC of Critical Approach = 0.58

LLA CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
		FILENAME : J4_PCR_NCR.xlsx	CHECKED BY:	SLN	Oct-23
J4 Ping Che Road / Ng Chow Road		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	7.30	(metres)		
W cr	=	0	(metres)	Y =	0.748

MAJOR ROAD (ARM A)				MAJOR ROAD (ARM C)			
W a-d	=	3.65	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	100	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	347	(pcu/hr)
q a-c	=	265	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	10	(pcu/hr)	q c-d	=	31	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	0.00	(metres)	W d-c	=	3.40	(metres)
W b-c	=	5.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	30	(metres)	Vl d-c	=	18	(metres)
Vr b-a	=	18	(metres)	Vr d-c	=	19	(metres)
Vr b-c	=	18	(metres)	Vr d-a	=	19	(metres)
q b-a	=	15	(pcu/hr)	q d-c	=	36	(pcu/hr)
q b-c	=	66	(pcu/hr)	q d-a	=	10	(pcu/hr)
q b-d	=	10	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.554	X a	=	0.982
X c	=	0.586	X d	=	0.817
Z b	=	1.023	Z d	=	0.597
M b	=	0.950	M d	=	0.550

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.0401	r d-c	=	0.096
ql b-d	=	5.2005 (pcu/hr)	ql d-b	=	0 (pcu/hr)
qr b-d	=	4.7995 (pcu/hr)	qr d-b	=	0 (pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	269 (pcu/hr)	Q d-c	=	374 (pcu/hr)
Q b-c	=	682 (pcu/hr)	Q d-a	=	377 (pcu/hr)
Q c-b	=	392 (pcu/hr)	Q a-d	=	631 (pcu/hr)
Ql b-d	=	463 (pcu/hr)	Ql d-b	=	264 (pcu/hr)
Qr b-d	=	270 (pcu/hr)	Qr d-b	=	392 (pcu/hr)
Q b-acd	=	480 (pcu/hr)	Q d-abc	=	375 (pcu/hr)

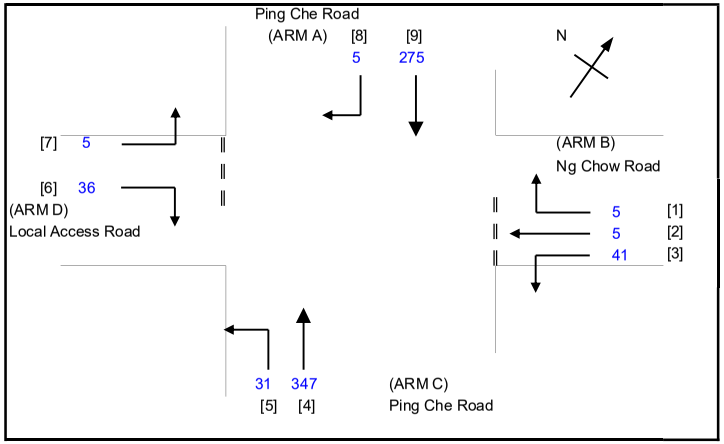
TOTAL FLOW = 790 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0558
DFC b-c	=	0.0968
DFC c-b	=	0.0000
DFCl b-d	=	0.0112
DFCr b-d	=	0.0178
DFC d-c	=	0.0963
DFC d-a	=	0.0265
DFC a-d	=	0.0158
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000
DFC b-acd (shared lane)	=	0.1897
DFC d-abc (shared lane)	=	0.1228

CRITICAL DFC = 0.19

LLA CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Oct-23
		FILENAME : J4_PCR_NCR.xlsx	CHECKED BY:	SLN	Oct-23
J4 Ping Che Road / Ng Chow Road		REFERENCE NO.:	REVIEWED BY:	SLN	Oct-23



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	7.30	(metres)		
W cr	=	0	(metres)	Y =	0.748

MAJOR ROAD (ARM A)				MAJOR ROAD (ARM C)			
W a-d	=	3.65	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	100	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	347	(pcu/hr)
q a-c	=	275	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	5	(pcu/hr)	q c-d	=	31	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	0.00	(metres)	W d-c	=	3.40	(metres)
W b-c	=	5.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	30	(metres)	Vl d-c	=	18	(metres)
Vr b-a	=	18	(metres)	Vr d-c	=	19	(metres)
Vr b-c	=	18	(metres)	Vr d-a	=	19	(metres)
q b-a	=	5	(pcu/hr)	q d-c	=	36	(pcu/hr)
q b-c	=	41	(pcu/hr)	q d-a	=	5	(pcu/hr)
q b-d	=	5	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.554	X a	=	0.982
X c	=	0.586	X d	=	0.817
Z b	=	1.023	Z d	=	0.597
M b	=	0.950	M d	=	0.550

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.0131		r d-c	=	0.094	
ql b-d	=	2.5327	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	2.4673	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	269	(pcu/hr)	Q d-c	=	382	(pcu/hr)
Q b-c	=	684	(pcu/hr)	Q d-a	=	377	(pcu/hr)
Q c-b	=	392	(pcu/hr)	Q a-d	=	631	(pcu/hr)
Ql b-d	=	462	(pcu/hr)	Ql d-b	=	264	(pcu/hr)
Qr b-d	=	269	(pcu/hr)	Qr d-b	=	392	(pcu/hr)
Q b-acd	=	525	(pcu/hr)	Q d-abc	=	381	(pcu/hr)

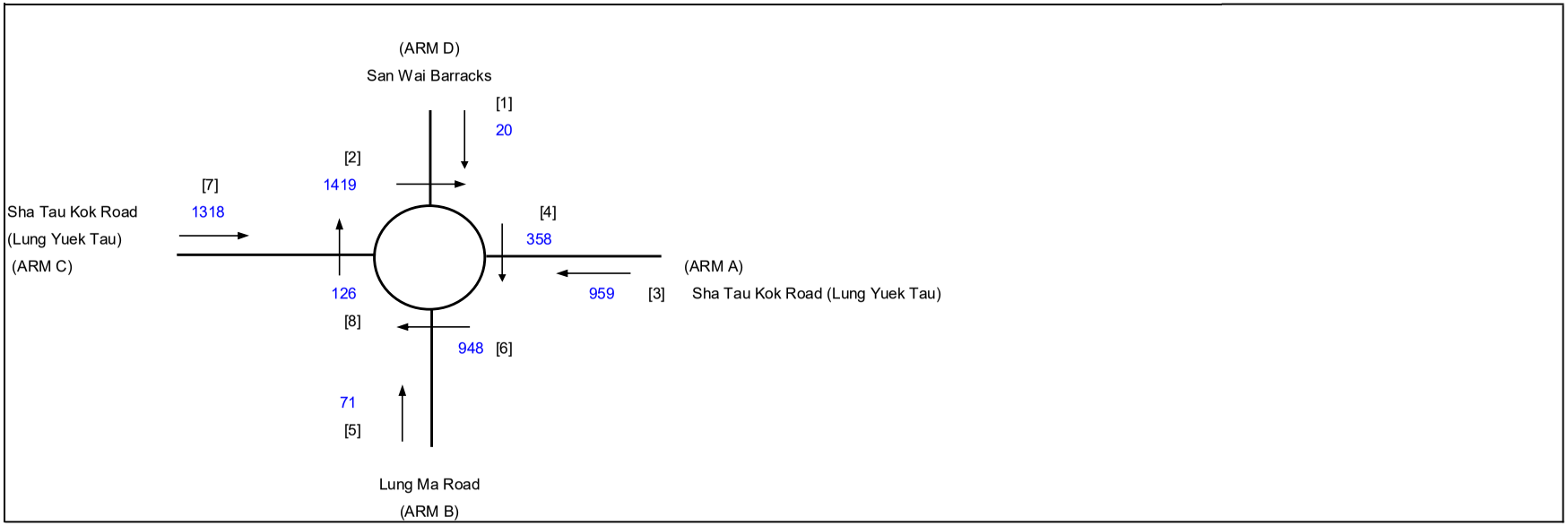
TOTAL FLOW = 750 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0186
DFC b-c	=	0.0599
DFC c-b	=	0.0000
DFCl b-d	=	0.0055
DFCr b-d	=	0.0092
DFC d-c	=	0.0942
DFC d-a	=	0.0133
DFC a-d	=	0.0079
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000
DFC b-acd (shared lane)	=	0.0971
DFC d-abc (shared lane)	=	0.1075

CRITICAL DFC = 0.11

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION				INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.:	40876	PREPARED BY:	SKL	Feb-24
		FILENAME :	J5_STKR_LMR.xls	CHECKED BY:	SLN	Feb-24
J5 Sha Tau Kok Road / Lung Ma Road		REFERENCE NO.:		REVIEWED BY:	SLN	Feb-24

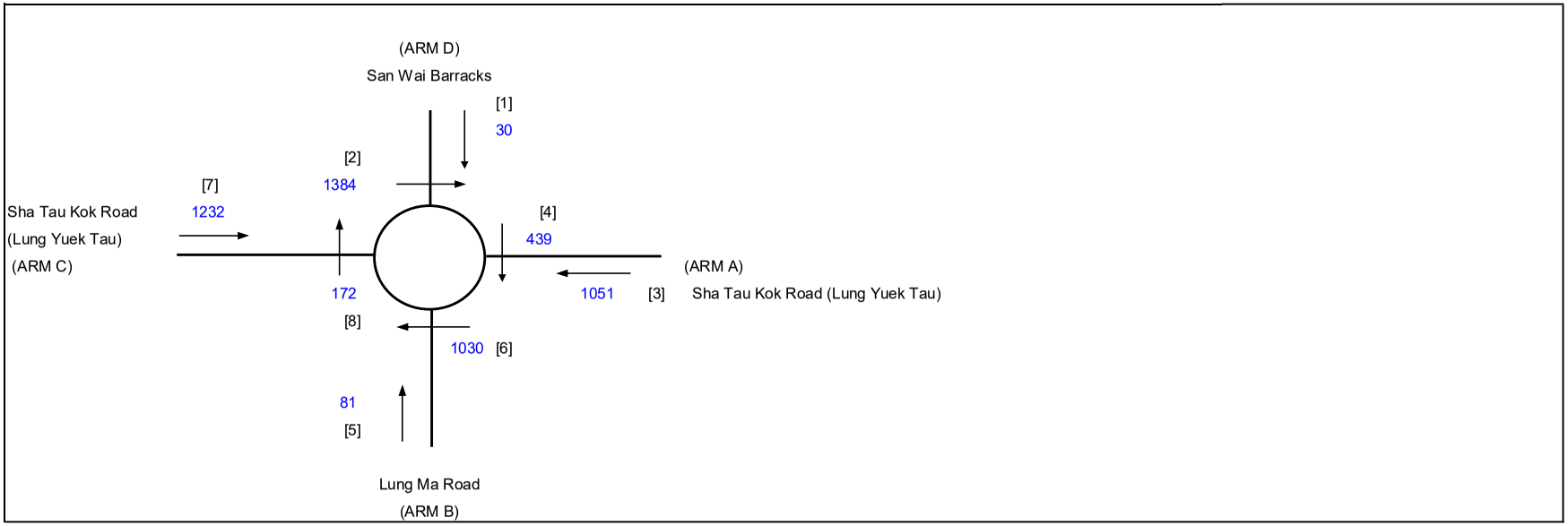


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.50	7.30	3.00
E	=	Entry width (m)	10.00	7.00	9.50	5.00
L	=	Effective length of flare (m)	11.00	20.00	30.00	15.00
R	=	Entry radius (m)	20.00	100.00	30.00	35.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	20.00	10.00	9.00	15.00
Q	=	Entry flow (pcu/h)	959	71	1318	20
Qc	=	Circulating flow across entry (pcu/h)	358	948	126	1419
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.28	0.12	0.21
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.03	1.11	1.09	1.07
X2	=	V + ((E-V)/(1+2S))	8.81	5.74	9.08	4.40
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2670	1740	2752	1334
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.76	0.59	0.78	0.52
Qe	=	K(F-Fc*Qc)	2481	1307	2891	643
DFC	=	Design flow/Capacity = Q/Qe	0.39	0.05	0.46	0.03

Total In Sum = 2368 PCU

DFC of Critical Approach = 0.46

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION				INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.:	40876	PREPARED BY:	SKL	Feb-24
		FILENAME :	J5_STKR_LMR.xls	CHECKED BY:	SLN	Feb-24
J5 Sha Tau Kok Road / Lung Ma Road		REFERENCE NO.:		REVIEWED BY:	SLN	Feb-24



ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.50	7.30	3.00
E	=	Entry width (m)	10.00	7.00	9.50	5.00
L	=	Effective length of flare (m)	11.00	20.00	30.00	15.00
R	=	Entry radius (m)	20.00	100.00	30.00	35.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	20.00	10.00	9.00	15.00
Q	=	Entry flow (pcu/h)	1051	81	1232	30
Qc	=	Circulating flow across entry (pcu/h)	439	1030	172	1384
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.28	0.12	0.21
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.03	1.11	1.09	1.07
X2	=	V + ((E-V)/(1+2S))	8.81	5.74	9.08	4.40
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2670	1740	2752	1334
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.76	0.59	0.78	0.52
Qe	=	K(F-Fc*Qc)	2417	1254	2852	662
DFC	=	Design flow/Capacity = Q/Qe	0.43	0.06	0.43	0.05

Total In Sum = 2394 PCU

DFC of Critical Approach = 0.43

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

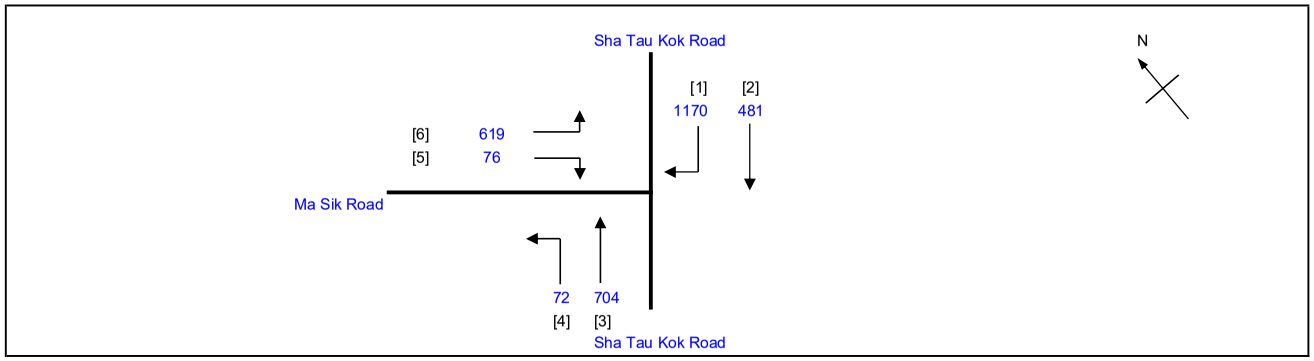
	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

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

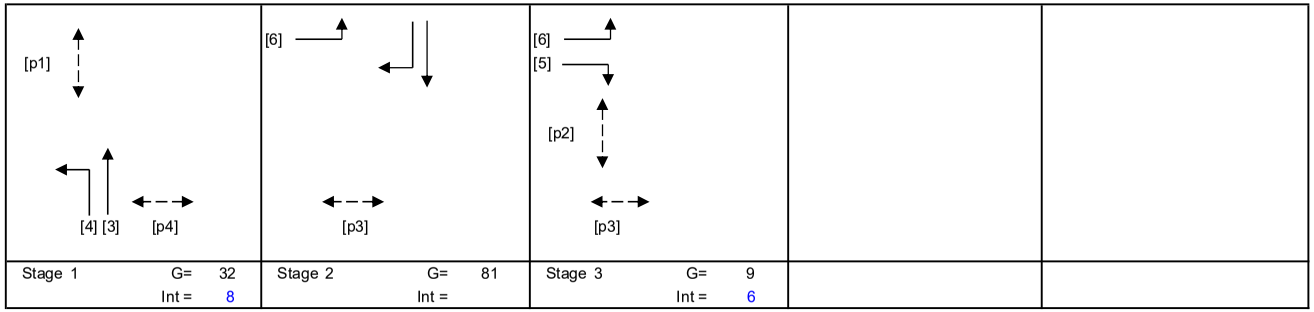
J6 Sha Tau Kok Road / Ma Sik Road

2023 Existing AM

PROJECT NO.: 40876
FILENAME : J6_STKR_MSR.xlsx



No. of stages per cycle		N =	3
Cycle time		C =	136 sec
Sum(y)		Y =	0.473
Loss time		L =	12 sec
Total Flow		=	3122 pcu
Co	= (1.5*L+5)/(1-Y)	=	43.7 sec
Cm	= L/(1-Y)	=	22.8 sec
Yult		=	0.810
R.C.ult	= (Yult-Y)/Y*100%	=	71.1 %
Cp	= 0.9*L/(0.9-Y)	=	25.3 sec
Ymax	= 1-L/C	=	0.912
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	**=**	**73 %**



Stage 1	G= 32	Stage 2	G= 81	Stage 3	G= 9
	Int = 8		Int =		Int = 6

Pedestrian Phase	Stage	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
p1	1	5	8		32	8
p2	3	5	10		5	10
p3	2,3	5	9		87	9
p4	1	5	7		33	7

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							12					
2	2	3.20	1			N	1935		481		481	0.00	1935							1935	0.249			65	81	0.519	54	24
1,2	2	3.20	1	26			2075		0	587	587	1.00	1962							1962	0.299			78	81	0.519	54	17
1	2	3.20	1	23			2075			583	583	1.00	1948							1948	0.299			78	81	0.519	54	17
6	2,3	3.50	1	15		N	1965	619			619	1.00	1786							1786	0.347	0.347		91	91	0.519	42	12
5	3	3.50	1	20			2105			76	76	1.00	1958							1958	0.039			10	10	0.519	12	66
3,4	1	3.50	1	15		N	1965	72	170		242	0.30	1908							1908	0.127	0.127		33	33	0.519	36	44
3	1	3.50	2				4210		534		534	0.00	4210							4210	0.127			33	33	0.519	45	42

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

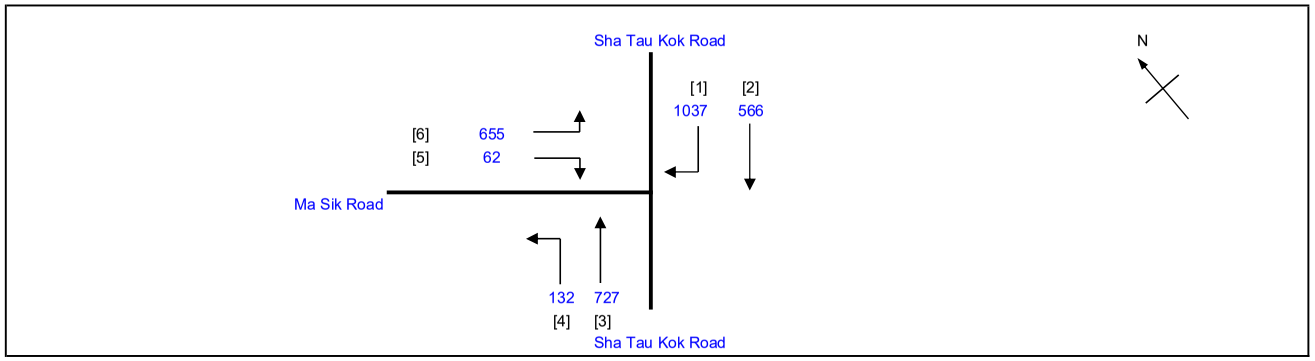
LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

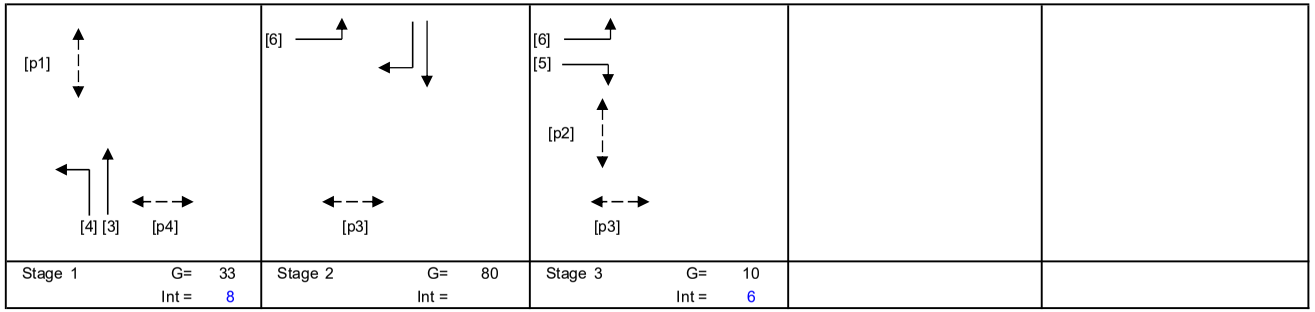
	INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories		
J6 Sha Tau Kok Road / Ma Sik Road		

2023 Existing PM

PROJECT NO.:	40876	Prepared By:	SKL	Aug-24
FILENAME :	J6_STKR_MSR.xlsx	Checked By:	SLN	Aug-24
		Reviewed By:	SLN	Aug-24



No. of stages per cycle	N =	3
Cycle time	C =	136 sec
Sum(y)	Y =	0.508
Loss time	L =	15 sec
Total Flow	=	3179 pcu
Co = (1.5*L+5)/(1-Y)	=	55.9 sec
Cm = L/(1-Y)	=	30.5 sec
Yult	=	0.788
R.C.ult = (Yult-Y)/Y*100%	=	55.1 %
Cp = 0.9*L/(0.9-Y)	=	34.4 sec
Ymax = 1-L/C	=	0.890
R.C.(C) = (0.9*Ymax-Y)/Y*100%	**=**	**58 %**



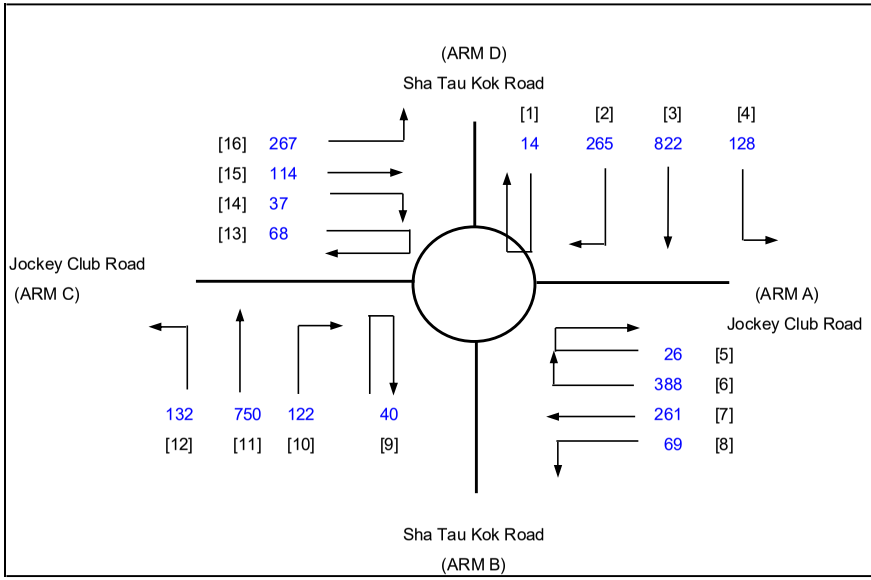
Stage 1	G= 33	Int = 8
Stage 2	G= 80	Int =
Stage 3	G= 10	Int = 6

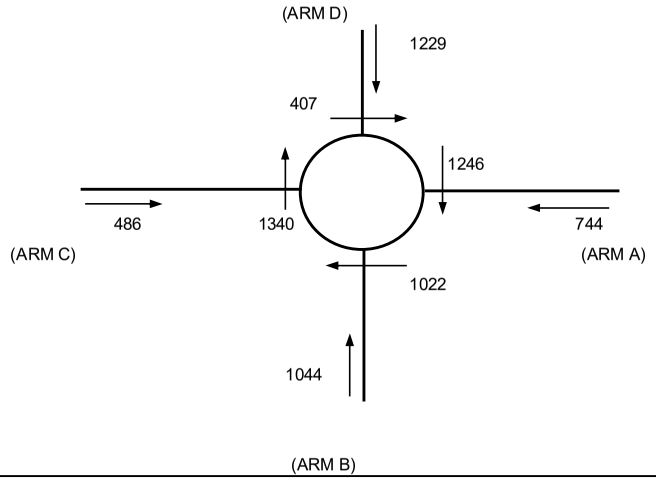
Pedestrian Phase	Stage	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
p1	1	5	8		33	8
p2	3	5	10		6	10
p3	2,3	5	9		86	9
p4	1	5	7		34	7

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							12					
2	2	3.20	1			N	1935		531		531	0.00	1935							1935	0.274			65	80	0.571	60	25
1,2	2	3.20	1	26			2075		35	504	539	0.94	1969							1969	0.274			65	80	0.571	60	25
1	2	3.20	1	23			2075			533	533	1.00	1948							1948	0.274			65	80	0.571	60	25
6	2,3	3.50	1	15		N	1965	655			655	1.00	1786							1786	0.367	0.367		87	87	0.571	48	14
5	3	3.50	1	20			2105			62	62	1.00	1958							1958	0.032		3	8	11	0.571	12	76
3,4	1	3.50	1	15		N	1965	132	132		264	0.50	1871							1871	0.141	0.141		34	34	0.571	42	45
3	1	3.50	2				4210		595		595	0.00	4210							4210	0.141			34	34	0.571	48	42

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J7_STKR_JCR.xl	CHECKED BY:	SLN	Aug-24
J7 Sha Tau Kok Road / Jockey Club Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



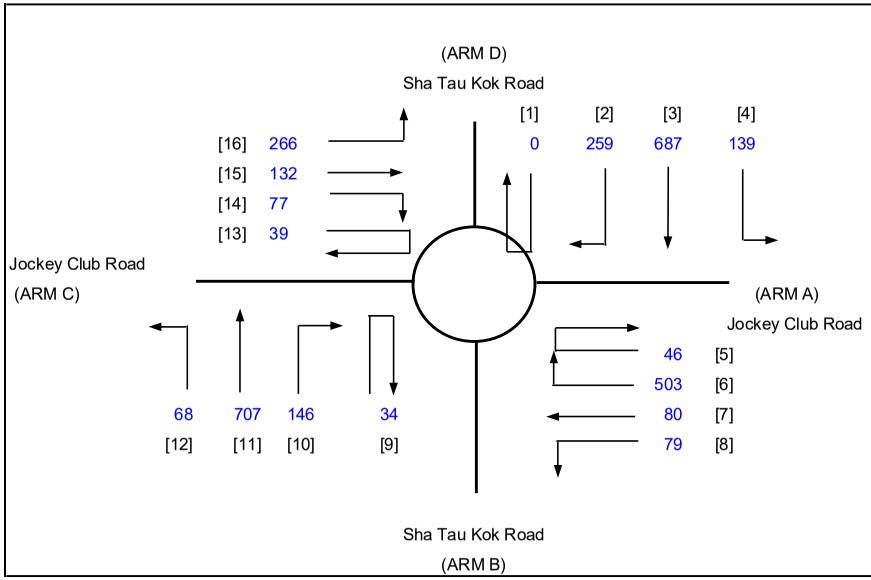


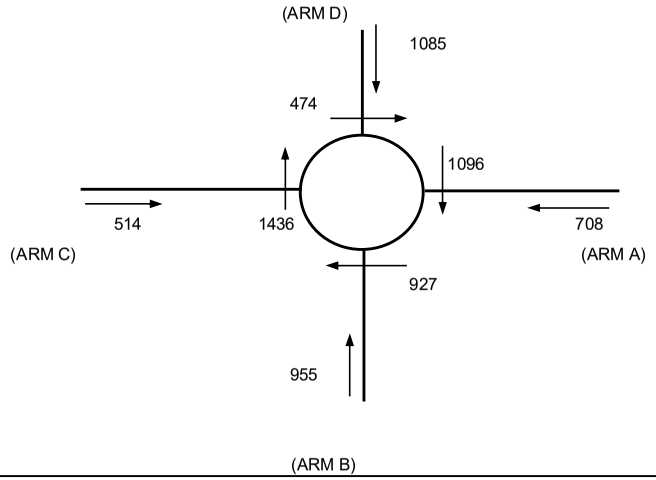
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.00	7.00	8.00	7.50
E	=	Entry width (m)	7.50	10.00	8.50	8.00
L	=	Effective length of flare (m)	1.00	15.00	2.00	4.00
R	=	Entry radius (m)	25.00	40.00	60.00	35.00
D	=	Inscribed circle diameter (m)	65.00	65.00	65.00	65.00
A	=	Entry angle (degree)	10.00	40.00	20.00	10.00
Q	=	Entry flow (pcu/h)	744	1044	486	1229
Qc	=	Circulating flow across entry (pcu/h)	1246	1022	1340	407
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.32	0.40	0.20
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	0.99	1.07	1.09
X2	=	V + ((E-V)/(1+2S))	7.19	8.83	8.28	7.86
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2179	2675	2508	2381
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.61	0.69	0.66	0.64
Qe	=	K(F-Fc*Qc)	1533	1949	1729	2311
DFC	=	Design flow/Capacity = Q/Qe	0.49	0.54	0.28	0.53

Total In Sum = 2127 PCU

DFC of Critical Approach = 0.54

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J7_STKR_JCR.xl	CHECKED BY:	SLN	Aug-24
J7 Sha Tau Kok Road / Jockey Club Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.00	7.00	8.00	7.50
E	=	Entry width (m)	7.50	10.00	8.50	8.00
L	=	Effective length of flare (m)	1.00	15.00	2.00	4.00
R	=	Entry radius (m)	25.00	40.00	60.00	35.00
D	=	Inscribed circle diameter (m)	65.00	65.00	65.00	65.00
A	=	Entry angle (degree)	10.00	40.00	20.00	10.00
Q	=	Entry flow (pcu/h)	708	955	514	1085
Qc	=	Circulating flow across entry (pcu/h)	1096	927	1436	474
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.32	0.40	0.20
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	0.99	1.07	1.09
X2	=	V + ((E-V)/(1+2S))	7.19	8.83	8.28	7.86
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2179	2675	2508	2381
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.61	0.69	0.66	0.64
Qe	=	K(F-Fc*Qc)	1632	2014	1661	2264
DFC	=	Design flow/Capacity = Q/Qe	0.43	0.47	0.31	0.48

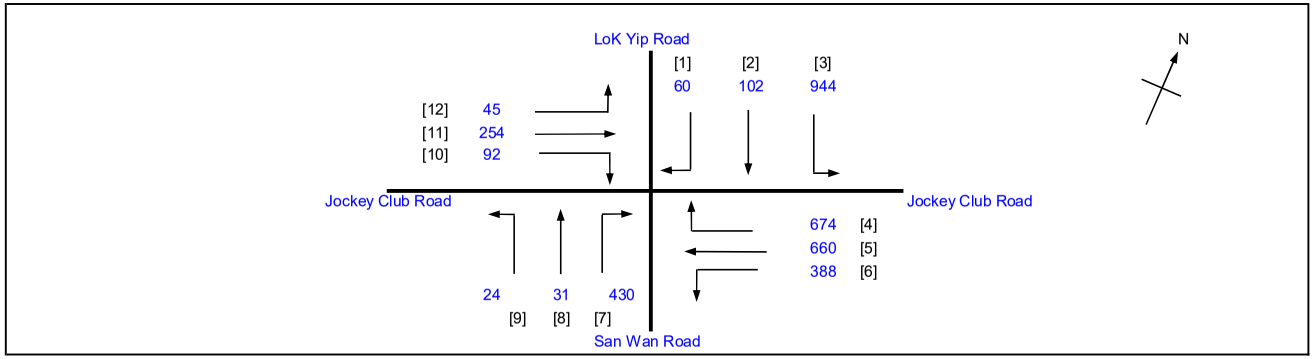
Total In Sum = 1856 PCU

DFC of Critical Approach = 0.48

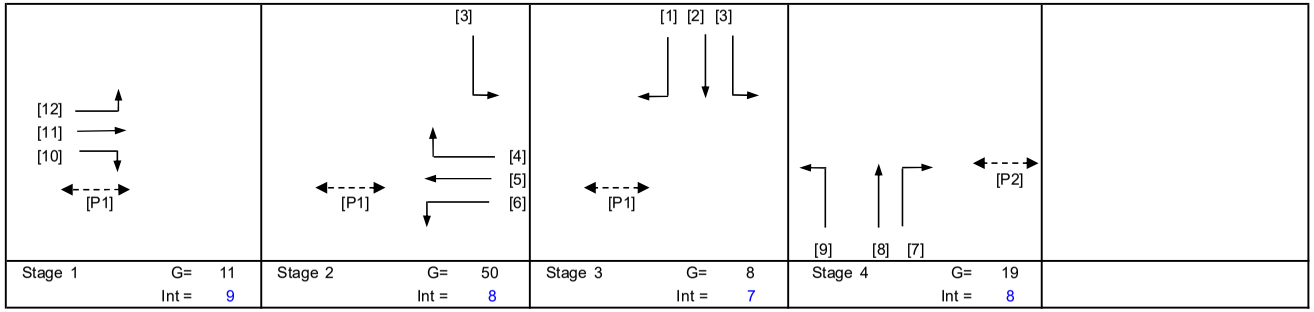
LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

		INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
2023 Existing AM	FILENAME : J8_LYR_JCR_SWR.xlsx	Checked By:	SLN	Aug-24
J8 Lok Yip Road / Jockey Club Road / San Wan Road		Reviewed By:	SLN	Aug-24



No. of stages per cycle		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.505
Loss time		L =	28 sec
Total Flow		=	3704 pcu
Co	= (1.5*L+5)/(1-Y)	=	94.9 sec
Cm	= L/(1-Y)	=	56.5 sec
Yult		=	0.690
R.C.ult	= (Yult-Y)/Y*100%	=	36.7 %
Cp	= 0.9*L/(0.9-Y)	=	63.8 sec
Ymax	= 1-L/C	=	0.767
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**37 %**



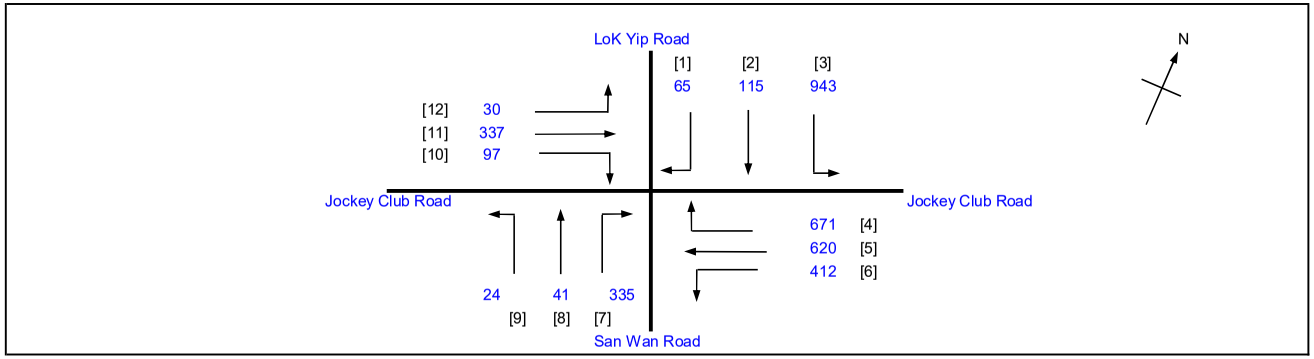
Stage 1	G= 11	Int = 9
Stage 2	G= 50	Int = 8
Stage 3	G= 8	Int = 7
Stage 4	G= 19	Int = 8

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	1,2,3	9.4	7	9	0	62	9
P2	4	10.8	6	12	4	11	12

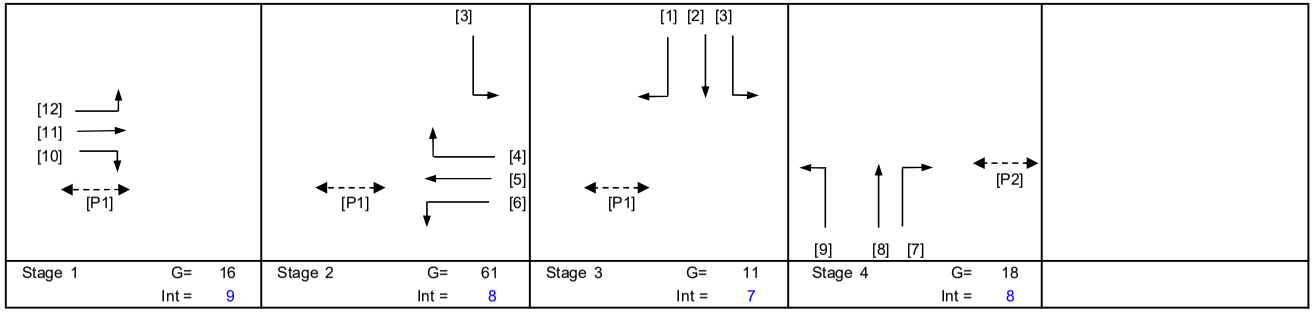
Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							28					
1	3	3.30	1	20			2085			60	60	1.00	1940							1940	0.031			6	9	0.416	6	56
2	3	3.30	1				2085		102		102	0.00	2085							2085	0.049	0.049		9	9	0.658	18	69
3	2,3	3.30	2	15		N	4030	944			944	1.00	3664							3664	0.258			47	47	0.658	57	29
4	2	3.30	1	20			2085			541	541	1.00	1940							1940	0.279			51	51	0.658	60	29
4,5	2	3.30	1	20			2085		439	133	572	0.23	2049							2049	0.279			51	51	0.658	60	28
5,6	2	3.30	1	15		N	1945	388	221		609	0.64	1829	30	353					2181	0.279	0.279		51	51	0.658	66	28
7	4	3.40	1	20			2095			215	215	1.00	1949							1949	0.110	0.110		20	20	0.658	36	52
7,8	4	3.40	1	20			2095		0	215	215	1.00	1949							1949	0.110			20	20	0.658	36	52
8,9	4	3.30	1	15		N	1945	24	31		55	0.44	1864							1864	0.030			5	20	0.176	6	40
10,11	1	3.40	1	20			2095		40	92	132	0.70	1991							1991	0.066	0.066		12	12	0.658	24	62
11	1	3.40	1				2095		137		137	0.00	2095							2095	0.065			12	12	0.649	24	61
11,12	1	3.40	1	10		N	1955	45	77		122	0.37	1853							1853	0.066			12	12	0.654	18	63

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED	**TRAFFIC SIGNAL CALCULATION**			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
J8 Lok Yip Road / Jockey Club Road / San Wan Road		FILENAME : J8_LYR_JCR_SWR.xlsx	Checked By:	SLN	Aug-24
			Reviewed By:	SLN	Aug-24



No. of stages per cycle		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.412
Loss time		L =	29 sec
Total Flow		=	3690 pcu
Co	= (1.5*L+5)/(1-Y)	=	82.5 sec
Cm	= L/(1-Y)	=	49.3 sec
Yult		=	0.683
R.C.ult	= (Yult-Y)/Y*100%	=	65.6 %
Cp	= 0.9*L/(0.9-Y)	=	53.5 sec
Ymax	= 1-L/C	=	0.758
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**66 %**



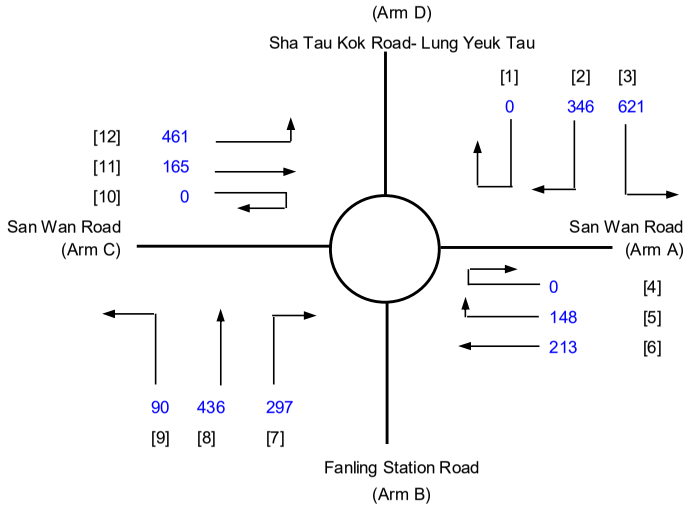
Stage 1	G= 16	Stage 2	G= 61	Stage 3	G= 11	Stage 4	G= 18
	Int = 9		Int = 8		Int = 7		Int = 8

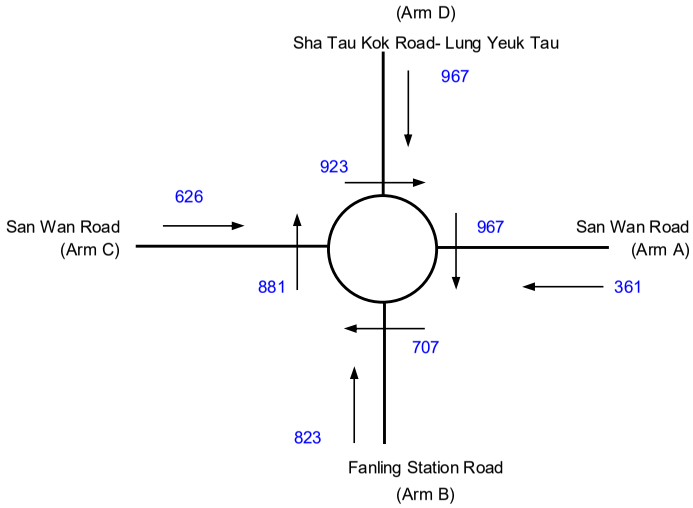
Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	1,2,3	9.4	7	9	0	77	9
P2	4	10.8	6	12	4	10	12

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							29					
1	3	3.30	1	20			2085			65	65	1.00	1940							1940	0.034			7	12	0.330	6	49
2	3	3.30	1				2085		115		115	0.00	2085							2085	0.055	0.055		12	12	0.543	18	55
3	2,3	3.30	2	15		N	4030	943			943	1.00	3664							3664	0.257			57	57	0.543	48	21
4	2	3.30	1	20			2085			541	541	1.00	1940							1940	0.279			62	62	0.542	48	20
4,5	2	3.30	1	20			2085		443	130	573	0.23	2050							2050	0.279	0.279		62	62	0.543	54	20
5,6	2	3.30	1	15		N	1945	412	177		589	0.70	1818	30	290					2108	0.279			62	62	0.543	54	19
7	4	3.40	1	20			2095			167	167	1.00	1949							1949	0.086			19	19	0.540	24	48
7,8	4	3.40	1	20			2095		0	168	168	1.00	1949							1949	0.086			19	19	0.543	24	48
8,9	4	3.30	1	15		N	1945	24	41		65	0.37	1876							1876	0.035			8	19	0.218	6	41
10,11	1	3.40	1	20			2095		58	97	155	0.63	2001							2001	0.077			17	17	0.543	24	50
11	1	3.40	1				2095		162		162	0.00	2095							2095	0.077			17	17	0.542	24	49
11,12	1	3.40	1	10		N	1955	30	117		147	0.20	1897							1897	0.077	0.077		17	17	0.543	24	50

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J9_SWR_STKR_FS	CHECKED BY:	SLN	Aug-24
J9 Sha Tau Kok Road / San Wan Road / Fanling Station Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



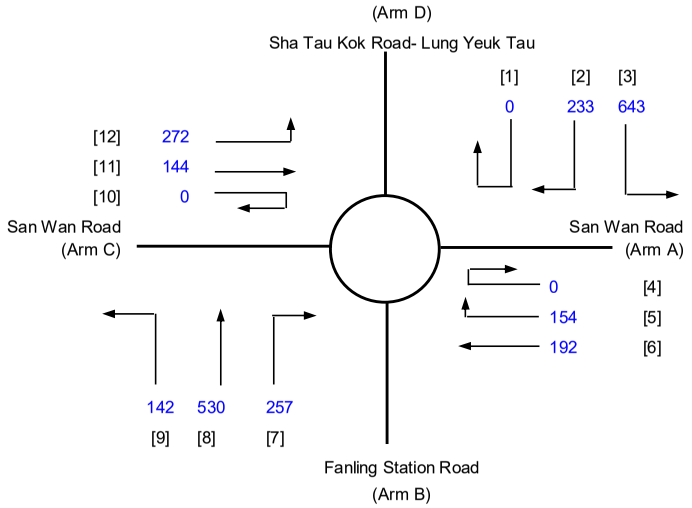


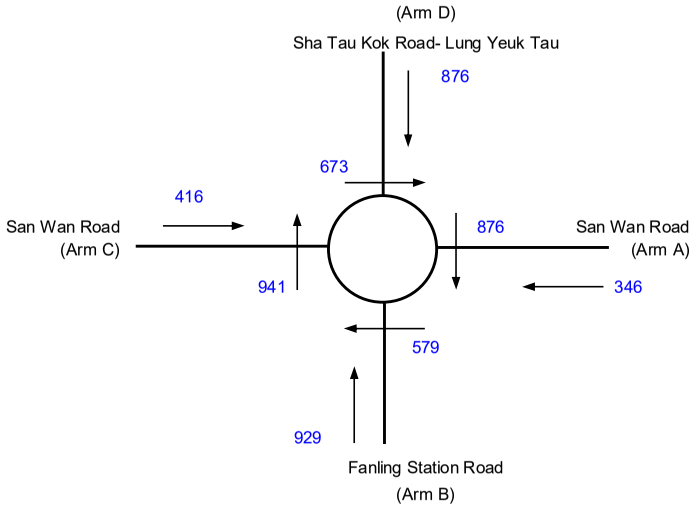
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.50	5.00	7.50	6.00
E	=	Entry width (m)	9.50	8.50	9.00	9.50
L	=	Effective length of flare (m)	50.00	15.00	50.00	50.00
R	=	Entry radius (m)	100.00	20.00	45.00	50.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	30.00	60.00	30.00	25.00
Q	=	Entry flow (pcu/h)	361	823	626	967
Qc	=	Circulating flow across entry (pcu/h)	967	707	881	923
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.37	0.05	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04	0.90	1.03	1.05
X2	=	V + ((E-V)/(1+2S))	9.27	7.00	8.87	8.86
M	=	EXP((D-60)/10)	1	1	1	1
F	=	303*X2	2810	2122	2687	2684
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.79	0.66	0.76	0.76
Qe	=	K(F-Fc*Qc)	2130	1483	2069	2072
DFC	=	Design flow/Capacity = Q/Qe	0.17	0.56	0.30	0.47

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.56

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2023 Existing PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J9_SWR_STKR_FS	CHECKED BY:	SLN	Aug-24
J9 Sha Tau Kok Road / San Wan Road / Fanling Station Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.50	5.00	7.50	6.00
E	=	Entry width (m)	9.50	8.50	9.00	9.50
L	=	Effective length of flare (m)	50.00	15.00	50.00	50.00
R	=	Entry radius (m)	100.00	20.00	45.00	50.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	30.00	60.00	30.00	25.00
Q	=	Entry flow (pcu/h)	346	929	416	876
Qc	=	Circulating flow across entry (pcu/h)	876	579	941	673
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.37	0.05	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04	0.90	1.03	1.05
X2	=	V + ((E-V)/(1+2S))	9.27	7.00	8.87	8.86
M	=	EXP((D-60)/10)	1	1	1	1
F	=	303*X2	2810	2122	2687	2684
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.79	0.66	0.76	0.76
Qe	=	K(F-Fc*Qc)	2204	1558	2022	2272
DFC	=	Design flow/Capacity = Q/Qe	0.16	0.60	0.21	0.39

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.60

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

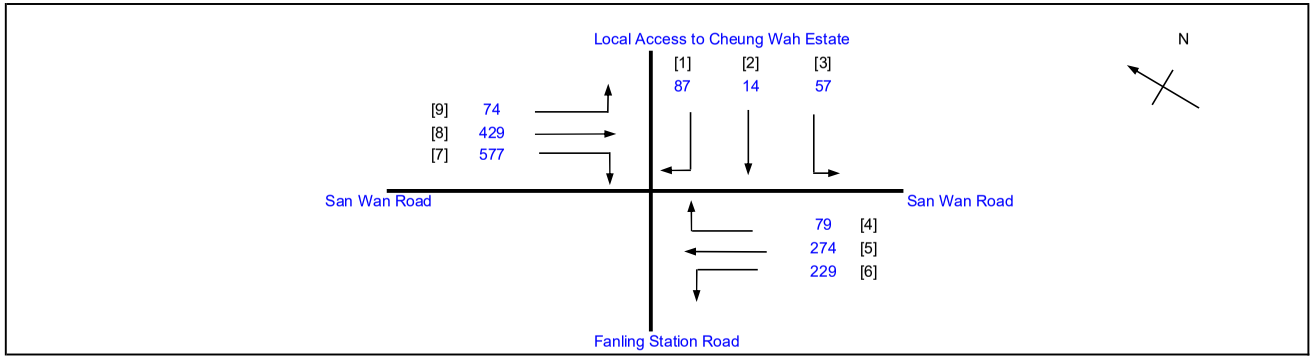
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

J10 San Wan Road / Fanling Station Road

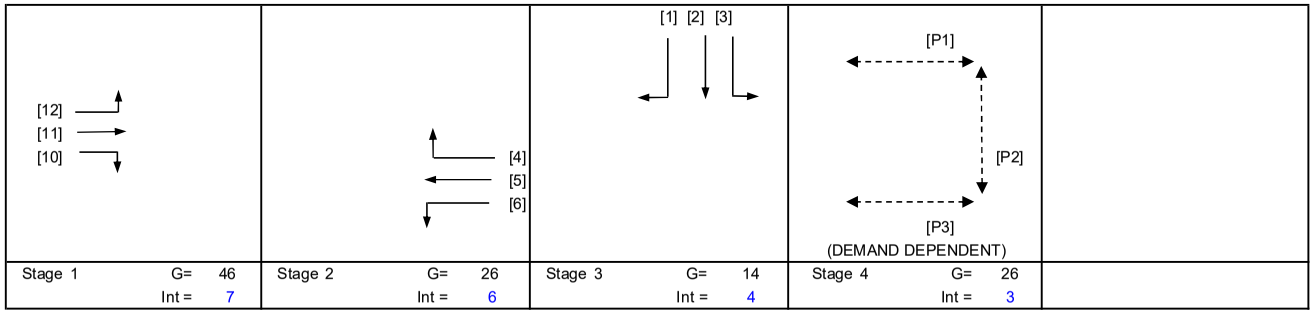
2023 Existing AM

PROJECT NO.: 40876

FILENAME : J10_SWR_FSR.xlsx



No. of stages per cycle		N =	4
Cycle time		C =	122 sec
Sum(y)		Y =	0.486
Loss time		L =	33 sec
Total Flow		=	1820 pcu
Co	= (1.5*L+5)/(1-Y)	=	106.0 sec
Cm	= L/(1-Y)	=	64.2 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	34.2 %
Cp	= 0.9*L/(0.9-Y)	=	71.8 sec
Ymax	= 1-L/C	=	0.730
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**35 %**



Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	4		6	15	5	9	15
P2	4		6	15	5	9	15
P3	4		6	15	5	9	15

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							17					
4	1	3.30	1	14			2085			483	483	1.00	1883							1883	0.256	0.256		47	47	0.666	60	32
4,5	1	3.30	1	14			2085		429	94	523	0.18	2046							2046	0.256			47	47	0.664	60	32
6	1	3.30	1	10		N	1945	74			74	1.00	1691							1691	0.044			8	47	0.114	6	22
2,3	2	3.50	1	18			2105	229	68		297	0.77	1978							1978	0.150	0.150		27	27	0.666	42	46
1,2	2	3.50	1	12		N	1965		206	79	285	0.28	1899							1899	0.150			27	27	0.666	42	46
7,8,9	3	6.00	1	12		N	2215	57	14	87	158	0.91	1988							1988	0.079	0.079		15	15	0.666	24	60
PED	4	(DEMAND DEPENDENT STAGE)																					26					

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

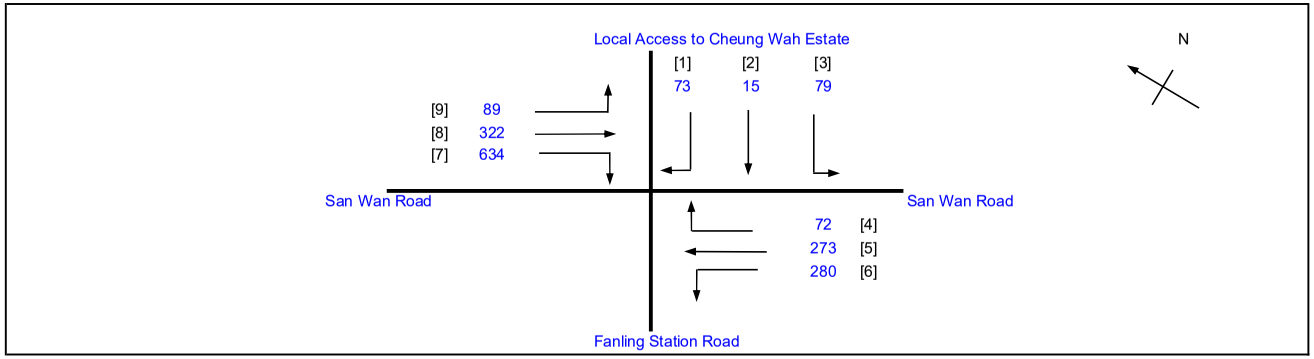
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

J10 San Wan Road / Fanling Station Road

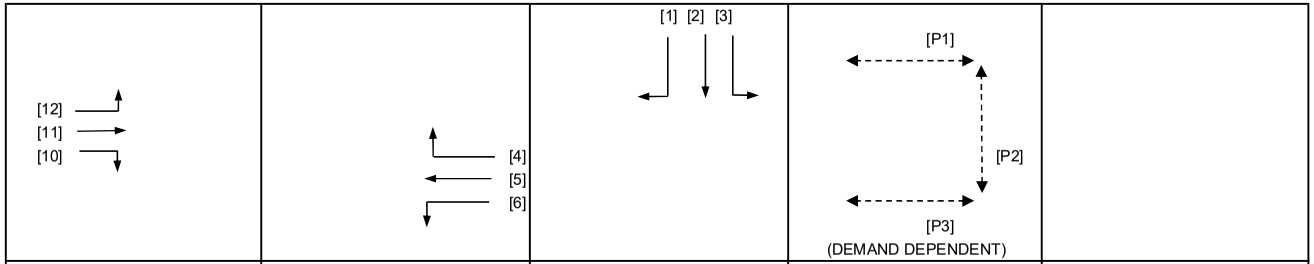
2023 Existing PM

PROJECT NO.: 40876

FILENAME : J10_SWR_FSR.xlsx



No. of stages per cycle	N =	4
Cycle time	C =	122 sec
Sum(y)	Y =	0.492
Loss time	L =	33 sec
Total Flow	=	1837 pcu
Co = (1.5*L+5)/(1-Y)	=	107.2 sec
Cm = L/(1-Y)	=	64.9 sec
Yult	=	0.653
R.C.ult = (Yult-Y)/Y*100%	=	32.8 %
Cp = 0.9*L/(0.9-Y)	=	72.7 sec
Ymax = 1-L/C	=	0.730
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	**34 %**



Stage 1	G= 44	Int = 7
Stage 2	G= 28	Int = 6
Stage 3	G= 14	Int = 4
Stage 4	G= 26	Int = 3

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	4		6	15	5	9	15
P2	4		6	15	5	9	15
P3	4		6	15	5	9	15

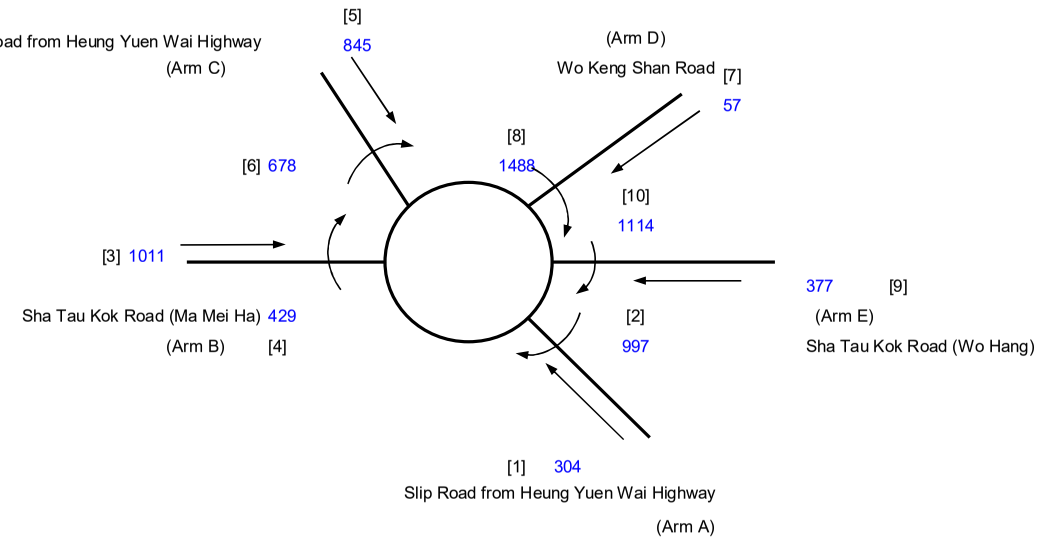
Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							17					
4	1	3.30	1	14			2085			463	463	1.00	1883							1883	0.246	0.246		45	45	0.674	54	34
4,5	1	3.30	1	14			2085		322	171	493	0.35	2010							2010	0.245			44	45	0.672	60	34
6	1	3.30	1	10		N	1945	89			89	1.00	1691							1691	0.053			10	45	0.144	6	24
2,3	2	3.50	1	18			2105	280	37		317	0.88	1961							1961	0.162	0.162		29	29	0.674	48	45
1,2	2	3.50	1	12		N	1965		236	72	308	0.23	1909							1909	0.161			29	29	0.674	42	45
7,8,9	3	6.00	1	12		N	2215	79	15	73	167	0.91	1989							1989	0.084	0.084		15	15	0.674	30	59
PED	4	(DEMAND DEPENDENT STAGE)																					26					

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

Appendix B

Junction Capacity Assessments
- Reference & Design Scenarios

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME: J1_STKR_HYWH.xls	CHECKED BY:	SLN	Aug-24
J1	Sha Tau Kok Road / Heung Yuen Wai Highway		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

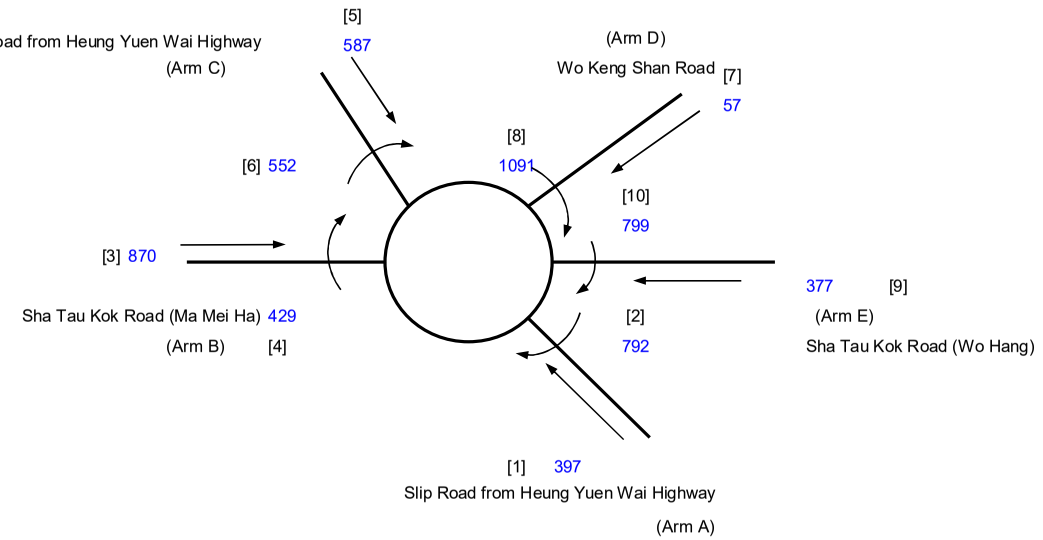


ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	4.00	3.30	4.00	3.90	3.70
E	=	Entry width (m)	9.90	7.60	9.80	7.70	7.70
L	=	Effective length of flare (m)	24.00	33.00	28.00	27.00	35.00
R	=	Entry radius (m)	60.00	40.00	40.00	44.00	27.00
D	=	Inscribed circle diameter (m)	50.00	50.00	50.00	50.00	50.00
A	=	Entry angle (degree)	35.00	35.00	35.00	35.00	10.00
Q	=	Entry flow (pcu/h)	304	1011	845	57	377
Qc	=	Circulating flow across entry (pcu/h)	997	429	678	1488	1114
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.21	0.33	0.23	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.01	1.01	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	7.30	6.33	7.49	6.52	6.63
M	=	EXP((D-60)/10)	0	0	0	0	0
F	=	303*X2	2213	1919	2269	1976	2009
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.65	0.72	0.66	0.67
Qe	=	K(F-Fc*Qc)	1532	1652	1796	1002	1369
DFC	=	Design flow/Capacity = Q/Qe	0.20	0.61	0.47	0.06	0.28

Total In Sum = 2594 PCU

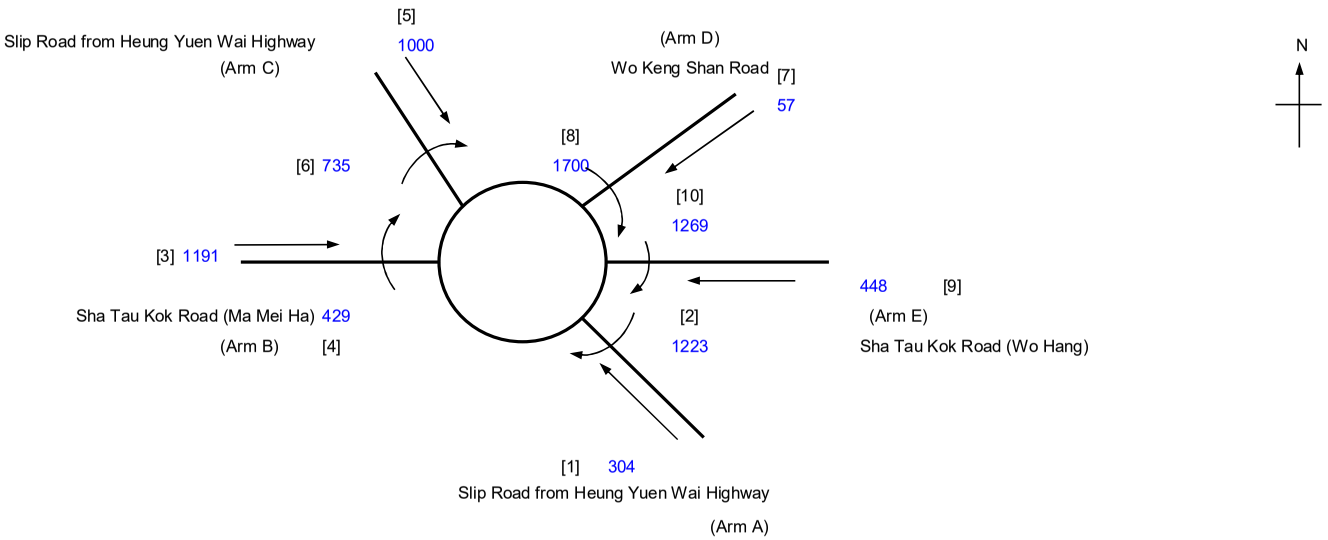
DFC of Critical Approach = 0.61

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME: J1_STKR_HYWH.xls	CHECKED BY:	SLN	Aug-24
J1	Sha Tau Kok Road / Heung Yuen Wai Highway		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



ARM			A	B	C	D	E			
INPUT PARAMETERS:										
V	=	Approach half width (m)	4.00	3.30	4.00	3.90	3.70			
E	=	Entry width (m)	9.90	7.60	9.80	7.70	7.70			
L	=	Effective length of flare (m)	24.00	33.00	28.00	27.00	35.00			
R	=	Entry radius (m)	60.00	40.00	40.00	44.00	27.00			
D	=	Inscribed circle diameter (m)	50.00	50.00	50.00	50.00	50.00			
A	=	Entry angle (degree)	35.00	35.00	35.00	35.00	10.00			
Q	=	Entry flow (pcu/h)	397	870	587	57	377			
Qc	=	Circulating flow across entry (pcu/h)	792	429	552	1091	799			
OUTPUT PARAMETERS:										
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.21	0.33	0.23	0.18			
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.01	1.01	1.01	1.08			
X2	=	V + ((E-V)/(1+2S))	7.30	6.33	7.49	6.52	6.63			
M	=	EXP((D-60)/10)	0	0	0	0	0			
F	=	303*X2	2213	1919	2269	1976	2009			
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37	1.37			
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.65	0.72	0.66	0.67			
Qe	=	K(F-Fc*Qc)	1679	1652	1887	1266	1597	Total In Sum =	2288	PCU
DFC	=	Design flow/Capacity = Q/Qe	0.24	0.53	0.31	0.05	0.24	DFC of Critical Approach =	0.53	

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME: J1_STKR_HYWH.xls	CHECKED BY:	SLN	Aug-24
J1	Sha Tau Kok Road / Heung Yuen Wai Highway		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

