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Cheryl Tsz Man TSANG/PLAND

寄件者:	Anna Lok <[redacted]>
寄件日期:	2026年7月16日星期四 19:32
收件者:	TPB Submission/PLAND
副本:	Theresa Yeung; Wai-Lam Lee; Vienne Lung; Ryan Chi Kin HO/PLAND; Cheryl Tsz Man TSANG/PLAND
主旨:	Application No. Y/NE-MKT/2 - Submission of Further Information (4)
類別:	Internet Email

Dear TPB Secretariat,

We refer to the captioned s.12A Planning Application.

We are writing to notify that the soft copy of the Further Information (4) of the captioned Planning Application has been uploaded to the hyperlink provided by Town Planning Board: https://fespld.pland.gov.hk/FsShare?key=Y_NE-MKT_2

The Further Information (4) submission includes the following:

1. Cover letter
2. Appendix A – Response-to-Comment table
3. Appendix B – Replacement Pages of Revised Traffic Impact Assessment

Please note that 4 sets of the hard copies will be delivered to the Town Planning Board shortly.

Should you have any queries, please contact the undersigned or Miss Vienne LUNG at [redacted].

Best regards,

Anna Lok
Urban Planning Manager | Planning

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By Hand
16 July 2026

The Secretary
Town Planning Board
15/F, North Point Government Offices
333 Java Road
North Point
Hong Kong

Our ref 287082/00/WSTY/WLL/TYAL/YVL/05825

Dear Sir/ Madam,

Application for Amendment of Plan under Section 12A of Town Planning Ordinance (Cap. 131) for Proposed Innovation and Technology Hub at Various Lots in D.D. 82 and D.D. 86, and Adjoining Government Land, Man Kam To, New Territories (Planning Application No. Y/NE-MKT/2)

Submission of Further Information

We refer to the comments received from Transport Department and Highways Department between 18 June 2026 and 16 July 2026 regarding the captioned s.12A Planning Application.

We are pleased to submit a Response-to-Comment table (**Appendix A**) and the revised Traffic Impact Assessment (**Appendix B**) to address departmental comments for your consideration.

The softcopy of the Further Information will be uploaded to the hyperlink provided by the Town Planning Board.

We sincerely seek favourable consideration from the Town Planning Board to agree to this s.12A Application.

Should you have any queries, please contact the undersigned or our Miss Anna LOK at [redacted] or Miss Vienne LUNG at [redacted].

Yours faithfully,

Wai-Lam LEE
Director of Planning

d +852 [redacted]
e [redacted]

Enc - Appendix A Response-to-Comment Table
- Appendix B Revised Traffic Impact Assessment

cc - Client
- Sha Tin, Tai Po and North District Planning Office – Mr. Ryan HO (STP/N2) (Email: rckho@pland.gov.hk)
- Sha Tin, Tai Po and North District Planning Office – Ms Cheryl TSANG (TP/N2) (Email: ctmtsang@pland.gov.hk)
- Sha Tin, Tai Po and North District Planning Office – Mr. Peter NGAN (ATP/N5) (Email: pplngan@pland.gov.hk)

Appendix A

Response-to-Comment Table

Comments from Related Departments Page No.

COMMENTS FROM RELATED DEPARTMENTS 2
1. Highways Department, New Territories Region, New Territories East District and Maintenance Division, NE New Territories District Section, dated 17 July 2026 2
2. Transport Department, NT Regional Office, Traffic Engineering (NTE) Division, North Section, dated 18 June 2026 2
3. Transport Department, NT Regional Office, Transport Operations (NT) Division, Sai Kung & North Section, dated 16 July 2026 5
4. Transport Department, NT Regional Office, Traffic Engineering (NTE) Division, North Section, dated 16 July 2026 5

COMMENTS FROM RELATED DEPARTMENTS

No.	Comments	Responses
1.	**Highways Department, New Territories Region, New Territories East District and Maintenance Division, NE New Territories District Section, dated 17 July 2026**	
	No comment from highways maintenance point of view.	Noted.
	Nevertheless, the applicants should take note of the following:	
	If any future public roads will be handed over to the Transport Department for management and Highways Department (HyD) for maintenance, it should be designed and constructed in accordance with relevant highway standard drawings, guidelines, guidance notes, road notes, etc. and sufficient recurrent consequence to HyD will be required unless prior approvals have been obtained from his office.	Noted.
2.	**Transport Department, NT Regional Office, Traffic Engineering (NTE) Division, North Section, dated 18 June 2026**	
	Please find below our first batch of comments from the Traffic Engineering (NTE) Division:	
	1. It is noting that the existing traffic condition at Junction J9, where traffic congestion occurs occasionally during peak hours. As the proposed development is expected to generate and attract traffic primarily through this junction, the applicant should critically review whether any adverse impact would be induced at Junction J9 and propose the mitigation measures if necessary;	Noted, the existing traffic condition nearby Junction J9 has been observed. Existing traffic arrangement at the local area has been reviewed and junction improvement scheme at its signalised junction downstream (Junction of Man Kam To Road / Access Road to Open Storage Site No.7, JA hereinafter) has been explored. Please kindly refer to **Section 4.7.11** to **4.7.12**, **Table 4.7.2** and **Figure 4.16** of the revised TIA report for detailed description, junction capacity assessment and junction layout of the proposed junction improvement scheme of JA respectively. Please refer to **Appendix B** of this Further Information for the revised Traffic Impact Assessment (TIA).

No.	Comments	Responses
	2. Section 4.2.7: The applicants should provide the further justification for the adoption of Design Year 2031;	Please be advised that the Year 2035 traffic forecast of this TIA study is based on the two-tier transport model developed by validated Year 2031 BDTM, with annual growth factor adopted to further project the traffic from Year 2031 to 2035, which is considered appropriate to reflect the traffic condition at Year 2035.
	3. Section 4.2.7: Please clarify whether the Northern Link will be considered in Design Year 2036;	Please be clarified that Northern Link has been incorporated in Year 2036 BDTM only but not Year 2031 BDTM.
	4. Section 4.2.14 and 4.9.11: Please provide justification that the assumed Hong Kong average annual growth rate (+0.52% p.a.) is appropriate for period year 2031-2035 in North district. As Northern Metropolis is the major development in Hong Kong, the population and employment growth rate in this district should not necessarily be the same as Hong Kong average growth rate given that the full population intake under Kwu Tung North and Fanling North New Development Areas projects beyond year 2030;	Please be advised that numerous key elements under Northern Metropolis have been included already in Year 2031 BDTM, including Hung Shui Kiu / Ha Tsuen NDA, Yuen Long South NDA, San Tin Technopole, Kwu Tung North / Fanling North NDA and Hong Kong-Shenzhen Innovation and Technology Park in Lok Ma Chau Loop. Apart from the above, there are also numerous developments at North District outside Northern Metropolis incorporated in Year 2031 BDTM already as summarised in **Table 4.3.1** of the TIA report. Furthermore, numerous developments with tentative completion year before 2035 but not included in the Year 2031 BDTM as summarised in **Table 4.3.2** of the TIA report have also been incorporated into the traffic forecast for this TIA study. As such, the traffic forecast has significantly covered the additional traffic flow related to those new developments within Northern Metropolis and North District with completion year before 2035. It is hence considered that +0.52% p.a. is appropriate the reflect the additional traffic flow from the natural population growth at North District from Year 2031 to Year 2035. On the other hand, for Public Transport Assessment and Railway Assessment, as the patronage forecast was derived based on Year 2025 / 2026 existing data, and with the consideration that KTN / FLN NDA would be under full population intake in Year 2032 based on the latest status, growth rate of +3.95% p.a. derived from TPEDM would be adopted for Year 2025 / 2026 to 2032 instead of 2031, to take into account the population and employment increase from North District, especially KTN / FLN NDA. Nevertheless,

No.	Comments	Responses
		with similar reason for the traffic forecast, it is considered that +0.52% p.a. is appropriate the reflect the additional traffic flow from the natural population growth at North District from Year 2031 to Year 2035. Please kindly refer to **Section 4.9** to **4.10** of the revised TIA report for the updated PT and Railway Assessments.
	5. Table 4.4.1: The description of Junction J8 is outdated. The applicants should liaise with the relevant project office on the latest status and update the traffic impact assessment accordingly;	Noted. Advice from CEDD has been sought, corresponding email record has been attached in **Attachment A** of this RtoC. Junction J8 has been reassessed with respect to the scheme provided by CEDD accordingly for both Year 2035 Reference and Design Scenario, as referred to **Section 4.7** of the revised TIA report.
	6. Section 4.5: The Blueprint was published in December 2023, the applicants should check with the relevant project offices on the latest status of the projects;	Please be advised that according to the project website of Northern Metropolis (https://www.nm.gov.hk/en), up to July 2026, the indicative alignment of Northern Link Eastern Extension (NOLE) and Northeast New Territories Line (NENTL) is still the same as the Blueprint, while there is still no project timeline available for NOLE and NENTL, it is hence considered that the description and assumption stated in **Section 4.5** of the TIA report is still valid.
	7. Section 4.9.17: Please advise whether any provision for ride-hailing service and fleet taxi will be provided;	Please be advised that the proposed transport interchange is designed in accordance with TPDM requirement, while ride-hailing service and fleet taxi are not being considered at current stage. Nevertheless, the open space between exit lane of the proposed transport interchange and R&D 3 has been reserved for a pick-up / drop-off layby with approx. 32m long for the fleet taxi and riding-hailing vehicles, as referred to **Figure 4.20** of the revised TIA report, subject to the actual demand after population intake of the Indicative Scheme.
	8. Figure 4.10: The applicants should provide the swept path analysis for vehicles manoeuvring from Ping Che Road (right-turn) to Lin Ma Hang Road; and	Please kindly refer to **Figure 4.12** of the revised TIA report.

No.	Comments	Responses
	9. The road/junction improvement works located on public roads and the transport facilities to be provided within private lands, as proposed by the applicants, would be detailed designed and constructed by the applicants' own cost.	The Applicants noted that the Application Site is located in the NTN New Town, which will be developed as a New Development Area (NDA) with supporting infrastructures. Notwithstanding the above, in response to the Department's comments, the Applicants will implement the proposed road/ junction improvement works as specified in the TIA report and internal transport facilities at their own cost to facilitate the timely implementation of the Proposed Development.
3.	**Transport Department, NT Regional Office, Transport Operations (NT) Division, Sai Kung & North Section, dated 16 July 2026**	
	For ownership of the transport interchange, at this stage, provided there is guaranteed, unrestricted use by the Transport Department (TD) and public transport operators, her preference is for the facility to be funded, designed, constructed, provided, managed, and maintained by the private developer.	Noted.
	She notes the applicants' openness and flexibility regarding future management, maintenance, and ownership arrangements. While private ownership is our preferred approach, should unrestricted use by TD and transport operators is not feasible under a private model, her office is open to further discussion regarding the conditions and mechanisms for handing the facility over to the Government upon completion.	Noted.
	Her office has no further comments on other part.	Noted.
4.	**Transport Department, NT Regional Office, Traffic Engineering (NTE) Division, North Section, dated 16 July 2026**	
	1. Figure 4.7 – The applicant is required to justify the necessity of replacing the existing "Stop" Priority Junction with "Give Way" Junction;	Please be advised that the concerned replacement aims to enhance the smoothness of traffic movement from minor arm Lin Ma Hang Road and hence optimise the junction operation, given that the anticipated traffic flow from Lin Ma Hang Road would be much more significant with the intake of the Indicative Scheme.

No.	Comments	Responses
		The visibility analysis with 70m sight line to demonstrate the technical feasibility of the concerned replacement is presented in **Figure 4.9** of the revised TIA report.
	2. Figure 4.11 – The swept path encroaches into the opposite lane. The applicant should review and revise the swept path accordingly;	Noted and revised accordingly. Please kindly refer to **Figure 4.12** of the revised TIA report.
	3. Junction J15 - Signalized staggered junction is located at the application site. The maintenance and management arrangement, as well as the associated land issues, will be further discussed at later stage; and	Noted.
	4. The applicant should justify the constructability of the proposed road improvement works in particular Junction J15.	A contour plan of the proposed Junction J15 has been prepared to demonstrate the constructability of the proposed road improvement works of Junction J15 with a gradient of 5%, which fulfils the TPDM requirement regarding the gradient on bus routes. Please kindly refer to **Attachment B** of this RtoC.

(Last updated 16 July 2026)

Attachment A

Corresponding email with Civil Engineering and Development Department (CEDD)

Tony Yip CK

From: Liu Chun Kin, Henry <[redacted]>
Sent: Friday, 3 July 2026 6:59 pm
To: Tony Yip CK
Cc: Chen, Tom (Tom); Hon Chiu, Raymond; Keith Cheng; EVAN YICK MAN HO/CEDD; Karen Chan K K; Youn Tsz Chung, Ian
Subject: RE: Junction Improvement Scheme of Sha Tau Kok Road / Sui Wan Road
Attachments: Proposed MOC for Junction of Sui Wan Road and Sha Tau Kok Road.pdf

Dear Tony,

Please note that according to our original scope of works, the junction of Sha Tau Kok Road and Ma Sik Road was scheduled to be modified from a 4-stage to 3-stage MOC to enhance junction performance.

Since the commencement of the contract, we have closely monitored this junction and reviewed the necessity of the proposed MOC modification. As the current performance of RC remains satisfactory even after the opening of the Fanling Bypass on 3 May 2026, we currently plan not to proceed with the MOC modification under this contract.

Nevertheless, I have attached the original proposed MOC modification for your reference.

Regards,
Henry Liu
Resident Engineer
AECOM
CEDD Contract No. ND/2019/04
M: [redacted] E: [redacted]

From: Tony Yip CK <[redacted]>
Sent: Friday, 3 July 2026 5:21 pm
To: Liu Chun Kin, Henry <[redacted]>
Cc: Chen, Tom (Tom) <[redacted]>; Hon Chiu, Raymond <[redacted]>; Keith Cheng <kwkcheng@cedd.gov.hk>; EVAN YICK MAN HO/CEDD <evanymho@cedd.gov.hk>; Karen Chan K K <[redacted]>
Subject: RE: Junction Improvement Scheme of Sha Tau Kok Road / Sui Wan Road

Dear Henry,

We refer to the below email from CEDD Mr. Ho.

In view of tight study programme, we shall be grateful if you could reply at your earliest convenience. Should you have any queries, please do not hesitate to contact the undersigned.

Thank you very much.

Best Regards,
Tony Yip
Engineer | Transports Consulting

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[redacted]

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t +852 [redacted]
arup.com

From: EVAN YICK MAN HO/CEDD <evanymho@cedd.gov.hk>
Sent: Friday, June 26, 2026 5:56 PM
To: [redacted]
Cc: Tony Yip CK <[redacted]>; Chen, Tom (Tom) <[redacted]>; Raymond <[redacted]>; KEITH WAN KIEN CHENG/CEDD <kwkcheng@cedd.gov.hk>
Subject: Fw: Junction Improvement Scheme of Sha Tau Kok Road / Sui Wan Road

Dear Henry,

Would you please advise Arup direct. Thank you.

Regards,

Evan Y M HO
E/23(N), NDO, CEDD
Tel: 3797 5391

From: Tony Yip CK <[redacted]>
Sent: Wednesday, June 24, 2026 4:13 PM
To: EVAN YICK MAN HO/CEDD <evanymho@cedd.gov.hk>
Cc: KEITH WAN KIEN CHENG/CEDD <kwkcheng@cedd.gov.hk>
Subject: Junction Improvement Scheme of Sha Tau Kok Road / Sui Wan Road

Dear Mr. Ho,

We are the traffic consultant for the Planning Application No. Y/NE-MKT/2.

While we are preparing the traffic impact assessment for the captioned project, it is noted that there will be junction improvement scheme for the Junction of Sha Tau Kok Road / Sui Wan Road. We would like to seek your advice on the detailed modification works, change on the Method-of-Control (MOC) Plan (if any), and the implementation year.

In view of tight study programme, we shall be grateful if you could reply at your earliest convenience. Should you have any queries, please do not hesitate to contact the undersigned.

Thank you very much.

Best Regards,
Tony Yip
Engineer | Transports Consulting

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arup.com

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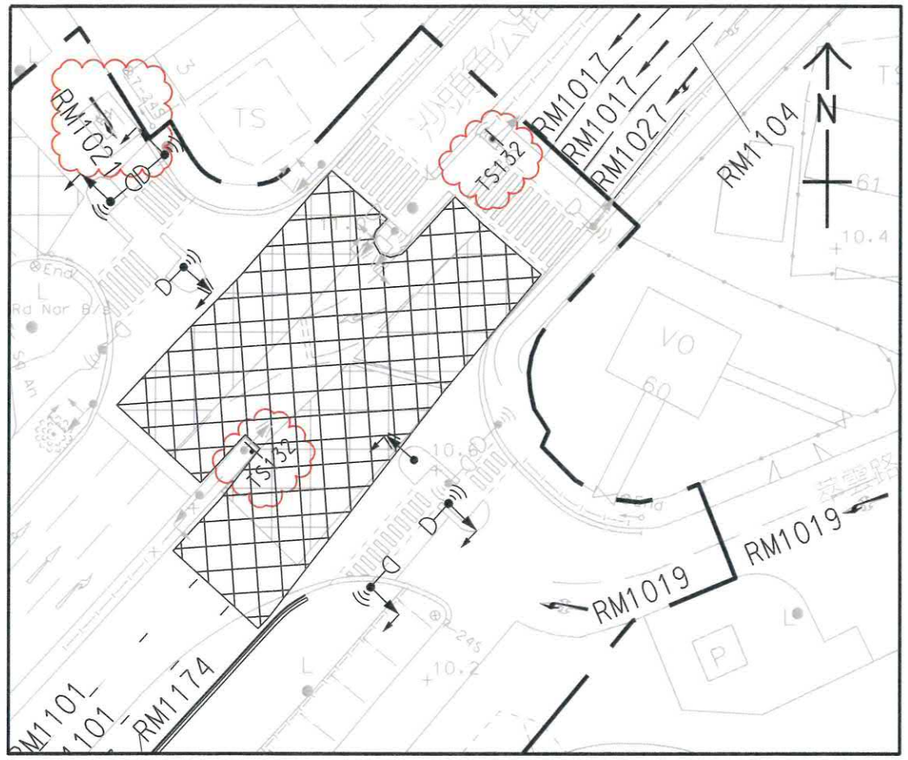
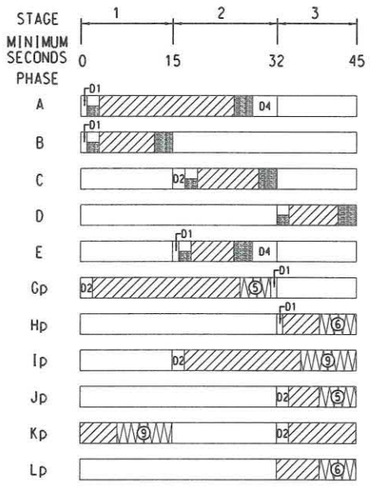


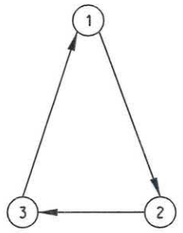
ROAD MARKING AND TRAFFIC SIGNAL LAYOUT



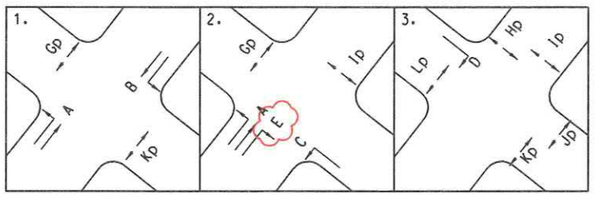
CYCLE DIAGRAM

	A	B	C	D	E	Gp	Hp	Ip	Jp	Kp	Lp
A				X			X				X
B			X	X	X			X	X		
C		X		X	X					X	
D	X	X	X		X	X					
E		X		X					X		
Gp				X							
Hp	X										
Ip		X									
Jp		X			X						
Kp			X								
Lp	X										X

CONFLICT TABLE



PERMITTED STAGE CHANGE



STAGE / PHASE DIAGRAM

SUPPLIED BY	DESCRIPTION			QUANTITY REQUIRED
TRANSPORT DEPARTMENT	CONTROLLER	TYPE	TO BE SPECIFIED BY TD	
		STAGES		3
		PHASES	VEHICULAR	5
			PEDESTRIAN	6
	ASPECTS	VEHICULAR	200mmø RED, AMBER AND GREEN LENS	6
			200mmø RED & AMBER LENSES 300mmø GREEN ARROW LENS	6
			300mmø GREEN ARROW LENS	-
		PEDESTRIAN	300mmø RED MAN 300mmø GREEN MAN LENS	12
	MISCELLANEOUS	INTERNALLY ILLUMINATED TRAFFIC SIGN	(I) NO U-TURN	-
			(II) NO RIGHT TURN	-
			(III) NO LEFT TURN	-
		PEDESTRIAN PUSH BUTTON ASSEMBLY	(I) WITH WAIT INDICATOR AND AUDIBLE UNIT	-
			(II) WITH AUDIBLE UNIT ONLY (NO PUSH BUTTON)	12
		DETECTOR UNIT		-
		DETECTOR LOOP		1
ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT	SIGNAL POLE ASSEMBLIES			2
				1
				1
				3
				1
				1
				2
				2
				1
				1
				1
	MISCELLANEOUS	CABLING		AS REQUIRED
		BACKING BOARD		AS REQUIRED

EQUIPMENT SCHEDULE

GENERAL NOTES:

1. EXACT LOCATIONS OF SIGNAL POLES, DRAWPITS, DUCTING ALIGNMENT, AND CONTROLLER SHALL BE DETERMINED AND AGREED ON SITE.
2. THE CONTRACTOR SHALL INFORM TD AT LEAST ONE MONTH IN ADVANCE PRIOR TO ANY MODIFICATION WORK IN THE AREA.
3. DRAWPITS AND CABLE DUCTS:-
   i) E&M DRAWPIT TO HyD STANDARD DRG. H2168 & H2169.
   ii) ALL SUBSTANDARD E&M DRAWPITS TO BE CONVERTED TO STANDARD ONE.
   iii) NO MORE THAN 1 HEAVY DUTY DRAWPIT IS ALLOWED AT EACH APPROACH ON CARRIAGEWAY.
   iv) MINI-DRAWPIT REFER TO HyD STANDARD DRG. H2146 TO BE ADDED TO EACH SIGNAL POLE FOUNDATION TO INTERCEPT WITH CABLE ENTRY AND INCOMING DUCT.
   v) MINIMUM COVER TO PIPES SHALL BE 450mm AND 900mm UNDER FOOTPATH AND CARRIAGEWAY RESPECTIVELY. ALL CABLE DUCTS SHALL BE PROVIDED WITH NYLON DRAW-WIRES OF NO LESS THAN 5mm DIA.
4. SIGNAL POLES:-
   i) FOUNDATION AND MINI-DRAWPITS FOR TRAFFIC SIGNAL POLE TO HyD STANDARD DRG. H2146.
   ii) SIGNAL POLES TO BE SUPPLIED BY EMSD AND BE COLLECTED AND INSTALLED BY THE CIVIL WORK CONTRACTOR.
5. EARTH PITS:-
   i) EARTH PITS TO HyD STANDARD DRG. H2165 & H2166. THE EARTH ROD OR EARTH PLATE SHALL ALSO BE INSTALLED BY THE CONTRACTOR. EXACT LOCATIONS AND NUMBERS OF EARTH PIT. EARTH ROD AND EARTH PLATE DEPEND ON SITE CONDITION AS WELL AS EARTH LOOP IMPEDANCE RESULT TO EMSD SATISFACTION. EARTH PITS TO BE CONSTRUCTED ONLY WHEN EARTH RODS HAD BEEN DRIVEN. TRIAL HOLES SHOULD BE EXCAVATED BEFOREHAND.
   ii) TRIAL HOLES FOR EARTHING SHALL BE 2.5m DEEP OR 1.5m DEEP WITH A WOODEN ROD OF 20mm DIA. DRIVENIN TO THE SOIL SUCH THAT THE TIP OF THE ROD SHALL BE 2.5m BELOW THE EXISTING FOOTHPATH LEVEL.
   iii) THREE NOS OF EARTHPIT ARE REQUIRED INITIALLY WITH ABOUT 3m APART FOR EACH PIT.
6. TRAFFIC SIGNAL CONTROLLER TO BE SUPPLIED AND INSTALLED BY TD.
7. DETAILS OF PLINTH FOR TRAFFIC CONTROLLER (TYPE DELTA 4) REFER TO HyD STANDARD DRG. H2164.
8. TRAFFIC SIGNAL CABLES AND SIGNAL HEADS TO BE SUPPLED AND INSTALLED BY EMSD.
9. TWIN UPVC AND G.I. PIPES (FOR TRAFFIC SIGNAL CABLE DUCT AND E&M TRAFFIC SIGNAL CABLE DUCT) OF 100mm DIAMETER ARE TO BE INSTALLED UNDER FOOTPATH AND CARRIAGEWAY RESPECTIVELY.
10. SPECIFICATION OF TRAFFIC SIGNALS TO BE IN ACCORDANCE WITH TPDM VOLUME 4.
11. VISIBILITY AND CLEARANCE OF TRAFFIC SIGNALS TO BE IN ACCORDANCE WITH TPDM VOLUME 4 & 2.
12. THE CONTRACTOR SHALL BE RESPONSIBLE TO LIAISE WITH PCCW FOR THE PCCW DUCTING AND DRAWPIT ARRANGEMENT TO THE PROPOSED ATC DRAWPIT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE TO LIAISE WITH PCCW FOR THE POWER SUPPLY DUCTING & ISSUES.
14. THE CONTRACTOR SHALL TAKE PREVENTATIVE MEASURES TO PROTECT THE EXISTING EQUIPMENT.