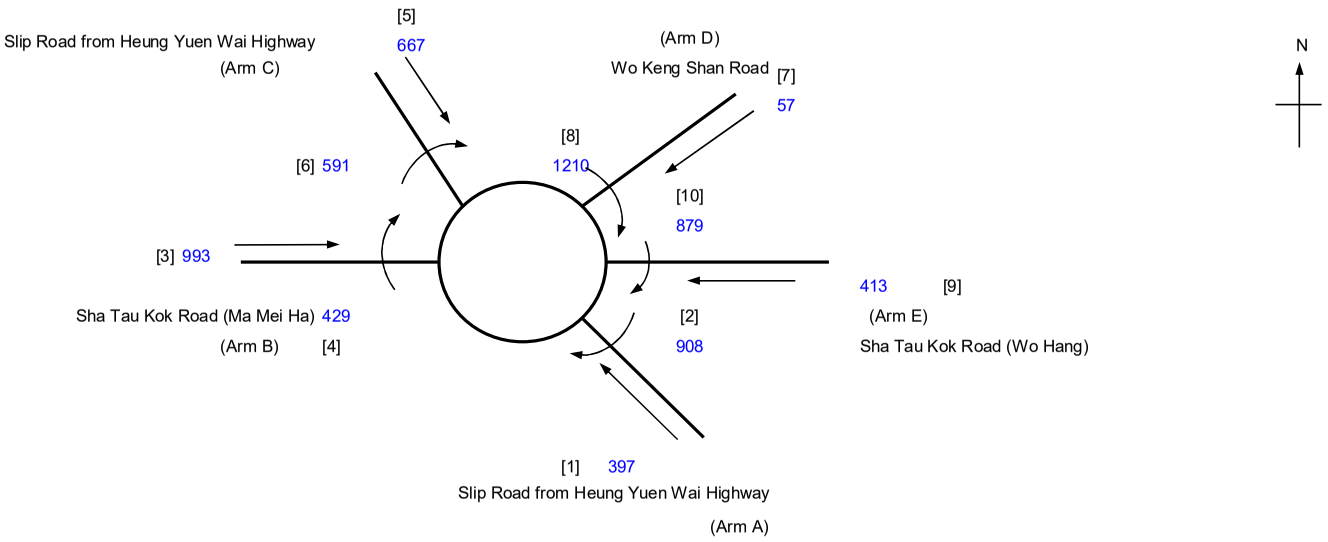


ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	4.00	3.30	4.00	3.90	3.70
E	=	Entry width (m)	9.90	7.60	9.80	7.70	7.70
L	=	Effective length of flare (m)	24.00	33.00	28.00	27.00	35.00
R	=	Entry radius (m)	60.00	40.00	40.00	44.00	27.00
D	=	Inscribed circle diameter (m)	50.00	50.00	50.00	50.00	50.00
A	=	Entry angle (degree)	35.00	35.00	35.00	35.00	10.00
Q	=	Entry flow (pcu/h)	304	1191	1000	57	448
Qc	=	Circulating flow across entry (pcu/h)	1223	429	735	1700	1269
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.21	0.33	0.23	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.01	1.01	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	7.30	6.33	7.49	6.52	6.63
M	=	EXP((D-60)/10)	0	0	0	0	0
F	=	303*X2	2213	1919	2269	1976	2009
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.65	0.72	0.66	0.67
Qe	=	K(F-Fc*Qc)	1370	1652	1755	860	1258
DFC	=	Design flow/Capacity = Q/Qe	0.22	0.72	0.57	0.07	0.36

Total In Sum = 3000 PCU

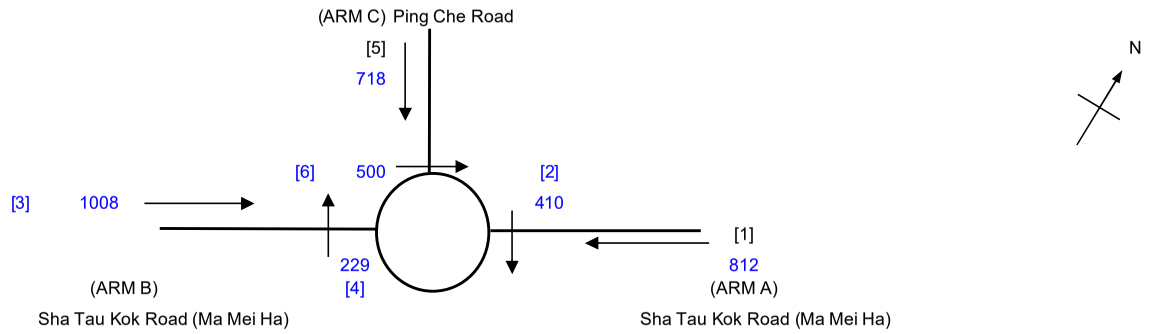
DFC of Critical Approach = 0.72

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME: J1_STKR_HYWH.xls	CHECKED BY:	SLN	Aug-24
J1	Sha Tau Kok Road / Heung Yuen Wai Highway		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



ARM			A	B	C	D	E			
INPUT PARAMETERS:										
V	=	Approach half width (m)	4.00	3.30	4.00	3.90	3.70			
E	=	Entry width (m)	9.90	7.60	9.80	7.70	7.70			
L	=	Effective length of flare (m)	24.00	33.00	28.00	27.00	35.00			
R	=	Entry radius (m)	60.00	40.00	40.00	44.00	27.00			
D	=	Inscribed circle diameter (m)	50.00	50.00	50.00	50.00	50.00			
A	=	Entry angle (degree)	35.00	35.00	35.00	35.00	10.00			
Q	=	Entry flow (pcu/h)	397	993	667	57	413			
Qc	=	Circulating flow across entry (pcu/h)	908	429	591	1210	879			
OUTPUT PARAMETERS:										
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.21	0.33	0.23	0.18			
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.01	1.01	1.01	1.08			
X2	=	V + ((E-V)/(1+2S))	7.30	6.33	7.49	6.52	6.63			
M	=	EXP((D-60)/10)	0	0	0	0	0			
F	=	303*X2	2213	1919	2269	1976	2009			
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37	1.37			
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.65	0.72	0.66	0.67			
Qe	=	K(F-Fc*Qc)	1596	1652	1859	1187	1539	Total In Sum =	2527	PCU
DFC	=	Design flow/Capacity = Q/Qe	0.25	0.60	0.36	0.05	0.27	DFC of Critical Approach =	0.60	

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title: Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME: J2_STKR_PCR.xlsx	CHECKED BY:	SLN	Aug-24
J2 Sha Tau Kok Road / Ping Che Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

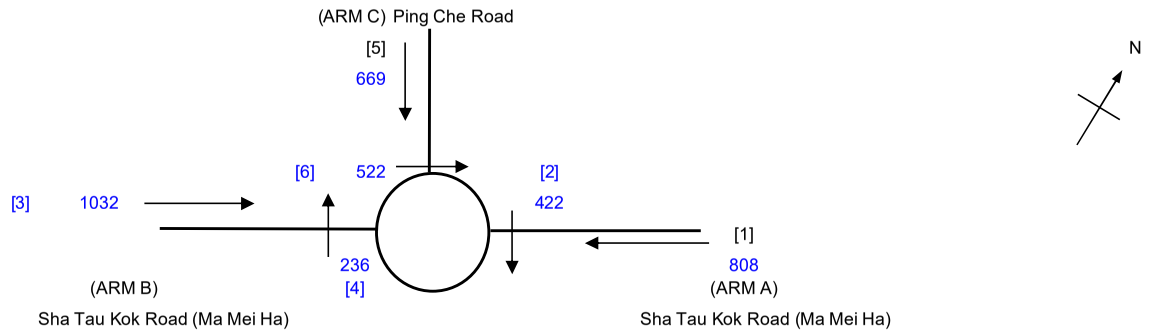


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.40	7.30	4.10
E	=	Entry width (m)	8.20	7.90	8.10
L	=	Effective length of flare (m)	1.00	1.00	5.00
R	=	Entry radius (m)	75.00	60.00	40.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	10.00	15.00	10.00
Q	=	Entry flow (pcu/h)	812	1008	718
Qc	=	Circulating flow across entry (pcu/h)	410	229	500
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	1.28	0.96	1.28
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08	1.09
X2	=	V + ((E-V)/(1+2S))	7.62	7.51	5.22
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	2310	2274	1583
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.70	0.57
Qe	=	K(F-Fc*Qc)	2233	2293	1418
DFC	=	Design flow/Capacity = Q/Qe	0.36	0.44	0.51

Total In Sum = 3677 PCU

DFC of Critical Approach = 0.51

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title: Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME: J2_STKR_PCR.xlsx	CHECKED BY:	SLN	Aug-24
J2 Sha Tau Kok Road / Ping Che Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

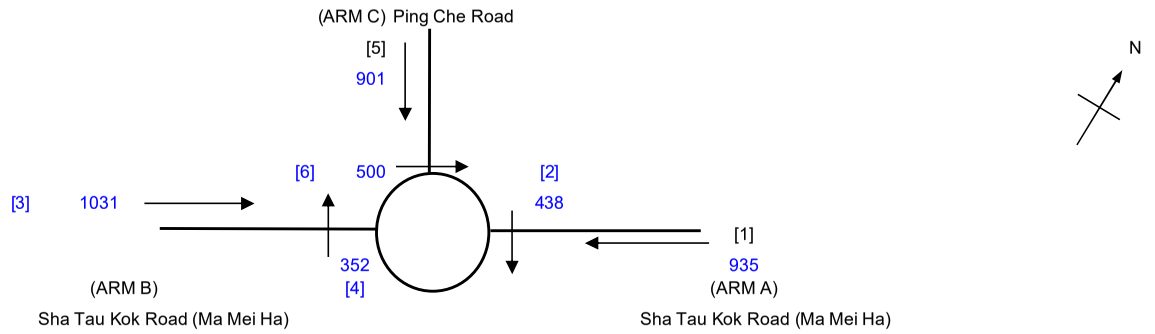


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.40	7.30	4.10
E	=	Entry width (m)	8.20	7.90	8.10
L	=	Effective length of flare (m)	1.00	1.00	5.00
R	=	Entry radius (m)	75.00	60.00	40.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	10.00	15.00	10.00
Q	=	Entry flow (pcu/h)	808	1032	669
Qc	=	Circulating flow across entry (pcu/h)	422	236	522
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	1.28	0.96	1.28
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08	1.09
X2	=	V + ((E-V)/(1+2S))	7.62	7.51	5.22
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	2310	2274	1583
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.70	0.57
Qe	=	K(F-Fc*Qc)	2224	2287	1404
DFC	=	Design flow/Capacity = Q/Qe	0.36	0.45	0.48

Total In Sum = 3689 PCU

DFC of Critical Approach = 0.48

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title: Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME: J2_STKR_PCR.xlsx	CHECKED BY:	SLN	Aug-24
J2 Sha Tau Kok Road / Ping Che Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

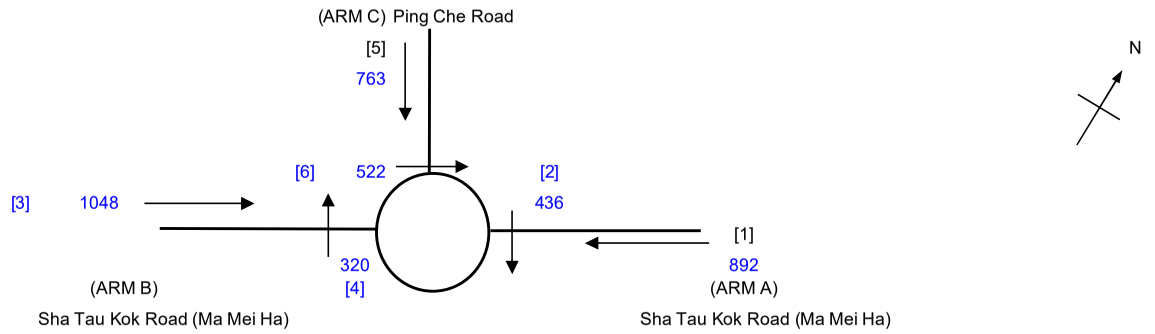


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.40	7.30	4.10
E	=	Entry width (m)	8.20	7.90	8.10
L	=	Effective length of flare (m)	1.00	1.00	5.00
R	=	Entry radius (m)	75.00	60.00	40.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	10.00	15.00	10.00
Q	=	Entry flow (pcu/h)	935	1031	901
Qc	=	Circulating flow across entry (pcu/h)	438	352	500
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	1.28	0.96	1.28
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08	1.09
X2	=	V + ((E-V)/(1+2S))	7.62	7.51	5.22
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	2310	2274	1583
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.70	0.57
Qe	=	K(F-Fc*Qc)	2211	2199	1418
DFC	=	Design flow/Capacity = Q/Qe	0.42	0.47	0.64

Total In Sum = 4157 PCU

DFC of Critical Approach = 0.64

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title: Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME: J2_STKR_PCR.xlsx	CHECKED BY:	SLN	Aug-24
J2 Sha Tau Kok Road / Ping Che Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

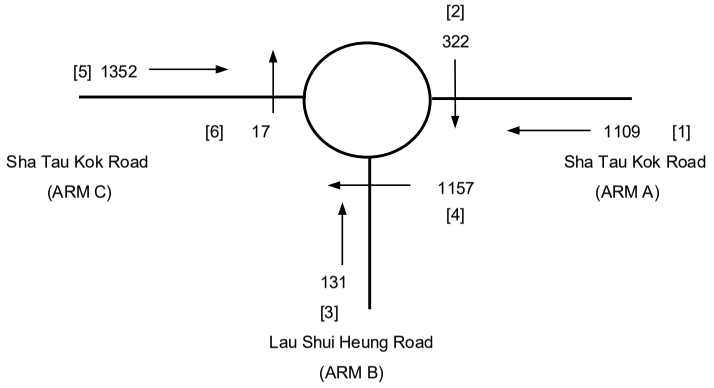


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.40	7.30	4.10
E	=	Entry width (m)	8.20	7.90	8.10
L	=	Effective length of flare (m)	1.00	1.00	5.00
R	=	Entry radius (m)	75.00	60.00	40.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	10.00	15.00	10.00
Q	=	Entry flow (pcu/h)	892	1048	763
Qc	=	Circulating flow across entry (pcu/h)	436	320	522
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	1.28	0.96	1.28
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08	1.09
X2	=	V + ((E-V)/(1+2S))	7.62	7.51	5.22
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	2310	2274	1583
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.71	0.70	0.57
Qe	=	K(F-Fc*Qc)	2213	2223	1404
DFC	=	Design flow/Capacity = Q/Qe	0.40	0.47	0.54

Total In Sum = 3981 PCU

DFC of Critical Approach = 0.54

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME : J3_STKR_LSHR.x	CHECKED BY:	SLN	Aug-24
J3	Sha Tau Kok Road / Lau Shui Heung Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

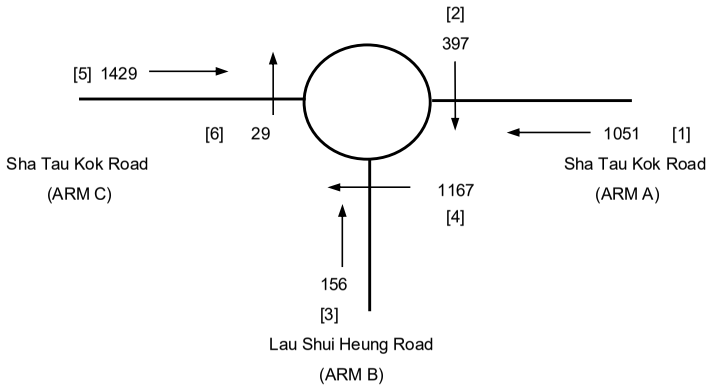


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	6.30	3.60	6.60
E	=	Entry width (m)	6.90	5.60	7.00
L	=	Effective length of flare (m)	1.00	7.00	1.00
R	=	Entry radius (m)	80.00	110.00	16.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	15.00	15.00	15.00
Q	=	Entry flow (pcu/h)	1109	131	1352
Qc	=	Circulating flow across entry (pcu/h)	322	1157	17
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.46	0.64
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.09	1.09	1.04
X2	=	V + ((E-V)/(1+2S))	6.51	4.64	6.78
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	1971	1407	2053
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.64	0.54	0.66
Qe	=	K(F-Fc*Qc)	1920	854	2123
DFC	=	Design flow/Capacity = Q/Qe	0.58	0.15	0.64

Total In Sum = 2592 PCU

DFC of Critical Approach = 0.64

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME : J3_STKR_LSHR.x	CHECKED BY:	SLN	Aug-24
J3	Sha Tau Kok Road / Lau Shui Heung Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

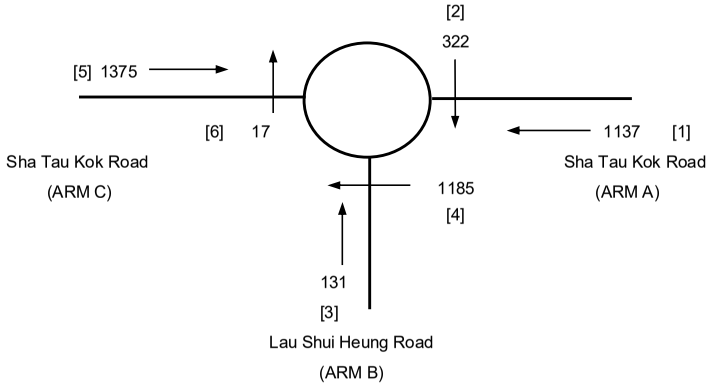


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	6.30	3.60	6.60
E	=	Entry width (m)	6.90	5.60	7.00
L	=	Effective length of flare (m)	1.00	7.00	1.00
R	=	Entry radius (m)	80.00	110.00	16.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	15.00	15.00	15.00
Q	=	Entry flow (pcu/h)	1051	156	1429
Qc	=	Circulating flow across entry (pcu/h)	397	1167	29
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.46	0.64
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.09	1.09	1.04
X2	=	V + ((E-V)/(1+2S))	6.51	4.64	6.78
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	1971	1407	2053
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.64	0.54	0.66
Qe	=	K(F-Fc*Qc)	1867	848	2115
DFC	=	Design flow/Capacity = Q/Qe	0.56	0.18	0.68

Total In Sum = 2636 PCU

DFC of Critical Approach = 0.68

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME : J3_STKR_LSHR.x	CHECKED BY:	SLN	Aug-24
J3	Sha Tau Kok Road / Lau Shui Heung Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

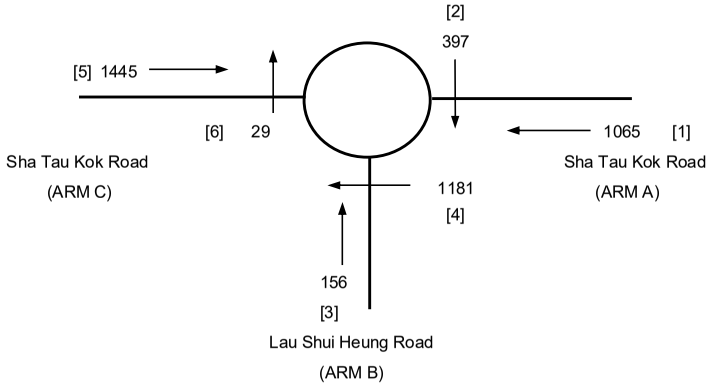


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	6.30	3.60	6.60
E	=	Entry width (m)	6.90	5.60	7.00
L	=	Effective length of flare (m)	1.00	7.00	1.00
R	=	Entry radius (m)	80.00	110.00	16.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	15.00	15.00	15.00
Q	=	Entry flow (pcu/h)	1137	131	1375
Qc	=	Circulating flow across entry (pcu/h)	322	1185	17
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.46	0.64
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.09	1.09	1.04
X2	=	V + ((E-V)/(1+2S))	6.51	4.64	6.78
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	1971	1407	2053
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.64	0.54	0.66
Qe	=	K(F-Fc*Qc)	1920	838	2123
DFC	=	Design flow/Capacity = Q/Qe	0.59	0.16	0.65

Total In Sum = 2643 PCU

DFC of Critical Approach = 0.65

LLA CONSULTANCY LIMITED		ROUNDABOUT CALCULATION			INITIALS	DATE
Job Title:	Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
			FILENAME : J3_STKR_LSHR.x	CHECKED BY:	SLN	Aug-24
J3	Sha Tau Kok Road / Lau Shui Heung Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

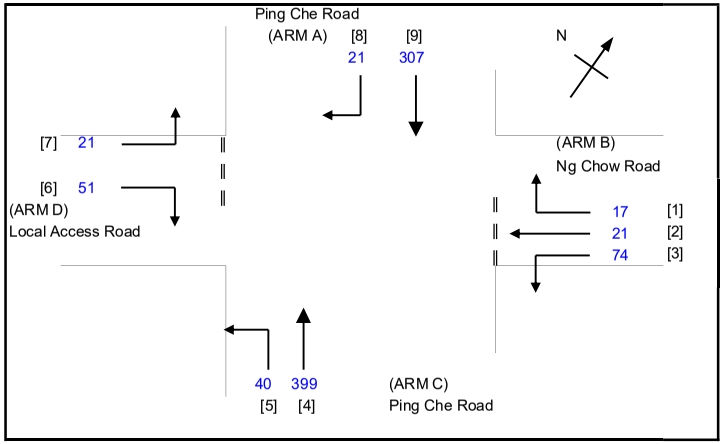


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	6.30	3.60	6.60
E	=	Entry width (m)	6.90	5.60	7.00
L	=	Effective length of flare (m)	1.00	7.00	1.00
R	=	Entry radius (m)	80.00	110.00	16.00
D	=	Inscribed circle diameter (m)	53.00	53.00	53.00
A	=	Entry angle (degree)	15.00	15.00	15.00
Q	=	Entry flow (pcu/h)	1065	156	1445
Qc	=	Circulating flow across entry (pcu/h)	397	1181	29
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.46	0.64
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.09	1.09	1.04
X2	=	V + ((E-V)/(1+2S))	6.51	4.64	6.78
M	=	EXP((D-60)/10)	0.50	0.50	0.50
F	=	303*X2	1971	1407	2053
Td	=	1+(0.5/(1+M))	1.33	1.33	1.33
Fc	=	0.21*Td(1+0.2*X2)	0.64	0.54	0.66
Qe	=	K(F-Fc*Qc)	1867	840	2115
DFC	=	Design flow/Capacity = Q/Qe	0.57	0.19	0.68

Total In Sum = 2666 PCU

DFC of Critical Approach = 0.68

LLA CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J4_PCR_NCR.xlsx	CHECKED BY:	SLN	Aug-24
J4 Ping Che Road / Ng Chow Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	7.30	(metres)		
W cr	=	0	(metres)	Y =	0.748

MAJOR ROAD (ARM A)				MAJOR ROAD (ARM C)			
W a-d	=	3.65	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	100	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	399	(pcu/hr)
q a-c	=	307	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	21	(pcu/hr)	q c-d	=	40	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	0.00	(metres)	W d-c	=	3.40	(metres)
W b-c	=	5.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	30	(metres)	Vl d-c	=	18	(metres)
Vr b-a	=	18	(metres)	Vr d-c	=	19	(metres)
Vr b-c	=	18	(metres)	Vr d-a	=	19	(metres)
q b-a	=	17	(pcu/hr)	q d-c	=	51	(pcu/hr)
q b-c	=	74	(pcu/hr)	q d-a	=	21	(pcu/hr)
q b-d	=	21	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.554	X a	=	0.982
X c	=	0.586	X d	=	0.817
Z b	=	1.023	Z d	=	0.597
M b	=	0.950	M d	=	0.550

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.049	r d-c	=	0.147
ql b-d	=	11.014 (pcu/hr)	ql d-b	=	0 (pcu/hr)
qr b-d	=	9.9856 (pcu/hr)	qr d-b	=	0 (pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	253 (pcu/hr)	Q d-c	=	347 (pcu/hr)
Q b-c	=	669 (pcu/hr)	Q d-a	=	364 (pcu/hr)
Q c-b	=	383 (pcu/hr)	Q a-d	=	614 (pcu/hr)
Ql b-d	=	439 (pcu/hr)	Ql d-b	=	249 (pcu/hr)
Qr b-d	=	256 (pcu/hr)	Qr d-b	=	371 (pcu/hr)
Q b-acd	=	429 (pcu/hr)	Q d-abc	=	352 (pcu/hr)

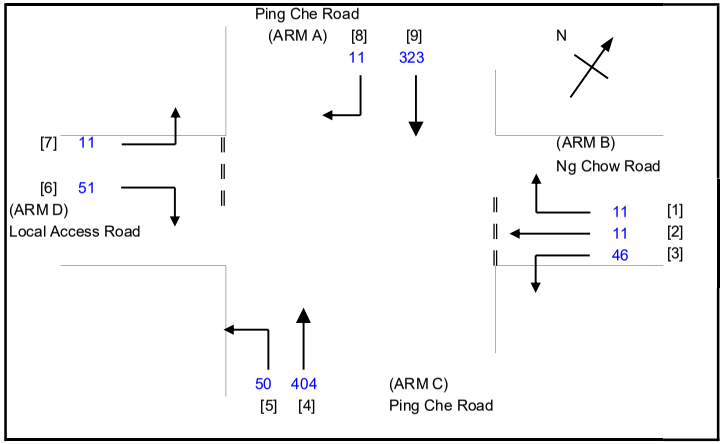
TOTAL FLOW = 951 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0672
DFC b-c	=	0.1106
DFC c-b	=	0.0000
DFCl b-d	=	0.0251
DFCr b-d	=	0.0390
DFC d-c	=	0.1470
DFC d-a	=	0.0577
DFC a-d	=	0.0342
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000
DFC b-acd (shared lane)	=	0.2608
DFC d-abc (shared lane)	=	0.2047

CRITICAL DFC = 0.26

LLA CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J4_PCR_NCR.xlsx	CHECKED BY:	SLN	Aug-24
J4 Ping Che Road / Ng Chow Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	7.30	(metres)		
W cr	=	0	(metres)	Y =	0.748

MAJOR ROAD (ARM A)				MAJOR ROAD (ARM C)			
W a-d	=	3.65	(metres)	W c-b =	0.00	(metres)	
Vr a-d	=	100	(metres)	Vr c-b =	0	(metres)	
q a-b	=	0	(pcu/hr)	q c-a =	404	(pcu/hr)	
q a-c	=	323	(pcu/hr)	q c-b =	0	(pcu/hr)	
q a-d	=	11	(pcu/hr)	q c-d =	50	(pcu/hr)	

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	0.00	(metres)	W d-c =	3.40	(metres)	
W b-c	=	5.00	(metres)	W d-a =	0.00	(metres)	
Vl b-a	=	30	(metres)	Vl d-c =	18	(metres)	
Vr b-a	=	18	(metres)	Vr d-c =	19	(metres)	
Vr b-c	=	18	(metres)	Vr d-a =	19	(metres)	
q b-a	=	11	(pcu/hr)	q d-c =	51	(pcu/hr)	
q b-c	=	46	(pcu/hr)	q d-a =	11	(pcu/hr)	
q b-d	=	11	(pcu/hr)	q d-b =	0	(pcu/hr)	

GEOMETRIC FACTORS :

X b	=	0.554	X a	=	0.982
X c	=	0.586	X d	=	0.817
Z b	=	1.023	Z d	=	0.597
M b	=	0.950	M d	=	0.550

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.0309		r d-c	=	0.143	
ql b-d	=	5.6699	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	5.3301	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

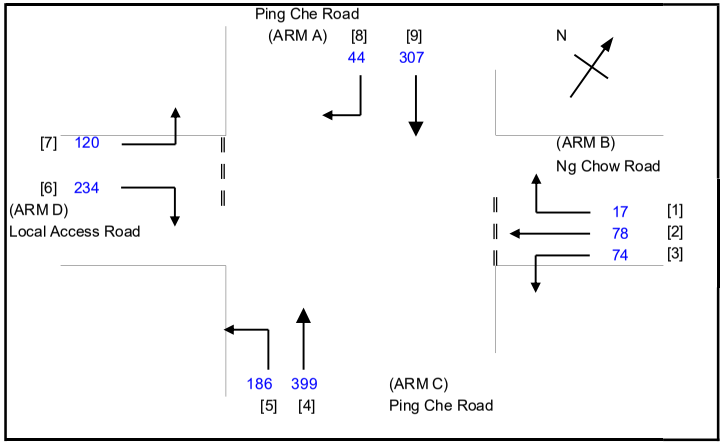
Q b-a	=	253	(pcu/hr)	Q d-c	=	356	(pcu/hr)
Q b-c	=	667	(pcu/hr)	Q d-a	=	363	(pcu/hr)
Q c-b	=	382	(pcu/hr)	Q a-d	=	610	(pcu/hr)
Ql b-d	=	435	(pcu/hr)	Ql d-b	=	249	(pcu/hr)
Qr b-d	=	254	(pcu/hr)	Qr d-b	=	369	(pcu/hr)
Q b-acd	=	436	(pcu/hr)	Q d-abc	=	357	(pcu/hr)
TOTAL FLOW	=	918	(PCU/HR)				

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0435
DFC b-c	=	0.0690
DFC c-b	=	0.0000
DFCl b-d	=	0.0130
DFCr b-d	=	0.0210
DFC d-c	=	0.1433
DFC d-a	=	0.0303
DFC a-d	=	0.0180
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000
DFC b-acd (shared lane)	=	0.1559
DFC d-abc (shared lane)	=	0.1736

CRITICAL DFC = 0.17

LLA CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J4_PCR_NCR.xlsx	CHECKED BY:	SLN	Aug-24
J4 Ping Che Road / Ng Chow Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	8.00	(metres)		
W cr	=	3.50	(metres)	Y =	0.724

MAJOR ROAD (ARM A)				MAJOR ROAD (ARM C)			
W a-d	=	3.50	(metres)	W c-b =	0.00		(metres)
Vr a-d	=	100	(metres)	Vr c-b =	0		(metres)
q a-b	=	0	(pcu/hr)	q c-a =	399		(pcu/hr)
q a-c	=	307	(pcu/hr)	q c-b =	0		(pcu/hr)
q a-d	=	44	(pcu/hr)	q c-d =	186		(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	0.00	(metres)	W d-c =	5.00		(metres)
W b-c	=	5.00	(metres)	W d-a =	5.00		(metres)
Vl b-a	=	30	(metres)	Vl d-c =	36		(metres)
Vr b-a	=	18	(metres)	Vr d-c =	37		(metres)
Vr b-c	=	18	(metres)	Vr d-a =	37		(metres)
q b-a	=	17	(pcu/hr)	q d-c =	234		(pcu/hr)
q b-c	=	74	(pcu/hr)	q d-a =	120		(pcu/hr)
q b-d	=	78	(pcu/hr)	q d-b =	0		(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.554	X a	=	0.968
X c	=	0.586	X d	=	0.971
Z b	=	1.023	Z d	=	1.043
M b	=	0.950	M d	=	0.971

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.0396		r d-c	=	0.545	
ql b-d	=	40.545	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	37.455	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	252	(pcu/hr)	Q d-c	=	429	(pcu/hr)
Q b-c	=	673	(pcu/hr)	Q d-a	=	559	(pcu/hr)
Q c-b	=	379	(pcu/hr)	Q a-d	=	572	(pcu/hr)
Ql b-d	=	462	(pcu/hr)	Ql d-b	=	470	(pcu/hr)
Qr b-d	=	269	(pcu/hr)	Qr d-b	=	470	(pcu/hr)
Q b-acd	=	347	(pcu/hr)	Q d-abc	=	466	(pcu/hr)

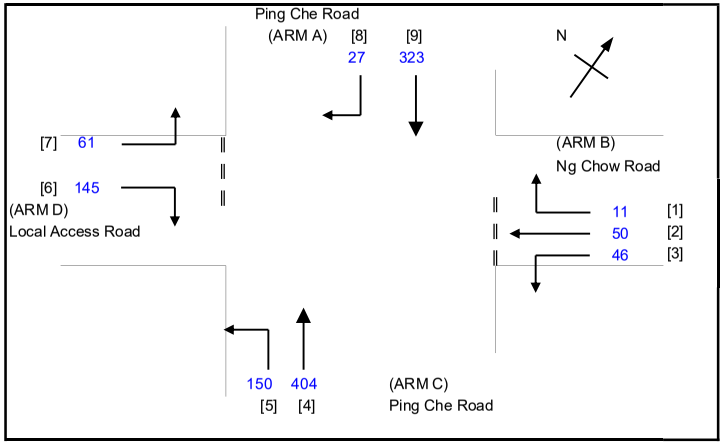
TOTAL FLOW = 1459 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0675
DFC b-c	=	0.1100
DFC c-b	=	0.0000
DFCl b-d	=	0.0878
DFCr b-d	=	0.1392
DFC d-c	=	0.5455
DFC d-a	=	0.2147
DFC a-d	=	0.0769
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000
DFC b-acd (shared lane)	=	0.4869
DFC d-abc (shared lane)	=	0.7601

CRITICAL DFC = 0.76

LLA CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J4_PCR_NCR.xlsx	CHECKED BY:	SLN	Aug-24
J4 Ping Che Road / Ng Chow Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	8.00	(metres)		
W cr	=	3.50	(metres)	Y =	0.724

MAJOR ROAD (ARM A)				MAJOR ROAD (ARM C)			
W a-d	=	3.50	(metres)	W c-b =	0.00		(metres)
Vr a-d	=	100	(metres)	Vr c-b =	0		(metres)
q a-b	=	0	(pcu/hr)	q c-a =	404		(pcu/hr)
q a-c	=	323	(pcu/hr)	q c-b =	0		(pcu/hr)
q a-d	=	27	(pcu/hr)	q c-d =	150		(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	0.00	(metres)	W d-c =	5.00		(metres)
W b-c	=	5.00	(metres)	W d-a =	5.00		(metres)
Vl b-a	=	30	(metres)	Vl d-c =	36		(metres)
Vr b-a	=	18	(metres)	Vr d-c =	37		(metres)
Vr b-c	=	18	(metres)	Vr d-a =	37		(metres)
q b-a	=	11	(pcu/hr)	q d-c =	145		(pcu/hr)
q b-c	=	46	(pcu/hr)	q d-a =	61		(pcu/hr)
q b-d	=	50	(pcu/hr)	q d-b =	0		(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.554	X a	=	0.968
X c	=	0.586	X d	=	0.971
Z b	=	1.023	Z d	=	1.043
M b	=	0.950	M d	=	0.971

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.0244		r d-c	=	0.322	
ql b-d	=	25.611	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	24.389	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

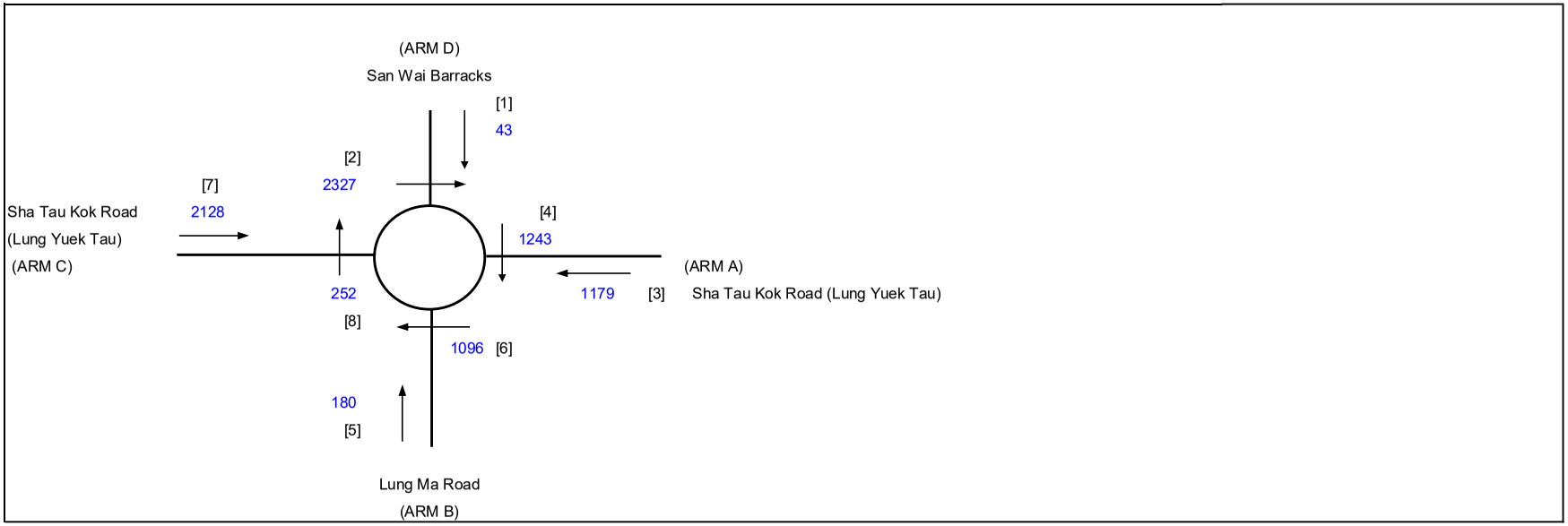
Q b-a	=	267	(pcu/hr)	Q d-c	=	450	(pcu/hr)
Q b-c	=	671	(pcu/hr)	Q d-a	=	597	(pcu/hr)
Q c-b	=	381	(pcu/hr)	Q a-d	=	580	(pcu/hr)
Ql b-d	=	467	(pcu/hr)	Ql d-b	=	476	(pcu/hr)
Qr b-d	=	272	(pcu/hr)	Qr d-b	=	476	(pcu/hr)
Q b-acd	=	360	(pcu/hr)	Q d-abc	=	485	(pcu/hr)
TOTAL FLOW	=	1217	(PCU/HR)				

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0412
DFC b-c	=	0.0686
DFC c-b	=	0.0000
DFCl b-d	=	0.0548
DFCr b-d	=	0.0897
DFC d-c	=	0.3222
DFC d-a	=	0.1022
DFC a-d	=	0.0466
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000
DFC b-acd (shared lane)	=	0.2970
DFC d-abc (shared lane)	=	0.4244

CRITICAL DFC = 0.42

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION				INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.:	40876	PREPARED BY:	SKL	Aug-24
		FILENAME :	J5_STKR_LMR.xls	CHECKED BY:	SLN	Aug-24
J5 Sha Tau Kok Road / Lung Ma Road		REFERENCE NO.:		REVIEWED BY:	SLN	Aug-24

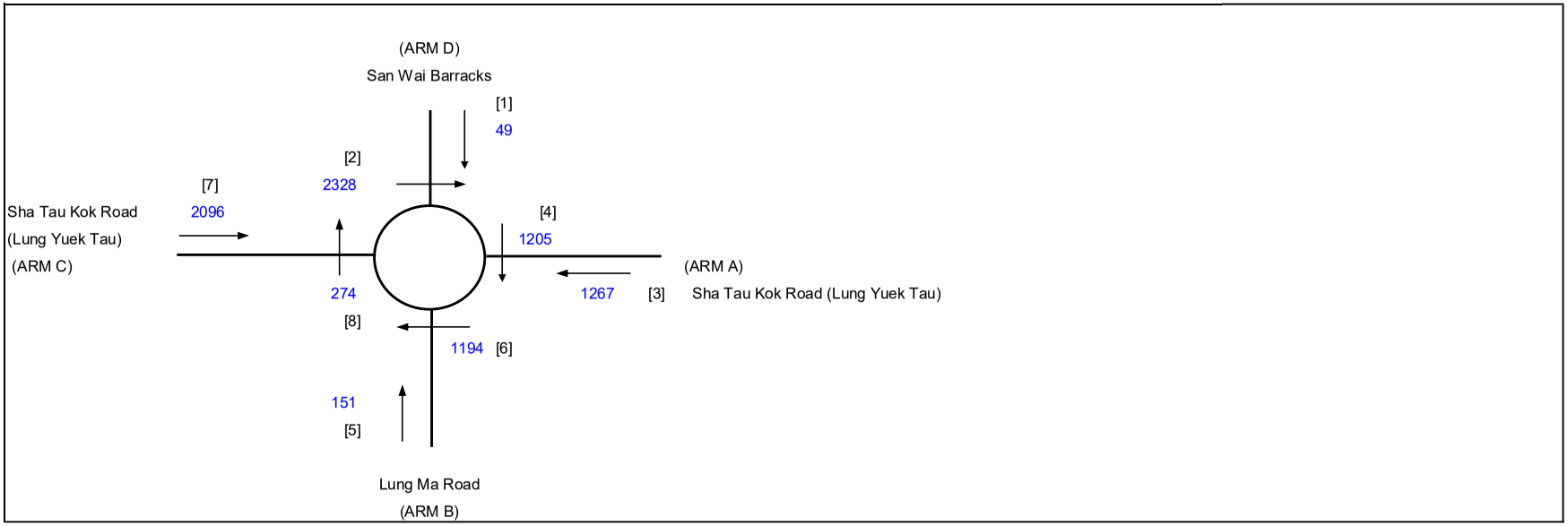


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.50	7.30	3.00
E	=	Entry width (m)	10.00	7.00	9.50	5.00
L	=	Effective length of flare (m)	11.00	20.00	30.00	15.00
R	=	Entry radius (m)	20.00	100.00	30.00	35.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	20.00	10.00	9.00	15.00
Q	=	Entry flow (pcu/h)	1179	180	2128	43
Qc	=	Circulating flow across entry (pcu/h)	1243	1096	252	2327
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.28	0.12	0.21
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.03	1.11	1.09	1.07
X2	=	V + ((E-V)/(1+2S))	8.81	5.74	9.08	4.40
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2670	1740	2752	1334
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.76	0.59	0.78	0.52
Qe	=	K(F-Fc*Qc)	1784	1210	2784	138
DFC	=	Design flow/Capacity = Q/Qe	0.66	0.15	0.76	0.31

Total In Sum = 3530 PCU

DFC of Critical Approach = 0.76

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION				INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.:	40876	PREPARED BY:	SKL	Aug-24
		FILENAME :	J5_STKR_LMR.xls	CHECKED BY:	SLN	Aug-24
J5 Sha Tau Kok Road / Lung Ma Road		REFERENCE NO.:		REVIEWED BY:	SLN	Aug-24

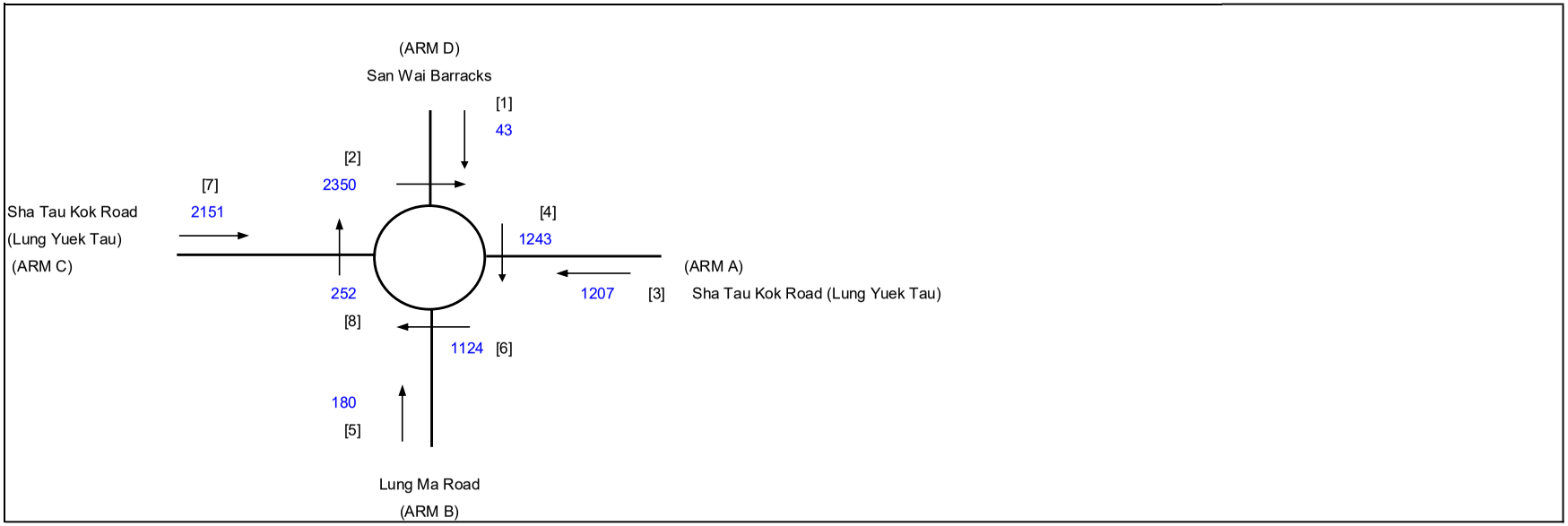


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.50	7.30	3.00
E	=	Entry width (m)	10.00	7.00	9.50	5.00
L	=	Effective length of flare (m)	11.00	20.00	30.00	15.00
R	=	Entry radius (m)	20.00	100.00	30.00	35.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	20.00	10.00	9.00	15.00
Q	=	Entry flow (pcu/h)	1267	151	2096	49
Qc	=	Circulating flow across entry (pcu/h)	1205	1194	274	2328
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.28	0.12	0.21
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.03	1.11	1.09	1.07
X2	=	V + ((E-V)/(1+2S))	8.81	5.74	9.08	4.40
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2670	1740	2752	1334
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.76	0.59	0.78	0.52
Qe	=	K(F-Fc*Qc)	1814	1146	2766	138
DFC	=	Design flow/Capacity = Q/Qe	0.70	0.13	0.76	0.36

Total In Sum = 3563 PCU

DFC of Critical Approach = 0.76

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION				INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.:	40876	PREPARED BY:	SKL	Aug-24
		FILENAME :	J5_STKR_LMR.xls	CHECKED BY:	SLN	Aug-24
J5 Sha Tau Kok Road / Lung Ma Road		REFERENCE NO.:		REVIEWED BY:	SLN	Aug-24

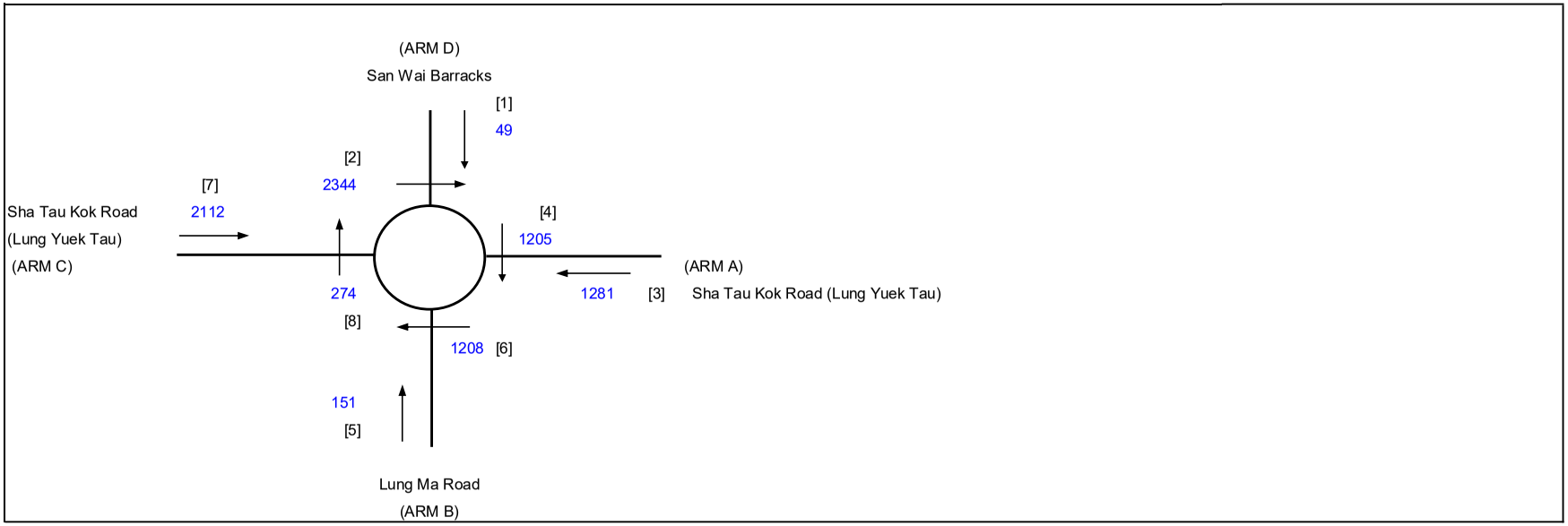


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.50	7.30	3.00
E	=	Entry width (m)	10.00	7.00	9.50	5.00
L	=	Effective length of flare (m)	11.00	20.00	30.00	15.00
R	=	Entry radius (m)	20.00	100.00	30.00	35.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	20.00	10.00	9.00	15.00
Q	=	Entry flow (pcu/h)	1207	180	2151	43
Qc	=	Circulating flow across entry (pcu/h)	1243	1124	252	2350
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.28	0.12	0.21
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.03	1.11	1.09	1.07
X2	=	V + ((E-V)/(1+2S))	8.81	5.74	9.08	4.40
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2670	1740	2752	1334
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.76	0.59	0.78	0.52
Qe	=	K(F-Fc*Qc)	1784	1192	2784	126
DFC	=	Design flow/Capacity = Q/Qe	0.68	0.15	0.77	0.34

Total In Sum = 3581 PCU

DFC of Critical Approach = 0.77

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION				INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.:	40876	PREPARED BY:	SKL	Aug-24
		FILENAME :	J5_STKR_LMR.xls	CHECKED BY:	SLN	Aug-24
J5 Sha Tau Kok Road / Lung Ma Road		REFERENCE NO.:		REVIEWED BY:	SLN	Aug-24



ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.50	7.30	3.00
E	=	Entry width (m)	10.00	7.00	9.50	5.00
L	=	Effective length of flare (m)	11.00	20.00	30.00	15.00
R	=	Entry radius (m)	20.00	100.00	30.00	35.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	20.00	10.00	9.00	15.00
Q	=	Entry flow (pcu/h)	1281	151	2112	49
Qc	=	Circulating flow across entry (pcu/h)	1205	1208	274	2344
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.39	0.28	0.12	0.21
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.03	1.11	1.09	1.07
X2	=	V + ((E-V)/(1+2S))	8.81	5.74	9.08	4.40
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2670	1740	2752	1334
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.76	0.59	0.78	0.52
Qe	=	K(F-Fc*Qc)	1814	1137	2766	129
DFC	=	Design flow/Capacity = Q/Qe	0.71	0.13	0.76	0.38

Total In Sum = 3593 PCU

DFC of Critical Approach = 0.76

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

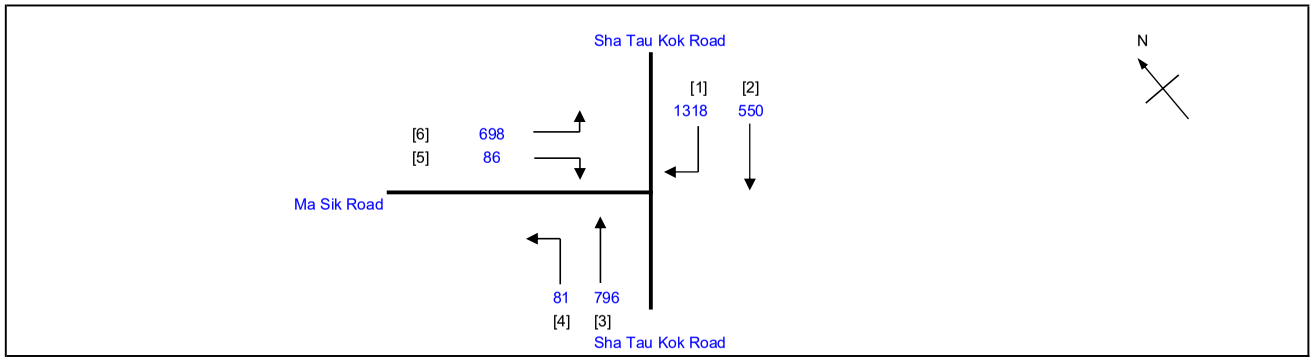
	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

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

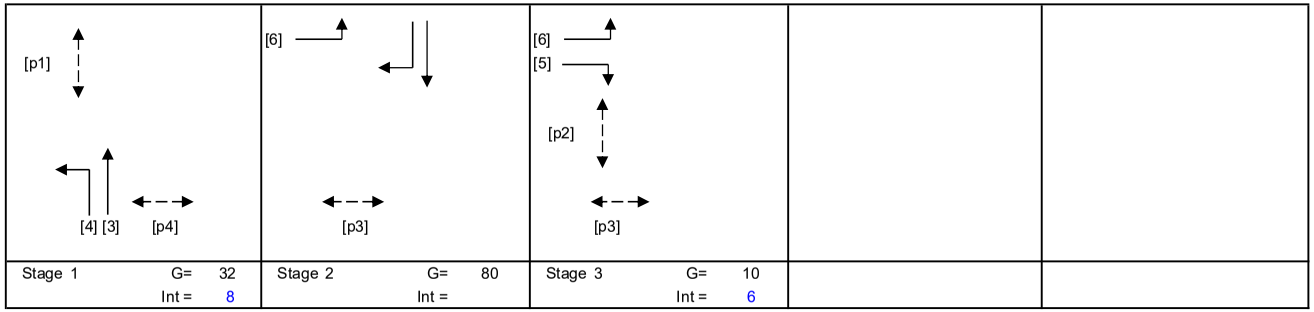
J6 Sha Tau Kok Road / Ma Sik Road

2035 Reference AM

PROJECT NO.: 40876
FILENAME : J6_STKR_MSR.xlsx



No. of stages per cycle		N =	3
Cycle time		C =	136 sec
Sum(y)		Y =	0.534
Loss time		L =	13 sec
Total Flow		=	3529 pcu
Co	= (1.5*L+5)/(1-Y)	=	52.6 sec
Cm	= L/(1-Y)	=	27.9 sec
Yult		=	0.803
R.C.ult	= (Yult-Y)/Y*100%	=	50.3 %
Cp	= 0.9*L/(0.9-Y)	=	31.9 sec
Ymax	= 1-L/C	=	0.904
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	**=**	**52 %**



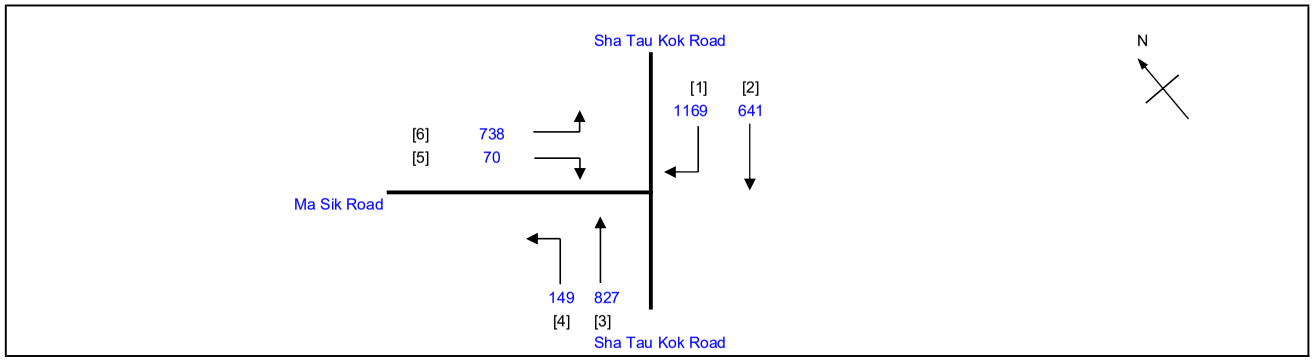
Stage 1	G= 32	Stage 2	G= 80	Stage 3	G= 10
	Int = 8		Int =		Int = 6

Pedestrian Phase	Stage	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
p1	1	5	8		32	8
p2	3	5	10		6	10
p3	2,3	5	9		87	9
p4	1	5	7		33	7

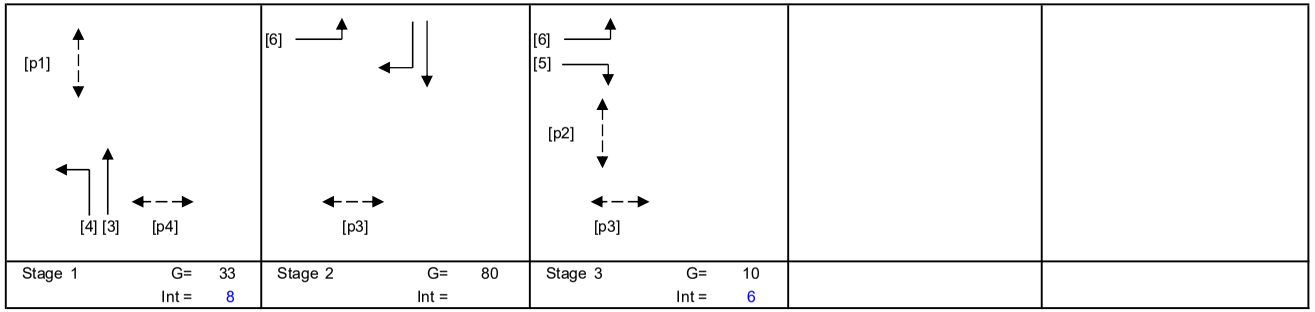
Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							12					
2	2	3.20	1			N	1935		550		550	0.00	1935							1935	0.284			65	80	0.590	60	25
1,2	2	3.20	1	26			2075		0	662	662	1.00	1962							1962	0.337			78	80	0.590	60	19
1	2	3.20	1	23			2075			656	656	1.00	1948							1948	0.337			78	80	0.590	60	19
6	2,3	3.50	1	15		N	1965	698			698	1.00	1786							1786	0.391	0.391		90	90	0.590	48	13
5	3	3.50	1	20			2105			86	86	1.00	1958							1958	0.044		1	10	11	0.590	18	71
3,4	1	3.50	1	15		N	1965	81	192		273	0.30	1908							1908	0.143	0.143		33	33	0.590	42	46
3	1	3.50	2				4210		604		604	0.00	4210							4210	0.143			33	33	0.590	51	43

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED	**TRAFFIC SIGNAL CALCULATION**			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
		FILENAME : J6_STKR_MSR.xlsx	Checked By:	SLN	Aug-24
J6 Sha Tau Kok Road / Ma Sik Road			Reviewed By:	SLN	Aug-24



No. of stages per cycle	N =	3
Cycle time	C =	136 sec
Sum(y)	Y =	0.574
Loss time	L =	15 sec
Total Flow	=	3594 pcu
Co = (1.5*L+5)/(1-Y)	=	64.5 sec
Cm = L/(1-Y)	=	35.2 sec
Yult	=	0.788
R.C.ult = (Yult-Y)/Y*100%	=	37.2 %
Cp = 0.9*L/(0.9-Y)	=	41.4 sec
Ymax = 1-L/C	=	0.890
R.C.(C) = (0.9*Ymax-Y)/Y*100%	**=**	**40 %**



Stage 1	G= 33	Stage 2	G= 80	Stage 3	G= 10
	Int = 8		Int =		Int = 6

Pedestrian Phase	Stage	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
p1	1	5	8		33	8
p2	3	5	10		6	10
p3	2,3	5	9		86	9
p4	1	5	7		34	7

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							12					
2	2	3.20	1			N	1935		599		599	0.00	1935							1935	0.310			65	80	0.645	66	27
1,2	2	3.20	1	26			2075		42	567	609	0.93	1969							1969	0.309			65	80	0.645	66	27
1	2	3.20	1	23			2075			602	602	1.00	1948							1948	0.309			65	80	0.645	66	27
6	2,3	3.50	1	15		N	1965	738			738	1.00	1786							1786	0.413	0.413		87	87	0.645	60	16
5	3	3.50	1	20			2105			70	70	1.00	1958							1958	0.036		3	8	11	0.645	12	84
3,4	1	3.50	1	15		N	1965	149	152		301	0.50	1872							1872	0.161	0.161		34	34	0.645	48	47
3	1	3.50	2				4210		675		675	0.00	4210							4210	0.160			34	34	0.645	57	44

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

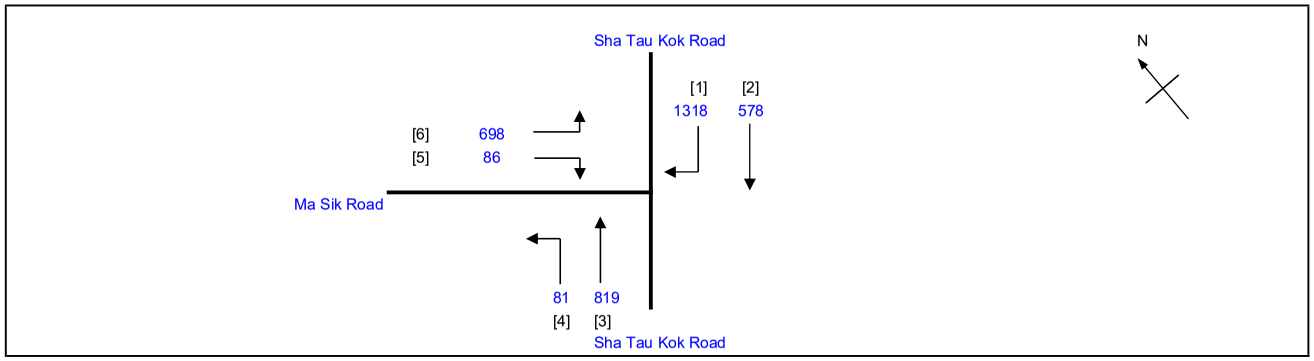
	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

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

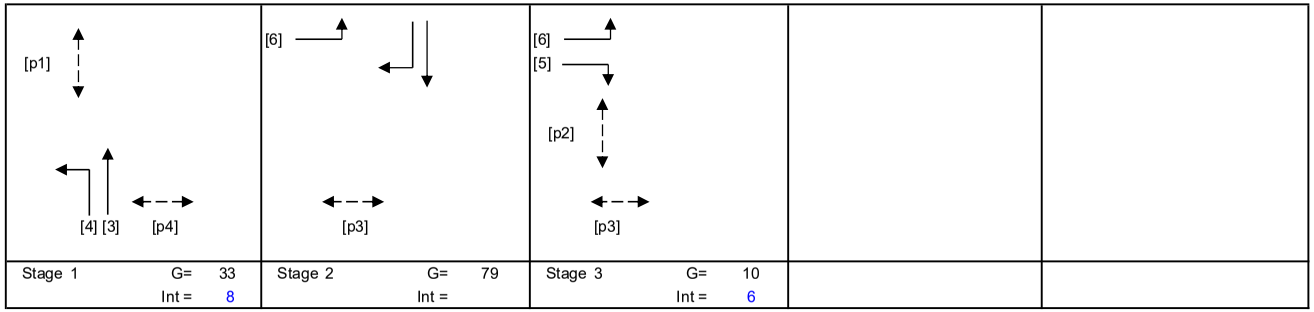
J6 Sha Tau Kok Road / Ma Sik Road

2035 Design AM

PROJECT NO.: 40876
FILENAME : J6_STKR_MSR.xlsx



No. of stages per cycle		N =	3
Cycle time		C =	136 sec
Sum(y)		Y =	0.538
Loss time		L =	13 sec
Total Flow		=	3580 pcu
Co	= (1.5*L+5)/(1-Y)	=	53.0 sec
Cm	= L/(1-Y)	=	28.1 sec
Yult		=	0.803
R.C.ult	= (Yult-Y)/Y*100%	=	49.2 %
Cp	= 0.9*L/(0.9-Y)	=	32.3 sec
Ymax	= 1-L/C	=	0.904
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	**=**	**51 %**



Pedestrian Phase	Stage	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
p1	1	5	8		33	8
p2	3	5	10		6	10
p3	2,3	5	9		86	9
p4	1	5	7		34	7

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							12					
2	2	3.20	1			N	1935		578		578	0.00	1935							1935	0.299			68	79	0.595	60	24
1,2	2	3.20	1	26			2075		0	662	662	1.00	1962							1962	0.337			77	79	0.595	60	19
1	2	3.20	1	23			2075			656	656	1.00	1948							1948	0.337			77	79	0.595	60	20
6	2,3	3.50	1	15		N	1965	698			698	1.00	1786							1786	0.391	0.391		89	89	0.595	54	14
5	3	3.50	1	20			2105			86	86	1.00	1958							1958	0.044		1	10	11	0.595	18	71
3,4	1	3.50	1	15		N	1965	81	200		281	0.29	1910							1910	0.147	0.147		34	34	0.595	42	46
3	1	3.50	2				4210		619		619	0.00	4210							4210	0.147			34	34	0.595	51	43

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

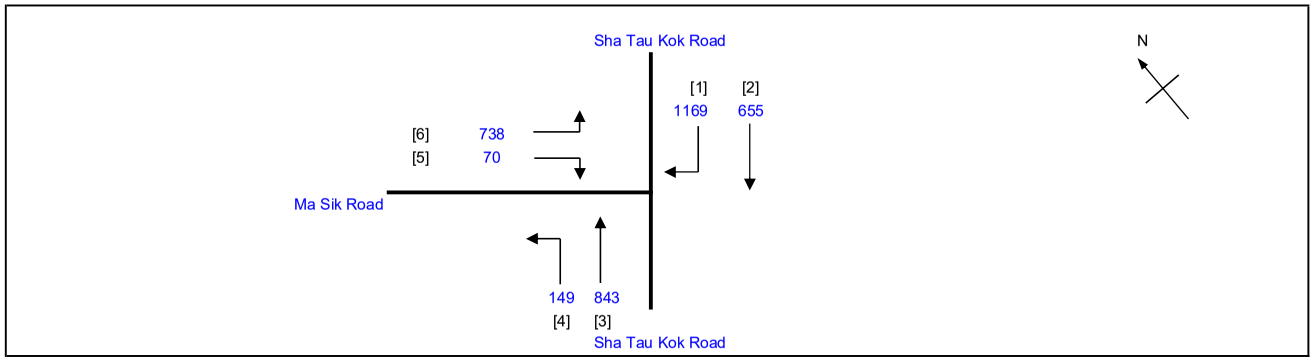
	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