LEGEND:

- 3 - LIGHT SIGNAL HEAD
- 2 - LIGHT SIGNAL HEAD FOR PEDESTRIAN
- SECONDARY SIGNAL
- AUDIBLE UNIT FOR PEDESTRIAN PHASE
- E&M TRAFFIC SIGNAL CABLE DUCT FOR 2x100mm ID. G.I PIPE UNDER CARRIAGEWAY 2x100mm ID. U.P.V.C PIPE UNDER FOOTPATH CYCLETRACK OR AMENITY AREA. 1x100mm ID. U.P.V.C PIPE BETWEEN SIGNAL POLE AND DRAWPIT.
- PEDESTRIAN PUSH BOTTON
- NEW E&M DRAWPIT
- NEW E&M (SIGNAL)/ATC MINI DRAWING
- NEW ATC DRAWPIT
- NEW EARTH DRAWPIT
- NEW TRAFFIC SIGNAL CONTROLLER
- NEW SIGNAL POLE
- NEW DETECTOR LOOP
- NEW LOOP CABLE
- EXISTING SIGNAL POLE
- GREEN/GREEN MAN WITH MINIMUM DURATION IN SECOND
- FLASHING GREEN MAN WITH MINIMUM DURATION IN SECOND
- RED
- RED/AMBER
- AMBER

Attachment in the email: Proposed MOC for Junction of Sui Wan Road and Sha Tau Kok Road.pdf

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
A	04/01/23	GENERAL REVISED	CPL	HLCK	JTWY
-	19/07/22	GENERAL REVISED	CPL	HLCK	JTWY

CLIENT: 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT: AECOM

PROJECT: DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE: FANLING NORTH NEW DEVELOPMENT AREA, PHASE 1: FANLING BYPASS EASTERN SECTION (SHEK WU SAN TSUEN TO LUNG YEUK TAU)

DRAWING REFERENCE TO LATEST VERSION: 60335576/C5A/C00/1656

TITLE: TRAFFIC SIGNAL AND DUCTING DETAILS - SUI WAN ROAD AND SHA TAU KOK ROAD

PROJECT NO. 60335576 | CONTRACT NO. ND/2019/04

SCALE 1:250 (A1) 1:500 (A3) | DATE 04-JAN-23

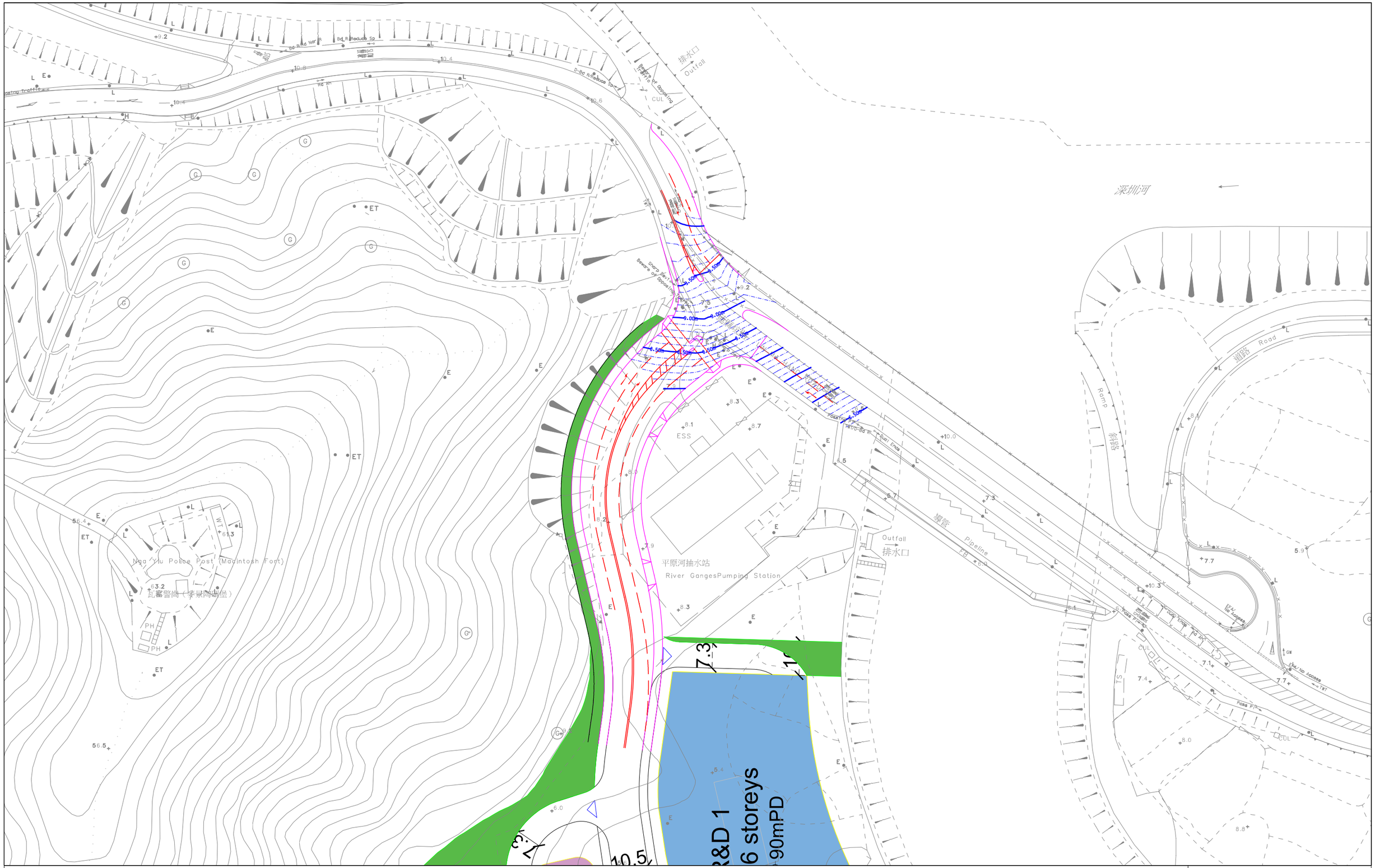
DRAWN CPL | PREPARED HLCK | APPROVED JTWY

SKETCH NO. ND/2019/04/R10/130/0639 | REV. A

Plot File by: cp.lun 11/1/2023
PATH R:\ND_2019_04\Site Sketch\dgn\C4_SK0639A\C4_SK0639A.dgn

Attachment B

Contour Plan of the proposed Junction J15



Job Title		
S12A Man Kam To DD82 & DD87		APPENDIX B
Date: 16JUL26	Scale: 1:1000@A3	Drawing Title: PROPOSED ROAD LAYOUT AND CONTOUR PLAN AT JUNCTION J15
Drawn: WSTW	Job No.: 287082-02	ARUP

Appendix B

Revised Traffic Impact Assessment

Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) for Proposed Innovation and Technology Hub at Various Lots in D.D. 82 and D.D. 86 and Adjoining Government Land, Man Kam To, New Territories

Traffic Impact Assessment Report

2nd Submission | July 2026

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 287082-02

Arup Hong Kong Limited

www.arup.com

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1 INTRODUCTION

1.1 Background

1.1.1 The Application Site is located at Various Lots in D.D. 82 & D.D. 86 and Adjoining Government Land, Man Kam To, New Territories. It is currently zoned as mainly in Agriculture ("AGR"), and minor parts in Green Belt ("GB"), Government, Institution or Community ("G/IC") under the Approved Man Kam To (MKT) Outline Zoning Plan (OZP) No. S/NE-MKT/4 (the OZP). The location of Application Site is shown in **Figure 1.1**.

1.1.2 The Applicant proposes amendments to rezone the Application Site with a sizeable site area of about 125,863m^2 (Development site area of about 102,461m^2) into an Innovation and Technology Hub with Ancillary Facilities (the "Indicative Scheme"), subject to a non-domestic gross floor area (GFA) of 365,180m^2, which consists of R&D Centre with 268,780m^2 GFA and Data Centre with 86,400m^2 GFA to nurture the development of I&T industry, as well as a Commercial Centre with 9,276m^2 to support the daily needs of the working and living population. A kindergarten of 724m^2 will be provided on the ground floor of Ancillary Dormitories. In addition, there will be a domestic GFA of 138,450m^2, which consists of 5 nos. of Private Residential Blocks providing a total of 1,618 units together with a 2,982m^2 Clubhouse, and Ancillary Dormitories with 63,900m^2 which provide 1,392 units for the working population of R&D Centre.

1.1.3 Arup Hong Kong Limited (Arup) was commissioned to carry out a Traffic Impact Assessment (TIA) report in support of the Section 12A planning application for the proposed amendment of plan.

1.2 Objectives of this Report

1.2.1 The objective of the Study is to evaluate the potential traffic impact associated with the Proposed Innovation and Technology Hub at the Application Site.

1.3 Scope of Study

1.3.1 The tasks for this TIA study are outlined as follows:

- Carry out traffic surveys at critical junctions to appreciate current traffic condition;
- Update the inventory regarding traffic circulation patterns, traffic conditions, as well as the constraints of the existing road network in the vicinity;
- Investigate the public transport in the vicinity;
- Recommend the proposed internal transport facilities provisions;
- Set up the reference scenario should there be no Indicative Scheme at the site location, i.e. reference scenario with the existing situation;
- Assess the volume of traffic likely to be generated by the Indicative Scheme;
- Compare and evaluate the likely traffic impact, if any, associated with the Indicative Scheme; and

- Assess future traffic condition, taking into account any future traffic growth, as well as the traffic generated by the Indicative Scheme and other planned/committed development, if any, to be built in the vicinity.

1.4 Structure of the Report

1.4.1 The structure of this TIA report is as follows:

Chapter	Title	Aims
1	Introduction	Provide project background and scope of the Study
2	Existing Traffic Condition	Review and appreciate the existing traffic condition
3	The Subject Development	Provide information of the Indicative Scheme
4	Traffic Impact Assessment	Illustrate the results of Traffic Impact Assessment
5	Conclusion	Summarize the findings of this Study

2 EXISTING TRAFFIC CONDITION

2.1 Site Characteristics

2.1.1 The Application Site is located in Zone with major part in Agriculture ("AGR"), and minor parts in Green Belt ("GB"), Government, Institution or Community ("G/IC") at Various Lots in D.D.82 & D.D.86, Man Kam To, New Territories.

2.1.2 The site boundary is surrounding existing Ta Ku Ling Ling Ying Public School and is bounded by existing Chow Tin Tsuen to the east and Lin Ma Hang Road to the north. **Figure 1.1** shows the location and the environs of the Application Site.

2.2 Existing Road Network

2.2.1 Some major roads in the vicinity of the Application Site are listed as follows:

- Lin Ma Hang Road is a rural road connecting Man Kam To Road at western end and Shun Hing Street in Sha Tau Kok at eastern end. It is in single-two carriageway configuration for the section between Man Kam To Road and Tsung Yuen Ha, and in form of a single-track access road with passing bays for the remaining section.
- Man Kam To Road is a rural road in single-three carriageway configuration which consists of two lanes in Northbound and one lane in Southbound. It connects Jockey Club Road at southern end and Boundary (Man Kam To Control Point) at northern end.
- Ping Che Road is a district distributor in single-two carriageway configuration which connects Sha Tau Kok Road at southern end and Lin Ma Hang Road at northern end.
- Heung Yuen Wai Highway is a Rural Trunk Road in dual two-lane carriageway configuration connecting the Fanling Highway and the Heung Yuen Wai Boundary Control Point (Heung Yuen Wai BCP).

2.3 Existing Road Improvement Works Under Construction

2.3.1 Road works under construction currently in the vicinity of the Application Site are identified as follows:

- Advance Site Formation and Engineering Infrastructure Works at Kwu Tung North (KTN) and Fanling North (FLN) New Development Area (NDA) – under CEDD project number 7747CL

  The construction works include (a) construction of Fanling Bypass Eastern Section, (b) construction of Lung Yeuk Tau Interchange connecting Fanling Bypass Eastern Section with existing Sha Tau Kok Road – Lung Yeuk Tau, and (c) construction of local roads for First Phase Development within the KTN and FLN NDA. The construction works are anticipated to be completed in 2026.

  (https://www.cedd.gov.hk/eng/our-projects/major-projects/index-id-36.html)

- Remaining Phase of Site Formation and Engineering Infrastructure Works at Kwu Tung North and Fanling North New Development Area - Detailed Design and Site Investigation – under CEDD project number 7828CL

  The construction works include (a) widening of Fanling Highway (Tsung Pak Long to Tai Tau Leng Roundabout Portion), (b) construction of Po Shek Wu Road Flyover connected to Fanling Highway westbound, (c) road improvements at Tai Tau Leng Roundabout and Po Shek Wu Road, (d) construction of Fanling Bypass Western Section, (e) construction of Man Kam To Road Roundabout connecting Fanling Bypass Western Section with existing Man Kam To Road, and (f) construction of local roads for Remaining Phase Development within the KTN and FLN NDA. The construction works are anticipated to be completed in 2031.
  (https://www.cedd.gov.hk/eng/our-projects/major-projects/index-id-87.html)

2.3.2 The corresponding Gazette Plans are attached in **Appendix A**.

2.4 Existing Traffic Performance

2.4.1 To appreciate the existing traffic conditions, comprehensive classified traffic counts were conducted at the following identified key junctions and road links in the vicinity of the Application Site. Locations of these surveyed junctions and road links are listed below and shown in **Figure 2.1** to **Figure 2.4**.

Identified Key Junctions:

J1	- Lin Ma Hang Road / Man Kam To Road	(Priority)
J2	- Lin Ma Hang Road / Ping Che Road	(Priority)
J3	- Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	(Roundabout)
J4	- Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	(Priority)
J5	- Sha Tau Kok Road / Ping Che Road	(Roundabout)
J6	- Sha Tau Kok Road / Lau Shui Heung Road	(Roundabout)
J7	- Sha Tau Kok Road / Lung Ma Road	(Roundabout)
J8	- Sha Tau Kok Road / Sui Wan Road	(Signalised)
J9	- Man Kam To Road / Kong Nga Po Road	(Priority)
J10	- Jockey Club Road / Po Wan Road	(Signalised)
J11	- Jockey Club Road / Tin Ping Road	(Signalised)
J12	- Po Shek Wu Road / Jockey Club Road	(Roundabout)
J13	- Po Shek Wu Road / Po Wan Road	(Signalised)
J14	- Po Shek Wu Road / Choi Yuen Road	(Signalised)
J15	- Lin Ma Hnag Road / Proposed Access Road	(Signalised)
J16	- Sha Tau Kok Road / Fanling Bypass	(Roundabout)

J17 - Man Kam To Road / Fanling Bypass (Roundabout)

J18 - Man Kam To Road / Road L4 (Signalised)

J19 - Sha Tau Kok Road / Luen On Street (Signalised)

J20 - Sha Tau Kok Road / Fan Leng Lau Road (Signalised)

J21 - Sha Tau Kok Road / Jockey Club Road (Roundabout)

J22 - Sha Tau Kok Road / San Wan Road (Roundabout)

J23 - San Wan Road / Fanling Station Road (Signalised)

J24 - Jockey Club Road / So Kwun Po Road (Signalised)

J25 - Jockey Club Road / Lung Sum Avenue (Signalised)

Identified Key Road Links:

L1 - Lin Ma Hang Road (near Man Kam To Road junction)

L2 - Lin Ma Hang Road (near Ping Che Road junction)

L3 - Lung Shan Tunnel (Fanling Highway – Sha Tau Kok Road)

L4 - Fanling Highway (at the south of Lung Shan Tunnel)

L5 - Sha Tau Kok Road (Sui Wan Road – Ma Sik Road)

L6 - Jockey Club Road (Tin Ping Road – Po Shek Wu Road)

L7 - Po Shek Wu Road (Po Wan Road – Choi Yuen Road)

L8 - Fanling Highway (at the west of Po Shek Wu Road Interchange)

L9 - Proposed Access Road

2.4.2 The counts were undertaken on typical weekdays during the periods 07:00-10:00 and 17:00-20:00 in March 2026.

2.4.3 The AM and PM peak hours were found to be 07:45-08:45 and 17:15-18:15 respectively. The observed traffic flows during these peak hours are presented in **Figure 2.5** to **Figure 2.7**.

2.4.4 Junction capacity analysis was carried out at the identified key junctions in the vicinity of the Application Site. Results of the capacity assessment are shown in **Table 2.4.1** below.

Table 2.4.1 Year 2026 Key Junction Performance

Junction		Type	2026 Existing Performance (1)	
			AM	PM
J1	Lin Ma Hang Road / Man Kam To Road	Priority	0.43	0.39
J2	Lin Ma Hang Road / Ping Che Road	Priority	0.39	0.38
J3	Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	Roundabout	0.22	0.22
J4	Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	Priority	0.21	0.15
J5	Sha Tau Kok Road / Ping Che Road	Roundabout	0.39	0.41
J6	Sha Tau Kok Road / Lau Shui Heung Road	Roundabout	0.33	0.36
J7	Sha Tau Kok Road / Lung Ma Road	Roundabout	0.39	0.43
J8	Sha Tau Kok Road / Sui Wan Road	Signalised	59%	56%
J9	Man Kam To Road / Kong Nga Po Road	Priority	0.34	0.33
J10	Jockey Club Road / Po Wan Road	Signalised	49%	57%
J11	Jockey Club Road / Tin Ping Road	Signalised	58%	74%
J12	Po Shek Wu Road / Jockey Club Road	Roundabout	0.44	0.43
J13	Po Shek Wu Road / Po Wan Road	Signalised	54%	55%
J14	Po Shek Wu Road / Choi Yuen Road	Signalised	35%	35%
J15	Lin Ma Hnag Road / Proposed Access Road	Signalised	N.A.	
J16	Sha Tau Kok Road / Fanling Bypass	Roundabout		
J17	Man Kam To Road / Fanling Bypass	Roundabout		
J18	Man Kam To Road / Road L4	Signalised		
J19	Sha Tau Kok Road / Luen On Street	Signalised	66%	80%
J20	Sha Tau Kok Road / Fan Leng Lau Road	Signalised	29%	32%
J21	Sha Tau Kok Road / Jockey Club Road	Roundabout	0.56	0.56
J22	Sha Tau Kok Road / San Wan Road	Roundabout	0.41	0.38
J23	San Wan Road / Fanling Station Road	Signalised	16%	18%
J24	Jockey Club Road / So Kwun Po Road	Signalised	55%	43%
J25	Jockey Club Road / Lung Sum Avenue	Signalised	51%	41%

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for signalized junctions and "Design Flow Capacity" (DFC) ratio for roundabouts and priority junctions.

2.4.5 Results of the analysis indicate that the identified key junctions in the vicinity of the Application Site are currently operating with ample capacity during both AM and PM peak hours in Year 2026.

2.4.6 The road link capacity assessment has also been carried out to examine the volume to capacity (V/C) ratio of the assessed road links. Results of the road link assessment are shown in **Table 2.4.2** below.

Table 2.4.2 Year 2026 Key Link Performance

Link		Type (1)	Configuration	Direction	Capacity	2026 Existing Performance (2)			
						AM		PM	
						Flow	V/C	Flow	V/C
L1	Lin Ma Hang Road (near Man Kam To Road junction)	RR	6.75m wide Single two-lane carriageway	Two-way	1,160	612	0.53	588	0.51
L2	Lin Ma Hang Road (near Ping Che Road junction)	RR	3.5m wide single-track access road with passing bays	Two-way	600	550	0.92	517	0.87
L3	Lung Shan Tunnel (Fanling Highway – Sha Tau Kok Road)	RT	Dual two-lane carriageway	NB	3,000	1,052	0.36	911	0.31
				SB	3,000	878	0.3	779	0.26
L4	Fanling Highway (at the south of Lung Shan Tunnel)	EX	Dual four-lane carriageway	NB	8,200	6,524	0.8	5,898	0.72
				SB	8,200	6,226	0.76	5,593	0.69
L5	Sha Tau Kok Road (Lung Ma Road – Sui Wan Road)	RR	Dual two-lane carriageway	NB	2,800	1,187	0.43	1,393	0.5
				SB	2,800	1,395	0.5	1,266	0.46
L6	Jockey Club Road (Tin Ping Road – Po Shek Wu Road)	PD	Dual two-lane carriageway	NB	2,800	1,163	0.42	1,050	0.38
				SB	2,800	1,249	0.45	1,205	0.44
L7	Po Shek Wu Road (Po Wan Road – Choi Yuen Road)	PD	Dual two-lane carriageway	NB	2,800	1,348	0.49	1,434	0.52
				SB	2,800	1,604	0.58	1,637	0.59
L8	Fanling Highway (at the west of Po Shek Wu Road Interchange)	EX	Dual three-lane carriageway	EB	6,100	5,272	0.87	5,089	0.84
				WB	6,100	5,353	0.88	4,639	0.77
L9	Proposed Access Road	-	10.5m wide Single two-lane carriageway	Two-way	1,800	N.A.			

Notes:
(1) Abbreviation: EX – Expressway; PD – Primary Distributor; RR – Rural Road; RT – Rural Trunk Road
(2) A V/C ratio below 1.0 is considered acceptable. A V/C ratio above 1.0 indicates the onset of mild congestion and a V/C ratio between 1.0 and 1.2 would indicate a manageable degree of congestion. A V/C ratio above 1.2 indicates the onset of more serious congestion.

2.4.7 Results of the analysis indicate that the identified key road links in the vicinity of the Application Site are currently operating with ample capacity during both AM and PM peak hours in Year 2026.

2.5 Existing Public Transport Facilities

2.5.1 Currently, the Application Site is only directly served by GMB Route 59K and 59S operating along Lin Ma Hang Road, which is the major feeder service between Sheung Shui Station and Lin Ma Hang / Heung Yuen Wai BCP, serving the residents of private residential developments in the vicinity and the border-crossing passengers.

2.5.2 Existing public transport facilities in the vicinity of the Application Site are illustrated in **Figure 2.8** and summarised in **Table 2.5.1** below.

Table 2.5.1 Existing public transport facilities in the vicinity of the Application Site

Route No.	Origin / Destination	Operation Hour	Peak Hour Headway (mins)
Green Minibus Services			
59K	Main Route: Sheung Shui Station – Lin Ma Hang	From Sheung Shui Station 05:45 am - 09:30 pm From Lin Ma Hang 06:15 am - 10:00 pm	15 - 30
	Supplementary Route: Sheung Shui Station – Heung Yuen Wai	From Sheung Shui Station 05:45 am - 08:45 pm From Heung Yuen Wai 06:15 am - 09:15 pm	30
59S	Sheung Shui Station – Heung Yuen Wai BCP	From Sheung Shui Station 06:30 am - 09:00 pm From Heung Yuen Wai BCP 07:15 am – 10:30 pm	3 - 8

2.5.3 In summary, the Application Site is only served by limited existing public transport services.

2.5.4 To improve the accessibility of the Application Site, it is proposed to provide public transport feeder services and long-haul services with sufficient transport facilities in appropriate locations for the Indicative Scheme in order to minimise the impact to the existing public transport services. Details are further discussed in **Section 4.8**.

3 THE INDICATIVE SCHEME

3.1 Development Schedule

3.1.1 The Applicant intends to redevelop the site into Innovation and Technology Hub together with residential, commercial and I&T use.

3.1.2 The Indicative Scheme is envisaged to be completed by Year 2032.

3.1.3 The proposed development schedule of Indicative Scheme is summarized in **Table 3.1.1**, and the master layout plan, preliminary layout plans for basement levels and section plans are presented in **Figure 3.1** to **Figure 3.5** respectively.

Table 3.1.1 Development Schedule

Development Site Area (m^2)	Type		GFA (m^2)	Flat Mix		
				No. of Blocks	Flat Size	No. of Flats
102,461	Non-Domestic	Office (R&D Centre)	268,780	-		
		Data Centre	86,400			
		Commercial Centre	9,276			
		6-classroom Kindergarten	724			
	Domestic	Private Housing	74,550	5	~26m^2	387
					~33m^2	714
					~43m^2	302
					~77m^2	215
		Ancillary Dormitories	63,900	3	~26m^2	336
					~33m^2	660
					~43m^2	222
					~77m^2	174
		Club House	2,982 (2)	-		

Notes:
(1) Club House is proposed to be exempted from GFA calculation.

3.2 Proposed Self-containment Arrangement

3.2.1 Ancillary Dormitories would be provided for application by employees of the I&T Hub (including R&D Centres and Data Centres) to achieve the Self-containment Arrangement. Flats with size < 40m^2 will be assigned as one-person units while flats with size > 40m^2 will be assigned as family units.

3.2.2 The walking distance and time between AD 1 and R&D 1 is anticipated to be the longest among the Ancillary Dormitories group and Office Developments group, with walking distance of approx. 500m and time of approx. 7 minutes respectively, which is considered a walkable condition and hence appropriate for self-containment assumption.

3.2.3 With the intention to develop an international I&T Hub, the proposed development has been designed comprehensively with R&D Centres, Data Centres, Ancillary Dormitories to be resided by IT talents and their families, and Private Residential Towers. The Ancillary Dormitories, which are purpose-built for staff working at the I&H hub, is an integral part of the I&T Hub essential to the operational needs and its overall competitiveness by attracting talent people locally and abroad.

3.2.4 Within the proposed I&T Hub, in addition to job opportunities, there are a Commercial Centre with retail shops and eating places, as well as a kindergarten, fulfilling the daily needs of the employees and their families without the need to travel outside. Sufficient open space (not less than $1m^2$ per tenants of Ancillary Dormitories and residents of the private residential towers) and landscaping areas, including the 10m-wide riverside promenade, have also been provided within the I&T Hub for the enjoyment at all times. These supporting facilities will form a self-contained community where employees living in the Ancillary Dormitories will live, work, and commute within the I&T Hub.

3.2.5 With the self-containment arrangement, it is anticipated that the employees living in Dormitories will commute within the Application Site during weekday peak period. The associated parking demand as well as external trip generation and attraction would be low. Therefore, low-end parking provision rate and lower limit trip rate are adopted for one-person units, to avoid over-provision of parking spaces and over-estimation of external trips.

3.2.6 Taking into consideration of family members of the employees living in family units, high-end parking provision rate and mean trip rate are adopted for family units for conservative assessment approach.

3.3 Proposed Vehicular and Pedestrian Access Arrangement

3.3.1 The Application Site is located at the south of Lin Ma Hang Road near Ping Yuen River. Currently, there is no vehicular access and footpath connecting between the Application Site and the external road network.

Proposed Vehicular Access Road and Footpath

3.3.2 In order to provide vehicular and pedestrian access to the Application Site, the existing access road of River Ganges Pumping Station and its Substation is proposed to be widened and extended. A new standard single two-lane carriageway in width of minimum 10.5m with 2.5m-wide footpath on both sides is proposed connecting the Application Site and Lin Ma Hang Road ("Access Road"), with access point relocation of River Ganges Pumping Station and its Substation.

Proposed Signalized Junction of Lin Ma Hang Road / Access Road

3.3.3 In addition, signalized junction of Lin Ma Hang Road / Access Road is proposed to cater for the anticipated traffic demand arising from the Indicative Scheme.

3.3.4 Access Road will be further widened at junction approaches for providing additional traffic lanes to ensure the sufficient junction capacity. Despite the local road widening of Access Road, the vehicular accesses of River Ganges Pumping Station and its Substation will be maintained.

3.3.5 It is proposed to modify the road markings of Lin Ma Hang Road westbound carriageway to provide two traffic lanes at junction. Moreover, to ensure the junction operational performance, further widening of Lin Ma Hang Road eastbound carriageway (* without beyond the Frontier Closed Area Boundary) under the current road works by HyD PWP Item 863TH is also proposed. The slope structure in the middle of Lin Ma Hang Road carriageway between River Ganges Pumping Station and Ping Yuen River constructed under the same road works is proposed to be rearranged to facilitate the right-turn movements from the

Access Road to Lin Ma Hang Road Eastbound and right-turn movement from Lin Ma Hang Road Eastbound to the Access Road.

3.3.6 The proposed junction layout and swept path analysis are illustrated in **Figure 3.6** to **Figure 3.9**. The major ingress and egress routes for vehicular traffic approaching and leaving the Application Site are illustrated in **Figure 3.10** and **Figure 3.11** respectively.

3.4 Internal Transport Facilities Provision

3.4.1 The internal transport facilities provision for the Indicative Scheme will be provided in accordance with the high-end requirements of Hong Kong Planning Standards and Guidelines (HKPSG) and TD's Departmental Circular No. 6/2012 – Standards for Goods Vehicle Parking and Loading/Unloading for Data Centres (TD Circular No. 6/2012).

3.4.2 The internal transport facilities provision for the Indicative Scheme are summarized in **Table 3.4.1** to **Table 3.4.6**.

Table 3.4.1 HKPSG Required Internal Transport Provision for the Proposed Office Development (R&D Centre)

Type of Development	Facilities	HKPSG Requirement	HKPSG Required Provision		Proposed Provision
			Low-end	High-end	
Office (R & D Centre) Total GFA (m^2) 268,780	Private Car Parking	**Private Car (5m (L) × 2.5m (W) × 2.4m (H))**	**921 (incl. accessible car parking space)**	**1369 (incl. accessible car parking space)**	**1369**
		For the first 15000m^2 GFA: 1 car space per 150 – 200 m^2 GFA; Above 15000m^2 GFA: 1 car space per 200 – 300 m^2 GFA			
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))	6	6	
		6 spaces for total number of car parking spaces above 450			
	Motorcycle Parking	**Motorcycle (2.4m (L) × 1m (W) × 2.4m (H))**	**47**	**137**	**137**
		5 to 10% of the total provision for private cars with respect to each type of development should be provided			
	L/UL Bay	1 loading/unloading bay for goods vehicles for every 2000 – 3000 m^2, or part thereof, GFA	**90**	**135**	**HGV: 88** **LGV: 47**
		TOTAL			
		LGV Loading/Unloading (7m (L) × 3.5m (W) × 3.6m (H))	**59**	**88**	
		HGV Loading/Unloading (11m (L) × 3.5m (W) × 4.7m (H))	**31**	**47**	
	Lay-by for Taxis and Private Cars	**Taxi/Private Car (5m (L) × 2.5m (W) × 2.4m (H))**	**14**	**14**	**14**
		For sites of at least 5000m² net site area, 1 picking up/setting down lay-by for taxis and private cars for every 20000m², or part thereof, GFA.			

Table 3.4.2 HKPSG / TD Circular No. 6/2012 Required Internal Transport Provision for the Proposed Data Centre

Type of Development	Facilities	HKPSG / TD Circular No. 6/2012 Requirement	HKPSG Required Provision		Proposed Provision
			Low-end	High-end	
Data Centre m² GFA 86,400	Private Car Parking (1)	**Private Car (5m (L) × 2.5m (W) × 2.4m (H))**	**116 (incl. accessible car parking space)**	**144 (incl. accessible car parking space)**	**144 (incl. accessible car parking space)**
		1 car space per 600 – 750 m² GFA			
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))	**2**	**2**	
		2 spaces for 51-150 total number of car parking spaces			
	Motorcycle Parking (1)	**Motorcycle (2.4m (L) × 1m (W) × 2.4m (H))**	**6**	**15**	**15**
		5 to 10% of the total provision for private cars with respect to each type of development should be provided			
	L/UL Bay (2)	For the first 20,000m² GFA: 1 no. per 3,400 – 3,800 m² GFA; Above 20,000m² GFA: 1 no. per 5500 – 6100m² GFA	**17**	**18**	**LGV: 12** **HGV: 6**
		TOTAL			
		Loading/Unloading bays are to be provided as such: 60% for loading / unloading and 40% for parking; 65% are for LGV and 35% are for HGV			
		LGV Loading/Unloading (7m (L) × 3.5m (W) × 3.6m (H))	**12**	**12**	
		For L/UL	**7**	**7**	
		For Parking	**5**	**5**	
		HGV Loading/Unloading (11m (L) × 3.5m (W) × 4.7m (H))	**5**	**6**	
		For L/UL	**3**	**4**	
		For Parking	**2**	**2**	
	Lay-by for Taxis and Private Cars	**Taxi/Private Car (5m (L) × 2.5m (W) × 2.4m (H))**	**-**	**-**	2 (3)
		-			

Notes:
(1) In accordance with HKPSG requirements.
(2) In accordance with TD's Circular No. 6/2012 – Standards for Goods Vehicle Parking and Loading/Unloading for Data Centres.
(3) There is no requirement of lay-by for taxis and private cars for Data Centre under HKPSG nor TD Circular No. 6/2012, lay-by provision is recommended to cater for operational need.

Table 3.4.3 HKPSG Required Internal Transport Provision for the Proposed Commercial Centre

Type of Development	Facilities	HKPSG Requirement	HKPSG Required Provision		Proposed Provision
			Low-end	High-end	
Commercial Centre m² GFA 9,276	Private Car Parking	**Private Car (5m (L) × 2.5m (W) × 2.4m (H))**	**31 (incl. accessible car parking space)**	**62 (incl. accessible car parking space)**	**62 (incl. accessible car parking space)**
		1 car space per 150 - 300 m² GFA			
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))	**1**	**2**	
		1 space for total number of car parking spaces below 50			
		2 spaces for 51-150 total number of car parking spaces			
	Motorcycle	**Motorcycle (2.4m (L) × 1m (W) × 2.4m (H))**	**2**	**7**	**7**
		5 to 10% of the total provision for private cars with respect to each type of development should be provided			
	L/UL Bay	1 loading/unloading bay for goods vehicles for every 800 - 1200 m², or part thereof, GFA	**8**	**12**	**LGV: 8** **HGV: 4**
		TOTAL			
		LGV Loading/Unloading (7m (L) × 3.5m (W) × 3.6m (H))	**6**	**8**	
		HGV Loading/Unloading (11m (L) × 3.5m (W) × 4.7m (H))	**2**	**4**	

Table 3.4.4 HKPSG Required Internal Transport Provision for the Proposed Kindergarten

Type of Development	Facilities	HKPSG Requirement	HKPSG Required Provision		Proposed Provision
			Low-end	High-end	
Kindergarten No. of Classrooms 6	Private Car Parking	**Private Car (5m (L) × 2.5m (W) × 2.4m (H))**	0 (incl. accessible car parking space)	**2 (incl. accessible car parking space)**	**2**
		0 to 1 car parking space per 4 to 6 classrooms			
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))	0	**1**	
		1 space for 1-50 total number of car parking spaces			
	Lay-by for Taxis and Private Cars	**Private Car/Taxi (5m (L) × 3.5m (W) × 2.4m (H))**	1	**2**	**2**
		1 lay-by for taxis and private cars for every 5 to 8 classrooms			
	Lay-by for School Buses	**School Bus (12m (L) × 3.5m (W) × 3.8m (H)) (OR mini-bus/nanny van (7m (L) × 3m (W) × 3.3m (H)))**	2 (5)	**2 (5)**	**2**
		A minimum of 2 lay-bys for school buses (OR substituted by 5 lay-bys of size 3m × 7m for mini-bus/nanny van which can provide a total number of seats equivalent to that provided by 2 large school buses)			

Table 3.4.5 HKPSG Required Internal Transport Provision for the Proposed Residential Development

Type of Development	Facilities	HKPSG Requirement				HKPSG Required Provision		Proposed Provision
						Low-end	High-end	
Private Housing No. of Flats FS≤40m²: 1,101 40m² < FS <70m²: 302 70m² < FS <100m²: 215 No. of Blocks 5	Private Car Parking	**Private Car (Residential) (5m (L) × 2.5m (W) × 2.4m (H))**				205 (incl. accessible car parking space)	358 (incl. accessible car parking space)	**383 (incl. visitor parking space & accessible car parking space)**
		Global Parking Standard (GPS)			1 car space per 4-7 flats			
		Demand Adjustment Ratio (R1)	Flat Size (FS) (m² GFA)	**FS≤40**	**0.5**			
				40<FS≤70	**1.2**			
				70<FS≤100	**2.4**			
				100<FS≤130	4.1			
				130<FS≤160	5.5			
				FS>160	7			
		Accessibility Adjustment Ratio (R2)	Within a 500m-radius of rail station		0.75			
			Outside a 500m-radius of rail station		**1**			
		Development Intensity Adjustment Ratio (R3)	Domestic Plot Ratio (PR)	0.00<PR≤1.00	1.3			
				1.00<PR≤2.00	1.1			
				2.00<PR≤5.00	**1**			
				5.00<PR≤8.00	0.9			
				PR>8.00	0.75			
		Parking Requirement = GPS × R1 × R2 × R3						
		Private Car (Visitors) (5m (L) × 2.5m (W) × 2.4m (H))				25	25	
		5 visitor spaces per block in addition to the recommendations, or as determined by the Authority						
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))				3	5	
		3 spaces for 151-250 total number of car parking spaces						
		5 spaces for 351-450 total number of car parking spaces						
		TOTAL Private Car Parking (5m (L) × 2.5m (W) × 2.4m (H))				**230 (incl. accessible car parking space)**	**383 (incl. accessible car parking space)**	
	Motorcycle Parking	**Motorcycle (2.4m (L) × 1m (W) × 2.4m (H))**				**11**	**17**	**17**
		1 motorcycle parking space per 100-150 flats excluding non-residential elements						
	L/UL Bay	**HGV Loading/Unloading (11m (L) × 3.5m (W) × 4.7m (H))**				**5**	**5**	**5**
		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 or as determined by the Authority						

Table 3.4.6 HKPSG Required Internal Transport Provision for the Proposed Ancillary Dormitories

Type of Development	Facilities	HKPSG Requirement				HKPSG Required Provision		Proposed Provision
						Low-end	High-end	
Ancillary Dormitories No. of Flats(1) FS≤40m²: 996 40m² < FS <70m²: 222 70m² < FS <100m²: 174 No. of Blocks 3	Private Car Parking	**Private Car (Residential) (5m (L) × 2.5m (W) × 2.4m (H))**				One-person Unit **72** Family Unit 97 Total 169 (incl. accessible car parking space)	One-person Unit 125 Family Unit **171** Total 296 (incl. accessible car parking space)	**258 (1) (incl. visitor parking space & accessible car parking space)**
		Global Parking Standard (GPS)			1 car space per 4-7 flats			
		Demand Adjustment Ratio (R1)	Flat Size (FS) (m² GFA)	**FS≤40**	**0.5**			
				40<FS≤70	**1.2**			
				70<FS≤100	**2.4**			
				100<FS≤130	4.1			
				130<FS≤160	5.5			
				FS>160	7			
		Accessibility Adjustment Ratio (R2)	Within a 500m-radius of rail station		0.75			
			Outside a 500m-radius of rail station		**1**			
		Development Intensity Adjustment Ratio (R3)	Domestic Plot Ratio (PR)	0.00<PR≤1.00	1.3			
				1.00<PR≤2.00	1.1			
				2.00<PR≤5.00	**1**			
				5.00<PR≤8.00	0.9			
				PR>8.00	0.75			
		Parking Requirement = GPS × R1 × R2 × R3						
		Private Car (Visitors) (5m (L) × 2.5m (W) × 2.4m (H))				15	15	
		5 visitor spaces per block in addition to the recommendations, or as determined by the Authority						
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))				3	4	
		3 spaces for 151-250 total number of car parking spaces						
		4 spaces for 251-350 total number of car parking spaces						
		TOTAL Private Car Parking (5m (L) × 2.5m (W) × 2.4m (H))				**184** **(incl. accessible car parking space)**	**311** **(incl. accessible car parking space)**	
	Motorcycle Parking (1)	**Motorcycle (2.4m (L) × 1m (W) × 2.4m (H))**				Single Flat **7** Family Flat 3	Single Flat 10 Family Flat **4**	**11(1)**
		1 motorcycle parking space per 100-150 flats excluding non-residential elements						
	L/UL Bay	**HGV Loading/Unloading (11m (L) × 3.5m (W) × 4.7m (H))**				**3**	**3**	**3**
		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 or as determined by the Authority						

Notes:
(1) As referred to the self-containment arrangement in Section 3.2

3.4.3 The proposed total provision of internal transport facilities of the Indicative Scheme is summarized in **Table 3.4.7** below.

Table 3.4.7 Summary of Proposed Total Internal Transport Facilities Provision

Facilities (L × W H)	Development Use	Proposed Provision
Private Car Parking Space (5m × 2.5m × 2.4m)	Office (R&D Centre)	1,369
	Data Centre	144
	Commercial Centre	62
	Kindergarten	2
	Private Housing	383
	Ancillary Dormitories	258
	Total (incl. visitor parking space & accessible car parking space)	**2,218**
Accessible Car Parking Space (5m × 3.5m × 2.4m)	Office (R&D Centre)	6
	Data Centre	2
	Commercial Centre	2
	Kindergarten	1
	Private Housing	5
	Ancillary Dormitories	3
	Total	**19**
Motorcycle Parking Space (2.4m × 1m × 2.4m)	Office (R&D Centre)	137
	Data Centre	15
	Commercial Centre	7
	Private Housing	17
	Ancillary Dormitories	11
	Total	**187**
LGV Loading/Unloading Bay (7m × 3.5m × 3.6m)	Office (R&D Centre)	88
	Data Centre	12
	Commercial Centre	8
	Total	**108**
HGV Loading/Unloading Bay (11m × 3.5m × 4.7m)	Office (R&D Centre)	47
	Data Centre	6
	Commercial Centre	4
	Private Housing	5
	Ancillary Dormitories	3
	Total	**65**
Lay-by for Taxis and Private Cars (5m × 2.5m × 2.4m)	Office (R&D Centre)	14
	Data Centre	2
	Kindergarten	2
	Total	**18**
Lay-by for School Buses (12m × 3.5m × 3.8m)	Kindergarten	2
	Total	**2**

3.4.4 The proposed internal transport facilities for the Indicative Scheme will be self-contained within the respective site boundary, located on ground floor and basement parking floors of the Indicative Scheme.