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

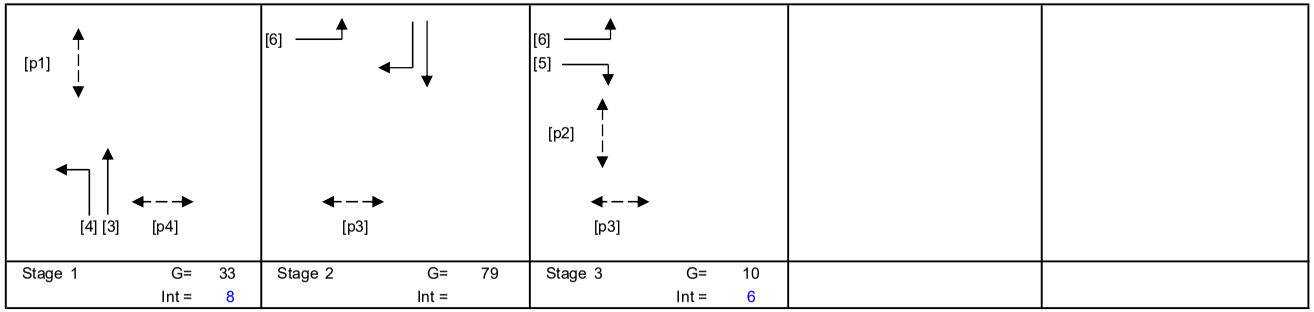
J6 Sha Tau Kok Road / Ma Sik Road

2035 Design PM

PROJECT NO.: 40876
FILENAME : J6_STKR_MSR.xlsx



No. of stages per cycle		N =	3
Cycle time		C =	136 sec
Sum(y)		Y =	0.576
Loss time		L =	15 sec
Total Flow		=	3624 pcu
Co	= (1.5*L+5)/(1-Y)	=	64.8 sec
Cm	= L/(1-Y)	=	35.4 sec
Yult		=	0.788
R.C.ult	= (Yult-Y)/Y*100%	=	36.7 %
Cp	= 0.9*L/(0.9-Y)	=	41.7 sec
Ymax	= 1-L/C	=	0.890
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	**=**	**39 %**



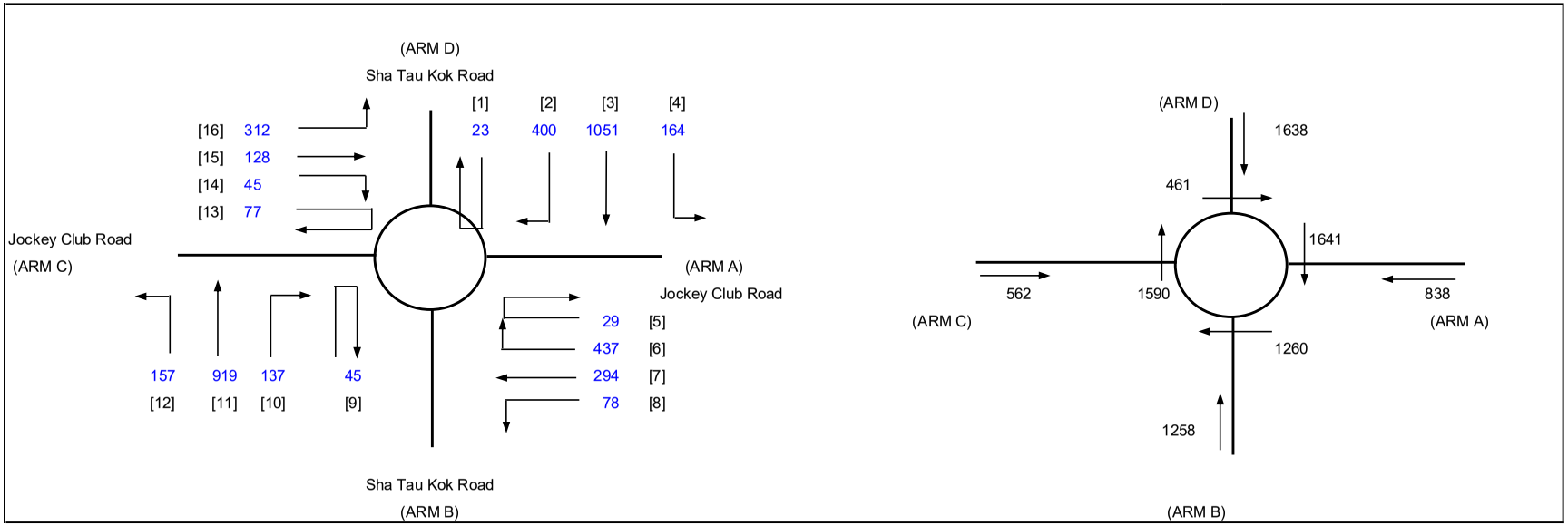
Stage 1	G= 33	Stage 2	G= 79	Stage 3	G= 10
	Int = 8		Int =		Int = 6

Pedestrian Phase	Stage	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
p1	1	5	8		33	8
p2	3	5	10		6	10
p3	2,3	5	9		86	9
p4	1	5	7		34	7

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
2	2	3.20	1			N	1935		603		603	0.00	1935							1935	0.312		12	65	79	0.647	66	27
1,2	2	3.20	1	26			2075		52	562	614	0.92	1971							1971	0.312			65	79	0.647	72	27
1	2	3.20	1	23			2075			607	607	1.00	1948							1948	0.312			65	79	0.647	66	27
6	2,3	3.50	1	15		N	1965	738			738	1.00	1786							1786	0.413	0.413		87	87	0.647	60	16
5	3	3.50	1	20			2105			70	70	1.00	1958							1958	0.036		3	8	11	0.647	12	84
3,4	1	3.50	1	15		N	1965	149	156		305	0.49	1873							1873	0.163	0.163		34	34	0.647	48	47
3	1	3.50	2				4210		687		687	0.00	4210							4210	0.163			34	34	0.647	57	44

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J7_STKR_JCR.xl	CHECKED BY:	SLN	Aug-24
J7 Sha Tau Kok Road / Jockey Club Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

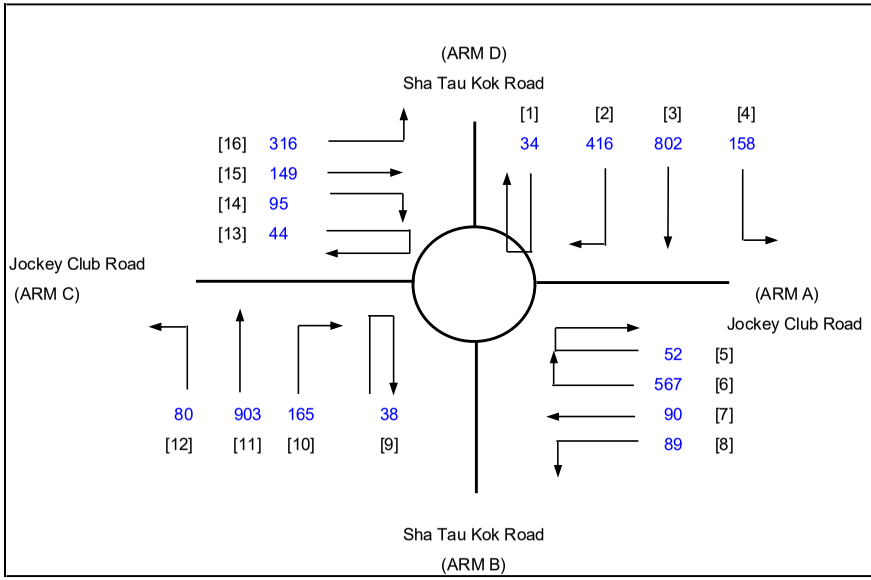


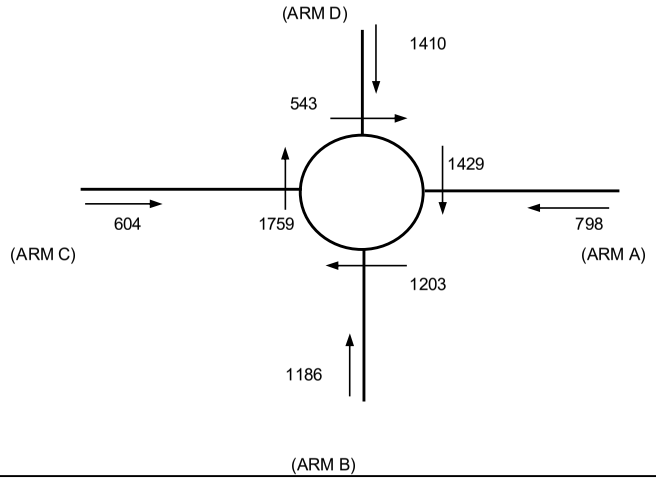
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.00	7.00	8.00	7.50
E	=	Entry width (m)	7.50	10.00	8.50	8.00
L	=	Effective length of flare (m)	1.00	15.00	2.00	4.00
R	=	Entry radius (m)	25.00	40.00	60.00	35.00
D	=	Inscribed circle diameter (m)	65.00	65.00	65.00	65.00
A	=	Entry angle (degree)	10.00	40.00	20.00	10.00
Q	=	Entry flow (pcu/h)	838	1258	562	1638
Qc	=	Circulating flow across entry (pcu/h)	1641	1260	1590	461
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.32	0.40	0.20
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	0.99	1.07	1.09
X2	=	V + ((E-V)/(1+2S))	7.19	8.83	8.28	7.86
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2179	2675	2508	2381
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.61	0.69	0.66	0.64
Qe	=	K(F-Fc*Qc)	1274	1787	1552	2273
DFC	=	Design flow/Capacity = Q/Qe	0.66	0.70	0.36	0.72

Total In Sum = 2598 PCU

DFC of Critical Approach = 0.72

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J7_STKR_JCR.xl	CHECKED BY:	SLN	Aug-24
J7 Sha Tau Kok Road / Jockey Club Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



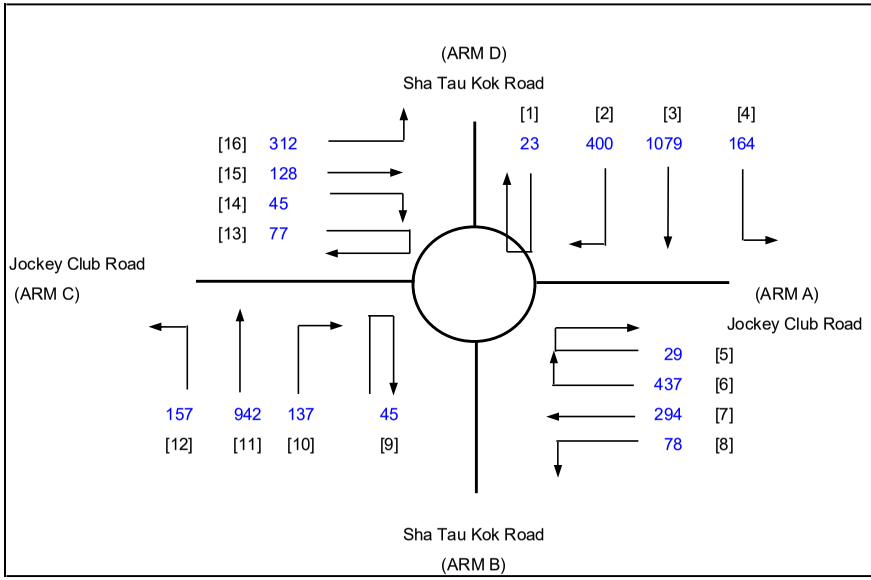


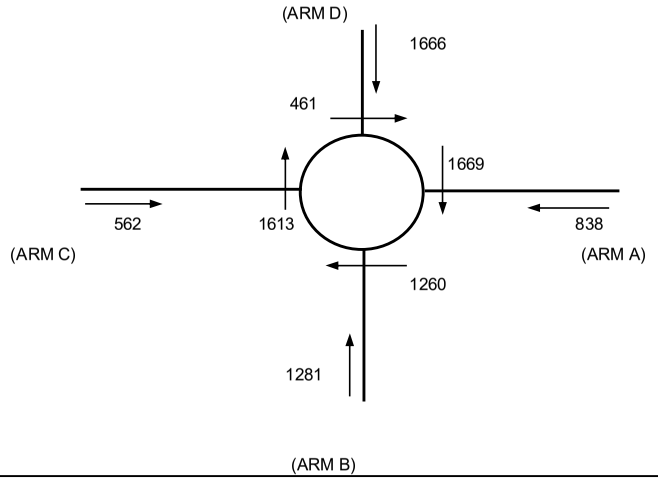
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.00	7.00	8.00	7.50
E	=	Entry width (m)	7.50	10.00	8.50	8.00
L	=	Effective length of flare (m)	1.00	15.00	2.00	4.00
R	=	Entry radius (m)	25.00	40.00	60.00	35.00
D	=	Inscribed circle diameter (m)	65.00	65.00	65.00	65.00
A	=	Entry angle (degree)	10.00	40.00	20.00	10.00
Q	=	Entry flow (pcu/h)	798	1186	604	1410
Qc	=	Circulating flow across entry (pcu/h)	1429	1203	1759	543
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.32	0.40	0.20
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	0.99	1.07	1.09
X2	=	V + ((E-V)/(1+2S))	7.19	8.83	8.28	7.86
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2179	2675	2508	2381
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.61	0.69	0.66	0.64
Qe	=	K(F-Fc*Qc)	1413	1826	1432	2216
DFC	=	Design flow/Capacity = Q/Qe	0.56	0.65	0.42	0.64

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.65

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J7_STKR_JCR.xl	CHECKED BY:	SLN	Aug-24
J7 Sha Tau Kok Road / Jockey Club Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



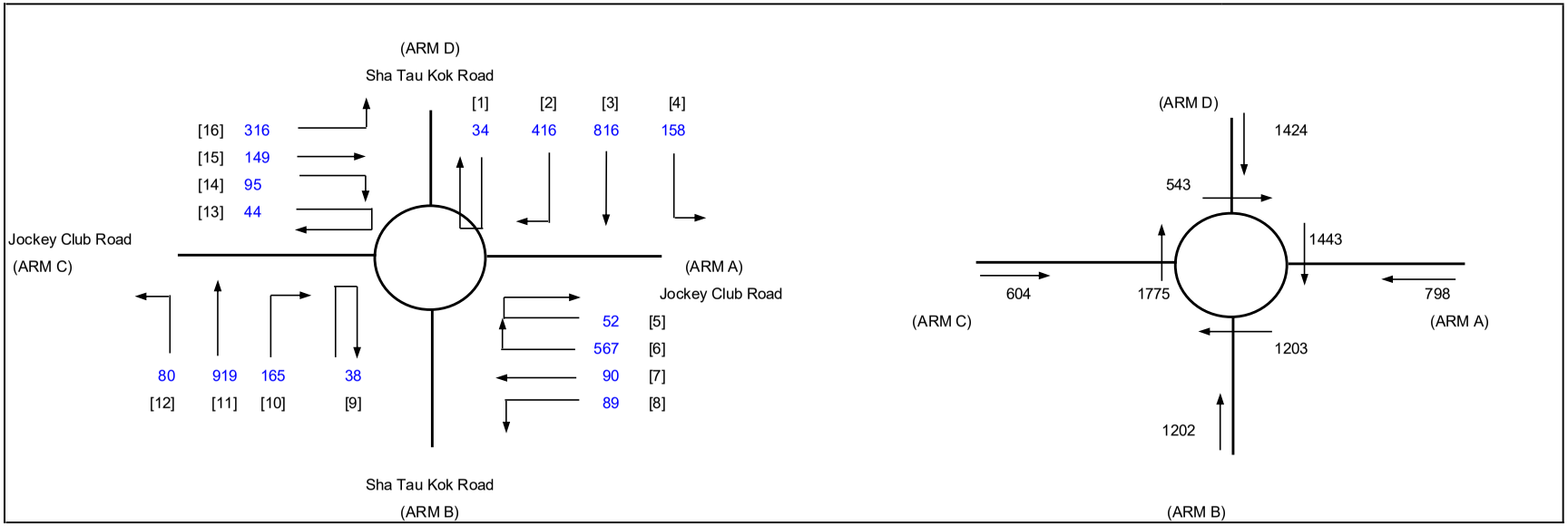


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.00	7.00	8.00	7.50
E	=	Entry width (m)	7.50	10.00	8.50	8.00
L	=	Effective length of flare (m)	1.00	15.00	2.00	4.00
R	=	Entry radius (m)	25.00	40.00	60.00	35.00
D	=	Inscribed circle diameter (m)	65.00	65.00	65.00	65.00
A	=	Entry angle (degree)	10.00	40.00	20.00	10.00
Q	=	Entry flow (pcu/h)	838	1281	562	1666
Qc	=	Circulating flow across entry (pcu/h)	1669	1260	1613	461
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.32	0.40	0.20
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	0.99	1.07	1.09
X2	=	V + ((E-V)/(1+2S))	7.19	8.83	8.28	7.86
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2179	2675	2508	2381
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.61	0.69	0.66	0.64
Qe	=	K(F-Fc*Qc)	1255	1787	1536	2273
DFC	=	Design flow/Capacity = Q/Qe	0.67	0.72	0.37	0.73

Total In Sum = 2649 PCU

DFC of Critical Approach = 0.73

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J7_STKR_JCR.xl	CHECKED BY:	SLN	Aug-24
J7 Sha Tau Kok Road / Jockey Club Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24

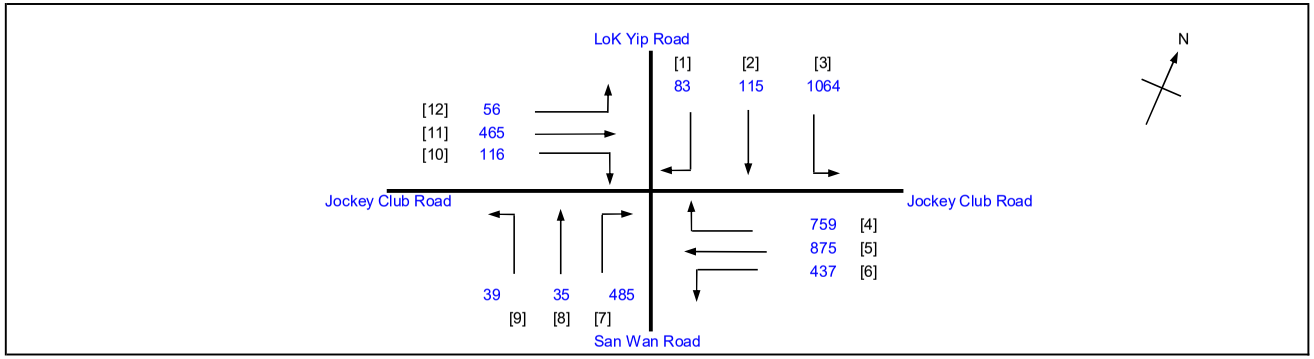


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.00	7.00	8.00	7.50
E	=	Entry width (m)	7.50	10.00	8.50	8.00
L	=	Effective length of flare (m)	1.00	15.00	2.00	4.00
R	=	Entry radius (m)	25.00	40.00	60.00	35.00
D	=	Inscribed circle diameter (m)	65.00	65.00	65.00	65.00
A	=	Entry angle (degree)	10.00	40.00	20.00	10.00
Q	=	Entry flow (pcu/h)	798	1202	604	1424
Qc	=	Circulating flow across entry (pcu/h)	1443	1203	1775	543
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.32	0.40	0.20
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	0.99	1.07	1.09
X2	=	V + ((E-V)/(1+2S))	7.19	8.83	8.28	7.86
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2179	2675	2508	2381
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.61	0.69	0.66	0.64
Qe	=	K(F-Fc*Qc)	1404	1826	1421	2216
DFC	=	Design flow/Capacity = Q/Qe	0.57	0.66	0.43	0.64

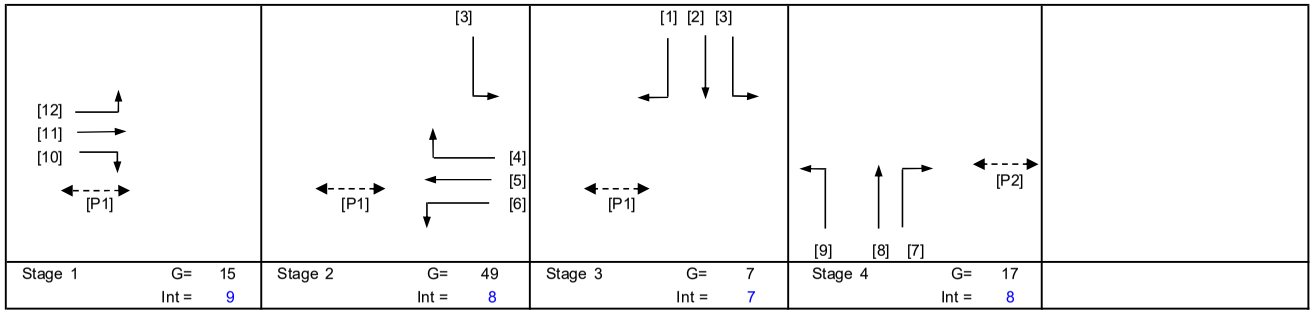
Total In Sum = 2264 PCU

DFC of Critical Approach = 0.66

LLA CONSULTANCY LIMITED	**TRAFFIC SIGNAL CALCULATION**			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
J8 Lok Yip Road / Jockey Club Road / San Wan Road		FILENAME : J8_LYR_JCR_SWR.xlsx	Checked By:	SLN	Aug-24
			Reviewed By:	SLN	Aug-24



No. of stages per cycle		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.621
Loss time		L =	28 sec
Total Flow		=	4529 pcu
Co	= (1.5*L+5)/(1-Y)	=	124.0 sec
Cm	= L/(1-Y)	=	73.9 sec
Yult		=	0.690
R.C.ult	= (Yult-Y)/Y*100%	=	11.1 %
Cp	= 0.9*L/(0.9-Y)	=	90.3 sec
Ymax	= 1-L/C	=	0.767
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**11 %**



Stage 1	G= 15	Int = 9
Stage 2	G= 49	Int = 8
Stage 3	G= 7	Int = 7
Stage 4	G= 17	Int = 8

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	Green Time Required FG	Green Time Required Delay	Green Time Provided SG	Green Time Provided FG
P1	1,2,3	9.4	7	9	0	62	9
P2	4	10.8	6	12	4	9	12

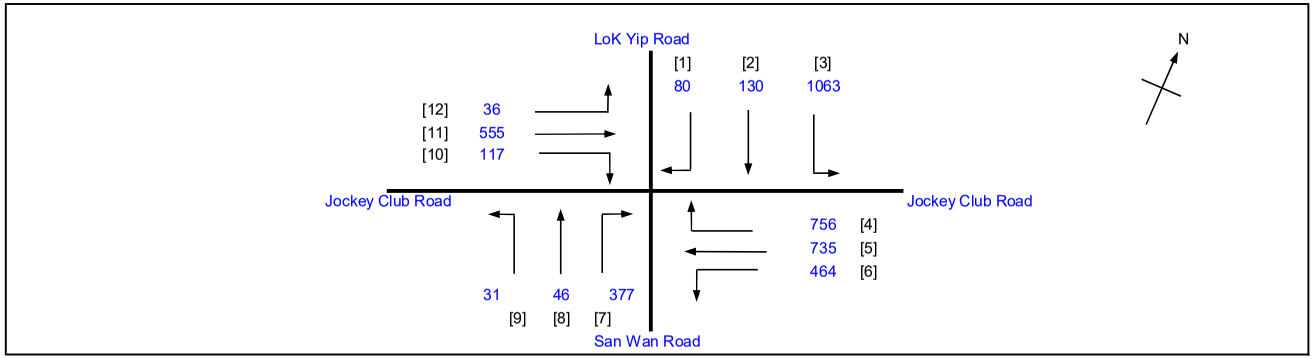
Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Movement Straight pcu/h	Movement Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							28					
1	3	3.30	1	20			2085			83	83	1.00	1940							1940	0.043			6	8	0.629	12	70
2	3	3.30	1				2085		115		115	0.00	2085							2085	0.055	0.055		8	8	0.810	24	98
3	2,3	3.30	2	15		N	4030	1064			1064	1.00	3664							3664	0.290			43	43	0.810	66	37
4	2	3.30	1	20			2085			648	648	1.00	1940							1940	0.334			49	50	0.809	72	37
4,5	2	3.30	1	20			2085		578	111	689	0.16	2060							2060	0.334	0.334		50	50	0.810	78	36
5,6	2	3.30	1	15		N	1945	437	297		734	0.60	1836	30	360					2196	0.334			50	50	0.810	84	36
7	4	3.40	1	20			2095			243	243	1.00	1949							1949	0.125	0.125		18	18	0.810	42	67
7,8	4	3.40	1	20			2095		0	242	242	1.00	1949							1949	0.124			18	18	0.807	42	67
8,9	4	3.30	1	15		N	1945	39	35		74	0.53	1848							1848	0.040			6	18	0.260	12	42
10,11	1	3.40	1	20			2095		99	116	215	0.54	2014							2014	0.107	0.107		16	16	0.810	42	72
11	1	3.40	1				2095		222		222	0.00	2095							2095	0.106			16	16	0.804	42	70
11,12	1	3.40	1	10		N	1955	56	144		200	0.28	1876							1876	0.107			16	16	0.809	36	73

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

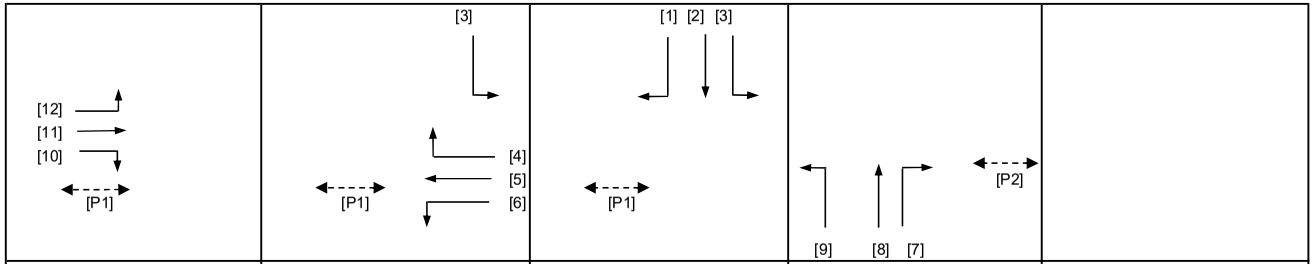
LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

		INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
2035 Reference PM	FILENAME : J8_LYR_JCR_SWR.xlsx	Checked By:	SLN	Aug-24
J8 Lok Yip Road / Jockey Club Road / San Wan Road		Reviewed By:	SLN	Aug-24



No. of stages per cycle	N =	4
Cycle time	C =	120 sec
Sum(y)	Y =	0.594
Loss time	L =	28 sec
Total Flow	=	4390 pcu
Co = (1.5*L+5)/(1-Y)	=	115.8 sec
Cm = L/(1-Y)	=	69.0 sec
Yult	=	0.690
R.C.ult = (Yult-Y)/Y*100%	=	16.2 %
Cp = 0.9*L/(0.9-Y)	=	82.3 sec
Ymax = 1-L/C	=	0.767
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	**16 %**



Stage 1	G= 17	Int = 9
Stage 2	G= 48	Int = 8
Stage 3	G= 9	Int = 7
Stage 4	G= 14	Int = 8

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	1,2,3	9.4	7	9	0	66	9
P2	4	10.8	6	12	4	6	12

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							28					
1	3	3.30	1	20			2085			80	80	1.00	1940							1940	0.041			6	10	0.513	12	59
2	3	3.30	1				2085		130		130	0.00	2085							2085	0.062	0.062		10	10	0.775	24	82
3	2,3	3.30	2	15		N	4030	1063			1063	1.00	3664							3664	0.290			45	45	0.775	66	34
4	2	3.30	1	20			2085			614	614	1.00	1940							1940	0.317			49	49	0.774	72	35
4,5	2	3.30	1	20			2085		508	142	650	0.22	2051							2051	0.317	0.317		49	49	0.775	72	34
5,6	2	3.30	1	15		N	1945	464	227		691	0.67	1823	30	367					2190	0.316			49	49	0.772	78	34
7	4	3.40	1	20			2095			189	189	1.00	1949							1949	0.097	0.097		15	15	0.775	36	69
7,8	4	3.40	1	20			2095		0	188	188	1.00	1949							1949	0.096			15	15	0.771	36	68
8,9	4	3.30	1	15		N	1945	31	46		77	0.40	1870							1870	0.041			6	15	0.329	12	46
10,11	1	3.40	1	20			2095		121	117	238	0.49	2021							2021	0.118	0.118		18	18	0.775	42	62
11	1	3.40	1				2095		246		246	0.00	2095							2095	0.117			18	18	0.772	42	61
11,12	1	3.40	1	10		N	1955	36	188		224	0.16	1909							1909	0.117			18	18	0.772	42	63

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

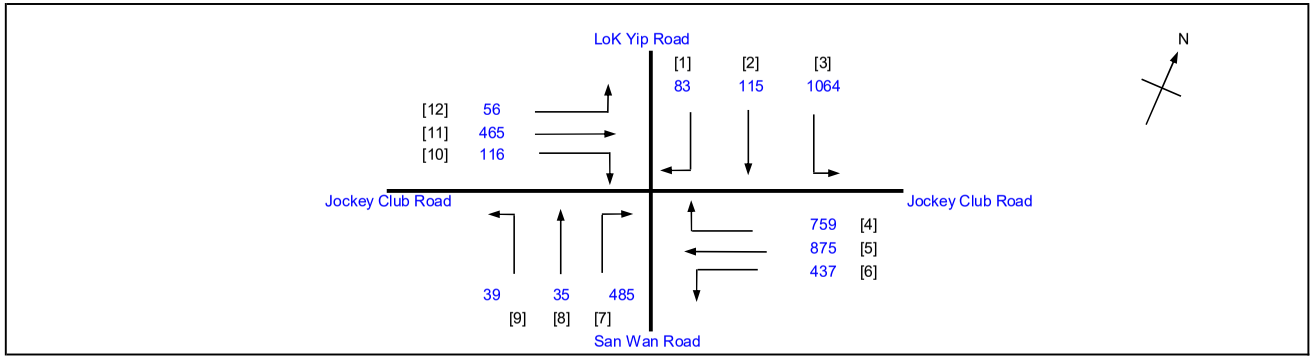
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

J8 Lok Yip Road / Jockey Club Road / San Wan Road

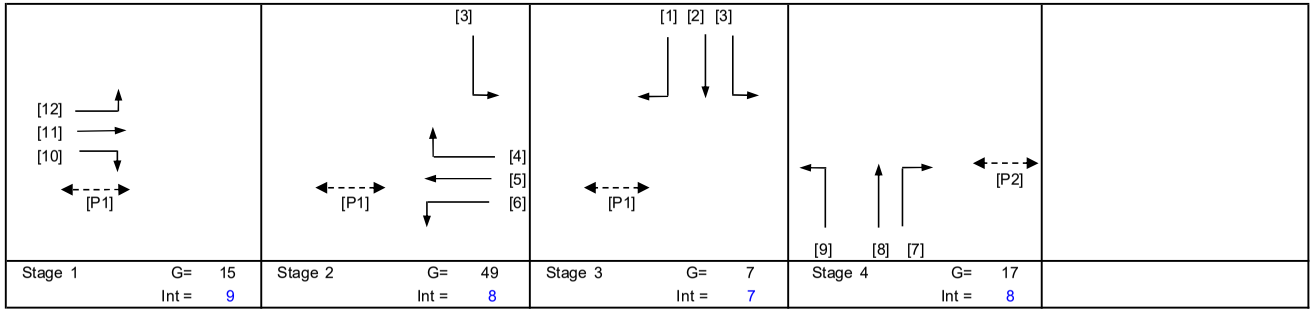
2035 Design AM

PROJECT NO.: 40876

FILENAME : J8_LYR_JCR_SWR.xlsx



No. of stages per cycle	N =	4
Cycle time	C =	120 sec
Sum(y)	Y =	0.621
Loss time	L =	28 sec
Total Flow	=	4529 pcu
Co = (1.5*L+5)/(1-Y)	=	124.0 sec
Cm = L/(1-Y)	=	73.9 sec
Yult	=	0.690
R.C.ult = (Yult-Y)/Y*100%	=	11.1 %
Cp = 0.9*L/(0.9-Y)	=	90.3 sec
Ymax = 1-L/C	=	0.767
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	**11 %**



Stage 1	G= 15	Int = 9
Stage 2	G= 49	Int = 8
Stage 3	G= 7	Int = 7
Stage 4	G= 17	Int = 8

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	1,2,3	9.4	7	9	0	62	9
P2	4	10.8	6	12	4	9	12