Private Car Parking Space Provision

3.4.5 A total of 2,218 nos. private car parking spaces (including 19 nos. accessible car parking spaces) as per HKPSG high-end requirements (except one-person unit of Ancillary Dormitories which adopted HKPSG low-end requirements) will be provided in the basement levels, which will be accessed via the car-ramp system of basement of corresponding type of development.

Accessible Car Parking Provision

3.4.6 A total of 19 nos. accessible car parking spaces (part of the 2,218 private car parking spaces), as per HKPSG high-end requirements will be provided in the basement levels, which will be accessed via the car-ramp system of basement of corresponding type of development.

Motorcycle Parking Space Provision

3.4.7 A total of 187 nos. motorcycle parking spaces as per HKPSG high-end requirements will be provided in the basement levels, which will be accessed via the car-ramp system of basement of corresponding type of development.

Loading / Unloading Bay Provision

3.4.8 A total of 108 nos. loading/unloading bays for LGV and 65 nos. loading/unloading bays for HGV as per HKPSG high-end requirement and recommended provision will be provided in both the basement levels and ground floors of corresponding type of development.

Lay-by Provision for Taxis and Private Cars

3.4.9 A total of 18 nos. lay-bys for taxis/private cars as per HKPSG high-end requirement and recommended provision will be provided on ground floor of corresponding type of development.

Lay-by Provision for School Buses

3.4.10 A total of 2 nos. lay-bys for school buses as per HKPSG high-end requirement will be provided on ground floor of corresponding School.

4 TRAFFIC IMPACT ASSESSMENT

4.1 Trip Generation and Attraction of Indicative Scheme

Data Centre

4.1.1 To establish appropriate trip generation and attraction rates for Data Centre of the Indicative Scheme, trip generation survey has been conducted on typical weekdays at various existing data centre developments as summarised in **Table 4.1.1**.

Table 4.1.1 Peak Hour Trip Generation and Attraction at the Surveyed Data Centres

Development		AM Peak		PM Peak	
		Generation	Attraction	Generation	Attraction
NTT Hong Kong Financial Data Centre at 6 Chun Kwang St, Tseung Kwan O (70,000 m^2 GFA)	Observed Trips (pcu/hr)	34.1	27.7	17.95	8.1
	Trip Rate (pcu/hr/100 sqm GFA)	0.049	0.040	0.026	0.012
iTech Tower 1 at 28 Pak Tin Par Street, Tsuen Wan (17,652m^2 GFA)	Observed Trips (pcu/hr)	2.1	1	2	1
	Trip Rate (pcu/hr/100 sqm GFA)	0.012	0.006	0.011	0.006
iTech Tower 2 at 54-56 Ta Chuen Ping Street, Kwai Chung (9,125m^2 GFA)	Observed Trips (pcu/hr)	2.5	3.5	2	0
	Trip Rate (pcu/hr/100 sqm GFA)	0.027	0.038	0.022	0.000
NTT Hong Kong Tai Po Data Centre at 2 Dai Hei Street, Tai Po (19,700 m^2 GFA)	Observed Trips (pcu/hr)	9	6.1	7.1	13
	Trip Rate (pcu/hr/100 sqm GFA)	0.046	0.031	0.036	0.066

4.1.2 For conservative assessment, the highest of the rates above were adopted for applying to Data Centre of the Indicative Scheme, as shown in **Table 4.1.2** below.

Other types of Developments

4.1.3 The likely amount of traffic generation and attraction associated with the Indicative Scheme, except Data Centre, was calculated based on the mean values of 'Traffic Rates for Residential Development at 95% Confidence Level' and 'Traffic Rates for Non-residential Development at 95% Confidence Level' adopted in the TPDM Vol. 1 Table 1 and Table 2.

4.1.4 Public transport feeder service with ancillary transport facilities in appropriate locations, including terminating facilities and en-route bus stops, has been proposed to/from the railway stations and bus interchange as discussed in **Section 4.8**. It is anticipated that the feeder service is significant to enhance the convenience for residents/ employees using public transport services. The Indicative Scheme would be well-served by public transport services to cater for the effect of "remote site". It is hence considered that "Mean" value is appropriate to be adopted. The adopted rates are shown in **Table 4.1.2** below.

Table 4.1.2 Adopted Trip Generation and Attraction Rates of the Indicative Scheme

Sources	Component		AM Peak		PM Peak	
			Generation	Attraction	Generation	Attraction
In-house surveys	Data Centre (pcu/hr/100 sqm GFA)		0.049	0.040	0.036	0.066
TPDM Vol. 1	Housing	Lower Limit, Average Flat Size 40sqm (pcu/flat/hr)	0.0325	0.0213	0.0196	0.0263
		Mean, Average Flat Size 50sqm (pcu/flat/hr)	0.0622	0.0426	0.0297	0.0401
		Mean, Average Flat Size 60sqm (pcu/flat/hr)	0.0718	0.0425	0.0286	0.0370
		Mean, Average Flat Size 80sqm (pcu/flat/hr)	0.1058	0.0605	0.0426	0.0590
	Office, Mean (pcu/hr/100 sqm GFA)		0.1703	0.2452	0.1573	0.1175
	Retail, Mean (pcu/hr/100 sqm GFA)		0.2296	0.2434	0.3100	0.3563

4.1.5 The peak traffic arriving and leaving the kindergarten are generally observed and occurred before school start time (i.e. 8am) and school finish time (i.e. 5pm) which will not overlap with the daily commuting AM and PM peak hours. For conservative approach, nominal school-related traffic flows 10 pcu/hr have been considered and superimposed on the traffic forecast for the same daily commuting AM and PM peak hours for assessment purpose.

4.1.6 The associated traffic generation and attraction for the Indicative Scheme are summarised in **Table 4.1.3**.

Table 4.1.3 Traffic Generation and Attraction of the Indicative Scheme (pcu/hr)

Type of Development	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Office (R&D Centre)	305	439	282	211
Data Centre	43	35	32	58
Commercial Centre	22	23	29	34
Kindergarten	10	10	10	10
Private Housing	124	73	50	65
Ancillary Dormitories (1)	65	42	34	46
Additional bus trips (2)	65	65	65	65
Total	**634**	**687**	**502**	**489**

Notes:
(1) As referred to the self-containment arrangement in Section 3.2
(2) Based on the existing bus enhancement proposal by double-decked bus as discussed in Section 4.9

4.1.7 As indicated in table above, the total trips would be around 1,321 pcu/hr and 991 pcu/hr (two-way) during the AM and PM peak periods respectively.

4.2 Two-Tier Transport Model

4.2.1 The Indicative Scheme is targeted for completion in Year 2032. In order to assess the traffic impact of the development-related traffic on the adjacent road network, Year 2035 (i.e., 3 years after completion) is adopted as the design year of the study.

4.2.2 In view of the large population intake and the significant forecasted traffic generation and attraction of the Indicative Scheme, two levels of transport models are adopted. The Strategic Transport Model (STM) is at the upper tier. At the lower tier, it contains the Local Area Traffic Model (LATM).

Strategic Transport Model Structure

4.2.3 The STM is a link-based transport model which produces transport demand forecasts at strategic and inter-district levels. It is mainly to estimate the transport demand of the district-to-district movements by different private and public transport modes with respect to the infrastructures of the whole territory.

4.2.4 The STM follows the conventional 4-step modelling approach, comprising trip generation, trip distribution, modal split and trip assignment. The model produces passenger and vehicular flows on the transport network system by time periods of the day. This model offers the advantage to reflect the traffic demand forecasts especially the mode choice with respect to the fundamental assumptions such as the socio-economic and infrastructures.

4.2.5 The strategic and inter-district vehicular demand from the STM forms the primary input to the LATM.

Local Area Traffic Model Structure

4.2.6 The LATM is a junction-based assignment model which stimulates the local area traffic demand at intra-district level. With the incorporation of local area junction characteristics, the LATM is capable of estimating the junction delay and traffic queuing for route choice in assigning the traffic demand in local areas.

4.2.7 The development of LATM adopts the same approach as TD's 2019-based Base District Traffic Model (BDTM) (2024 update). The BDTM covers models of validated year 2019, design years 2031, 2036, 2041 and 2046. Since there is no major road network change in the vicinity of the Application Site between Year 2031 and 2036, Design Year 2031 BDTM was adopted. The LATM is a peak hour trip assignment model which contains two components: (i) the "trip matrix" which specifies the number of AM peak/ PM peak hour trips from zone i to zone j; and (ii) the "network" which specifies the physical structure of the road links and junctions etc. upon which trips take place. Both the matrix and network are fed into a "route choice" model which allocates trips to "routes" through the network through the model assignment process.

4.2.8 There are three types of vehicles represented in the LATM. They are Private Vehicles (PV), Goods Vehicles (GV) and road-based public transport (PT) services. PV and GV are fed into the model in form of trip matrices, while PT vehicles are fixed route services and pre-loaded to the network.

4.2.9 The LATM matrices are developed from the cordoned matrices extracted from the STM, with the same LATM coverage of the model area. The compatibility between the STM and the LATM is ensured by the control of the external trip ends, which are essentially the link flows of major roads along the cordon. In other

words, the LATM is consistent with the STM in terms of the socio-economic, transport infrastructure and road network assumptions.

4.2.10 The LATM matrices are developed from the cordoned matrices extracted from the STM, with the same LATM coverage of the model area. The compatibility between the STM and the LATM is ensured by the control of the external trip ends, which are essentially the link flows of major roads along the cordon. In other words, the LATM is consistent with the STM in terms of the socio-economic, transport infrastructure and road network assumptions.

4.2.11 Evaluations of link and junction performance for the Traffic Impact Assessment will be conducted based on the traffic forecast result from LATM.

Model Validation

4.2.12 As the road network and traffic flow in 2019-based BDTM (2024 update) are only validated to base Year 2019, the LATM has been further validated to latest traffic condition based on the observed traffic flows during peak hours obtained from traffic count survey dated April 2026 on identified key junctions and road links as summarized in **Para. 2.4.1** with their locations indicated in **Figure 2.1** to **Figure 2.4**, taking into account the latest traffic aids, junction layouts and method of control in the study area. The validation criteria of base year 2026 LATM adopted in this study is consistent with TD's BDTM.

Traffic Growth beyond Year 2031

4.2.13 Considering that the LATM is only projected up to Year 2031, a conventional growth factor approach is adopted to further project the 2031 trip matrices to the Design Year 2035. Reference has been made to planning data from "Hong Kong Population Projection 2022 – 2046" published by Census and Statistics Department. The average annual growth rate from mid-year 2031 to mid-year 2036 is illustrated in **Table 4.2.1**.

Table 4.2.1 Average annual growth rate by "Hong Kong Population Projection 2022 – 2046"

Broad Area	2031	2036	Average Annual Growth from 2031 to 2036
Hong Kong Population	7,820,200	8,022,400	**0.52%**

4.2.14 From the table above, **+0.52% p.a.** was adopted to derive the vehicular traffic forecast for year 2031-2035.

4.3 Planned/ Committed Developments in North District

4.3.1 In addition to the development flow, the traffic generated and attracted by adjacent major planned/committed developments which would anticipatedly induce traffic implication on the identified key junctions/ road links have been taken into account for the traffic forecast.

4.3.2 Under the 2019-based BDTM (2024 update), numerous key elements under Northern Metropolis (NM) have been included in Design Year 2031 BDTM, including Hung Shui Kiu / Ha Tsuen NDA, Yuen Long South NDA, San Tin Technopole, Kwu Tung North / Fanling North NDA (KTN / FLN NDA) and Hong Kong-Shenzhen Innovation and Technology Park in Lok Ma Chau Loop.

4.3.3 Major developments within KTN / FLN NDA and other areas at North District outside NM incorporated in Design Year 2031 BDTM are listed in **Table 4.3.1**.

Table 4.3.1 Major Developments within KTN / FLN NDA and Other Areas at North District outside NM incorporated in Design Year 2031 BDTM

Type of Development		Ref. Index in BDTM
KTN/ FLN NDA – Private Housing	Kwu Tung North Area 24, Sheung Shui, F.S.S.T.L. 263 (A/KTN/97)	B23-R05
	Area 25, Kwu Tung F.S.S.T.L. 279	C22-R02
	Kwu Tung North Area 24, Sheung Shui F.S.S.T.L. 278	C22-R03
	Various Lots in D.D. 51, Fanling	D20-R01
KTN/ FLN NDA – Public / Subsidised Housing	Fanling Area 15 East Phase 1 & 2	HN004, HN020, HN029
	Kwu Tung North Area 19	HN009, HN030, HN033
	Kwu Tung North Area 24	HN058, HN059
	Wa Shan (Brownfield)	HN069
	Fanling North Areas 5, 6 West, 6 East, 8, 13, 14, 15 West and 17	HN071
	Kwu Tung North Areas 12, 13, 20, 21 and 26	HN073
Public / Subsidised Housing	Sheung Shui Areas 4 & 30	HN002, HN023, HN099
	San Wan Road	HN016
	Ching Tao Court	HN019
	Fanling Area 48	HN048, HN094
	Ching Hiu Road	HN050
	Jockey Club Road	HN057
	Pak Wo Road	HN060, HN061, HN062
	Fanling Area 17	HN070
	Tai Tau Leng	HN077
	Partial Development of Fanling Golf Course Site	HN083
	Po Shek Wu Road	HN084
	Choi Shun Street	HN092
	Queen’s Hill Extension	HN098
Traditional Housing	Ping Che Road, Ta Kwu Ling (Pok Oi Sing Ping Village)	B23-R10
Private Housing	Castle Peak Road, Kwu Tung D.D. 92 Lot 2640 (Eden Manor)	A19-R04
	8 Ma Sik Road, Fanling (One Innovale)	A22-R01, A22-R02, A22-R12
	Junction at Fan Kam Road and Castle Peak Road, Kwu Tung D.D. 91 Lot 4076	B23-R09
	Kwu Tung South, Sheung Shui, D.D.92 Lot 2579 (A/NE-KTS/506)	C23-R01, D22-R01
	Various Lots in D.D. 92 and adjoining Government Land, Kwu Tung South (A/NE-KTS/484)	D21-R02
	Various Lots in D.D. 94 and Adjoining Government Land, Hang Tau Tai Po, Kwu Tung South (Y/NE-KTS/13, A/NE-KTS/466, A/NE-KTS/525)	D23-R01, D23-R02, D23-R03
Commercial	18 On Chuen Street, Fanling (Hi-Speed Centre 1)	A21-R03
	3 On Kui Street and 4 On Lok Mun Street, Fanling (iTech Tower 3 Phase 1)	B23-R01
	Junction of On Lok Mun Street, On Chuen Street and On Kui Street, Fanling F.S.S.T.L. 268	B23-R08
	Junction of On Kui Street, Lok Ming Street and On Lok Mun Street, Fanling F.S.S.T.L. 274	C20-R01
	8 On Chuen Street, Fanling (iTech Tower 3 Phase 2)	C23-R06

4.3.4 Apart from the major developments within KTN / FLN NDA and other areas at North District outside NM incorporated in Design Year 2031 BDTM, the following major developments within KTN / FLN NDA and other areas at North District outside NM with tentative completion year before 2035 but not included in Design Year 2031 BDTM have been further incorporated into the traffic forecast and summarized in **Table 4.3.2** below.

Table 4.3.2 Planned / Committed Developments in North District

Type of Development		Tentative Completion Year
KTN/ FLN NDA	Various Lots in D.D. 92 and adjoining Government Land, Kwu Tung North (Y/KTN/2)	2026
	Various Lots in D. D. 51 and Adjoining Government Land at Area 14 (A/FLN/32)	2029
Public / Subsidised Housing	Government Land in D.D. 51, Pak Wo Road, Fanling (Casa Sierra)	2026
Private Housing	Various Lots in D.D. 92 and adjoining Government Land, Kam Hang Road, Kwu Tung South (Y/NE-KTS/14, Y/NE-KTS/17)	2027
	1 Lun Fat Street (Nexus Grand)	2026
	Fanling Area 40 (Y/FSS/13)	2027/28
	Sheung Shui Lot 2 RP and adjoining Government land (Y/FSS/19)	2028
	Various Lots in D.D. 51 and Adjoining Government Land, Ma Sik Road, Fanling (A/FSS/294) (1)	2029
	Fanling Area 17 Sites B1 and B2	2030/31
Others	North District Hospital Extension	2028
	New Territories East Cultural Centre	2027/28
	Social Welfare Facility (Residential Care Home for the Elderly) and Flat (A/FSS/288)	2031
	Kong Nga Po Police Training Facilities	2026/27
	Wo Hop Shek Cemetery for Phases 2 and 3 Columbarium Development	2026
	Sandy Ridge Data Facility Cluster site	2029

Notes:
(1) Same site with Planned Development Ref. Index "D20-R01" incorporated in BDTM. Only additional trip generation/attraction due to the increased nos. of flats from this application are further included in the traffic forecast

4.4 Planned/ Committed Junction Improvement Schemes in North District

4.4.1

As North District is undergoing numerous planned large-scale developments, apart from the ongoing transports infrastructures works as aforementioned in **Chapter 2.3**, Junction Improvement Schemes have been planned and anticipated to be completed before the completion of the Indicative Scheme. Junction Improvement Schemes in the Vicinity of the Application Site which would anticipatedly induce traffic implication on the identified key junctions/ road links have been taken into account for the traffic forecast and summarised in **Table 4.4.1**.

Table 4.4.1 Planned/ Committed Junction Improvement Schemes in North District

Junction	Description	Proposed by Project	Status up to May 2026
Sha Tau Kok Road/ Sui Wan Road (J8)	- Banning of right-turn movements at Sha Tau Kok Road – Lung Yeuk Tau southbound - Banning of both right-turn and straight-ahead movements at Sui Wan Road westbound - Banning of both left-turn and straight-ahead movements at Sui Wan Road eastbound - Modification of method of control	NENT NDA	TBC
Po Shek Wu Road/ Po Wan Road (J13)	- Lane arrangement of Po Shek Wu Road southbound to be revised for allowing straight-ahead traffic to use three traffic lanes - Lane arrangement of Po Wan Road eastbound to be revised for allowing right-turn traffic to use two traffic lanes	Kong Nga Po	Completed (1)
	- Land arrangement of Po Shek Wu Road northbound to be revised for allowing left-turn traffic to use two traffic lanes - Local widening of exit arm of Po Wan Road westbound from 1 to 2 lanes	Sheung Shui Areas 4 and 30	
Po Shek Wu Road/ Choi Yuen Road (J14)	- Local widening of entry arm of Po Shek Wu Road NB to allow straight-ahead traffic to use three traffic lanes	Kong Nga Po	Under construction
	- Po Shek Wu Road Interchange Improvement which provides a flyover to allow the right turning traffic from Po Shek Wu Road SB to Fanling Highway WB to bypass the existing Po Shek Wu Road Interchange - Entry arm of Po Shek Wu Road SB would be narrowed from 5 lanes to 4 lanes - Local widening of Choi Yuen Road eastbound from 3 to 4 lanes	KTN/ FLN NDA	
Sha Tau Kok Road / Luen On Street (J19)	- Lane arrangement of Sha Tau Kok Road southbound to be revised for allowing right turn traffic to use two traffic lanes	KTN/ FLN NDA	Under construction
Jockey Club Road/ So Kwun Po Road (J24)	- Lane arrangement of Jockey Club Road northbound to be revised for allowing left turn traffic to use two traffic lanes - Method-of-control to be revised for minimising/optimising the intergreen time - Lane arrangement of Ma Sik Road southbound to be revised for allowing three traffic lanes for vehicles to travel straight ahead - Local widening of So Kwun Po Road southbound from 2 to 3 lanes	KTN/ FLN NDA	Completed (1)
	- Local widening with one additional straight-ahead traffic lane on So Kwun Po Road northbound - Local widening of Ma Sik Road northbound from 2 to 3 lanes	Sheung Shui Areas 4 and 30	
Jockey Club Road/ Lung Sum Avenue (J25)	- Local widening with one additional straight-ahead traffic lane on Jockey Club Road eastbound - Local widening with one additional straight-ahead traffic lane on Lung Sum Avenue northbound	Kong Nga Po	Completed (1)

Notes:
(1) Associated traffic lane arrangements have been adopted in the junction capacity analysis for Year 2026 Existing Traffic Flow as summarised in Table 2.4.1

4.5 Hong Kong Major Transport Infrastructure Development Blueprint

4.5.1 The Government has promulgated the "Hong Kong Major Transport Infrastructure Development Blueprint" (The Blueprint) in December 2023 with a view to meeting the city's long-term transport and logistics needs up to 2046 and beyond. One of the proposals included in The Blueprint is the additional "Two Railways & One Major Road", which is related to North District and comprises the Northern Link Eastern Extension (NOLE), the Northeast New Territories Line (NENTL), and the Northern Metropolis Highway (New Territories North New Town Section).

4.5.2 NOLE will extend the Northern Link eastward from Kwu Tung Station to Ping Che and is planned connect to NENTL at its terminal. Based on the preliminary alignment illustrated in The Blueprint, NOLE will pass by the southern edge of the Applicate Site without encroaching its boundary. Hence, it is anticipated that the Indicative Scheme will not have interface issue with NOLE, subject to the finalised design of NOLE.

4.5.3 On the other hand, with the consideration that there is no information about the station location and the operation year of NOLE, the traffic and transport impact have been assessed with the assumption that NOLE is not yet available at the time of population intake of the Indicative Scheme for conservative approach.

4.6 Assessment Scenarios

4.6.1 To evaluate the traffic impact likely to be induced by the traffic associated with the Indicative Scheme, two scenarios are analysed and compared. **Scenario 1** is the Reference Scenario (without the Indicative Scheme) in Year 2035. **Scenario 2** is the Design Scenario (with the Indicative Scheme) in Year 2035.

Scenario 1
Year 2035 Reference Scenario
= Adjusted Year 2035 Two-Tier Transport Model traffic flows
Plus traffic generations of major planned/committed developments in the vicinity not incorporated in 2019-based BDTM (2024 update)

Scenario 2
Year 2035 Design Scenario
= Year 2035 Reference Scenario
Plus trip generation and attraction associated with the Indicative Scheme as indicated in **Table 4.1.3**

4.6.2 The forecasted traffic flows for the above two scenarios are presented in **Figure 4.1** to **Figure 4.6**.

4.7 Junction Capacity Assessment

4.7.1 Junction capacity assessment was carried out at the identified key junctions for Year 2035 Reference and Design Scenarios. Assessment results are summarized in **Table 4.7.1** below. The detailed junction calculation sheets are attached in **Appendix A**.