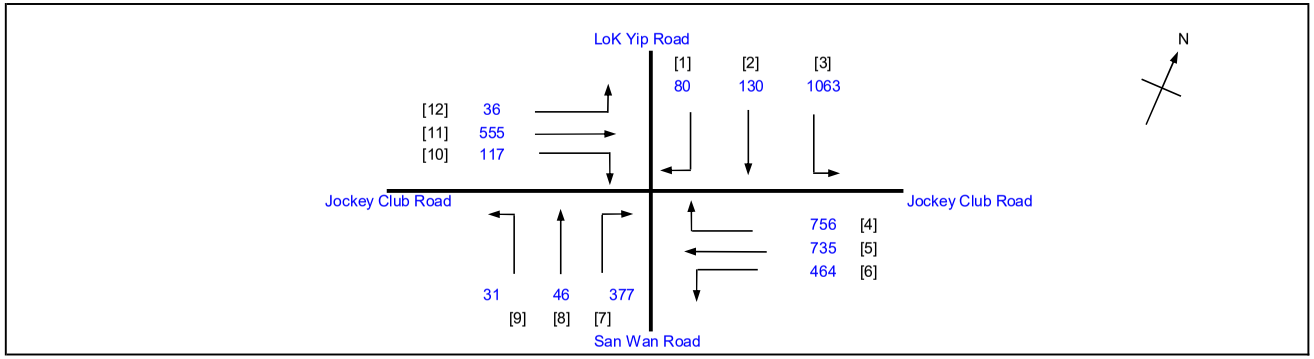
Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							28					
1	3	3.30	1	20			2085			83	83	1.00	1940							1940	0.043			6	8	0.629	12	70
2	3	3.30	1				2085		115		115	0.00	2085							2085	0.055	0.055		8	8	0.810	24	98
3	2,3	3.30	2	15		N	4030	1064			1064	1.00	3664							3664	0.290			43	43	0.810	66	37
4	2	3.30	1	20			2085			648	648	1.00	1940							1940	0.334			49	50	0.809	72	37
4,5	2	3.30	1	20			2085		578	111	689	0.16	2060							2060	0.334	0.334		50	50	0.810	78	36
5,6	2	3.30	1	15		N	1945	437	297		734	0.60	1836	30	360					2196	0.334			50	50	0.810	84	36
7	4	3.40	1	20			2095			243	243	1.00	1949							1949	0.125	0.125		18	18	0.810	42	67
7,8	4	3.40	1	20			2095		0	242	242	1.00	1949							1949	0.124			18	18	0.807	42	67
8,9	4	3.30	1	15		N	1945	39	35		74	0.53	1848							1848	0.040			6	18	0.260	12	42
10,11	1	3.40	1	20			2095		99	116	215	0.54	2014							2014	0.107	0.107		16	16	0.810	42	72
11	1	3.40	1				2095		222		222	0.00	2095							2095	0.106			16	16	0.804	42	70
11,12	1	3.40	1	10		N	1955	56	144		200	0.28	1876							1876	0.107			16	16	0.809	36	73

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

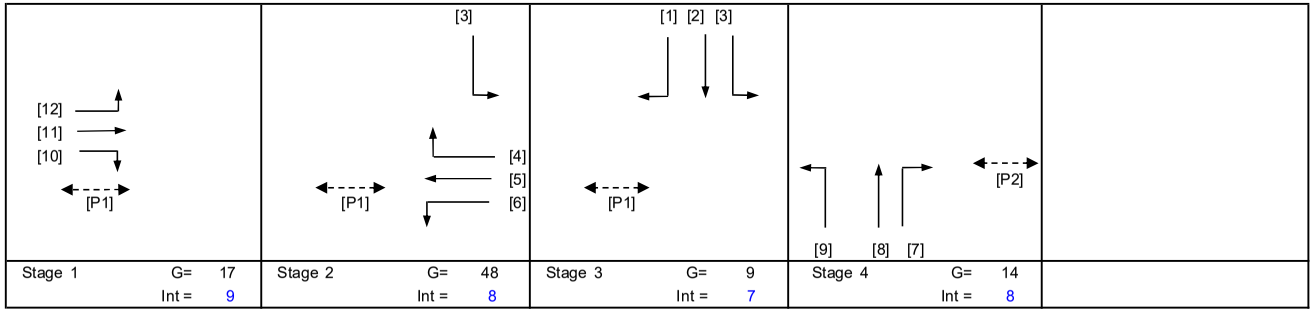
LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

		INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
2035 Design PM	FILENAME : J8_LYR_JCR_SWR.xlsx	Checked By:	SLN	Aug-24
J8 Lok Yip Road / Jockey Club Road / San Wan Road		Reviewed By:	SLN	Aug-24



No. of stages per cycle	N =	4
Cycle time	C =	120 sec
Sum(y)	Y =	0.594
Loss time	L =	28 sec
Total Flow	=	4390 pcu
Co = (1.5*L+5)/(1-Y)	=	115.8 sec
Cm = L/(1-Y)	=	69.0 sec
Yult	=	0.690
R.C.ult = (Yult-Y)/Y*100%	=	16.2 %
Cp = 0.9*L/(0.9-Y)	=	82.3 sec
Ymax = 1-L/C	=	0.767
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	**16 %**



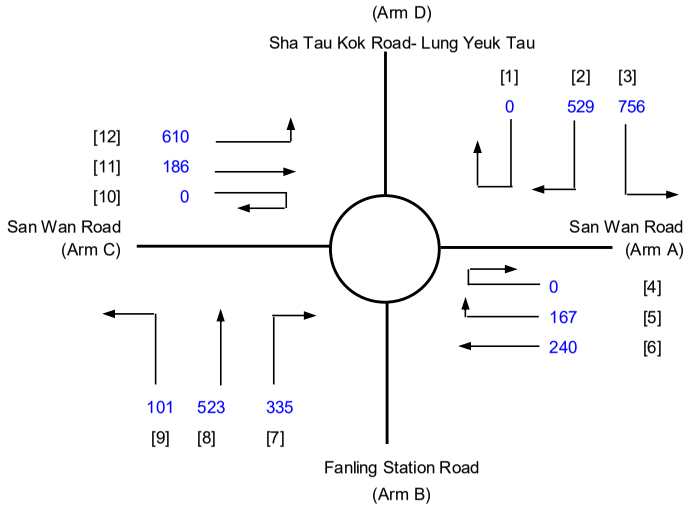
Stage 1	G= 17	Int = 9
Stage 2	G= 48	Int = 8
Stage 3	G= 9	Int = 7
Stage 4	G= 14	Int = 8

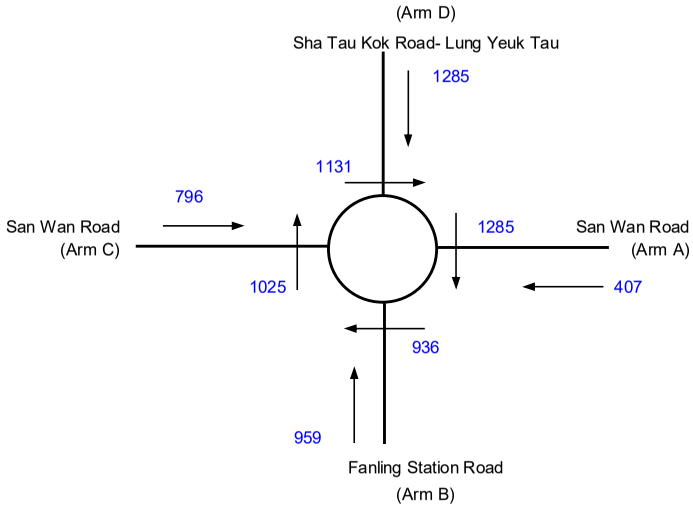
Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	1,2,3	9.4	7	9	0	66	9
P2	4	10.8	6	12	4	6	12

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							28					
1	3	3.30	1	20			2085			80	80	1.00	1940							1940	0.041			6	10	0.513	12	59
2	3	3.30	1				2085		130		130	0.00	2085							2085	0.062	0.062		10	10	0.775	24	82
3	2,3	3.30	2	15		N	4030	1063			1063	1.00	3664							3664	0.290			45	45	0.775	66	34
4	2	3.30	1	20			2085			614	614	1.00	1940							1940	0.317			49	49	0.774	72	35
4,5	2	3.30	1	20			2085		508	142	650	0.22	2051							2051	0.317	0.317		49	49	0.775	72	34
5,6	2	3.30	1	15		N	1945	464	227		691	0.67	1823	30	367					2190	0.316			49	49	0.772	78	34
7	4	3.40	1	20			2095			189	189	1.00	1949							1949	0.097	0.097		15	15	0.775	36	69
7,8	4	3.40	1	20			2095		0	188	188	1.00	1949							1949	0.096			15	15	0.771	36	68
8,9	4	3.30	1	15		N	1945	31	46		77	0.40	1870							1870	0.041			6	15	0.329	12	46
10,11	1	3.40	1	20			2095		121	117	238	0.49	2021							2021	0.118	0.118		18	18	0.775	42	62
11	1	3.40	1				2095		246		246	0.00	2095							2095	0.117			18	18	0.772	42	61
11,12	1	3.40	1	10		N	1955	36	188		224	0.16	1909							1909	0.117			18	18	0.772	42	63

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J9_SWR_STKR_FS	CHECKED BY:	SLN	Aug-24
J9 Sha Tau Kok Road / San Wan Road / Fanling Station Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



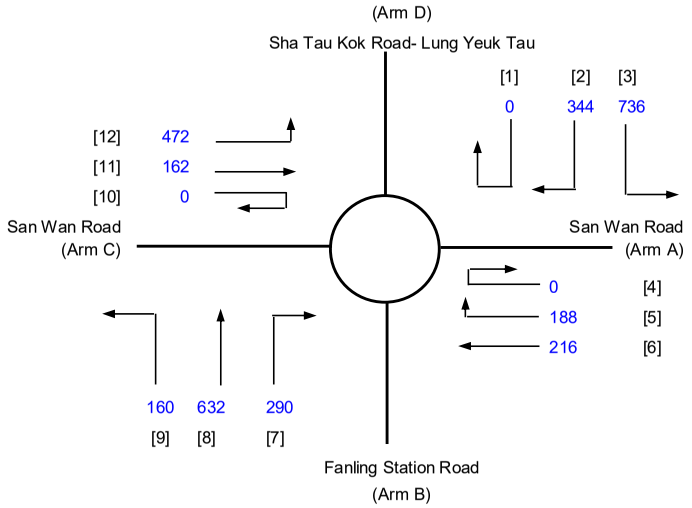


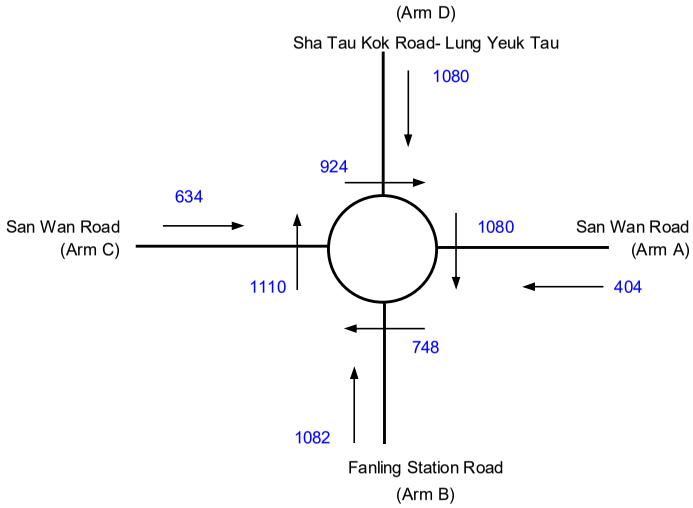
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.50	5.00	7.50	6.00
E	=	Entry width (m)	9.50	8.50	9.00	9.50
L	=	Effective length of flare (m)	50.00	15.00	50.00	50.00
R	=	Entry radius (m)	100.00	20.00	45.00	50.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	30.00	60.00	30.00	25.00
Q	=	Entry flow (pcu/h)	407	959	796	1285
Qc	=	Circulating flow across entry (pcu/h)	1285	936	1025	1131
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.37	0.05	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04	0.90	1.03	1.05
X2	=	V + ((E-V)/(1+2S))	9.27	7.00	8.87	8.86
M	=	EXP((D-60)/10)	1	1	1	1
F	=	303*X2	2810	2122	2687	2684
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.79	0.66	0.76	0.76
Qe	=	K(F-Fc*Qc)	1870	1347	1956	1906
DFC	=	Design flow/Capacity = Q/Qe	0.22	0.71	0.41	0.67

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.71

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Reference PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J9_SWR_STKR_FS	CHECKED BY:	SLN	Aug-24
J9 Sha Tau Kok Road / San Wan Road / Fanling Station Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



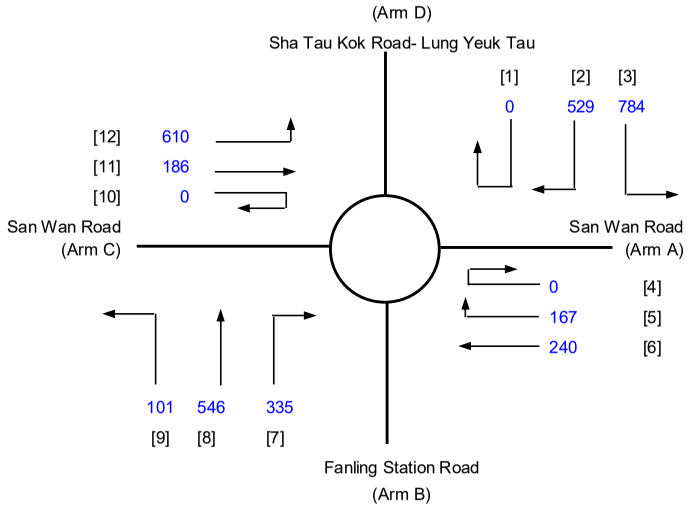


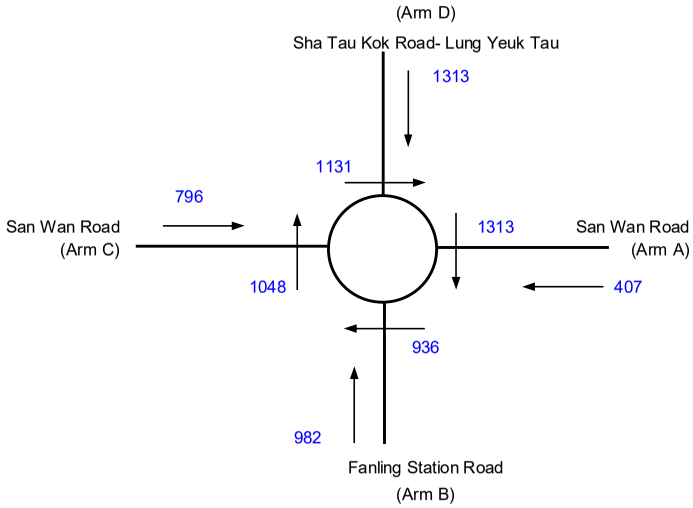
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.50	5.00	7.50	6.00
E	=	Entry width (m)	9.50	8.50	9.00	9.50
L	=	Effective length of flare (m)	50.00	15.00	50.00	50.00
R	=	Entry radius (m)	100.00	20.00	45.00	50.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	30.00	60.00	30.00	25.00
Q	=	Entry flow (pcu/h)	404	1082	634	1080
Qc	=	Circulating flow across entry (pcu/h)	1080	748	1110	924
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.37	0.05	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04	0.90	1.03	1.05
X2	=	V + ((E-V)/(1+2S))	9.27	7.00	8.87	8.86
M	=	EXP((D-60)/10)	1	1	1	1
F	=	303*X2	2810	2122	2687	2684
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.79	0.66	0.76	0.76
Qe	=	K(F-Fc*Qc)	2038	1458	1889	2072
DFC	=	Design flow/Capacity = Q/Qe	0.20	0.74	0.34	0.52

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.74

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design AM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J9_SWR_STKR_FS	CHECKED BY:	SLN	Aug-24
J9 Sha Tau Kok Road / San Wan Road / Fanling Station Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24



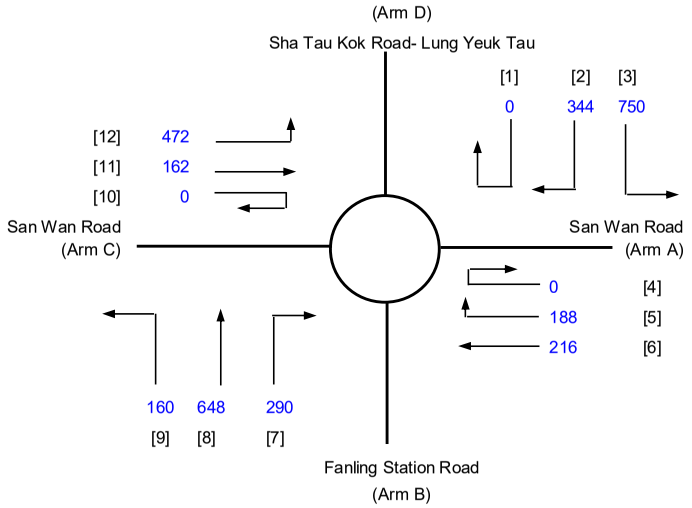


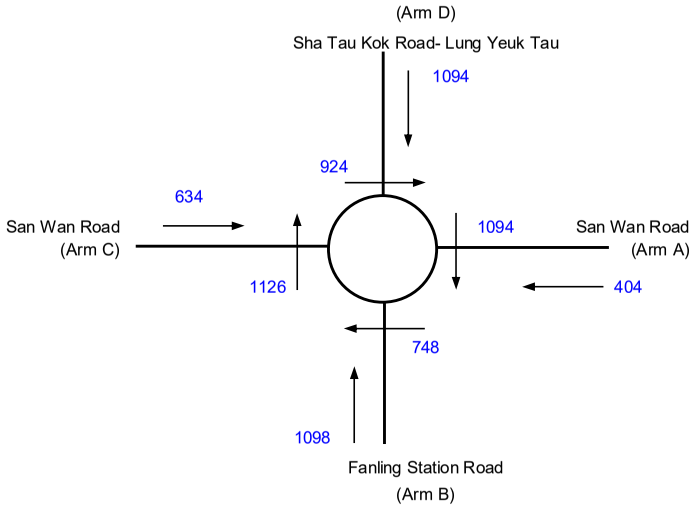
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.50	5.00	7.50	6.00
E	=	Entry width (m)	9.50	8.50	9.00	9.50
L	=	Effective length of flare (m)	50.00	15.00	50.00	50.00
R	=	Entry radius (m)	100.00	20.00	45.00	50.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	30.00	60.00	30.00	25.00
Q	=	Entry flow (pcu/h)	407	982	796	1313
Qc	=	Circulating flow across entry (pcu/h)	1313	936	1048	1131
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.37	0.05	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04	0.90	1.03	1.05
X2	=	V + ((E-V)/(1+2S))	9.27	7.00	8.87	8.86
M	=	EXP((D-60)/10)	1	1	1	1
F	=	303*X2	2810	2122	2687	2684
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.79	0.66	0.76	0.76
Qe	=	K(F-Fc*Qc)	1847	1347	1938	1906
DFC	=	Design flow/Capacity = Q/Qe	0.22	0.73	0.41	0.69

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.73

LLA CONSULTANCY LIMITED	ROUNDABOUT CALCULATION			INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	**2035 Design PM**	PROJECT NO.: 40876	PREPARED BY:	SKL	Aug-24
		FILENAME : J9_SWR_STKR_FS	CHECKED BY:	SLN	Aug-24
J9 Sha Tau Kok Road / San Wan Road / Fanling Station Road		REFERENCE NO.:	REVIEWED BY:	SLN	Aug-24





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.50	5.00	7.50	6.00
E	=	Entry width (m)	9.50	8.50	9.00	9.50
L	=	Effective length of flare (m)	50.00	15.00	50.00	50.00
R	=	Entry radius (m)	100.00	20.00	45.00	50.00
D	=	Inscribed circle diameter (m)	55.00	55.00	55.00	55.00
A	=	Entry angle (degree)	30.00	60.00	30.00	25.00
Q	=	Entry flow (pcu/h)	404	1098	634	1094
Qc	=	Circulating flow across entry (pcu/h)	1094	748	1126	924
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.37	0.05	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04	0.90	1.03	1.05
X2	=	V + ((E-V)/(1+2S))	9.27	7.00	8.87	8.86
M	=	EXP((D-60)/10)	1	1	1	1
F	=	303*X2	2810	2122	2687	2684
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.79	0.66	0.76	0.76
Qe	=	K(F-Fc*Qc)	2026	1458	1877	2072
DFC	=	Design flow/Capacity = Q/Qe	0.20	0.75	0.34	0.53

Total In Sum = 2234 PCU

DFC of Critical Approach = 0.75

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

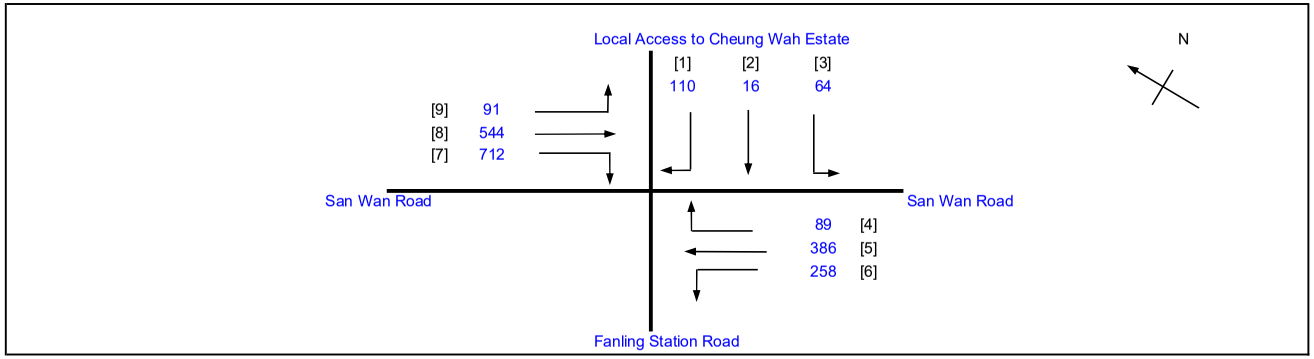
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

J10 San Wan Road / Fanling Station Road

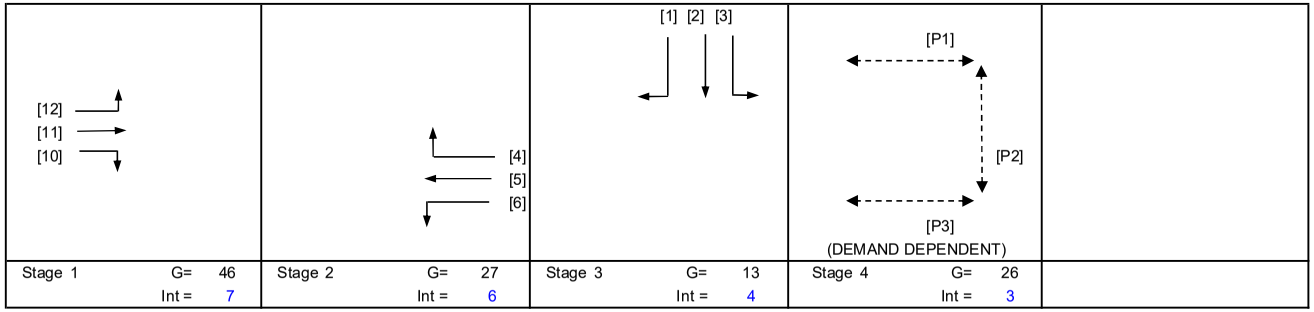
2035 Reference AM

PROJECT NO.: 40876

FILENAME : J10_SWR_FSR.xlsx



No. of stages per cycle	N =	4
Cycle time	C =	122 sec
Sum(y)	Y =	0.604
Loss time	L =	33 sec
Total Flow	=	2270 pcu
Co = (1.5*L+5)/(1-Y)	=	137.5 sec
Cm = L/(1-Y)	=	83.3 sec
Yult	=	0.653
R.C.ult = (Yult-Y)/Y*100%	=	8.1 %
Cp = 0.9*L/(0.9-Y)	=	100.2 sec
Ymax = 1-L/C	=	0.730
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	**9 %**



Stage 1	G= 46	Int = 7
Stage 2	G= 27	Int = 6
Stage 3	G= 13	Int = 4
Stage 4	G= 26	Int = 3

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	4		6	15	5	9	15
P2	4		6	15	5	9	15
P3	4		6	15	5	9	15

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							17					
4	1	3.30	1	14			2085			602	602	1.00	1883							1883	0.320	0.320		47	47	0.827	78	41
4,5	1	3.30	1	14			2085		544	110	654	0.17	2048							2048	0.319			47	47	0.827	84	40
6	1	3.30	1	10		N	1945	91			91	1.00	1691							1691	0.054			8	47	0.139	6	22
2,3	2	3.50	1	18			2105	258	116		374	0.69	1991							1991	0.188			28	28	0.825	60	57
1,2	2	3.50	1	12		N	1965		270	89	359	0.25	1906							1906	0.188	0.188		28	28	0.827	60	58
7,8,9	3	6.00	1	12		N	2215	64	16	110	190	0.92	1987							1987	0.096	0.096		14	14	0.827	42	81
PED	4	(DEMAND DEPENDENT STAGE)																					26					

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

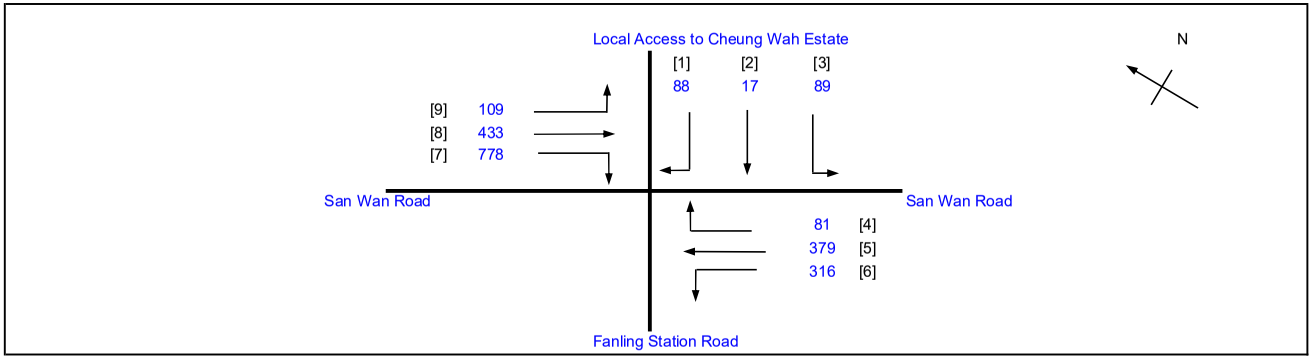
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

J10 San Wan Road / Fanling Station Road

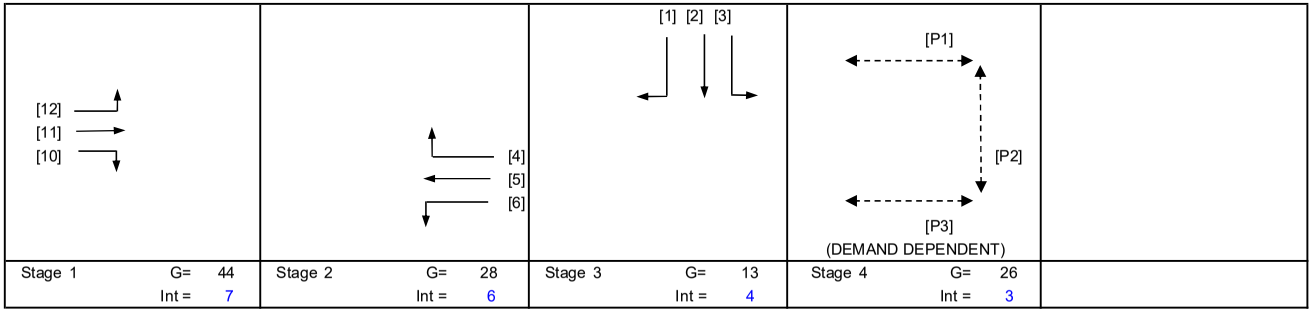
2035 Reference PM

PROJECT NO.: 40876

FILENAME : J10_SWR_FSR.xlsx



No. of stages per cycle		N =	4
Cycle time		C =	122 sec
Sum(y)		Y =	0.608
Loss time		L =	33 sec
Total Flow		=	2290 pcu
Co	= (1.5*L+5)/(1-Y)	=	139.0 sec
Cm	= L/(1-Y)	=	84.2 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	7.3 %
Cp	= 0.9*L/(0.9-Y)	=	101.7 sec
Ymax	= 1-L/C	=	0.730
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**8 %**



Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	4		6	15	5	9	15
P2	4		6	15	5	9	15
P3	4		6	15	5	9	15

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							17				
4	1	3.30	1	14			2085			585	585	1.00	1883							1883	0.311	0.311		45	45	0.833	78	43
4,5	1	3.30	1	14			2085		433	193	626	0.31	2018							2018	0.310			45	45	0.832	78	42
6	1	3.30	1	10		N	1945	109			109	1.00	1691							1691	0.064			9	45	0.173	12	24
2,3	2	3.50	1	18			2105	316	78		394	0.80	1973							1973	0.200	0.200		29	29	0.833	66	57
1,2	2	3.50	1	12		N	1965		301	81	382	0.21	1914							1914	0.200			29	29	0.833	66	57
7,8,9	3	6.00	1	12		N	2215	89	17	88	194	0.91	1988							1988	0.098	0.098		14	14	0.833	42	82
PED	4	(DEMAND DEPENDENT STAGE)																					26					

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

	INITIALS	DATE
Prepared By:	SKL	Aug-24
Checked By:	SLN	Aug-24
Reviewed By:	SLN	Aug-24

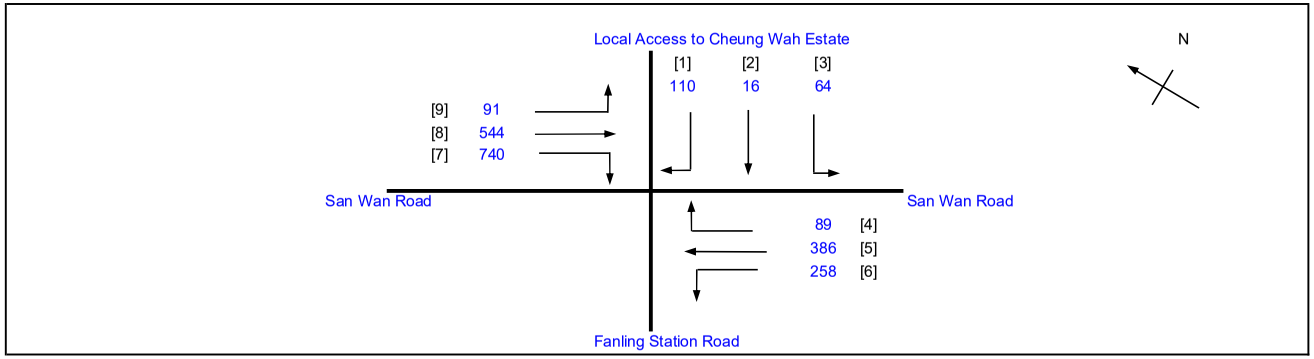
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories

J10 San Wan Road / Fanling Station Road

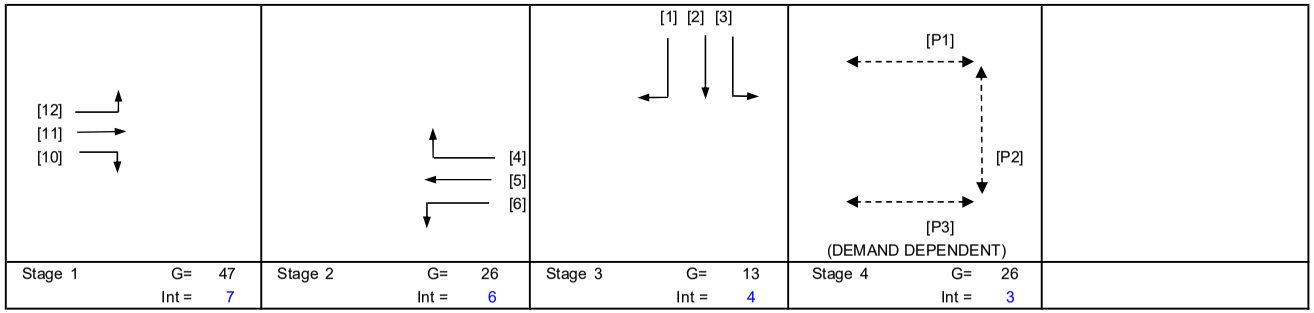
2035 Design AM

PROJECT NO.: 40876

FILENAME : J10_SWR_FSR.xlsx



No. of stages per cycle		N =	4
Cycle time		C =	122 sec
Sum(y)		Y =	0.611
Loss time		L =	33 sec
Total Flow		=	2298 pcu
Co	= (1.5*L+5)/(1-Y)	=	140.1 sec
Cm	= L/(1-Y)	=	84.8 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	6.8 %
Cp	= 0.9*L/(0.9-Y)	=	102.8 sec
Ymax	= 1-L/C	=	0.730
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**7 %**



Stage 1	G= 47	Int = 7
Stage 2	G= 26	Int = 6
Stage 3	G= 13	Int = 4
Stage 4	G= 26	Int = 3

Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	4		6	15	5	9	15
P2	4		6	15	5	9	15
P3	4		6	15	5	9	15