Table 4.7.1 Year 2035 Future Junction Performance

Junction		Type	2035 Performance (1)			
			Reference		Design	
			AM	PM	AM	PM
J1	Lin Ma Hang Road / Man Kam To Road	Priority	0.51	0.47	**0.91**	0.78
J2	Lin Ma Hang Road / Ping Che Road	Priority	0.51	0.51	**1.25**	**1.02**
J3	Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	Roundabout	0.29	0.29	0.48	0.40
J4	Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	Priority	0.24	0.19	0.57	0.37
J5	Sha Tau Kok Road / Ping Che Road	Roundabout	0.67	0.67	0.75	0.73
J6	Sha Tau Kok Road / Lau Shui Heung Road	Roundabout	0.59	0.57	0.65	0.61
J7	Sha Tau Kok Road / Lung Ma Road	Roundabout	0.61	0.64	0.66	0.67
J8 (2)	Sha Tau Kok Road / Sui Wan Road	Signalised	70%	54%	63%	48%
J9	Man Kam To Road / Kong Nga Po Road	Priority	0.53	0.57	0.77	0.63
J10	Jockey Club Road / Po Wan Road	Signalised	44%	46%	25%	30%
J11	Jockey Club Road / Tin Ping Road	Signalised	36%	45%	20%	30%
J12	Po Shek Wu Road / Jockey Club Road	Roundabout	0.56	0.55	0.65	0.62
J13 (2)	Po Shek Wu Road / Po Wan Road	Signalised	26%	25%	**13%**	17%
J14 (2)	Po Shek Wu Road / Choi Yuen Road	Signalised	28%	33%	18%	23%
J15	Lin Ma Hnag Road / Proposed Access Road	Signalised	-	-	25%	48%
J16	Sha Tau Kok Road / Fanling Bypass	Roundabout	0.60	0.59	0.63	0.62
J17	Man Kam To Road / Fanling Bypass	Roundabout	0.63	0.65	0.77	0.76
J18	Man Kam To Road / Road L4	Signalised	45%	50%	26%	32%
J19	Sha Tau Kok Road / Luen On Street	Signalised	35%	27%	29%	24%
J20	Sha Tau Kok Road / Fan Leng Lau Road	Signalised	20%	19%	18%	17%
J21	Sha Tau Kok Road / Jockey Club Road	Roundabout	0.65	0.71	0.67	0.73
J22	Sha Tau Kok Road / San Wan Road	Roundabout	0.47	0.48	0.49	0.49
J23	San Wan Road / Fanling Station Road	Signalised	**3%**	**5%**	**1%**	**3%**
J24 (2)	Jockey Club Road / So Kwun Po Road	Signalised	22%	20%	21%	19%
J25 (2)	Jockey Club Road / Lung Sum Avenue	Signalised	31%	23%	28%	21%

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for signalized junctions and "Design Flow Capacity" (DFC) ratio for roundabouts and priority junctions.
(2) With implementation of infrastructures/ junction improvement works as discussed in Section 2.3 / 4.4

4.7.2 The results revealed that all the key junctions would operate within capacity with the Indicative Scheme in Year 2035, except J1, J2, J13 and J23.

4.7.3 Considering that the junction capacity for junction J1 – Lin Ma Hang Road / Man Kam To Road would be operated near capacity during AM peak period under Year 2035 Design Scenario, J2 – Lin Ma Hang Road / Ping Che Road would be overloaded during both AM and PM peak period under Year 2035 Design Scenario, J13 – Po Shek Wu Road / Po Wan Road would be operated near capacity during AM peak period under Year 2035 Design Scenario, and J23 – San Wan Road / Fanling Station Road would be operated near capacity during both AM and PM peak period under both Year 2035 Reference and Design Scenario, improvement proposals have been explored to improve the performance of the junctions.

J1 – Lin Ma Hang Road / Man Kam To Road

4.7.4 Under the existing junction arrangement, Lin Ma Hang Road is currently operated as the minor arm of the priority junction with right and left turning traffic share the same single lane for queuing.

4.7.5 It is considered that right turning traffic has a longer average queuing time than left turning traffic to leave the minor arm as right turning traffic requires to wait for major stream traffic of Man Kam To Road both bounds while left turning traffic requires to wait for major arm traffic of Man Kam To Road southbound only. It may cause unnecessary delay for left turning traffic which is anticipated much more significant than right turning traffic upon the commissioning of the Indicative Scheme. As a result, it is proposed to provide a flare lane to allow right and left turning traffic queuing at separate lanes, as presented in **Figure 4.7** with corresponding swept path analysis presented in **Figure 4.8**. The visibility analysis with 70m sight line to demonstrate the technical feasibility from "stop" arrangement converting to "give way" arrangement is presented in **Figure 4.9**.

J2 - Lin Ma Hang Road / Ping Che Road

4.7.6 Under the existing junction arrangement, Lin Ma Hang Road is currently operated as the minor arm of the priority junction.

4.7.7 Upon the commissioning of the Indicative Scheme, it is anticipated that traffic flow on Lin Ma Hang Road will become the major traffic movement of this junction. Therefore, it is proposed to modify the junction configuration by classifying Lin Ma Hang Road and Ping Che Road as the major arm and the minor arm of the junction respectively as presented in **Figure 4.10** to suit the future traffic pattern, with corresponding swept path analysis presented in **Figure 4.11** and **Figure 4.12**.

J13 – Po Shek Wu Road / Po Wan Road

4.7.8 Alternatively, local widening for exit arm of Po Shek Wu Road NB to allow straight-ahead traffic to use three lanes is proposed. With the consideration that left-turn traffic is much less significant than straight-ahead traffic, it is proposed to rearrange the lane movement to fit in the aforementioned local widening, such that nearside lane will be shared by left-turn traffic and straight-ahead traffic, while 2nd and 3rd lane will allow straight-ahead traffic only. Furthermore, subsequent to the implementation of local widening of exit arm of Po Shek Wu Road SB, local widening of entry arm of Po Shek Wu Road SB is further proposed such that there would be three exclusive lanes for straight-ahead traffic and one exclusive lanes for left-turn traffic.

4.7.9 The proposed junction improvement scheme is presented in **Figure 4.13**.

J23 – San Wan Road / Fanling Station Road

4.7.10 Under the existing junction arrangement, the nearside lane from San Wan Road EB is exclusively for left-turn traffic. As the corresponding exit arm is only an access road to Cheung Wah Estate, the left-turn traffic flow volume is significantly low and such lane arrangement is not optimised. With the consideration that both straight-ahead traffic and right-turn traffic are the major traffic movement for San Wan Road EB, it is proposed to maintain the existing lane arrangement for right-turn traffic but share the nearside lane for straight-ahead traffic. Lane warning line road marking is further proposed to guide the straight-ahead movement to enhance the vehicular safety. The proposed junction improvement scheme is presented in **Figure 4.14**, while corresponding swept path analysis at the junction is presented in **Figure 4.15**.

JA – Man Kam To Road / Access Road to Open Storage Site No.7

4.7.11 On the other hand, although the junction capacity assessment result indicates that J9 would operate within capacity with the Indicative Scheme in Year 2035, by site observation, currently traffic congestion occurs occasionally at J9 during peak hours due to the short distance between J9 and the signalised junction downstream (Junction of Man Kam To Road / Access Road to Open Storage Site No.7, JA hereinafter). As there is only one lane for straight-ahead traffic of Man Kam To Road Southbound at JA, vehicles will queue and tail back to J9, which will further block the traffic approaching or leaving Kong Nga Po Road (minor arm of J9).

4.7.12 It is anticipated that the layout configuration and control arrangement of J9 and JA would remain unchanged, such that the concerned blockage issue during peak hour would still exist at Year 2035. As such, improvement proposal has been explored to improve the performance of JA by providing an additional lane for the critical straight-ahead traffic of Man Kam To Road Southbound to increase the available queue length of straight-ahead traffic of Man Kam To Road Southbound and help clear more straight-ahead traffic under each cycle, and hence alleviate the concerned blockage issue of Kong Nga Po Road. The proposed junction improvement scheme is presented in **Figure 4.16**.

4.7.13 With the proposed junction improvement / modification, the junction J1, J2, J13, J23 and JA have been reassessed and the corresponding junction performance is summarized in **Table 4.7.2** below. The detailed junction calculation sheets for the proposed junction improvement schemes are attached in **Appendix B**.

Table 4.7.2 Year 2035 Future Junction Performance – With Junction Improvement

Junction		Type	2035 Design Performance (1)			
			Without Junction Improvement		With Junction Improvement	
			AM	PM	AM	PM
J1	Lin Ma Hang Road / Man Kam To Road	Priority	0.91	0.78	0.83	0.76
J2	Lin Ma Hang Road / Ping Che Road	Priority	1.25	1.02	0.83	0.69
J13	Po Shek Wu Road / Po Wan Road	Signalised	13%	17%	24%	23%
J23	San Wan Road / Fanling Station Road	Signalised	1%	3%	17%	18%
JA	Man Kam To Road / Access Road to Open Storage Site No.7	Signalised	1%	-1%	34%	67%

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for signalized junctions and "Design Flow Capacity" (DFC) ratio for priority junctions.

4.7.14 The above results revealed that under the Design Scenario in Year 2035, the DFC of J1 would be improved from 0.91 to 0.83 and 0.78 to 0.76 during AM peak and PM peak periods respectively, the DFC of J2 would be improved from 1.25 to 0.83 and 1.02 to 0.69 during AM peak and PM peak periods respectively, the RC of J13 would be improved from 13% to 24% and 17% to 23% during AM peak and PM peak periods respectively, the RC of J23 would be improved from 1% to 17% and 3% to 18% during AM peak and PM peak periods respectively, and the RC of JA would be improved from 1% to 34% and -1% to 67% during AM peak and PM peak periods respectively.

4.7.15 With the above improvement proposal, it is anticipated that the performance of junction J1, J2, J8, J13, J23 and JA (hence J9) would be enhanced, and all junctions would be operated satisfactorily with the Indicative Scheme in Year 2035.

4.8 Link Capacity Assessment

4.8.1 Key road links within the study area are identified and assessed in both Reference and Design scenarios in Design Year 2035. Assessment results are summarised in **Table 4.8.1** below.

Table 4.8.1 Year 2035 Future Link Performance

Link		Type (1)	Configuration	Direction	Capacity	Link Performance (2)							
						2035 Reference				2035 Design			
						AM		PM		AM		PM	
						Flow	V/C	Flow	V/C	Flow	V/C	Flow	V/C
L1	Lin Ma Hang Road (near Man Kam To Road junction)	RR	7.3m wide Single two-lane carriageway	Two-way	1,500	691	0.46	685	0.46	1,260	0.84	1,134	0.76
L2	Lin Ma Hang Road (near Ping Che Road junction)	RR	7.3m wide Single two-lane carriageway	Two-way	1,500	674	0.45	697	0.46	1,427	0.95	1,239	0.83
L3	Lung Shan Tunnel (Fanling Highway – Sha Tau Kok Road)	RT	Dual two-lane carriageway	NB	3,000	1,610	0.54	1,150	0.38	1,804	0.60	1,260	0.42
				SB	3,000	1,434	0.48	1,336	0.45	1,592	0.53	1,466	0.49
L4	Fanling Highway (at the south of Lung Shan Tunnel)	EX	Dual four-lane carriageway	NB	8,200	7,062	0.86	7,026	0.86	7,318	0.89	7,169	0.87
				SB	8,200	7,724	0.94	6,745	0.82	7,930	0.97	6,915	0.84
L5	Sha Tau Kok Road (Sui Wan Road – Fanling Bypas)	RR	Dual two-lane carriageway	NB	2,800	1,801	0.64	2,093	0.75	1,913	0.68	2,184	0.78
				SB	2,800	2,142	0.77	1,875	0.67	2,264	0.81	1,954	0.70
L6	Jockey Club Road (Tin Ping Road – Po Shek Wu Road)	PD	Dual two-lane carriageway	NB	2,800	1,251	0.45	1,076	0.38	1,522	0.54	1,291	0.46
				SB	2,800	1,469	0.52	1,441	0.51	1,718	0.61	1,640	0.59
L7	Po Shek Wu Road (Po Wan Road – Choi Yuen Road)	PD	Dual two-lane carriageway	NB	2,800	1,727	0.62	1,713	0.61	1,964	0.70	1,895	0.68
				SB	2,800	2,101	0.75	2,221	0.79	2,322	0.83	2,407	0.86
L8	Fanling Highway (at the west of Po Shek Wu Road Interchange) (3)	EX	Dual four-lane carriageway	EB	8,200	6,476	0.79	6,729	0.82	6,683	0.82	6,870	0.84
				WB	8,200	6,296	0.77	5,828	0.71	6,468	0.79	5,987	0.73
L9	Proposed Access Road	-	10.5m wide Single two-lane carriageway	Two-way	1,800	-	-	-	-	1,321	0.73	991	0.55

Notes:
(1) Abbreviation: EX – Expressway; PD – Primary Distributor; RR – Rural Road; RT – Rural Trunk Road
(2) A V/C ratio below 1.0 is considered acceptable. A V/C ratio above 1.0 indicates the onset of mild congestion and a V/C ratio between 1.0 and 1.2 would indicate a manageable degree of congestion. A V/C ratio above 1.2 indicates the onset of more serious congestion.
(3) With implementation of infrastructures/ junction improvement works as discussed in Section 2.3/ 4.4

4.8.2 The results revealed that all the key road links would operate within capacity with the Indicative Scheme in Year 2035.

4.9 Public Transport Assessment

4.9.1 The anticipated population of the Private Housing and family units of the ancillary dormitories of the Indicative Scheme is about 4,368 and 1,070 respectively, while the anticipated working population is 6,207. According to "Travel Characteristics Survey (TCS) 2022" published by Transport Department, the daily mechanised trip rate is 1.69 trips per person, while morning and evening peak hour accounted for about 12% and 14% of the daily trips respectively. For conservative approach, it is hence estimated that the Indicative Scheme would induce 1,287 resident passengers / hour (i.e. 5,438 × 1.69 × 0.14) and 1,469 worker passengers / hour (i.e. 6,207 × 1.69 × 0.14) during the peak period. For conservative approach, a factor of 1.2 is further applied on the peak hour passenger trips (i.e. 1,287 × 1.2 = 1,545 & 1,469 × 1.2 = 1,763) which deems sufficient to consider the unforeseen growth as well as the non-resident / non-worker users of the R&D Centre, Data Centre, Commercial Centre and kindergarten. The anticipated passenger trips in the peak hour are summarized in **Table 4.9.1**.

Table 4.9.1 Passenger Trips Generation/Attraction of the Indicative Scheme during Peak Period

Development Parameters	Residents	Workers
No. of private residential units & family units in dormitories (1)	2,014 flats	N.A.
Population	5,438 (2)	6,207
Peak Hour Passenger Trips	1,545 pax/hr	1,763 pax/hr

Notes:

(1) Assuming single flats in dormitories will not generate / attract trips to external road network during daily commuting peaks as discussed in Section 3.2

(2) Average domestic household size of 2.7 is assumed based on the 2021 Population Census in North District

4.9.2 The modal split for residents in North District extracted from Table B203 and C204 under District Council District "North" from 2021 Population Census published by Census and Statistics Department is summarised in **Table 4.9.2**.

Table 4.9.2 Main Mode of Transport to Place of Study and Work in North District

Mode of Transport	Place of Study (from B203)	Place of Work (from C204)	Total	
	Persons	Persons	Persons	%
MTR (Local line)	12,118	46,153	58,271	39.0%
Bus (same district)	4,365	3,535	7,900	5.5%
Bus (another district)	3,873	19,246	23,119	15.5%
On foot only	12,822	11,285	24,107	16.0%
School bus	4,145	-	4,145	3.0%
Public light bus	3,541	7,802	11,343	8.0%
Private car/ Passenger van	3,400	7,887	11,287	7.5%
Company bus/ van	-	3,002	3,002	2.0%
MTR (Light Rail)	-	-	-	-
Taxi	214	711	925	0.5%
Residential coach service	489	580	1,069	0.5%
Ferry/ Vessel	-	18	18	0.0%
Others	888	3,212	4,100	2.5%
Total	**45,855**	**103,431**	**149,286**	**100%**

4.9.3 With the consideration of the locality of the Application Site, it is assumed that company bus/van, residential coach service, and ferry/vessel are not the available for the residents of the Indicative Scheme, and the associated passenger trips will be evenly distributed into MTR (50%) and bus (25% for same district / 25% for another district).

4.9.4 On the other hand, in order to minimise the disturbance of the residents from private residential developments in the vicinity as well as the border crossing passengers using the existing GMB 59K and 59S services, it is assumed that public light bus is also not available for the residents of the Indicative Scheme, with the consideration that service enhancement of GMB is not efficient due to its low carrying capacity. The associated passenger trips will be evenly distributed into bus (same district) and bus (another district). The adjusted modal split for the Indicative Scheme is summarized in **Table 4.9.3**.

Table 4.9.3 Adjusted Modal Split for Resident Passengers of the Indicative Scheme

Original Passenger Trip at North District	Adjusted Modal Split for resident passengers of the Indicative Scheme								
	MTR (Local line)	Bus (same district)	Bus (another district)	School bus	Taxi	Private car/ Passenger van	On foot only	Others	Total
MTR (Local line)	58,271								58,271
Bus (same district)		7,900							7,900
Bus (another district)			23,119						23,119
On foot only							24,107		24,107
School bus				4,145					4,145
Public light bus		5,672	5,672						11,343
Private car/ Passenger van						11,287			11,287
Company bus/ van	1,501	751	751						3,002
MTR (Light Rail)	-	0	0						-
Taxi					925				925
Residential coach service	535	267	267						1,069
Ferry/ Vessel	9	5	5						18
Others								4,100	4,100
Total	60,316	14,594	29,813	4,145	925	11,287	24,107	4,100	149,286
Proportion	**40.25%**	**10.00%**	**20.25%**	**3.0%**	**0.5%**	**7.5%**	**16.0%**	**2.5%**	**100.0%**

4.9.5 With the consideration that school bus would not be available for worker passengers, the 3% school bus modal split would be evenly distributed into MTR (50%) and bus (25% for same district / 25% for another district) similar to the adjustment on modal split for residents. The associated passenger demand for resident passengers and worker passengers of the Indicative Scheme in peak hour is estimated in **Table 4.9.4**.

Table 4.9.4 Estimated Passenger Demand from Indicative Scheme in Peak Hour

Mode of Transport	Residents			Workers		
	Proportion	Passenger Demand (pax/hr)		Proportion	Passenger Demand (pax/hr)	
MTR (Local line)	**40.25%**	**622**	**776**	**41.75%**	**736**	**926**
Bus (same district)	**10.00%**	**154**		**10.75%**	**190**	
Bus (another district)	**20.25%**	**313**		**21.00%**	**370**	
School bus	3.0%	46		-	-	
Taxi	0.5%	8		0.5%	9	
Private car/ Passenger van	7.5%	116		7.5%	132	
On foot only	16.0%	247		16.0%	282	
Others	2.5%	39		2.5%	44	
Total	**100%**	**1,545**		**100%**	**1,763**	

4.9.6 Although there is no existing franchised bus route operating along the section of Lin Ma Hang Road outside the Application Site, currently there are KMB 73K and KMB 79K operating along Man Kam To Road and Ping Che Road respectively, which are anticipated the major ingress and egress vehicular routes of the Application Site connecting MTR stations in Sheung Shui and Fanling. In order to avoid duplication of public transport services in terms of routings and to better utilise the existing bus resources, the Applicant proposes to 1.) relocate the terminus and extend the bus route of KMB 73K from Man Kam To (San Uk Ling) to the Application Site, and 2.) extend the bus route of KMB 79K to the Application Site, with the terminus maintained at Ta Kwu Ling (Tsung Yuen Ha).

4.9.7 Nevertheless, both KMB 73K and 79K are only intra-district bus routes within North. In the consideration of sizable demand of cross-district bus services as shown in **Table 4.9.4**, the Applicant further proposes to 3.) introduce a new franchised bus route (MKT1 hereinafter) running between the Application Site and another district (exact destination to be further discussed in later stage) via Lin Ma Hang Road, Ping Che Road, Sha Tau Kok Road and Lung Shan Tunnel.

4.9.8 The proposed routings of extended route of KMB 73K and 79K, as well as new route MKT1 are illustrated in **Figure 4.17**, **Figure 4.18** and **Figure 4.19** respectively. It is anticipated that KMB 73K and 79K would act as feeder services for both MTR passenger demand and intra-district bus passenger demand (i.e. 776 pax/hr for residents, 926 pax/hr for workers), while tentative 73E would cater for cross-district bus passenger demand (i.e. 313 pax/hr for residents, 370 pax/hr for workers) from the Indicative Scheme.

4.9.9 Under the proposed routings of extended route of KMB 73K and 79K, the projected travel distance between the Application Site and the nearest Railway Station (i.e. Sheung Shui Station for KMB 73K, Fanling Station for KMB 79K) of KMB 73K and KMB 79K is approx. 8 km and 11 km respectively. Under the observed average speed of respective bus route during peak period in Year 2026 as mentioned in **Table 4.9.12**, the projected journey time of KMB 73K between Sheung Shui Station and the Application Site is 40 mins, while that of KMB 79K is 50 mins between Fanling Station and the Application Site respectively. For assessment purpose, it is assumed the nos. of passengers of KMB 73K and KMB 79K would have a same ratio with their projected journey time, hence 55% of them taking KMB 73K (i.e. 776 × 55% = 427 for residents, 926 × 55% = 509 for workers) and remaining 45% (i.e. 776 – 427 = 349 for residents, 926 – 509 = 417 for workers) taking KMB 79K is derived.

4.9.10 To identify if there are spare capacity to cope with the passenger demand induced by the Indicative Scheme, current occupancy of KMB 73K and 79K at identified critical bus stops during morning and evening peak periods are surveyed and summarised from **Table 4.9.5** to **Table 4.9.8**, including Sheung Shui Wai / Po Shek Wu Road Sheung Shui and Fung Kai No.1 Secondary School for KMB 73K, Kwan Tei and Fanling Station for KMB 79K.