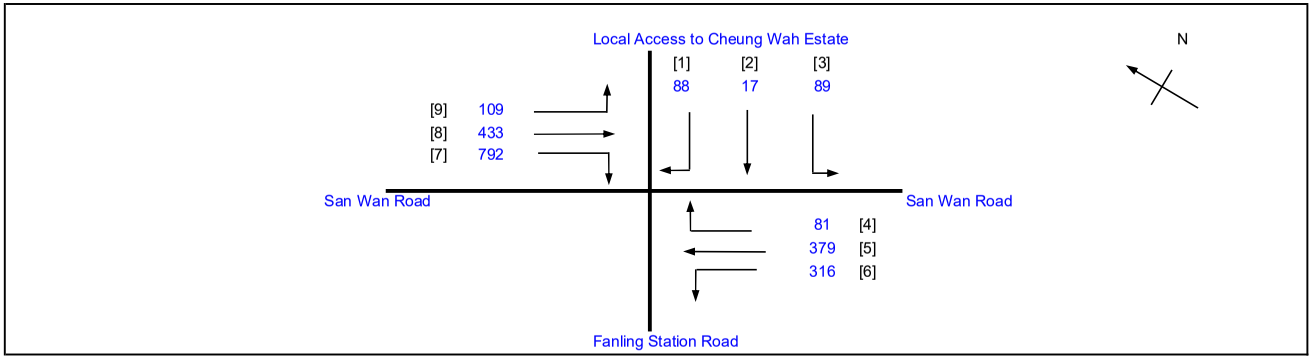
Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							17					
4	1	3.30	1	14			2085			616	616	1.00	1883							1883	0.327	0.327		48	48	0.838	78	42
4,5	1	3.30	1	14			2085		544	124	668	0.19	2044							2044	0.327			48	48	0.837	84	41
6	1	3.30	1	10		N	1945	91			91	1.00	1691							1691	0.054			8	48	0.138	6	22
2,3	2	3.50	1	18			2105	258	116		374	0.69	1991							1991	0.188			27	27	0.836	66	59
1,2	2	3.50	1	12		N	1965		270	89	359	0.25	1906							1906	0.188	0.188		27	27	0.838	60	60
7,8,9	3	6.00	1	12		N	2215	64	16	110	190	0.92	1987							1987	0.096	0.096		14	14	0.838	42	84
PED	4	(DEMAND DEPENDENT STAGE)																					26					

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

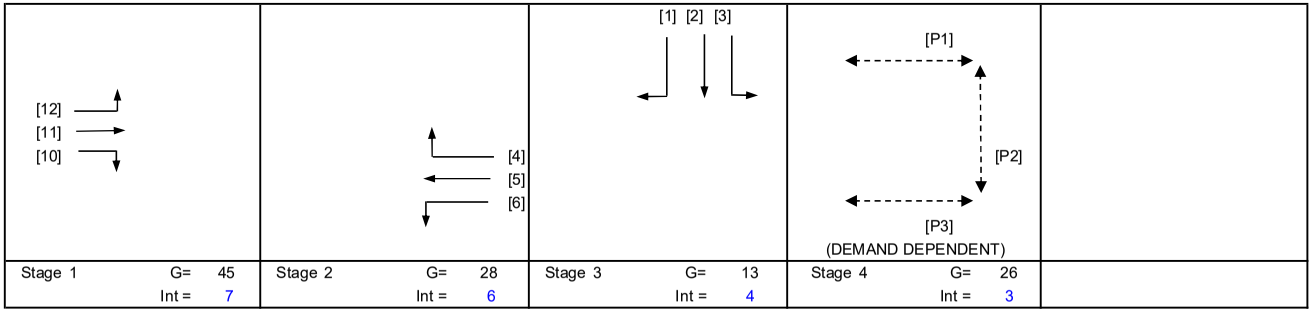
LLA CONSULTANCY LIMITED

TRAFFIC SIGNAL CALCULATION

		INITIALS	DATE
Application for Amendment of Plan under Section 12A for the Town Planning Ordinance (Cap. 131) for Mixed Use Development at Lot 796 and 1008RP in D.D. 77 and Adjoining Government Land in Ping Che, Ta Kwu Ling, New Territories	PROJECT NO.: 40876	Prepared By:	SKL	Aug-24
2035 Design PM	FILENAME : J10_SWR_FSR.xlsx	Checked By:	SLN	Aug-24
J10 San Wan Road / Fanling Station Road		Reviewed By:	SLN	Aug-24



No. of stages per cycle		N =	4
Cycle time		C =	122 sec
Sum(y)		Y =	0.612
Loss time		L =	33 sec
Total Flow		=	2304 pcu
Co	= (1.5*L+5)/(1-Y)	=	140.3 sec
Cm	= L/(1-Y)	=	85.0 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	6.7 %
Cp	= 0.9*L/(0.9-Y)	=	103.0 sec
Ymax	= 1-L/C	=	0.730
R.C.(C)	**= (0.9*Ymax-Y)/Y*100%**	=	**7 %**



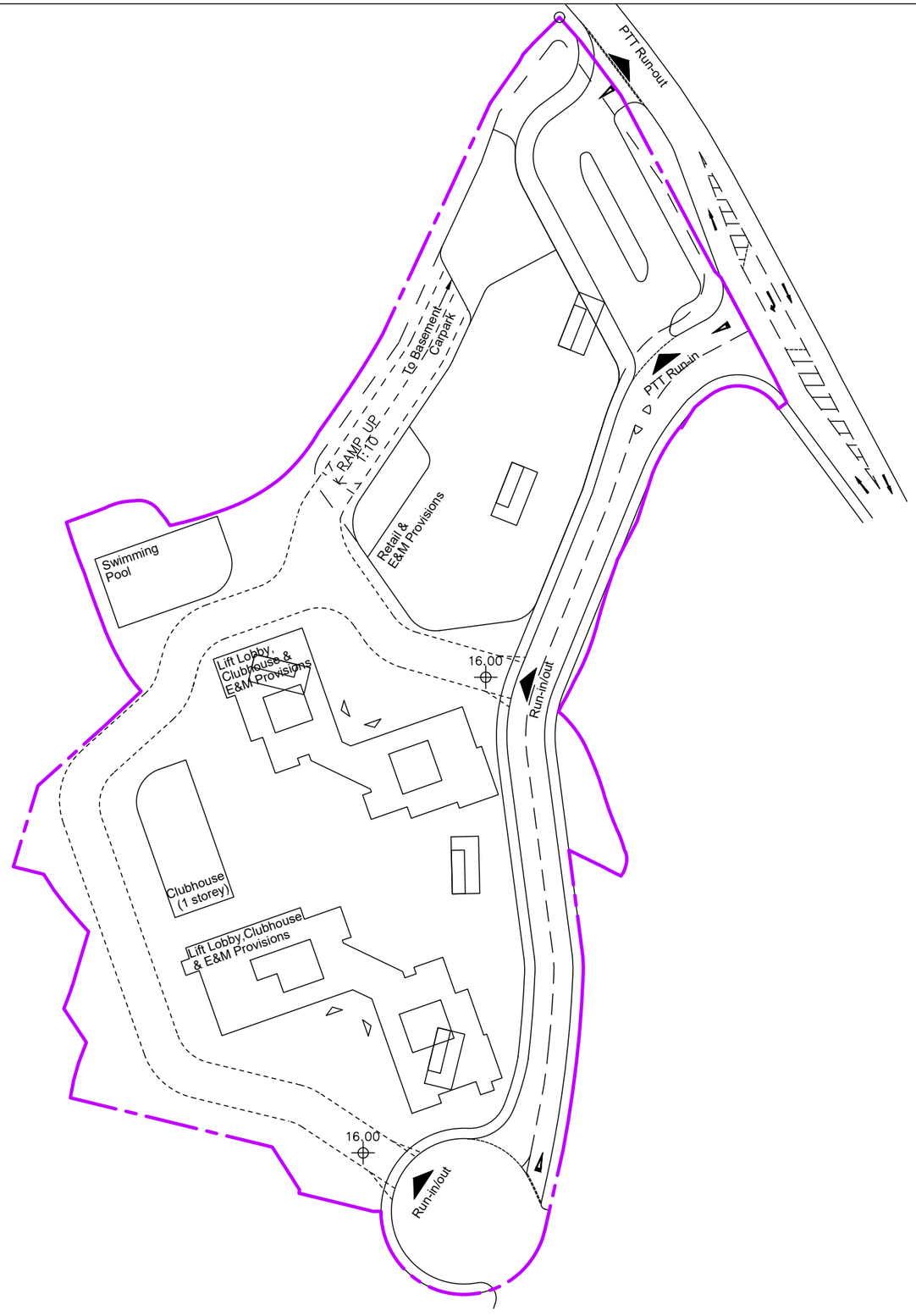
Pedestrian Phase	Stage	Width (m)	Green Time Required SG	FG	Delay	Green Time Provided SG	FG
P1	4		6	15	5	9	15
P2	4		6	15	5	9	15
P3	4		6	15	5	9	15

Move-ment	Stage	Lane Width m.	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare Lane m.	Flare Effect pcu/hr	Site Factor	Site Effect pcu/hr	Gradient %	Gradient Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																							17					
4	1	3.30	1	14			2085			592	592	1.00	1883							1883	0.314	0.314		46	46	0.838	78	43
4,5	1	3.30	1	14			2085		433	200	633	0.32	2017							2017	0.314			46	46	0.837	84	42
6	1	3.30	1	10		N	1945	109			109	1.00	1691							1691	0.064			9	46	0.172	12	23
2,3	2	3.50	1	18			2105	316	78		394	0.80	1973							1973	0.200	0.200		29	29	0.838	66	58
1,2	2	3.50	1	12		N	1965		301	81	382	0.21	1914							1914	0.200			29	29	0.838	66	58
7,8,9	3	6.00	1	12		N	2215	89	17	88	194	0.91	1988							1988	0.098	0.098		14	14	0.838	42	84
PED	4	(DEMAND DEPENDENT STAGE)																					26					

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

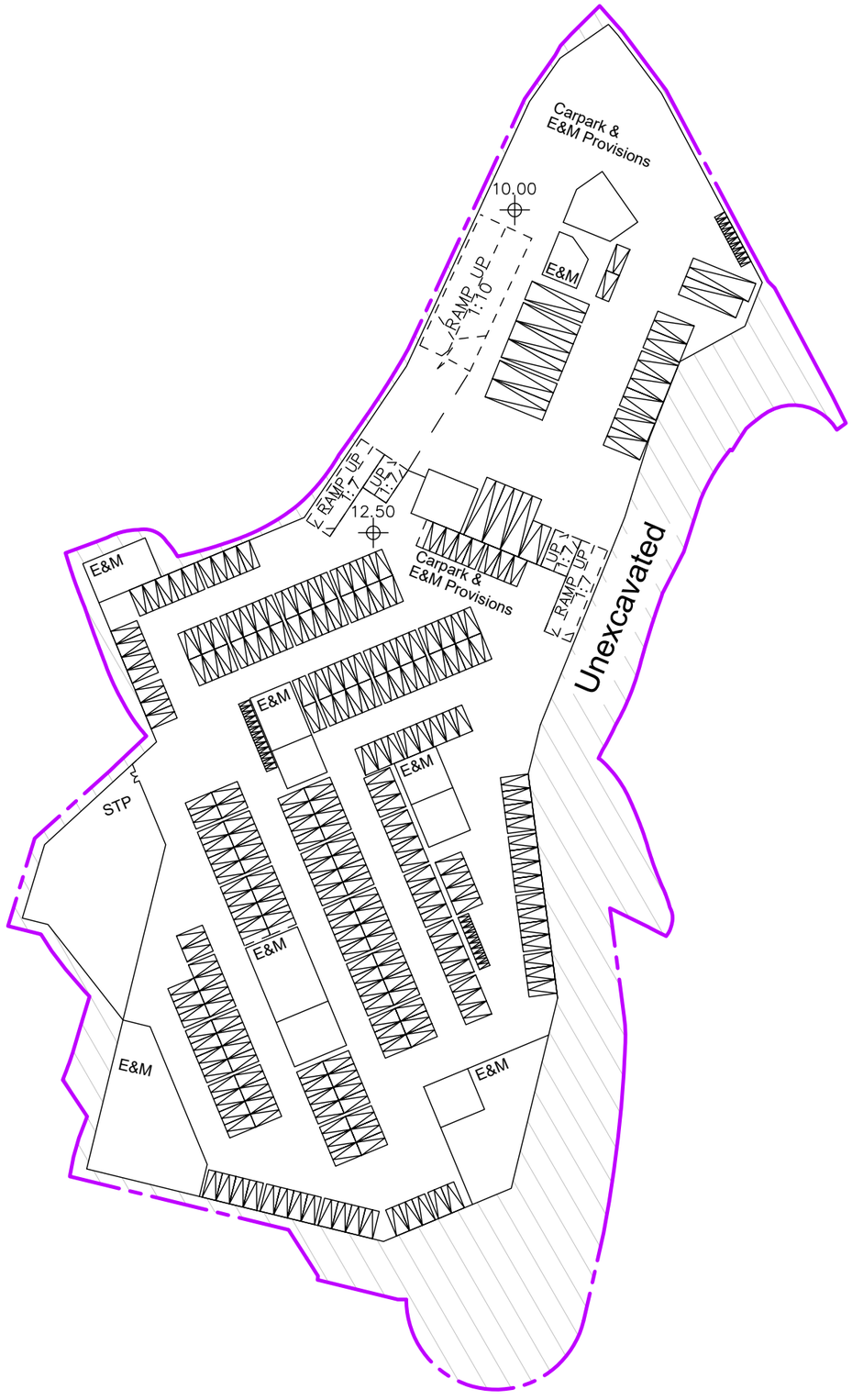
Appendix C

Preliminary Car Park Layout Plan and Swept Path Analysis



GROUND FLOOR

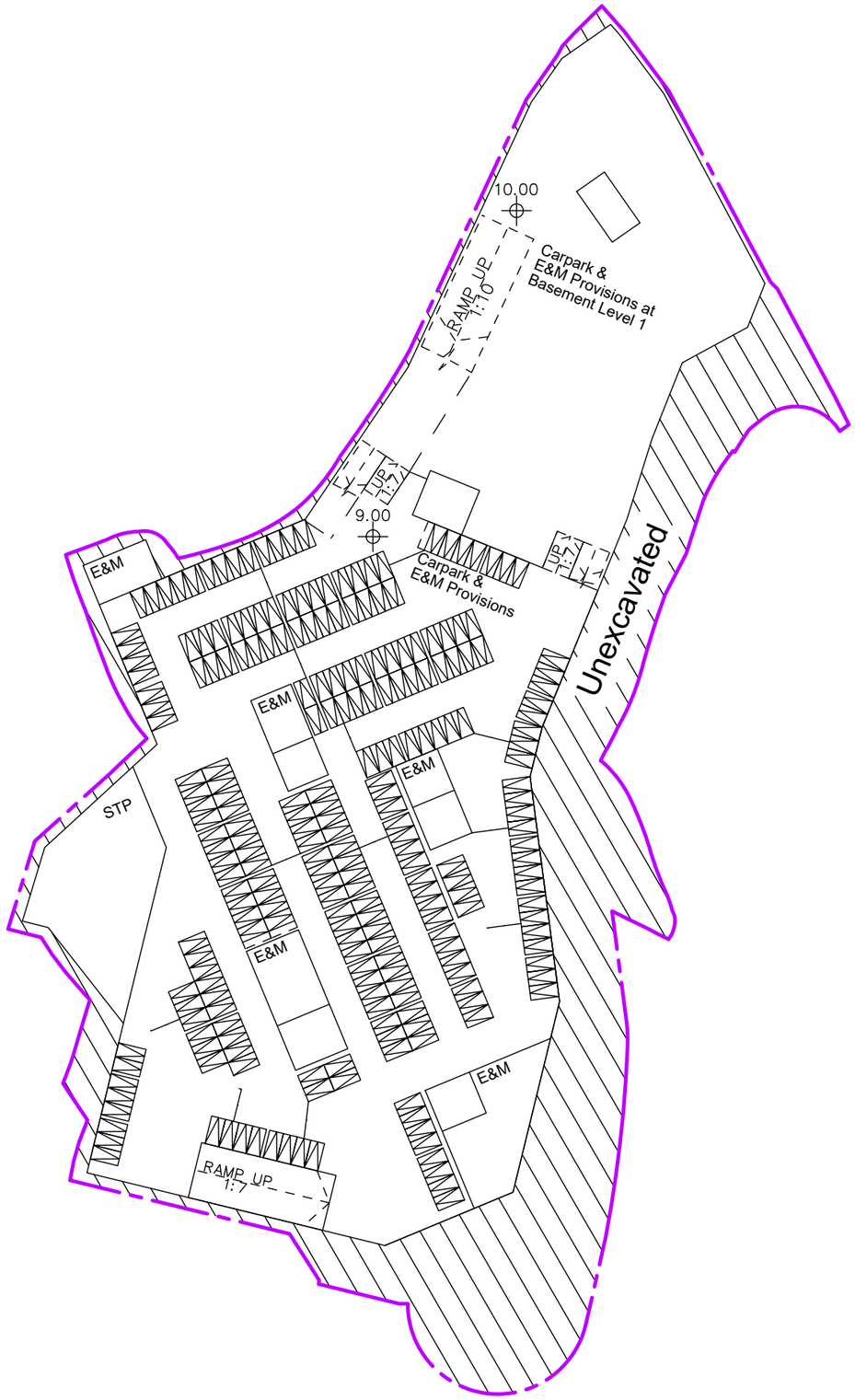
(SCALE 1:1000 @ A3)



PC: 238
LGV:8
HGV: 10
Tour Bus: 1
Motorcycle: 11
Lay-by PC : 2

BASEMENT 1 FLOOR

(SCALE 1:1000 @ A3)



PC: 242
Motorcycle: 11

BASEMENT 2 FLOOR

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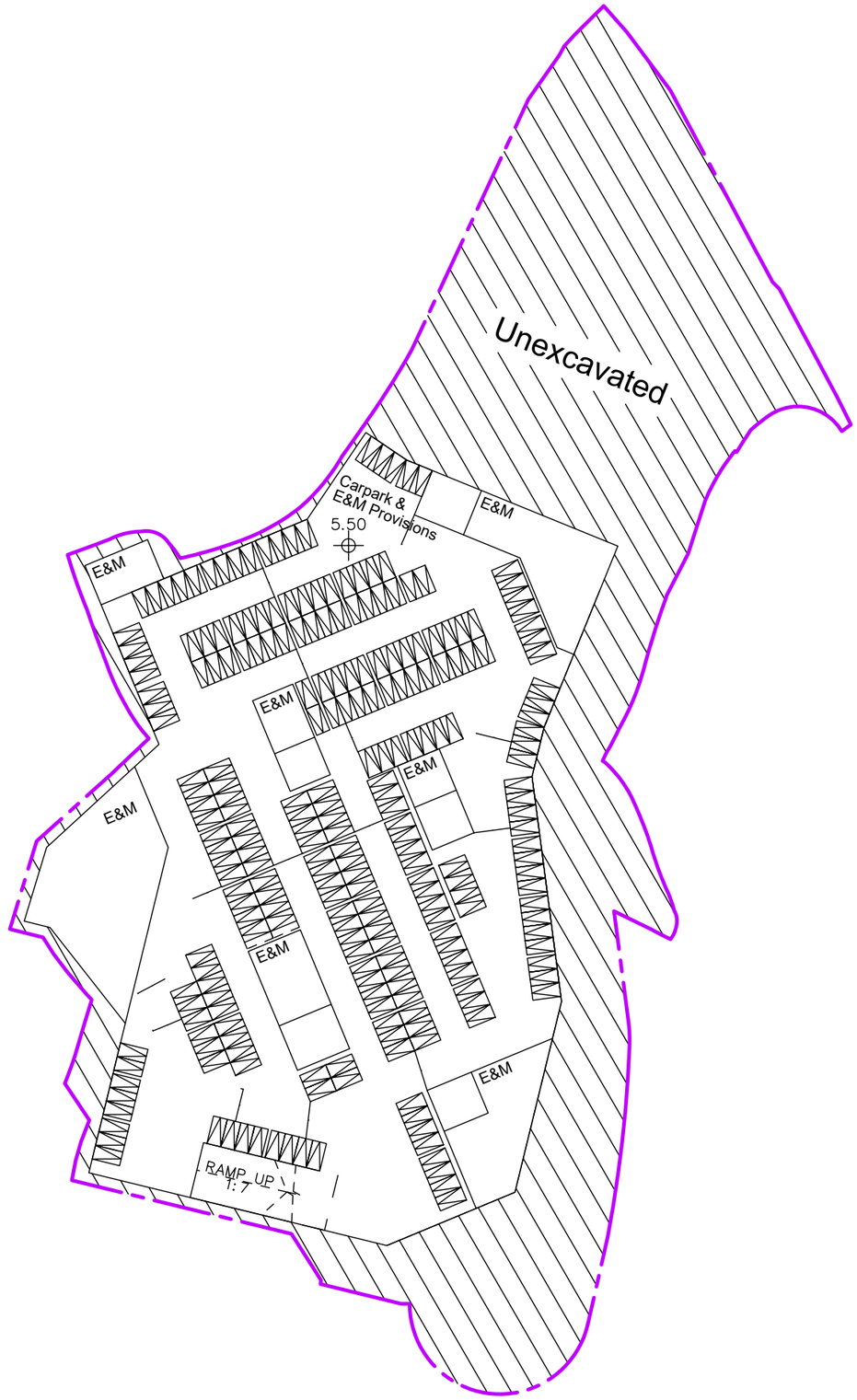

PC: 245
Motorcycle: 11

BASEMENT 3 FLOOR

(SCALE 1:1000 @ A3)

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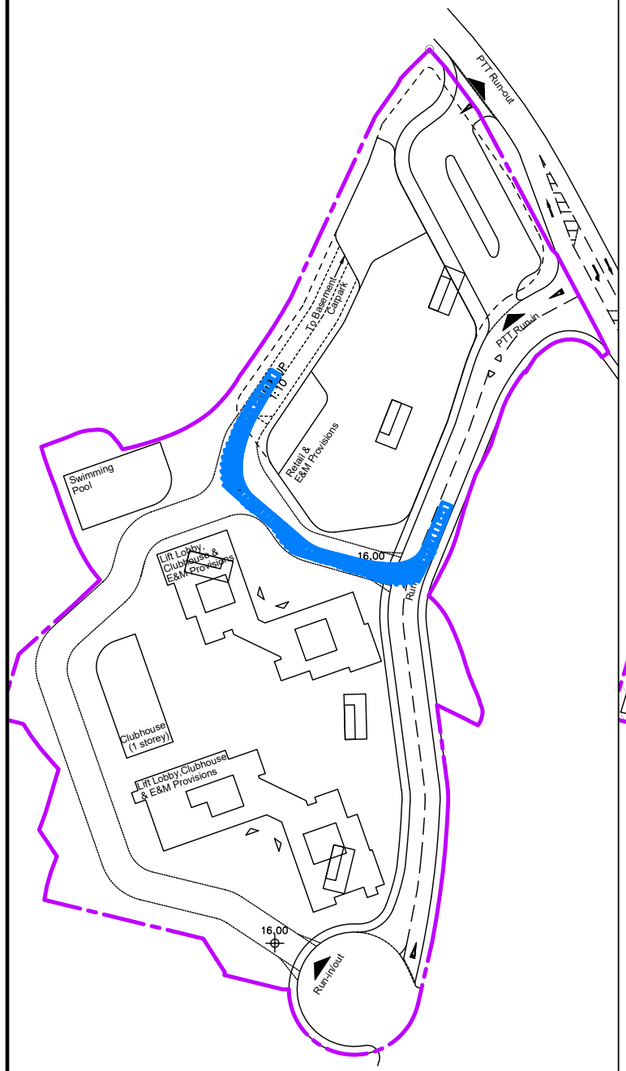

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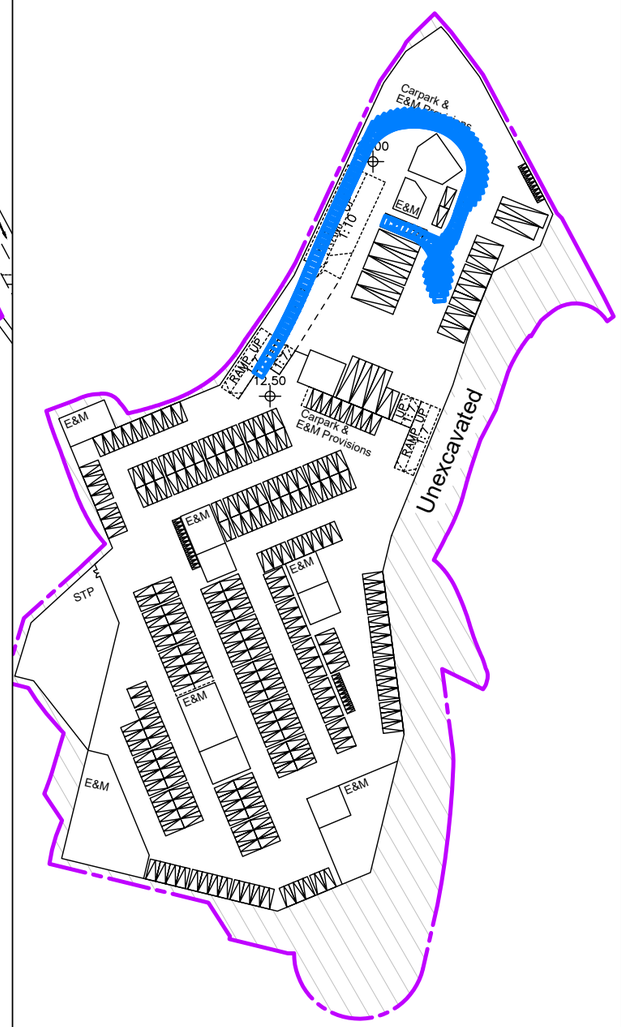

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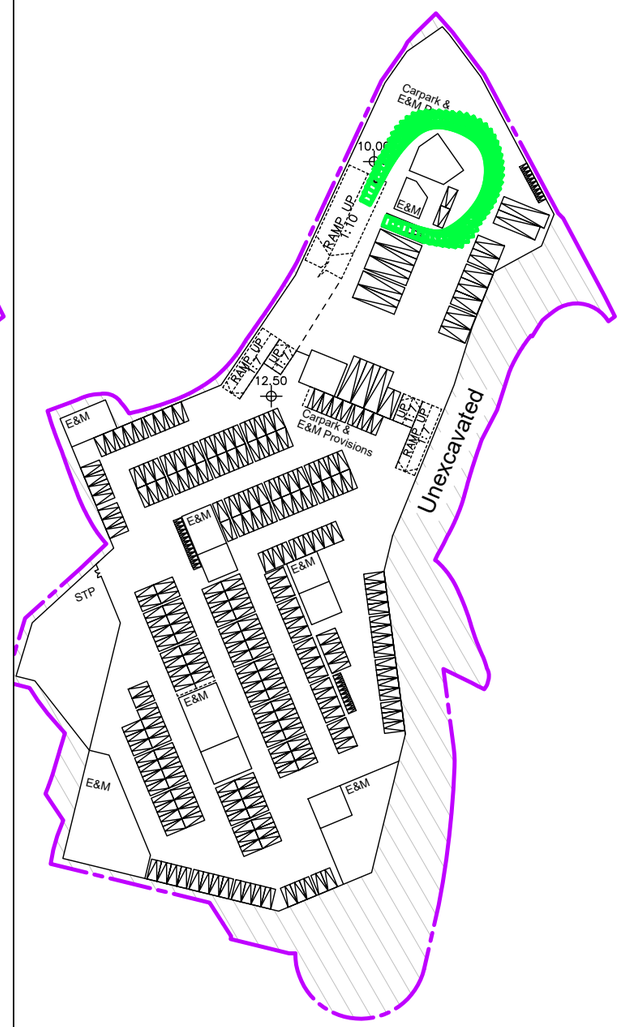

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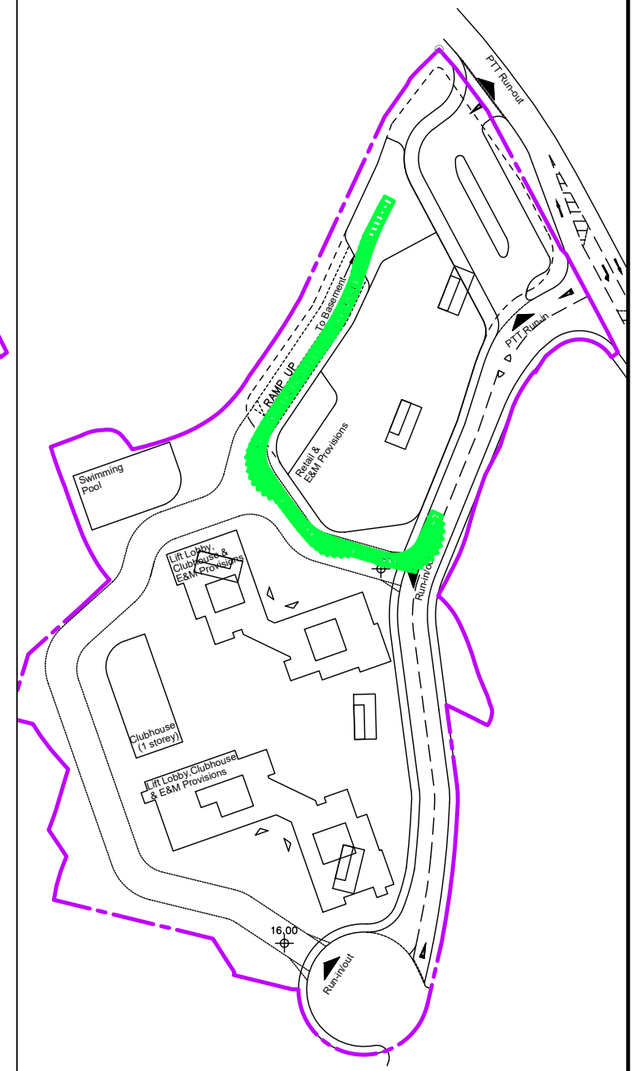

ENTERING FROM GF TO B1

PARKING AT B1

LEAVEING FROM PARKING SPACE AT B1

LEAVGING FROM B1 TO GF

PROJECT NO. 40876	PROJECT TITLE: RESIDENTIAL DEVELOPMENT AT PING CHE D.D.77 LOT 796 & 1008 RP - TIA STUDY FOR S12A REZONING APPLICATION		DRAWING NO. SP-01 / REV. ·
DESIGNED SKL / DATE MAR 2024	DRAWING TITLE: **SWEPT PATH ANALYSIS - HGV**		LLA 顧問有限公司 Consultancy Limited
DRAWN CLL / SCALE 1:1500 @ A3			
CHECKED SLN			

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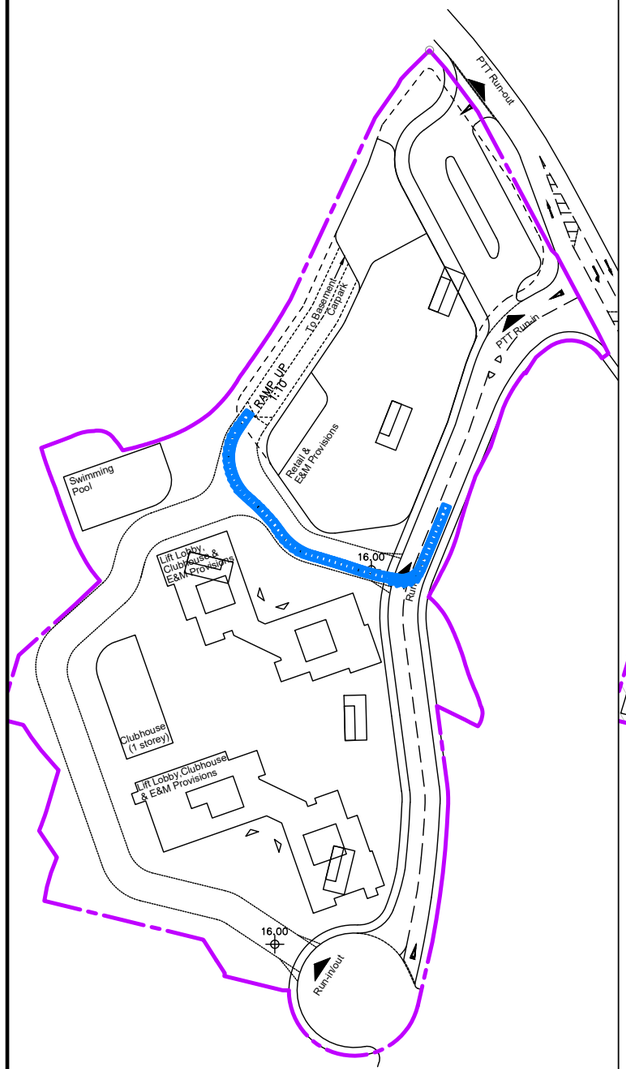

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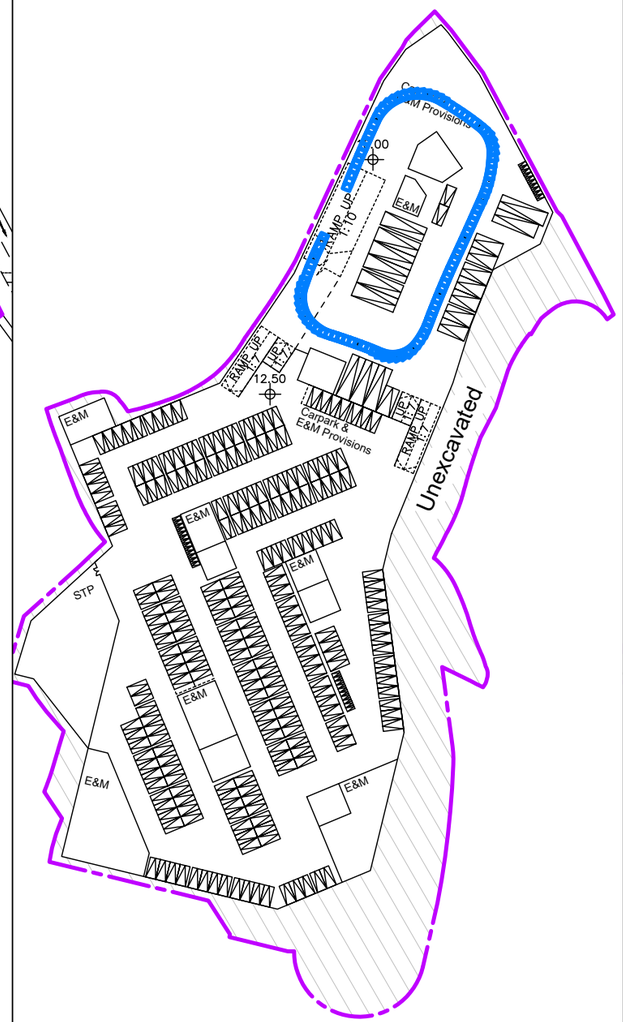