Table 4.9.5 Observed Bus Occupancy of KMB 73K at Sheung Shui Wai / Po Shek Wu Road Sheung Shui

Hour	Sheung Shui Bound				Man Kam To Bound			
	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy
0700 – 0800	4	300	**131**	44%	4	300	210	70%
0800 – 0900	3	225	103	46%	3	225	161	72%
0900 – 1000	2	150	58	39%	2	150	62	41%
1700 – 1800	3	225	88	39%	3	225	75	33%
1800 – 1900	3	225	109	48%	3	225	104	46%
1900 – 2000	2	150	46	31%	3	225	**120**	53%

Note:
* Assumed Bus Capacity is 75 passengers per vehicle as single-decked buses are usually employed for KMB 73K

Table 4.9.6 Observed Bus Occupancy of KMB 73K at Fung Kai No.1 Secondary School

Hour	Sheung Shui Bound				Man Kam To Bound			
	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy
0700 – 0800	4	300	126	42%	4	300	**217**	72%
0800 – 0900	3	225	114	51%	3	225	155	69%
0900 – 1000	2	150	49	33%	2	150	70	47%
1700 – 1800	3	225	113	50%	3	225	81	36%
1800 – 1900	3	225	**131**	58%	3	225	94	42%
1900 – 2000	2	150	40	27%	3	225	110	49%

Note:
* Assumed Bus Capacity is 75 passengers per vehicle as single-decked buses are usually employed for KMB 73K

Table 4.9.7 Observed Bus Occupancy of KMB 79K at Kwan Tei

Hour	Sheung Shui Bound				Man Kam To Bound			
	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy
0700 – 0800	5	600	**275**	46%	2	240	66	28%
0800 – 0900	4	480	165	34%	2	240	**118**	49%
0900 – 1000	3	360	218	61%	2	240	113	47%
1700 – 1800	2	240	**125**	52%	3	360	112	31%
1800 – 1900	2	240	74	31%	3	360	193	54%
1900 – 2000	2	240	56	23%	2	240	185	77%

Note:
* Assumed Bus Capacity is 120 passengers per vehicle as double-decked buses are usually employed for KMB 79K

Table 4.9.8 Observed Bus Occupancy of KMB 79K at Fanling Station

Hour	Sheung Shui Bound				Man Kam To Bound			
	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy	No. of Bus Trips	Total Capacity*	Total Passengers	Occupancy
0700 – 0800	5	600	196	33%	2	240	49	20%
0800 – 0900	4	480	155	32%	2	240	71	30%
0900 – 1000	3	360	151	42%	2	240	56	23%
1700 – 1800	2	240	84	35%	3	360	98	27%
1800 – 1900	2	240	63	26%	3	360	**205**	57%
1900 – 2000	2	240	36	15%	2	240	190	79%

Note:
* Assumed Bus Capacity is 120 passengers per vehicle as double-decked buses are usually employed for KMB 79K

4.9.11 It is considered that the usage of franchised buses is hugely related to planned population and employment within its catchment area. Reference was hence made to 2021-based Territorial Population and Employment Data Matrix (TPEDM) published by Planning Department and "Hong Kong Population Projections 2022 – 2046" which has been derived in **Table 4.2.1**. Nevertheless, **Table 4.9.9** summarizes the estimated and projected population and employment data in 2021, 2026 and 2031 of District Council District (DCD) "North".

Table 4.9.9 Annual Average Growth Rate of "North" District by TPEDM

	2021 Projection	2026 Projection	2031 Projection	Annual Growth Rate from 2021 to 2031
Population	309,650	352,000	435,550	/
Employment	84,150	104,050	144,850	
TOTAL	**393,800**	**456,050**	**580,400**	**3.95%**

4.9.12 **Table 4.9.9** indicates the annual growth of population and employment in North District is +3.95% p.a.

4.9.13 Based on the latest development schedule, KTN / FLN NDA would be under full population intake by Year 2032. For conservative assessment purpose, annual growth factor of +3.95% p.a. for years from 2026 to 2032 and +0.52% p.a. for years from 2032 to 2035 would be applied to the observed highest nos. of franchised bus passengers to forecast the franchised bus passenger demand in Design Year 2035, which deems sufficient to take into account the population and employment increase from KTN / FLN NDA, as well as the natural population growth at North District after full population intake of KTN / FLN NDA.

4.9.14 The passenger movement of residents and workers from the Indicative Scheme is anticipated having a mutually exclusive characteristic (i.e. during AM peak, major passenger groups taking public transport to approach the Application Site would be working population of the proposed R&D Centre, Data Centre, Commercial Centre and Kindergarten living outside, while major passenger groups taking public transport to leave the Application Site would be residential population of the private housing development and the family members from the ancillary dormitories, and vice versa during PM peak period). It is hence considered that major passenger trips between residential population and working population would not overlap with each other in the perspective of travel direction (i.e. would

not take the bus towards same direction). As such, resident passenger trips would be distributed into KMB 73K (Sheung Shui bound) (i.e. 427 pax/hr) and KMB 79K (Sheung Shui bound) (i.e. 349 pax/hr) respectively while worker passenger trips would be distributed into KMB 73K (Man Kam To bound) (i.e. 509 pax/hr) and KMB 79K (Ta Kwu Ling bound) (i.e. 417 pax/hr) respectively during AM peak, and vice versa during PM peak.

4.9.15 Similarly, for proposed cross-district bus route MKT1, 313 pax/hr resident passenger trips would be distributed another district bound while 370 pax/hr worker passenger trips would be distributed into the Application Site bound, and vice versa during PM peak.

4.9.16 The highest usage of Sheung Shui bound and Man Kam To/Ta Kwu Ling bound during AM peak and PM peak for KMB 73K and 79K is highlighted in **Table 4.9.5** to **Table 4.9.8**. By adopting the growth rates of +3.95% p.a. for 2026 to 2032 and +0.52% p.a. for 2032 to 2035 into the observed highest nos. of passengers, the estimated passengers demand of KMB 73K and 79K, as well as proposed cross-district bus route MKT1 in Year 2035 were summarised in **Table 4.9.10.**

Table 4.9.10 Estimated Passenger Demand of KMB 73K and KMB 79K in Year 2035

Bus Route	Peak Period	Direction	2026 Observed Peak Franchised Bus Passenger Demand (pax/hr)	2035 Reference Peak Franchised Bus Passenger Demand (pax/hr)	Additional Public Transport demand by Indicative Scheme (pax/hr) *	2035 Design Peak Franchised Bus Passenger Demand (pax/hr)
KMB 73K	AM	Sheung Shui	131	168	427	595
		Man Kam To	217	278	509	787
	PM	Sheung Shui	131	168	509	677
		Man Kam To	120	154	427	581
KMB 79K	AM	Sheung Shui	275	353	349	702
		Ta Kwu Ling	118	151	417	568
	PM	Sheung Shui	125	160	417	577
		Ta Kwu Ling	205	263	349	612
MKT1	AM	Another District	-		313	313
		Application Site			370	370
	PM	Another District			370	370
		Application Site			313	313

Note:
* Distributed into specific bound as referred to Para. 4.9.12

4.9.17 Based on the above table, it is anticipated that there would be insufficient spare capacity for both KMB 73K and 79K under their respective existing headway. Hence, it is proposed to enhance the service by employing double-decked bus instead of single-decked bus for KMB 73K and increasing the frequency for both KMB 73K and 79K during morning and evening peak period with the corresponding occupancy as summarised in **Table 4.9.11**. The proposed fleet size associated with the bus enhancement proposal are summarised in **Table 4.9.12**.

Table 4.9.11 Proposed Bus Enhancement and Associated Occupancy in Year 2035

Bus Route	Peak Period	Direction	Existing Frequency during peak hour (mins)	Proposed Frequency during peak hour (mins)	Proposed No. of Bus Trips during peak hour (bus trips/hr)	Total Capacity* (pax/hr)	2035 Design Peak Franchised Bus Passenger Demand (pax/hr)	Occupancy
KMB 73K	AM	Sheung Shui	15 - 25	6 – 9	8	960	595	62%
		Application Site	10 - 25				787	82%
	PM	Sheung Shui	20 - 25				677	71%
		Application Site	20 - 25				581	61%
KMB 79K	AM	Sheung Shui	15 - 30	8 – 10	7	840	702	84%
		Ta Kwu Ling	30				568	68%
	PM	Sheung Shui	25 - 30				577	69%
		Ta Kwu Ling	25 - 30				612	73%
MKT1	AM	Another District	-	15	4	480	313	65%
		Application Site					370	77%
	PM	Another District					370	77%
		Application Site					313	65%

Note:
* Assumed Bus Capacity is 120 passengers per vehicle

Table 4.9.12 Proposed Fleet Size associated with the Bus Enhancement Proposal in Year 2035

Bus Route	(A) Proposed Frequency during peak hour (mins)	(B) Estimated One-way Traveling Distance under the Proposed Service Extension (km)	(C) Observed Average speed during peak period (km/h)	(D) (=(B)/(C)) Estimated One-way Journey Time (mins)	(E) Estimated Round trip Journey Time* (mins)	(F) (=(E)/(A)) Proposed Fleet Size
KMB 73K	6 – 9	8	12	40	100	12 – 17
KMB 79K	8 – 10	18	13.5	80	180	18 – 23
MKT1	15	To be confirmed in later stage				

Note:
* Including 10 minutes stacking at each terminus for bus cleaning and bus driver resting

4.9.18 With the proposed bus enhancement of KMB 73K and 79K, as well as proposed cross-district bus route MKT1, it is anticipated that there would be sufficient spare capacities to accommodate the additional passenger demand induced by the Indicative Scheme during morning and evening peak period in year 2035. The associated bus trips have also been distributed into the road network and incorporated into the traffic forecast.

4.9.19 Besides, it is proposed to provide transport interchange with 1 no. bus drop-off bay, 4 nos. bus pick-up bays and 12 nos. stacking bays for the proposed existing bus service enhancement underneath the R&D Centre 2, together with a GMB stand to accommodate 3 nos. minibus and 2 nos. taxi stands to accommodate 5 nos. NT taxi and 5 nos. urban taxi in accordance with TPDM requirement, as illustrated in **Figure 4.20**.

4.9.20 Charging-enabling facilities for each bus bay (2.5m(L) × 1.5m(W) × 2.6m(H)) and 4 nos. taxi (2 nos. NT taxi & 2 no. urban taxi, 2.5m(L) × 1.5m(W)) in accordance with EPD requirement, as well as a 237.5m^2 (47.5m(L) × 5m(W)) integrated structure of staff ancillary facilities for bus operators and passenger facilities such as kiosks and toilets in accordance with TPDM requirement has also been incorporated in the proposed transport interchange.

4.9.21 Furthermore, two sets of en-route bus stops would be provided outside the Residential Area and Data Centre in order to enhance the efficiency of the proposed feeder services and long-haul services. It is hence anticipated that the accessibility of the Indicative Scheme is considered acceptable, and the Indicative Scheme would not impose adverse impact to existing PT services.

4.9.22 On the other hand, in the consideration of introducing taxi fleet and riding-hailing services by the Government recently, the open space between exit lane of the proposed transport interchange and R&D 3 has been reserved for a pick-up / drop-off layby with approx. 32m long for the fleet taxi and riding-hailing vehicles as illustrated in **Figure 4.20**, subject to the actual demand after population intake of the Indicative Scheme.

4.9.23 The swept path analysis of 12.8m long bus manoeuvring along the proposed signalized junction of Lin Ma Hang Road / Proposed Access Road is presented from **Figure 3.7** to **Figure 3.9**, while the swept path analysis of 12.8m long bus manoeuvring between the proposed transport interchange and the en-route bus stops is presented in **Figure 4.21.**

4.9.24 On the other hand, the swept path analysis of 12.8m long bus manoeuvring along each bus bay and stacking bay is presented from **Figure 4.22** to **Figure 4.27**, the swept path analysis of 7.73m long minibus manoeuvring along the GMB stand is presented in **Figure 4.28**, and the swept path analysis of 5m long taxi manoeuvring along the taxi stands is presented in **Figure 4.29**.

4.10 Railway Assessment

4.10.1 According to "Replies to initial questions raised by Legislative Council Members in examining the Estimates of Expenditure 2026-27" Reply Serial No. TLB187[1], the highest passenger loading of a railway line usually occurs during the morning peak hours, while the peak loading in the evening peak period is usually lower as the travelling pattern of passengers is relatively more dispersed. As such, when evaluating the most crowded scenario and the service demand for individual railway lines, the MTR Corporation Limited (MTRCL) will mainly base on the passenger loading during the morning peak hours.

[1] Source: Replies to initial questions raised by Legislative Council Members in examining the Estimates 2026-27, Transport and Logistics Bureau (https://www.legco.gov.hk/yr2026/english/fc/fc/w_q/tlb-e.pdf)

4.10.2 According to the aforementioned Reply Serial No. TLB187, the record patronage of East Rail Line (EAL) on the critical link (Tai Wai to Kowloon Tong) during the busiest one hour in the morning, per direction, was 44,400 passengers in Year 2025.

4.10.3 Similar to franchised buses, it is considered that the usage of EAL is hugely related to planned population and employment within its catchment area, hence the same growth factors (i.e. +3.95% p.a. for years from 2025 to 2032 and +0.52% p.a. for years from 2032 to 2035), as discussed in **Section 4.9.10** and **Section 4.9.11**, would be applied to the Year 2025 recorded patronage to forecast railway demand in Design Year 2035 for conservative assessment purpose.

4.10.4 The forecasted morning peak hourly patronage for the EAL critical link in 2035 would be $44{,}400 \times (1+3.95\%)^{(2032-2025)} \times (1+0.52\%)^{(2035-2032)} = 59{,}100$ passengers.

4.10.5 According to the aforementioned Reply Serial No. TLB187, the existing carrying capacity of EAL during peak period is 62,500 passengers per hour per direction, which is based on 6 persons (standing) per square metre (ppsm). The capacity of trains is 2,845 at 6 ppsm and 2,061 at 4 ppsm, which indicates that the carrying capacity at 4 ppsm is 72.4% of that at 6 ppsm, i.e., 62,500 × 72.4% = 45,275. For conservative approach, carrying capacity under 4 ppsm would be adopted. Provided that the forecast 2035 peak-hour demand (59,100 passengers) would exceed the existing carrying capacity at 4 ppsm (45,275 passengers), it is anticipated that the EAL would be overloaded already, regardless of the additional population intake from the Indicative Scheme. Hence, enhancement of train frequency would be required.

4.10.6 According to the same Reply Serial No. TLB187, when train frequency is maximised, the maximum hourly carrying capacity of EAL would increase to 82,500 at 6 ppsm, which is equivalent to 82,500 × 72.4% = 59,765 for 4 ppsm. The corresponding usage during morning peak hour in 2035 would be 59,100 / 59,765 = 98.89%, which indicates that there would still be ample capacity of 1 – 98.89% = 1.11% under maximum train frequency operation for 4 ppsm.

4.10.7 As derived in **Table 4.9.4**, the anticipated additional EAL passenger generated by the Indicative Scheme would be 622 residents towards Admiralty bound per hour, which is equivalent to about 1.04% (622 / 59,765) of the maximum carrying capacity. With the identified ample capacity for EAL of 1.11% during morning peak hour, it can be concluded that the MTR passenger demand induced by the Indicative Scheme could be properly catered by EAL under maximum carrying capacity and thus no adverse railway impact would be induced by the Indicative Scheme. The actual frequency enhancement may not be necessary to reach the maximum carrying capacity, subjected to the future operational need.

5 CONCLUSION

5.1 Summary

5.1.1 The Application Site is located in Zone with major part in Agriculture ("AGR"), and minor parts in Green Belt ("GB"), Government, Institution or Community ("G/IC") at Various Lots in D.D.82 & D.D.86, Man Kam To, New Territories.

5.1.2 The Applicant proposes amendments to rezone the Application Site with a sizeable site area of about 125,863m^2 (Development site area of about 102,461m^2) into an Innovation and Technology Hub with Ancillary Facilities (the "Indicative Scheme"), subject to a non-domestic gross floor area (GFA) of 365,180m^2, which consists of R&D Centre with 268,780m^2 GFA and Data Centre with 86,400m^2 GFA to nurture the development of I&T industry, as well as a Commercial Centre with 9,276m^2 to support the daily needs of the working and living population. A kindergarten of 724m^2 will be provided on the ground floor of Ancillary Dormitories. In addition, there will be a domestic GFA of 138,450m^2, which consists of 5 nos. Private Residential Blocks providing a total of 1,618 units together with a 2,982m^2 Clubhouse, and Ancillary Dormitories with 63,900m^2 which provide 1,392 units for the working population of R&D Centre.

5.1.3 A Traffic Impact Assessment (TIA) study was carried out to evaluate the likely traffic impact associated with the Indicative Scheme, in support of the S12A planning application for proposed amendment of plan.

5.1.4 This TIA is to examine the impact of traffic induced by the Indicative Scheme on the existing and planned road networks, in particular with respect to the performances of the affected junctions in the vicinity; and present the findings on related traffic and transport issues. Any deficiency would be identified, and improvement proposal would be recommended as necessary to resolve any foreseeable problem from the deficiencies.

5.1.5 The proposed provision of internal transport facilities for the subject development is in full compliance with the HKPSG and TD Circular No. 6/2012 requirements, as well as with reference to project with similar use. The proposed internal transport facilities will be provided on ground floor and basement parking floors.

5.1.6 In order to assess the future traffic impacts associated with the Proposed Development in year 2035, two levels of transport models are adopted, with the Strategic Transport Model (STM) as the upper tier and the Local Area Traffic Model (LATM) as the lower tier. The STM is a link-based transport model which produces transport demand forecasts at strategic and inter-district levels, while the LATM is a junction-based assignment model which stimulates the local area traffic demand at intra-district level based on the latest available 2019-based Base District Traffic Model (BDTM) (2024 update). The LATM has been further validated to latest traffic condition based on the 2026 observed peak hour traffic on identified key junctions and road links, taking into account the latest traffic aids, junction layouts and method of control in the study area.

5.1.7 Traffic impact assessment scenarios were set up to evaluate the associated traffic impact likely to be induced by the Indicative Scheme. **Scenario 1** is the Reference Scenario (without the Indicative Scheme) in Year 2035. **Scenario 2** is the Design Scenario (with the Indicative Scheme) in 2035.

5.1.8 The junction assessment results revealed that all identified key junctions would operate within capacity with the Indicative Scheme in Year 2035, except J1 – Lin Ma Hang Road / Man Kam To Road, J2 – Lin Ma Hang Road/ Ping Che Road, J13 – Po Shek Wu Road/ Po Wan Road, and J23 – San Wan Road / Fanling Station Road.

5.1.9 Although the junction capacity assessment result indicates that J9 would operate within capacity with the Indicative Scheme in Year 2035, currently traffic congestion occurs occasionally at J9 during peak hours due to the short distance between J9 and the signalised junction downstream JA (Junction of Man Kam To Road / Access Road to Open Storage Site No.7).

5.1.10 With the proposed junction improvement at J1, J2, J13 and J23 and JA, it is anticipated that the implication to the road network with the Indicative Scheme would be minimal.

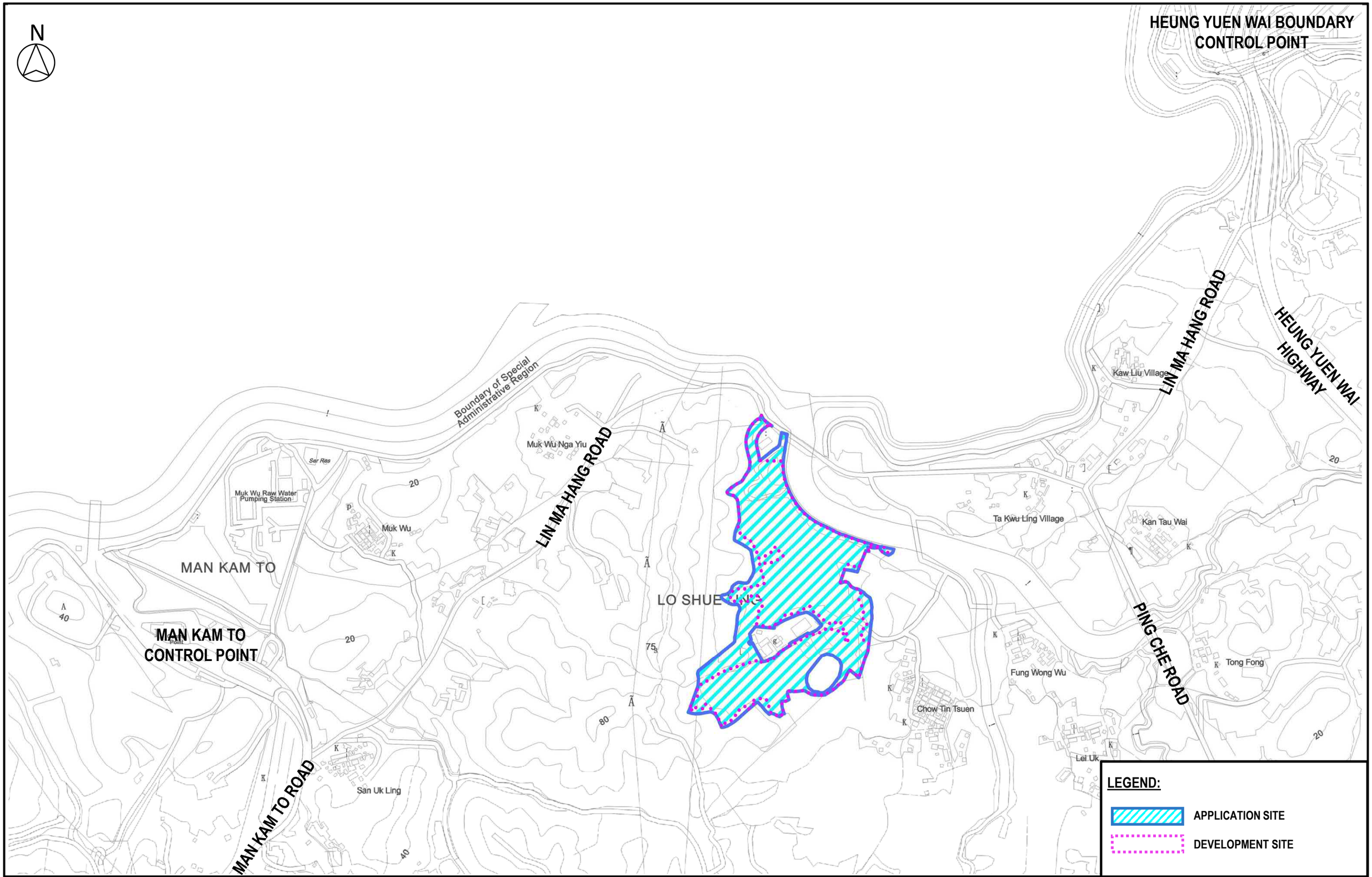
5.1.11 The road link assessment results revealed that all identified key road links assessed will be performing satisfactorily with spare capacity in both Reference and Design scenarios in Year 2035.