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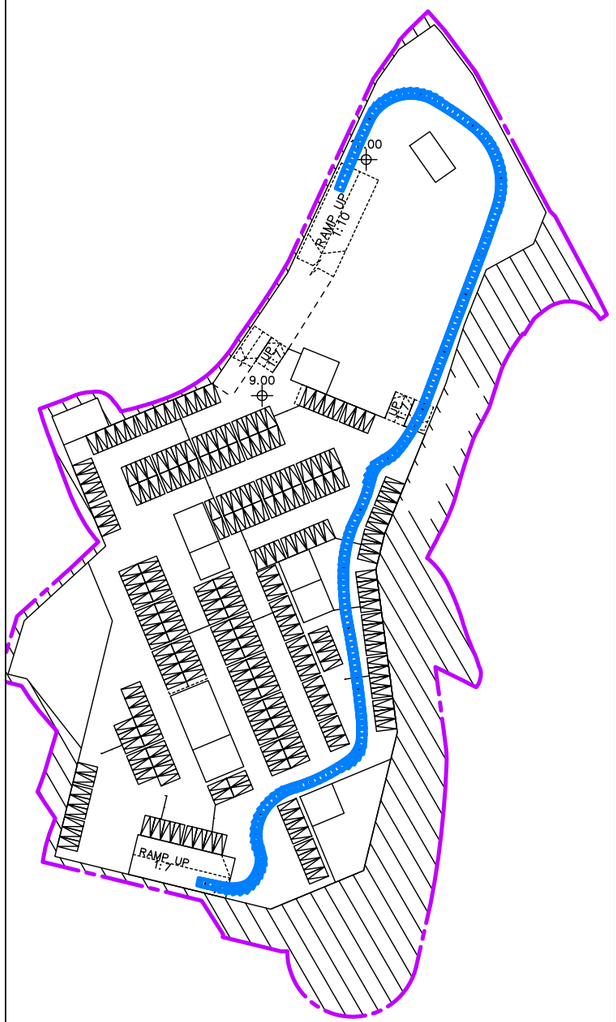
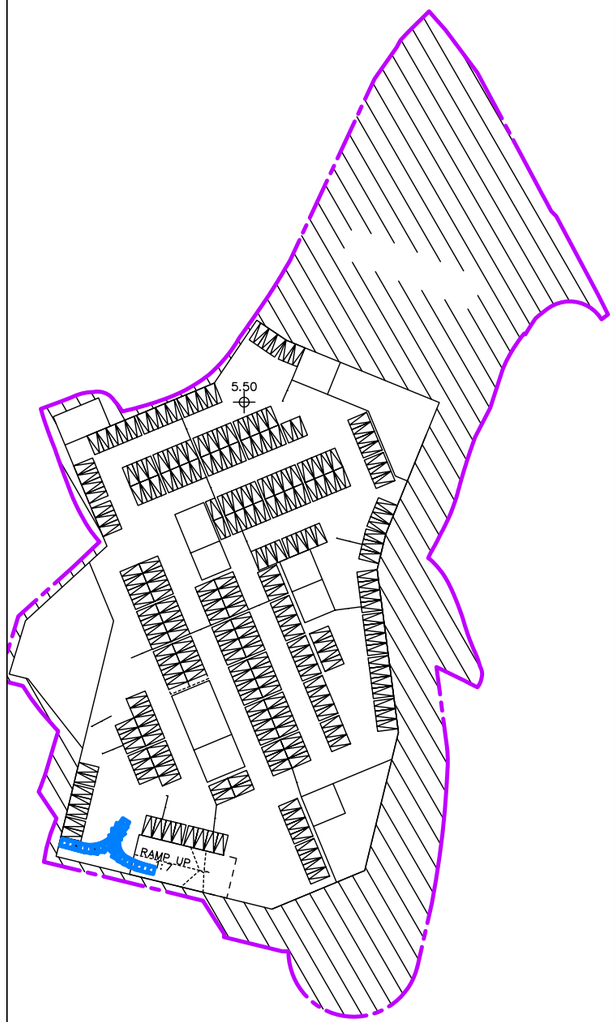


STEP 4



ENTERING FROM GF TO B1

B1 TO B2

B2 TO B3

PARKING AT B3

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DESIGNED SKL / DATE MAR 2024 / DRAWN CLL / SCALE 1:1500 @ A3 / CHECKED SLN	DRAWING TITLE **SWEPT PATH ANALYSIS - PC**	LLA 顧問有限公司 Consultancy Limited	

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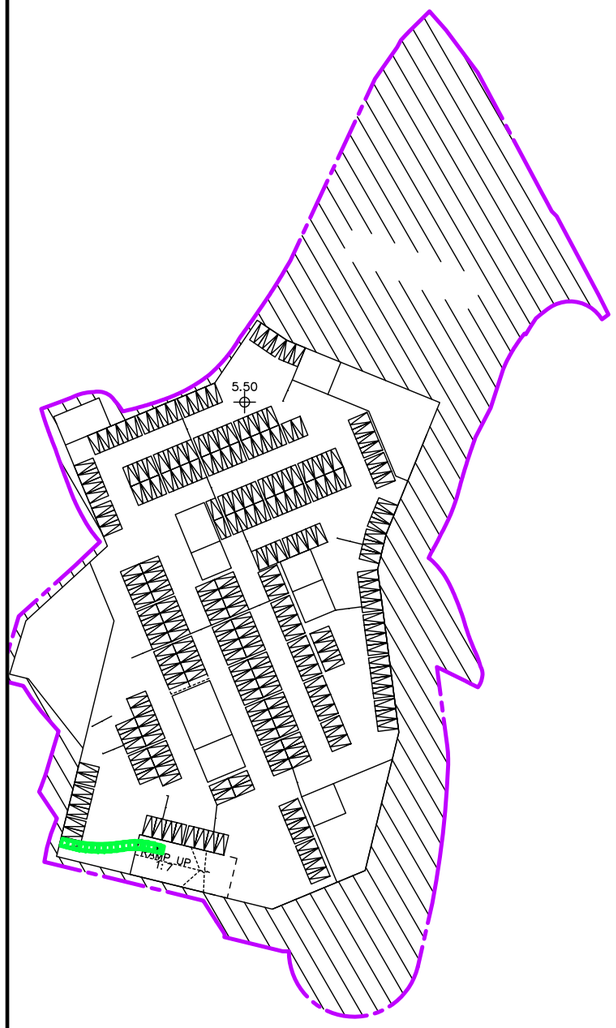
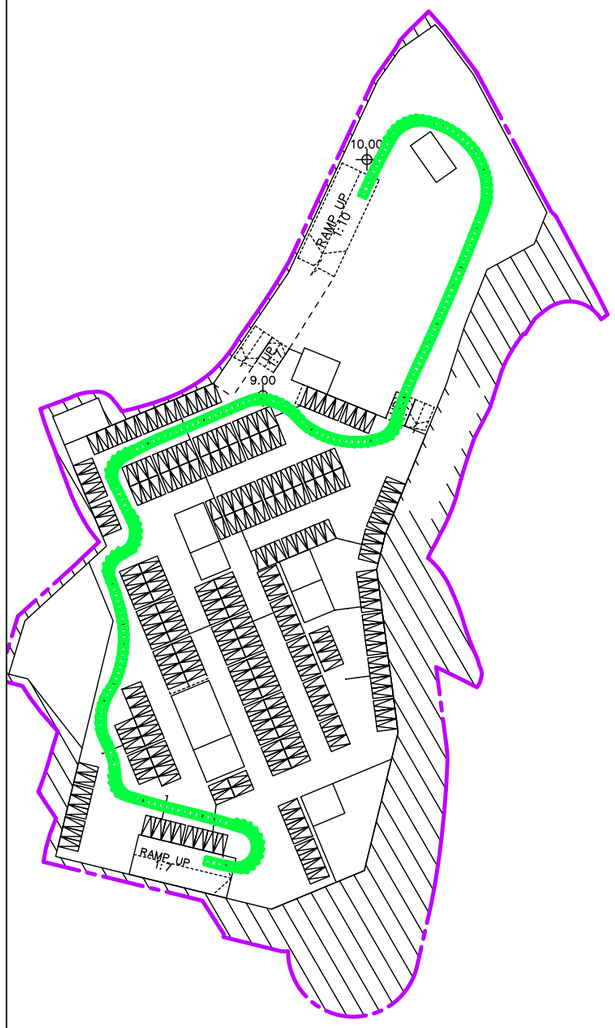
STEP 1



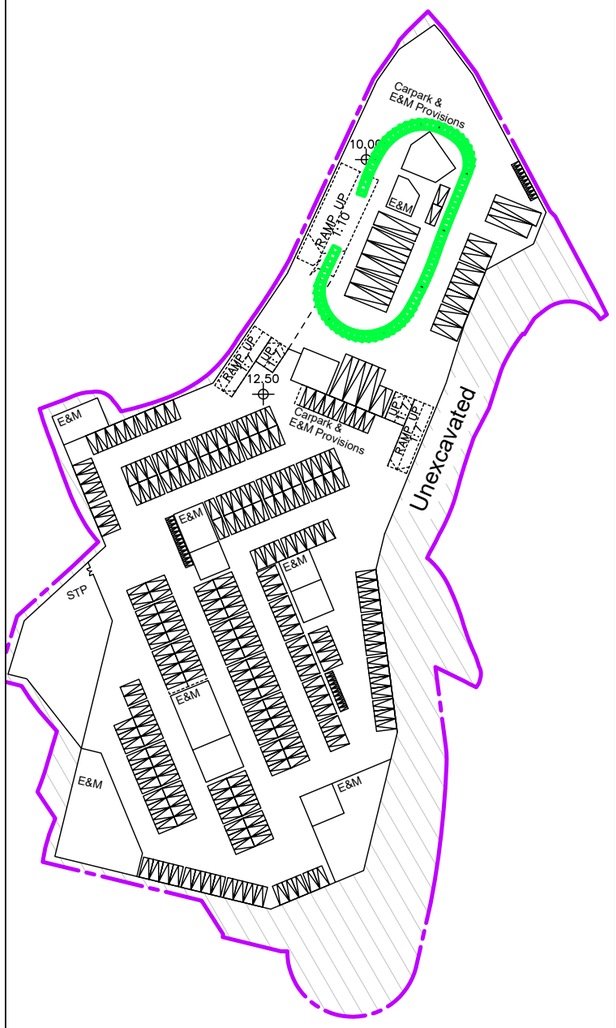
LEAVING PARKING SPACE AT B3

STEP 2



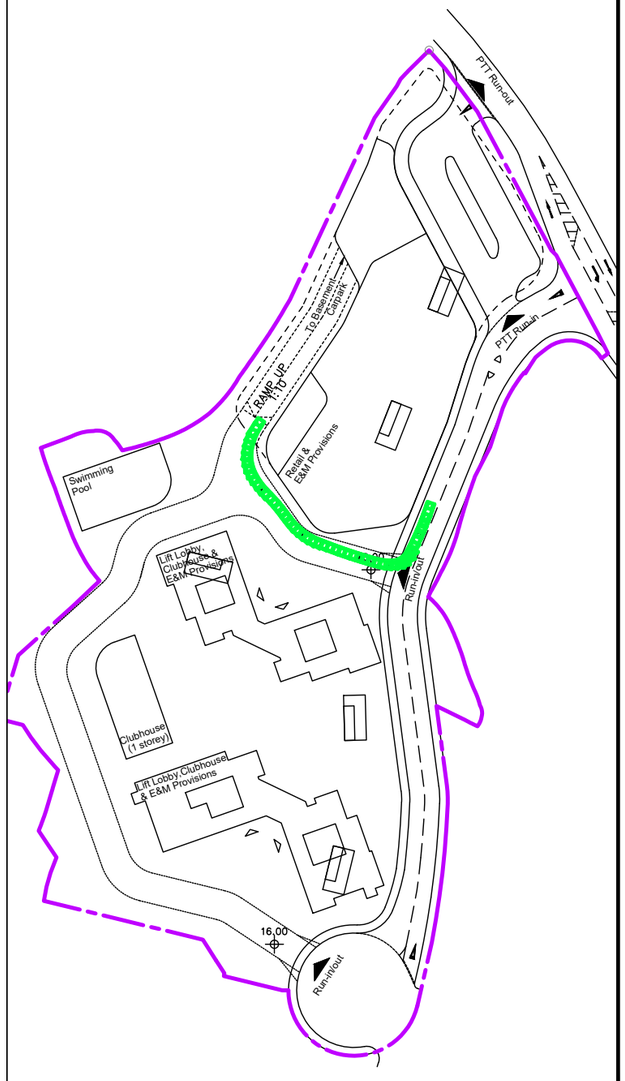
B2

STEP 3



B1

STEP 4



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PROJECT NO. 40876	PROJECT TITLE: RESIDENTIAL DEVELOPMENT AT PING CHE D.D.77 LOT 796 & 1008 RP - TIA STUDY FOR S12A REZONING APPLICATION	DRAWING NO. SP-03	REV. ·
DESIGNED SKL / DATE MAR 2024	DRAWING TITLE: **SWEPT PATH ANALYSIS - PC**		
DRAWN CLL / SCALE 1:1500 @ A3			
CHECKED SLN		LLA 顧問有限公司 Consultancy Limited	

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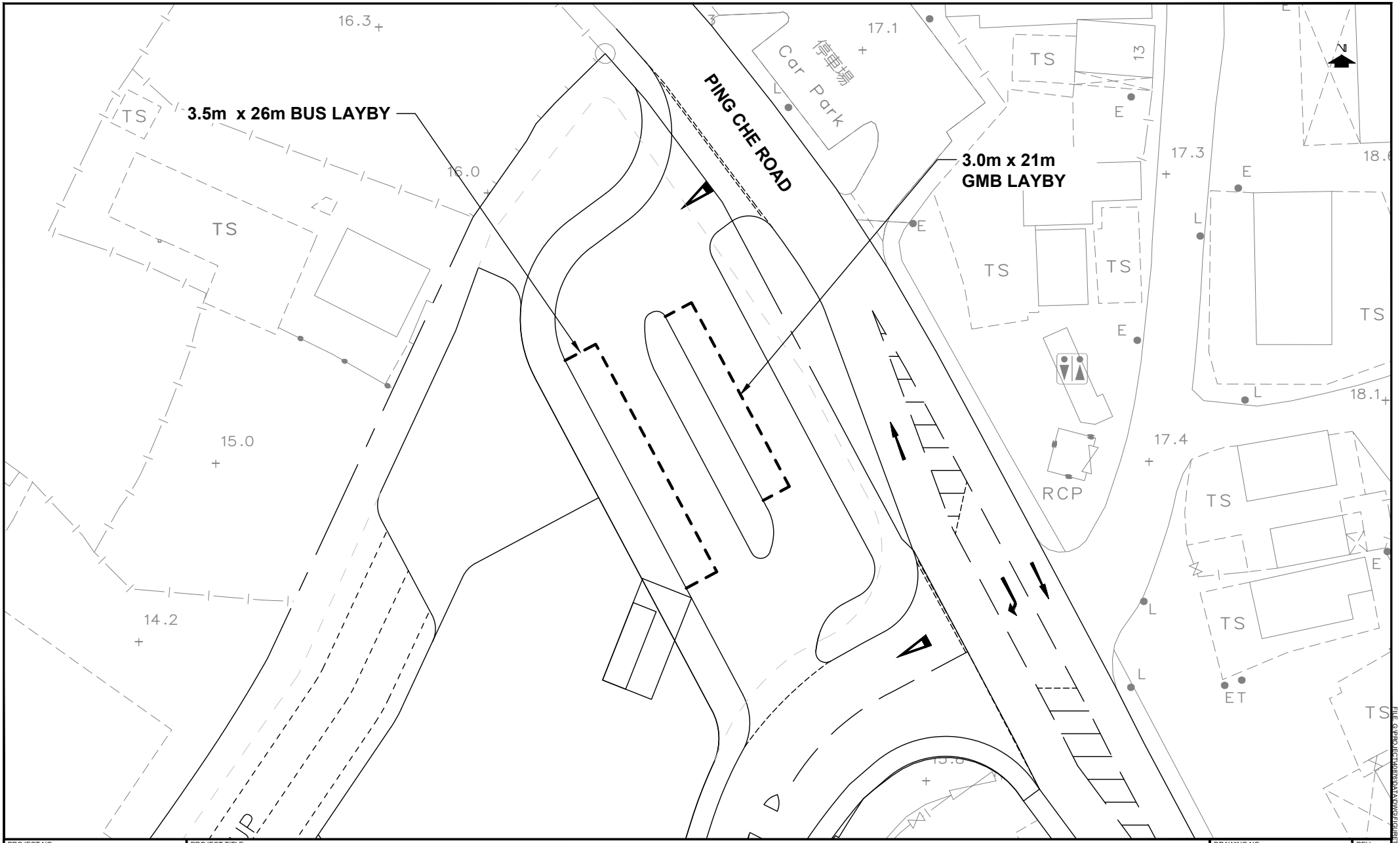
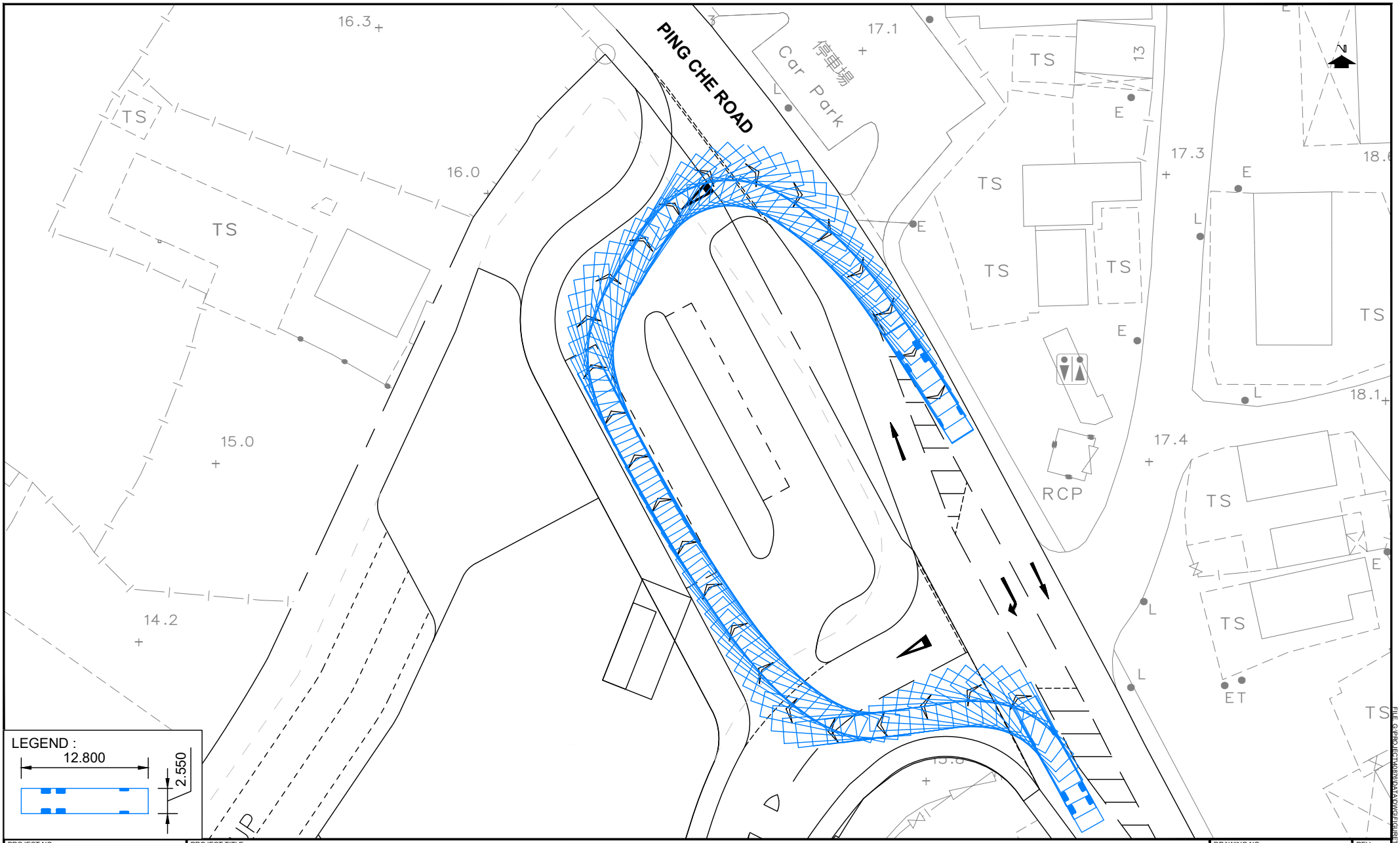


PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE T1	REV. -
DESIGNED SLN / DATE AUG 2024	DRAWING TITLE		
DRAWN CLL / SCALE 1:500 @ A4	**PROPOSED PUBLIC TRANSPORT TERMINUS**	LLA 顧問有限公司 Consultancy Limited	
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURET1.DWG PLOT SCALE : 1 = 1



PROJECT NO. 40876	PROJECT TITLE APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE T2	REV. -
DESIGNED SLN / DRAWN CLL / CHECKED SLN	DATE AUG 2024 / SCALE 1:500 @ A4	DRAWING TITLE **SWEPT PATH ANALYSIS - 12.8m BUS**	LLA 顧問有限公司 Consultancy Limited

FILE: G:\PROJECT\40876\DATA\DWG\FIGURET2.DWG PLOT SCALE : 1 = 1

Annex T1

Steven Lui

寄件者: Sheren Si Wai LEE/PLAND <sswlee@pland.gov.hk>
寄件日期: 2024年7月26日星期五 12:07
收件者: S L Ng
副本: Ivy Cho Wa WONG/PLAND; sabrina.law@arup.com; Gordon Foo
主旨: Fw: DD77 Ping Che Y/NE-TKL/5
附件: FIGURE3.1B-A4.pdf; PingCheTIA_Abstracted.pdf

Dear SL Ng,

We have no comment on the assumptions on the planned developments in the vicinity of the application site.

For your information, the Site of approved planning application No. A/NE-TKL/692 for Proposed Temporary Transitional Housing and Ancillary Facilities for a Period of 7 Years is located in the vicinity of the captioned application site. The planning approval will expire on 28.1.2029 which is before the anticipated completion year of your proposed development (i.e. 2032). We have no strong view if you will include it in the AOI of the TIA.

Regards,
Sheren Lee
TP/N3, PlanD
2158 6391

From: S L Ng <slng@lla.com.hk>
Sent: Monday, July 22, 2024 4:57 PM
To: Sheren Si Wai LEE/PLAND <sswlee@pland.gov.hk>
Cc: Gordon Foo <Gordon.Foo@arup.com>
Subject: DD77 Ping Che Y/NE-TKL/5

Dear Ms Lee,

We are the traffic consultant of the captioned planning application.

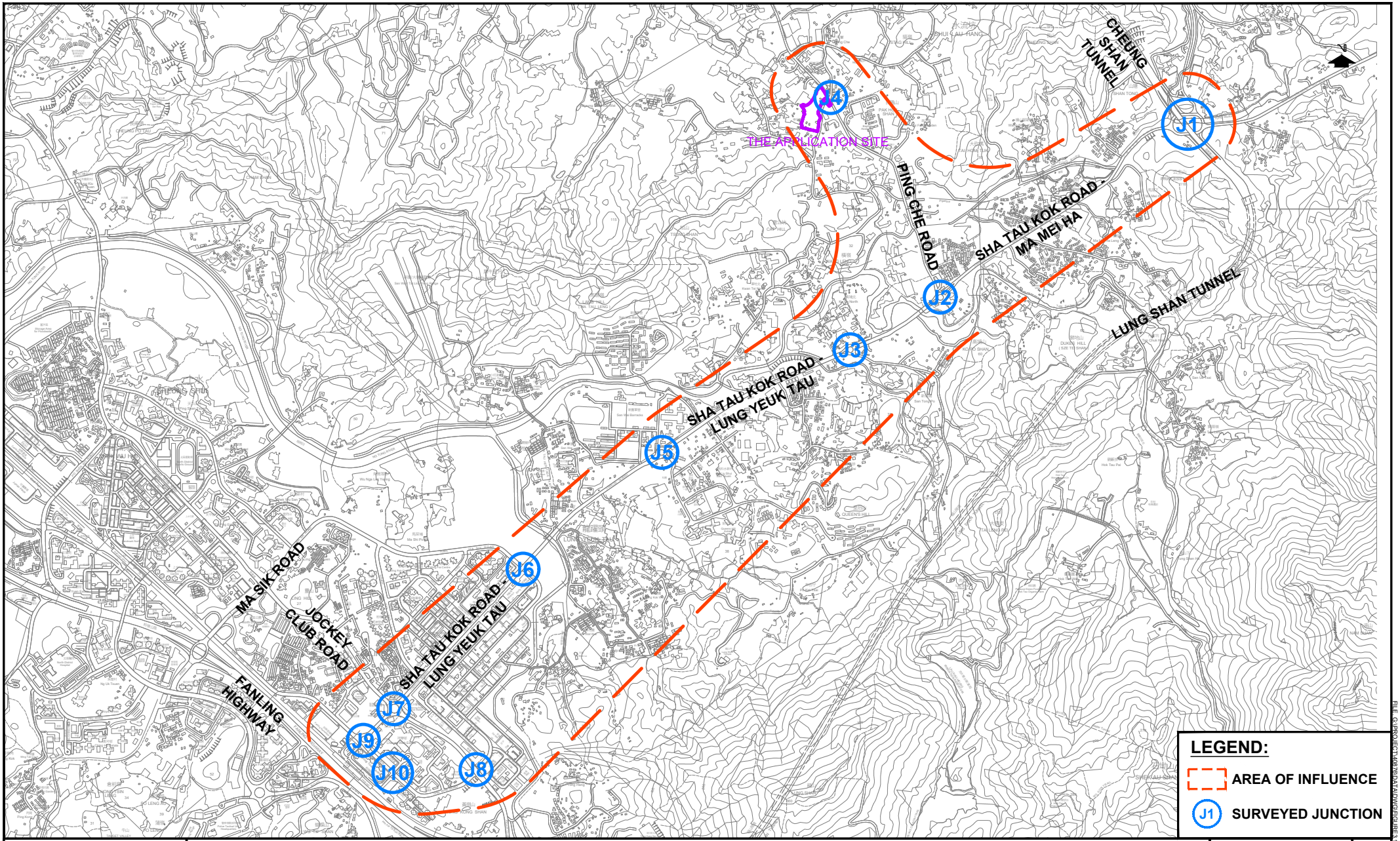
As per the Transport Department's request, we would be grateful if you could provide comment on the assumptions on the planned developments in the vicinity of the Application Site under Section 4.3 and Table 4.3 of the submitted TIA. Attached please find the relevant pages and the updated AOI abstracted from the TIA for your easy reference.

Should you have any query, please feel free to call me at 2831 9191.

Thanks & Regards
S L Ng

LLA Consultancy Ltd.
Unit 610, 6/F., Island Place Tower,
510 King's Road, North Point, Hong Kong
Tel : (852) 2831 9191 Fax : (852) 2831 0003
Web Site : http://www.lla.com.hk
Email : slng@lla.com.hk

Company Email : lla@lla.com.hk



PROJECT NO. 40876	PROJECT TITLE: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR MIXED USE DEVELOPMENT (RESIDENTIAL AND COMMERCIAL) AT LOT 796 AND 1008 RP IN D.D. 77 AND ADJOINING GOVERNMENT LAND IN PING CHE, TA KWU LING, NEW TERRITORIES	DRAWING NO. FIGURE 3.1	REV. B
DESIGNED SLN / DATE JUL 2024	DRAWING TITLE: LOCATION OF SURVEYED JUNCTIONS AND AREA OF INFLUENCE	LLA 顧問有限公司 Consultancy Limited	
DRAWN CLL / SCALE 1:25000 @ A4			
CHECKED SLN			

FILE: G:\PROJECT\40876\DATA\DWG\FIGURE3.1B.DWG PLOT SCALE : 1 = 1

Table 4.2 Traffic Generations of the Proposed Development

Proposed Use	Unit / Content	AM Peak Hour			PM Peak Hour		
		Gen.	Att.	Total	Gen.	Att.	Total
Adopted Trip Rates(1)							
Residential – 60m^2	pcu/hr/flat	0.1021	0.0709	-	0.0415	0.0464	-
Retail	pcu/hr/100m^2 GFA	0.3307	0.3342	-	0.3839	0.4504	-
Office	pcu/hr/100m^2 GFA	0.2361	0.3257	-	0.1928	0.1510	-
Hotel	pcu/hr/guestroom	0.1814	0.2082	-	0.1697	0.2183	-
Day Care Centre for the Elderly	pcu/hr/place	0.3750	0.5000	-	0.3750	0.3750	-
Child Care Centre	pcu/hr/place	0.3922	0.3922	-	0.3922	0.3922	-
Traffic Generation/Attraction							
Residential	2,205 flats	226	157	383	92	103	195
Retail	2,400 m^2 GFA	8	9	17	10	11	21
Office	11,503 m^2 GFA	28	38	66	23	18	41
Hotel	70 guestrooms	13	15	28	12	16	28
Day Care Centre for the Elderly	60 places	10	11	21	10	11	21
Child Care Centre	100 places	3	3	6	3	3	6
	Total	**282**	**226**	**508**	**144**	**155**	**299**

Notes: (1) Upper limit trip rates from TPDM are adopted.

4.2.4 As shown in **Table 4.2**, the proposed development would generate a two-way traffic flow of 508 pcu/hr in the AM peak and 299 pcu/hr in the PM peak. The corresponding traffic distribution patterns are estimated and presented in **Figure 4.1**.

4.3 Traffic Generation of the Planned/Committed Developments

4.3.1 To estimate the future traffic flows, updated information has been obtained from available information regarding the planned and approved developments in the vicinity of the study area. Details of these developments are given in **Table 4.3**.

Table 4.3 Details of Planned and Approved Developments

Site	Location	Use	Content
S1	Lots 825, 834 and 836 in D.D. 77 and adjoining government land, Ping Che (Planning Application No. A/NE-TKL/608)	Industrial	1,871 m^2 GFA
S2	Queen's Hill Development – Site 1	Public Rental Housing	8,840 flats
		Subsidized Sale Flat	3,260 flats
		Primary School	2 (30 classrooms)
		Kindergarten	3 (2 with 30 classrooms and 1 with 7 classrooms)
		Welfare Facilities	8,140 m^2 GFA
		Retail	12,500 m^2 GFA
	Queen's Hill Development – Site 2	Private Housing	2,670 flats
	Queen's Hill Development – Site 3	International School	1
	Queen's Hill Development – Others	Primary School	1
		Community Facilities	5,000 m^2 GFA

4.3.2 Reference was also made to the latest set of traffic generation and attraction rates published by TD for the estimation of the traffic generated by these developments. The traffic generation/attractions by these nearby developments are taken into account in the following assessment.

4.4 Future Traffic Flows

4.4.1 Reference was made to the 2017 to 2021 Annual Traffic Census Reports published by the Transport Department. The traffic data recorded at counting stations in the vicinity of the Phase III Development Site are shown in **Table 4.4**.

Table 4.4 Annual Traffic Census Data

Stn. No.	Road Section			AADT(1)					Avg. Growth%
	Road	From	To	2017	2018	2019	2020	2021	
5660	Sha Tau Kok Rd	On Kui St	Ping Che Rd	33,050	33,870 (2.5%)	33,630 (-0.7%)	23,740 (-29.4%)	22,980 (-3.2%)	-8.7%
5860	Sha Tau Kok Rd	Ping Che Rd	Shun Lung St	6,460	6,620 (2.5%)	6,570 (-0.8%)	6,300 (-4.1%)	5,970 (-5.2%)	-2.0%
6653	Ping Che Rd	Sha Tau Kok Rd	Lin Ma Hang Rd	11,360	11,430 (0.6%)	11,820 (3.4%)	11,030 (-6.7%)	11,870 (7.6%)	1.1%
Total				**50,870**	**51,920 (2.1%)**	**52,020 (0.2%)**	**41,070 (-21%)**	**40,820 (-0.6%)**	**-5.4%**

Note: (1) Figures in bracket indicated the % increase/decrease between two years.

4.4.2 As shown in **Table 4.4**, the average annual growth rate with reference to the AADT is -5.4% between 2017 to 2021. For conservative assessment purpose, a nominal growth rate of +1.0% will be adopted in the following assessments.