5.1.12 The Applicant proposes to enhance the existing bus services of KMB 73K and 79K by employing double-decked bus instead of single-decked bus for KMB 73K and increasing the frequency for both KMB 73K and 79K, as well as introduce a new cross-district franchised bus route (tentatively named MKT1) during morning and evening peak period, together with transport interchange with 1 no. bus drop-off bay, 4 nos. bus pick-up bays and 12 nos. stacking bays as well as 1 no. GMB stand and 2 nos. taxi stands underneath the R&D Centre 2, and two sets of en-route bus stops outside Residential Area and Data Centre in order to enhance the efficiency of the proposed existing bus service enhancement. It is hence anticipated that the accessibility of the Indicative Scheme is considered acceptable, and the Indicative Scheme would not impose adverse impact to existing PT services.

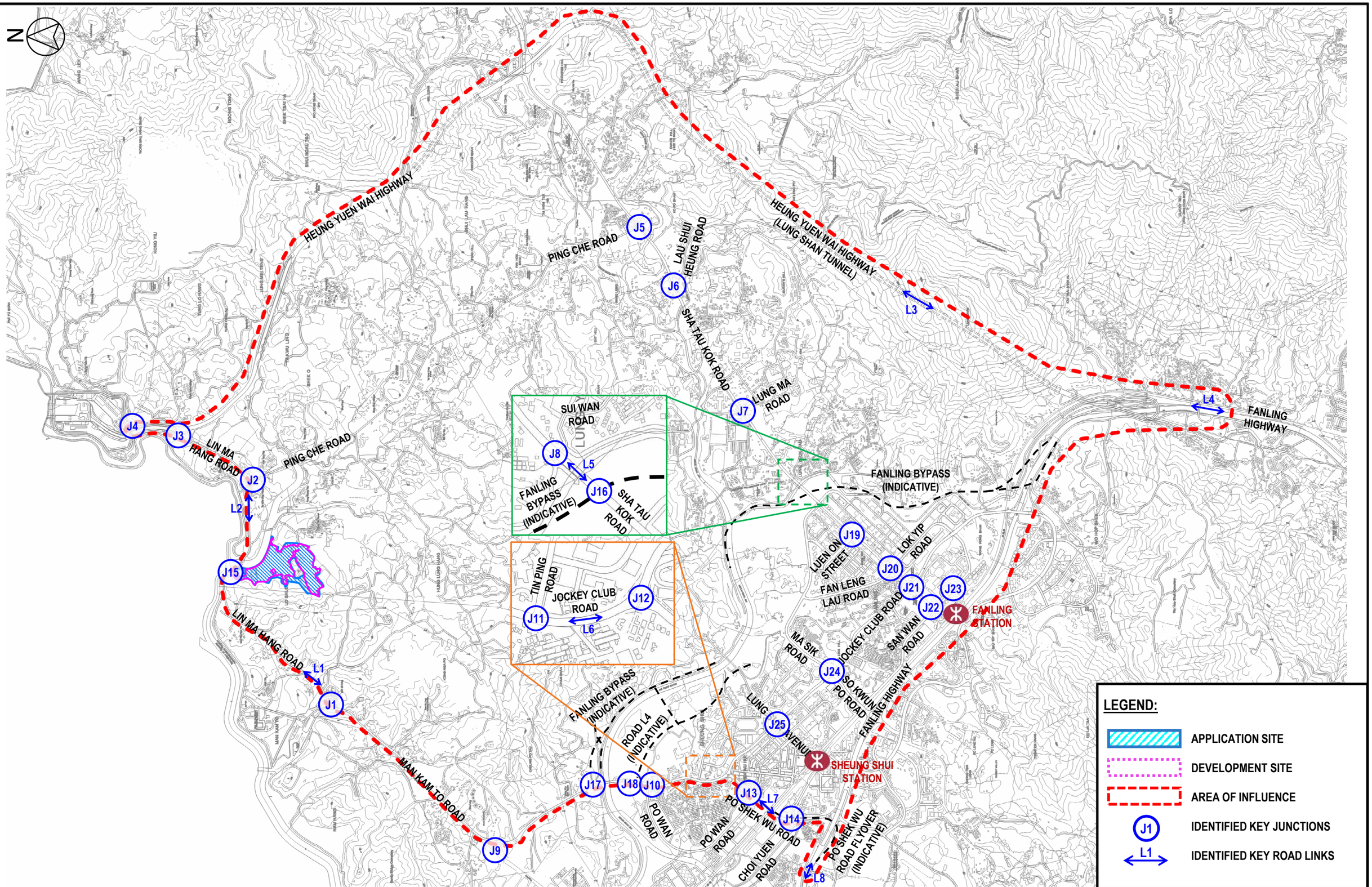
5.2 Conclusion

5.2.1 It could be concluded that the Indicative Scheme will not impose adverse traffic impact on the surrounding road network, and thus is feasible from the traffic engineering point of view.

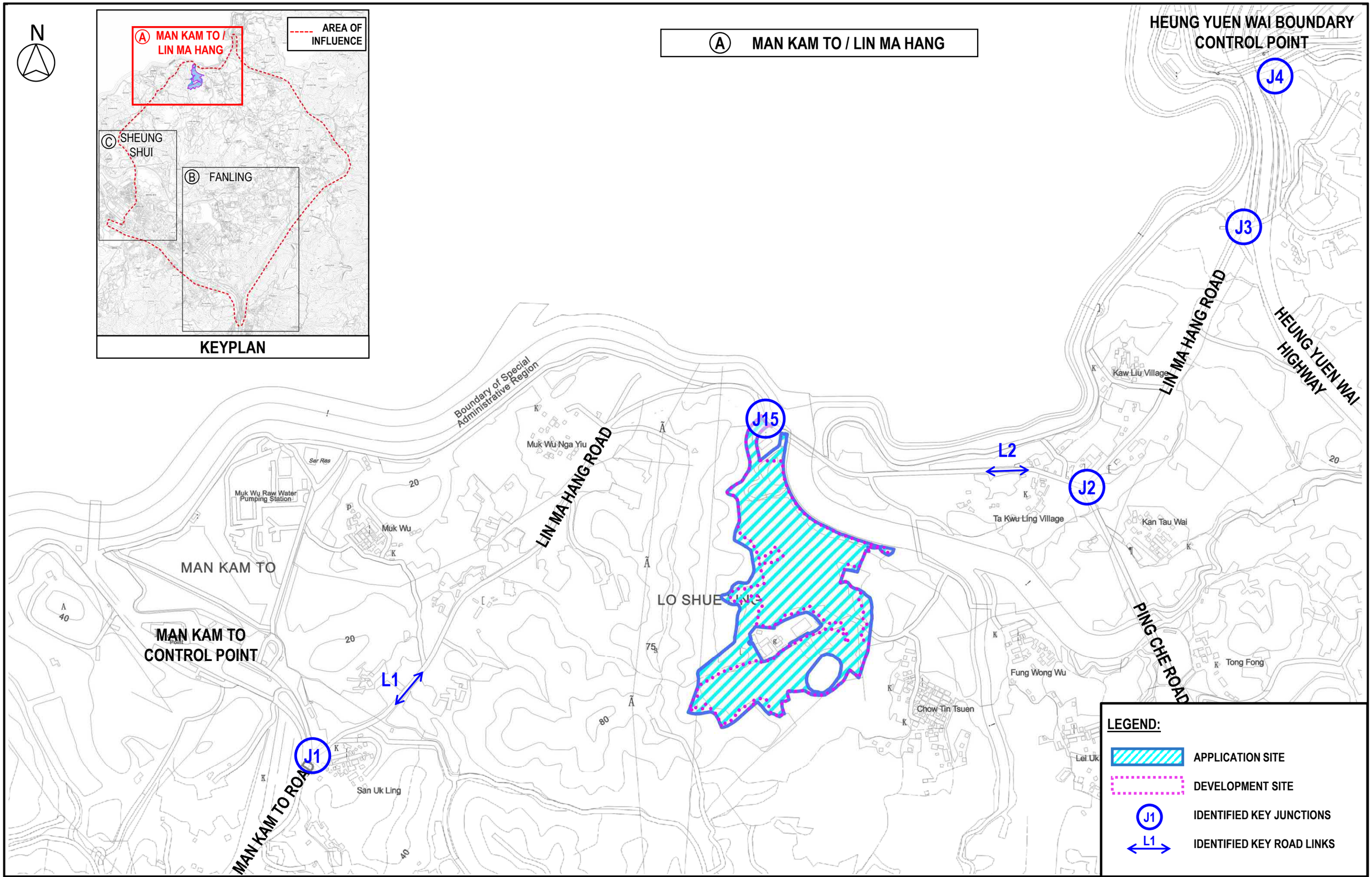
Figures



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 1.1
Date: JULY 26	Scale: NTS	Drawing Title: LOCATION OF APPLICATION SITE
Drawn: CKTY	Job No.: 287082-72	ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 2.1
Date: JULY 26	Scale: NTS	Drawing Title: LOCATION OF IDENTIFIED KEY JUNCTIONS AND ROAD LINKS IN THE VICINITY OF APPLICATION SITE – OVERVIEW
Drawn: CKTY	Job No.: 287082-72	ARUP



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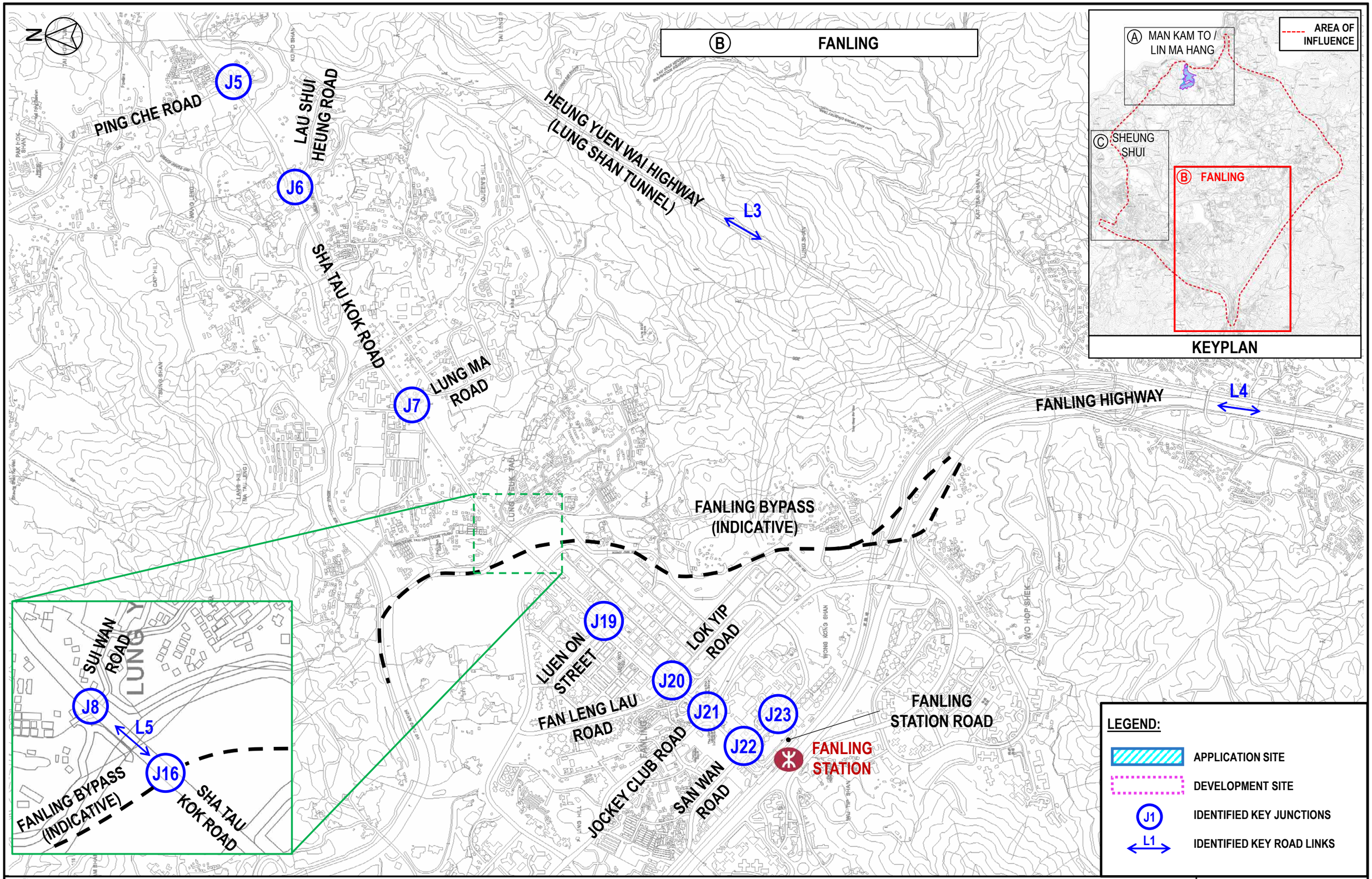
Date: JULY 26	Scale: NTS	Drawing Title: LOCATION OF IDENTIFIED KEY JUNCTIONS AND ROAD LINKS IN THE VICINITY OF APPLICATION SITE – MAN KAM TO / LIN MA HANG AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



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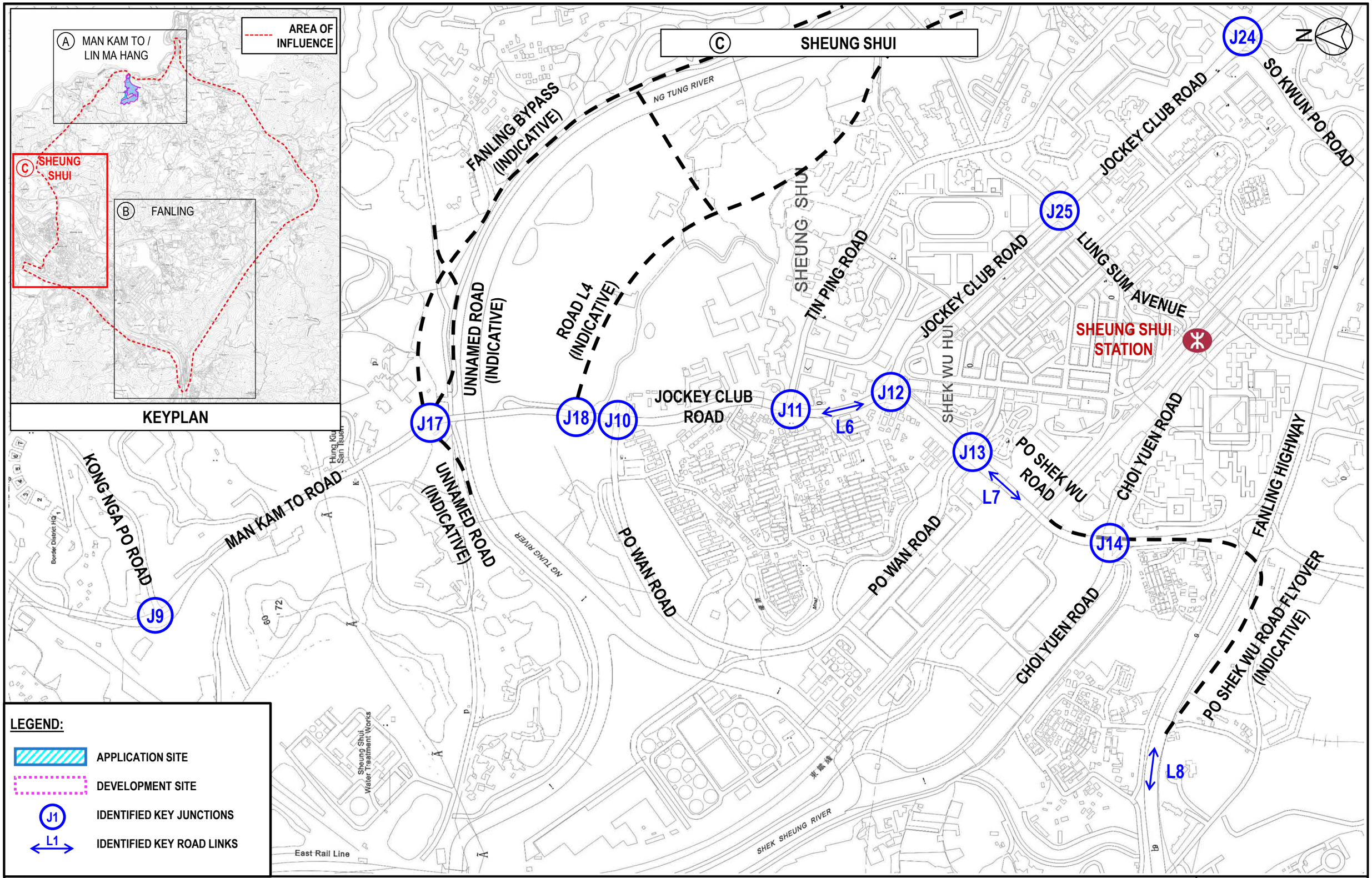
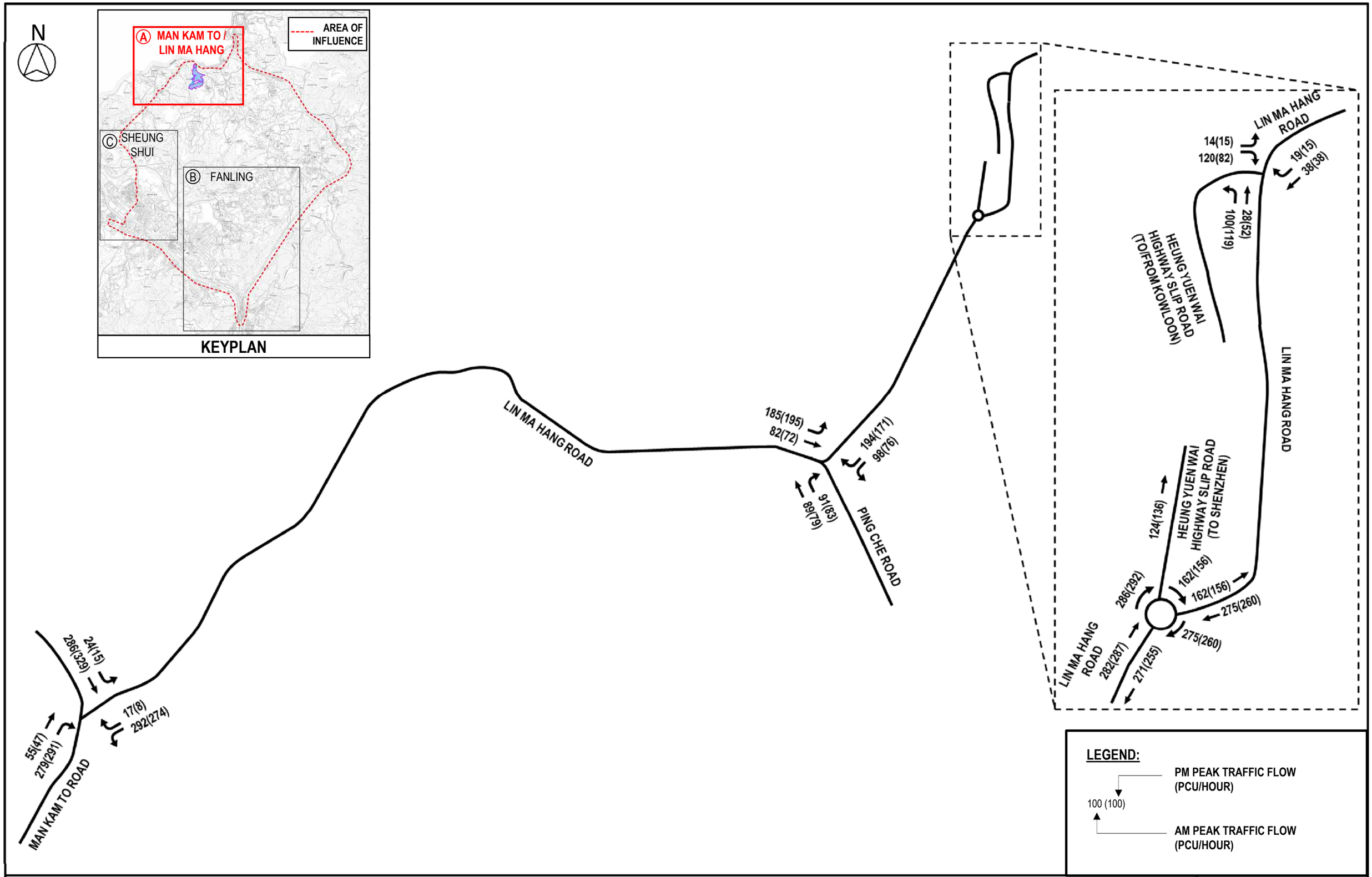
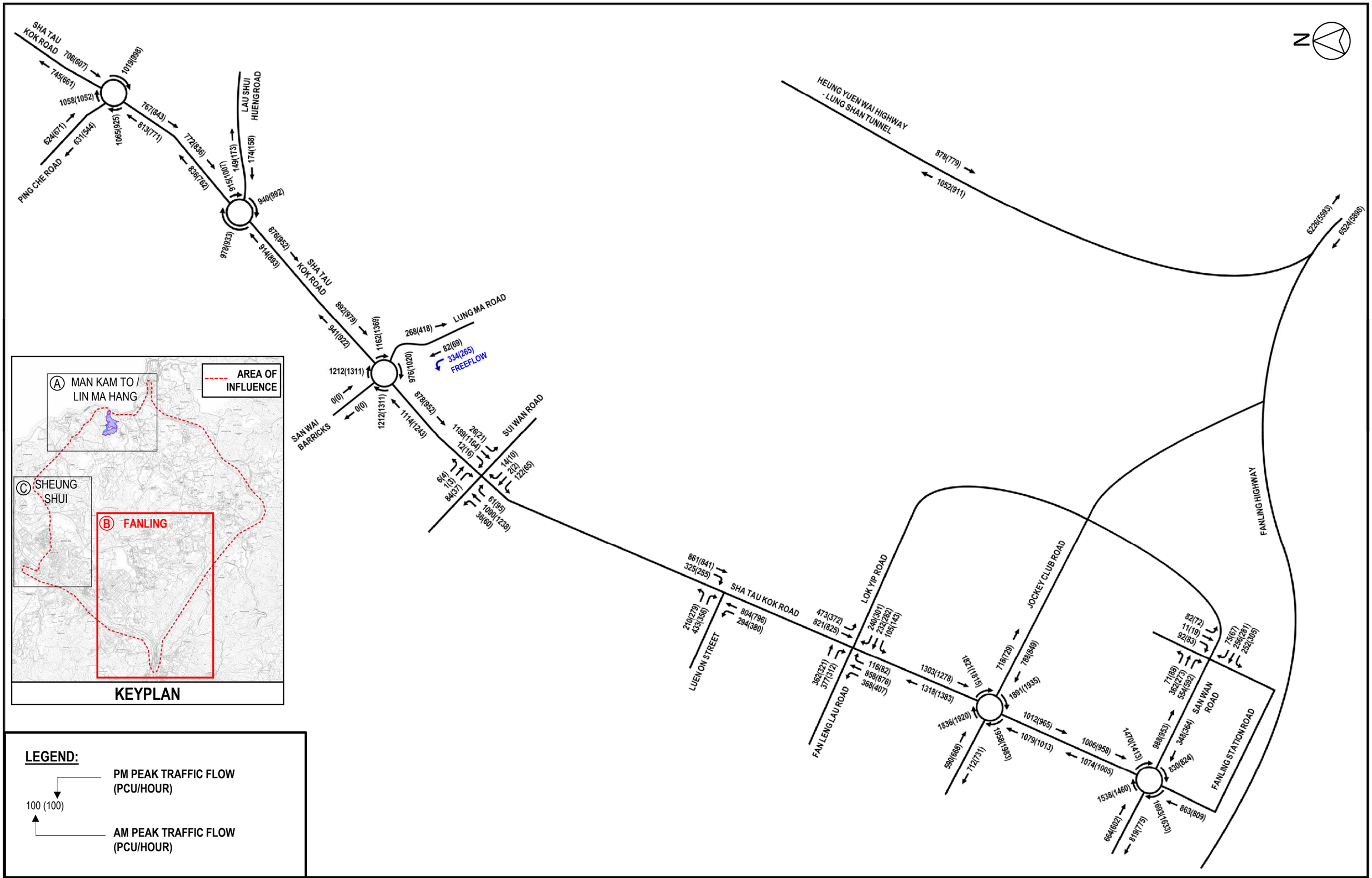
Date: JULY 26	Scale: NTS	Drawing Title: LOCATION OF IDENTIFIED KEY JUNCTIONS AND ROAD LINKS IN THE VICINITY OF APPLICATION SITE – FANLING AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 2.4
Date: JULY 26	Scale: NTS	
Drawn: CKTY	Job No.: 287082-72	
Drawing Title: LOCATION OF IDENTIFIED KEY JUNCTIONS AND ROAD LINKS IN THE VICINITY OF APPLICATION SITE – SHEUNG SHUI AREA		ARUP

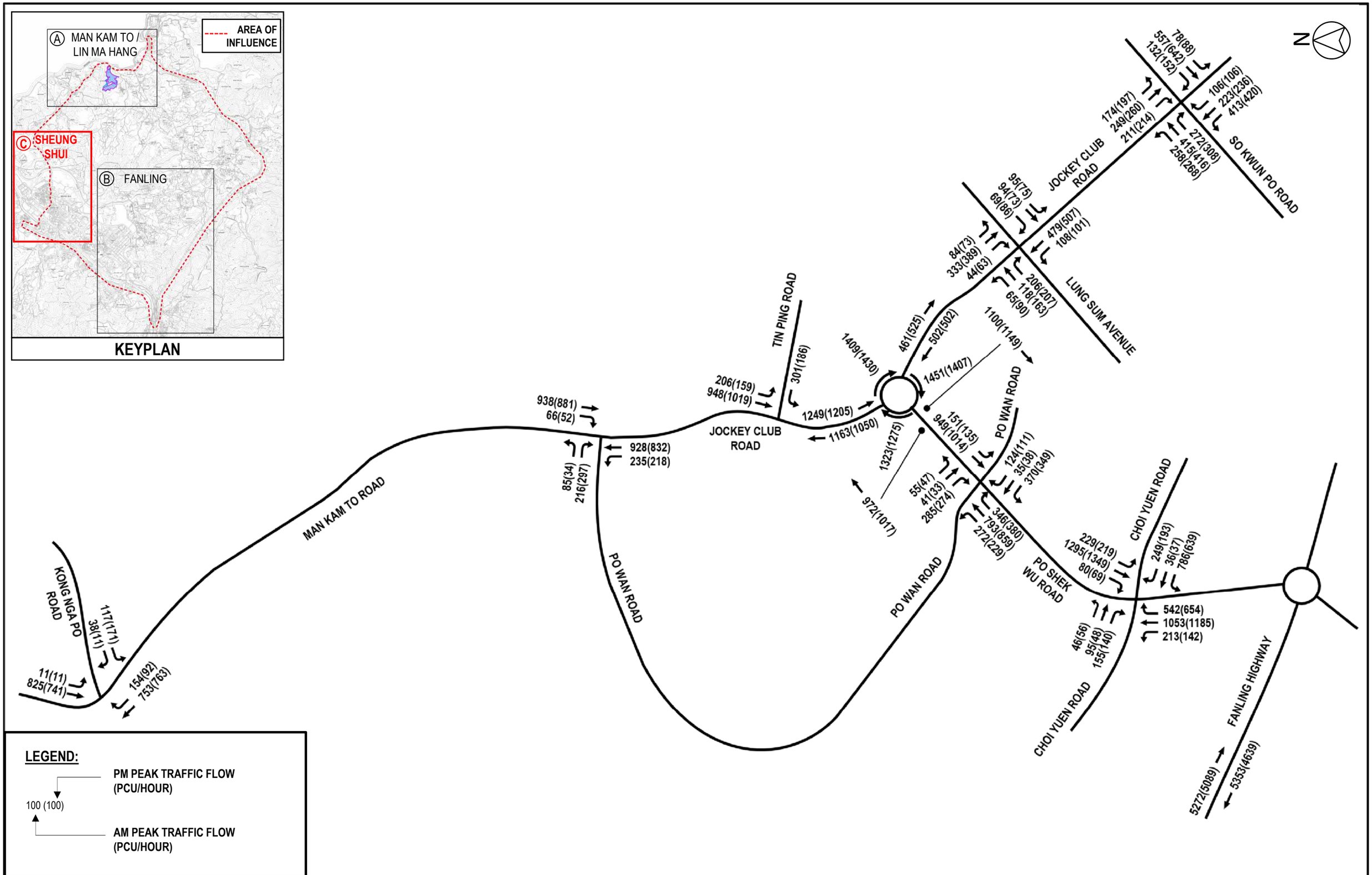


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 2.5
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2026 EXISTING TRAFFIC FLOW – MAN KAM TO / LIN MA HANG AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 2.6
Date: JULY 26	Scale: NTS	
Drawn: CKTY	Job No.: 287082-72	
Drawing Title: YEAR 2026 EXISTING TRAFFIC FLOW – FANLING AREA		ARUP

KEYPLAN



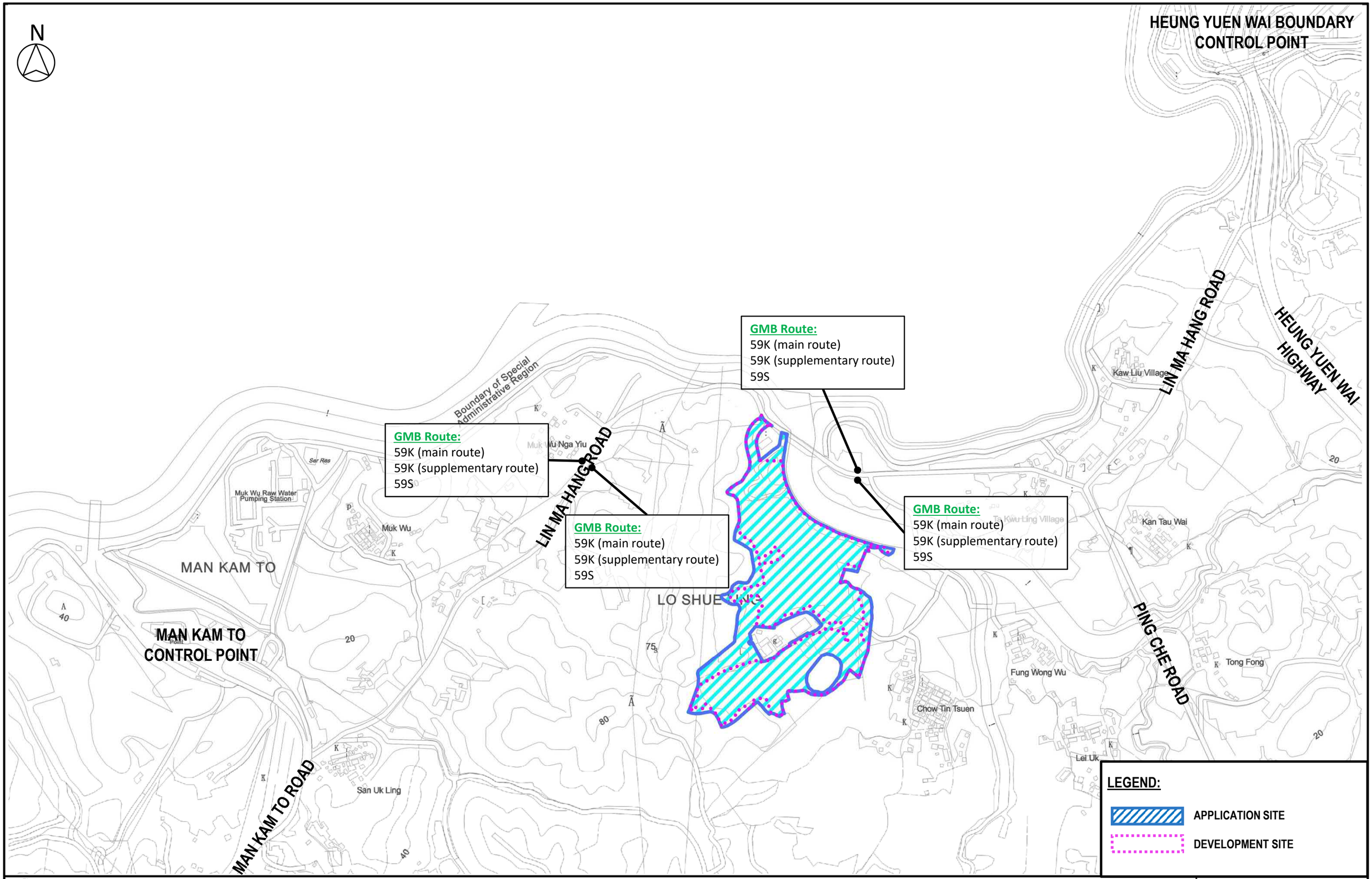
LEGEND:

100 (100)

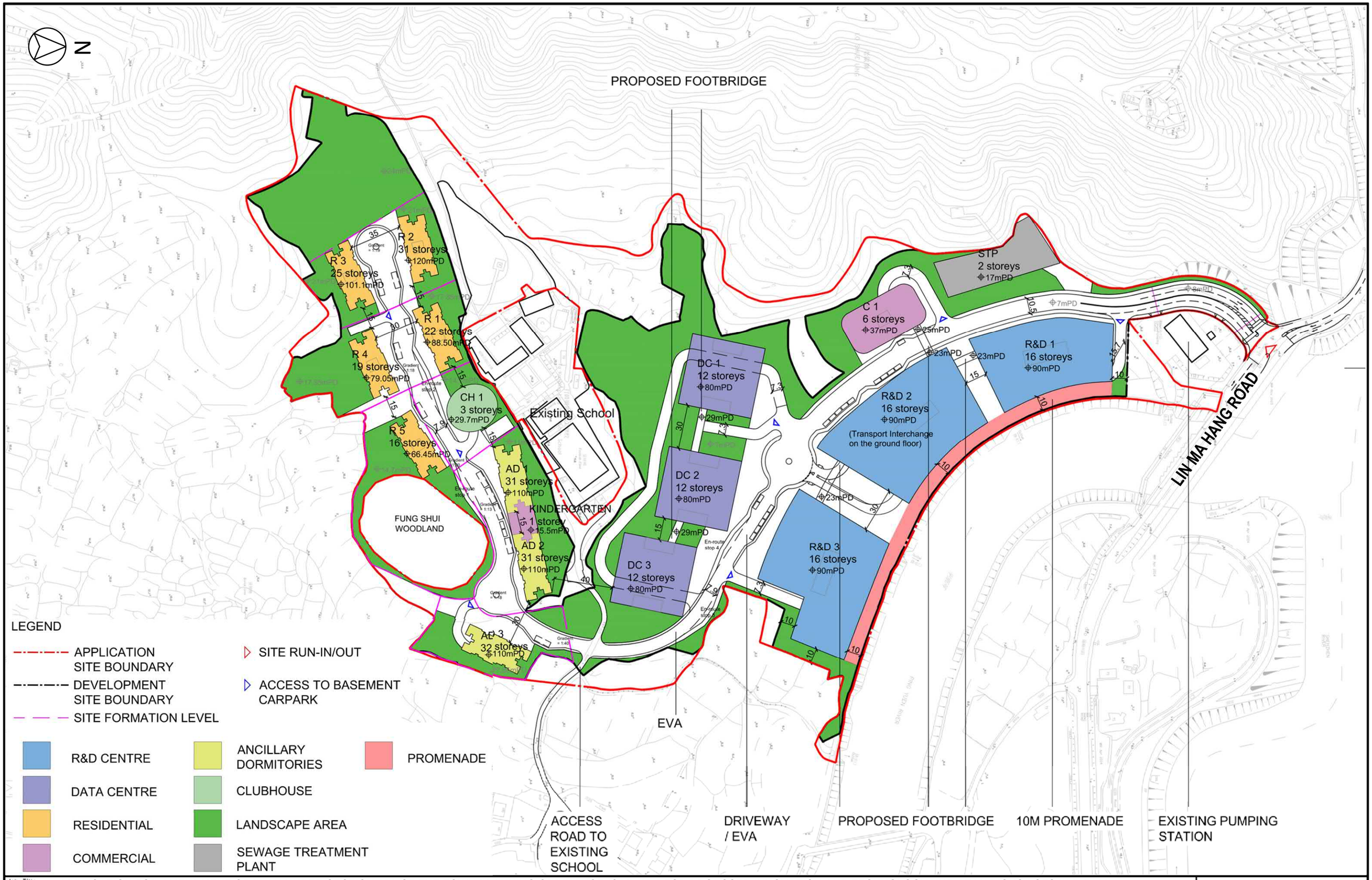
PM PEAK TRAFFIC FLOW (PCU/HOUR)

AM PEAK TRAFFIC FLOW (PCU/HOUR)

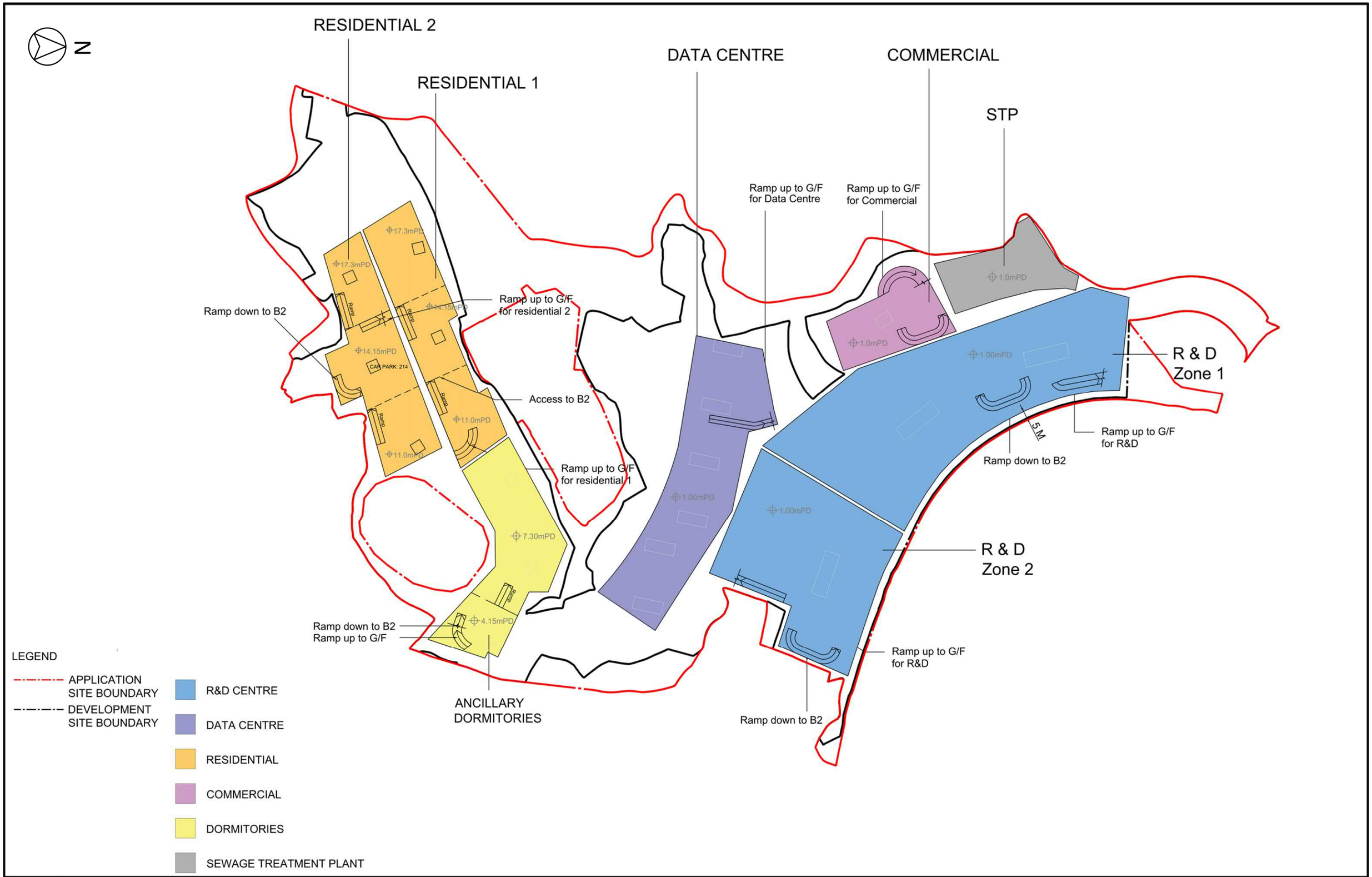
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 2.7
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2026 EXISTING TRAFFIC FLOW – SHEUNG SHUI AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



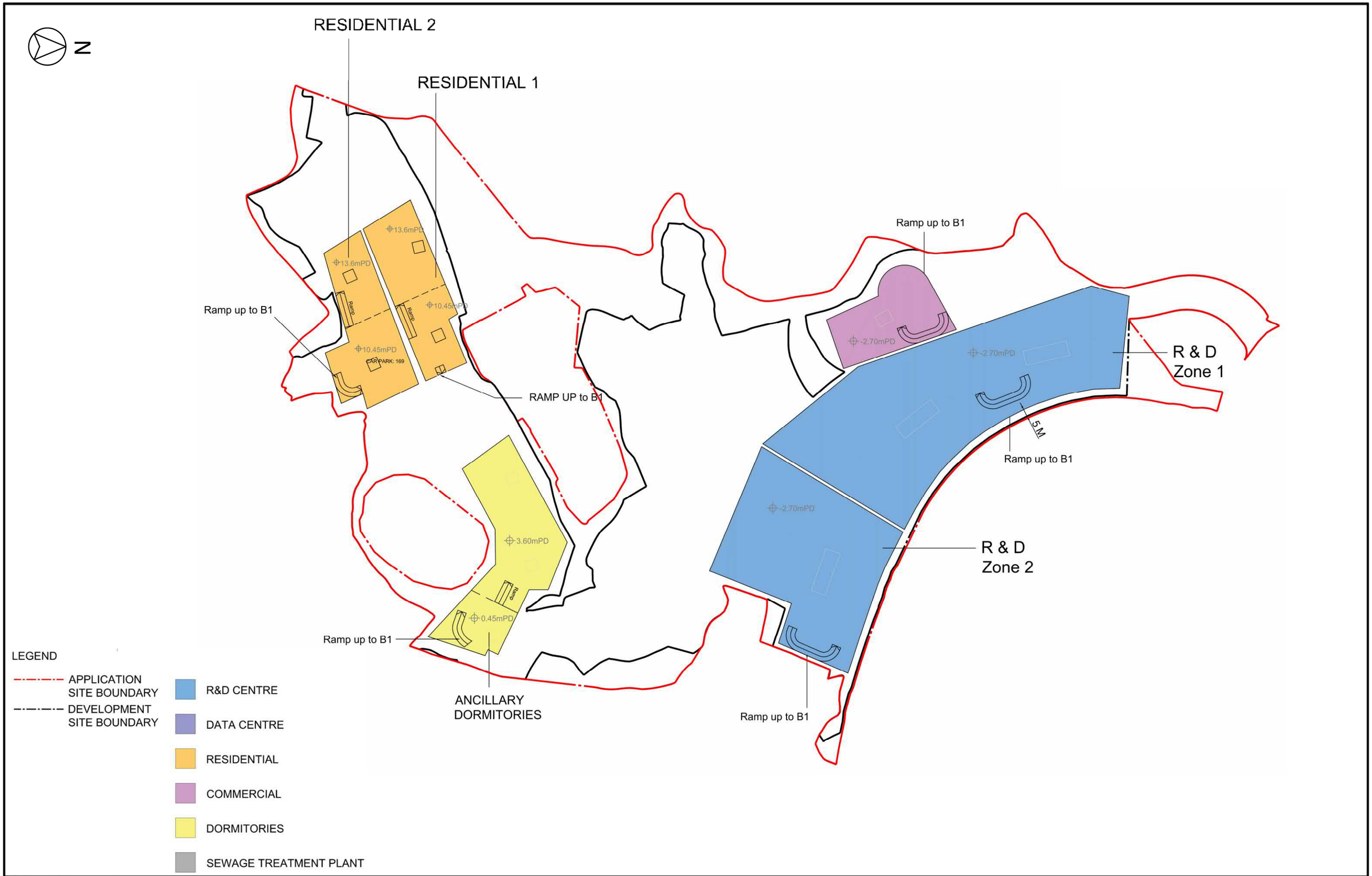
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 2.8
Date: JULY 26	Scale: NTS	Drawing Title: PUBLIC TRANSPORT FACILITIES IN THE VICINITY OF APPLICATION SITE	ARUP
Drawn: CKTY	Job No.: 287082-72		



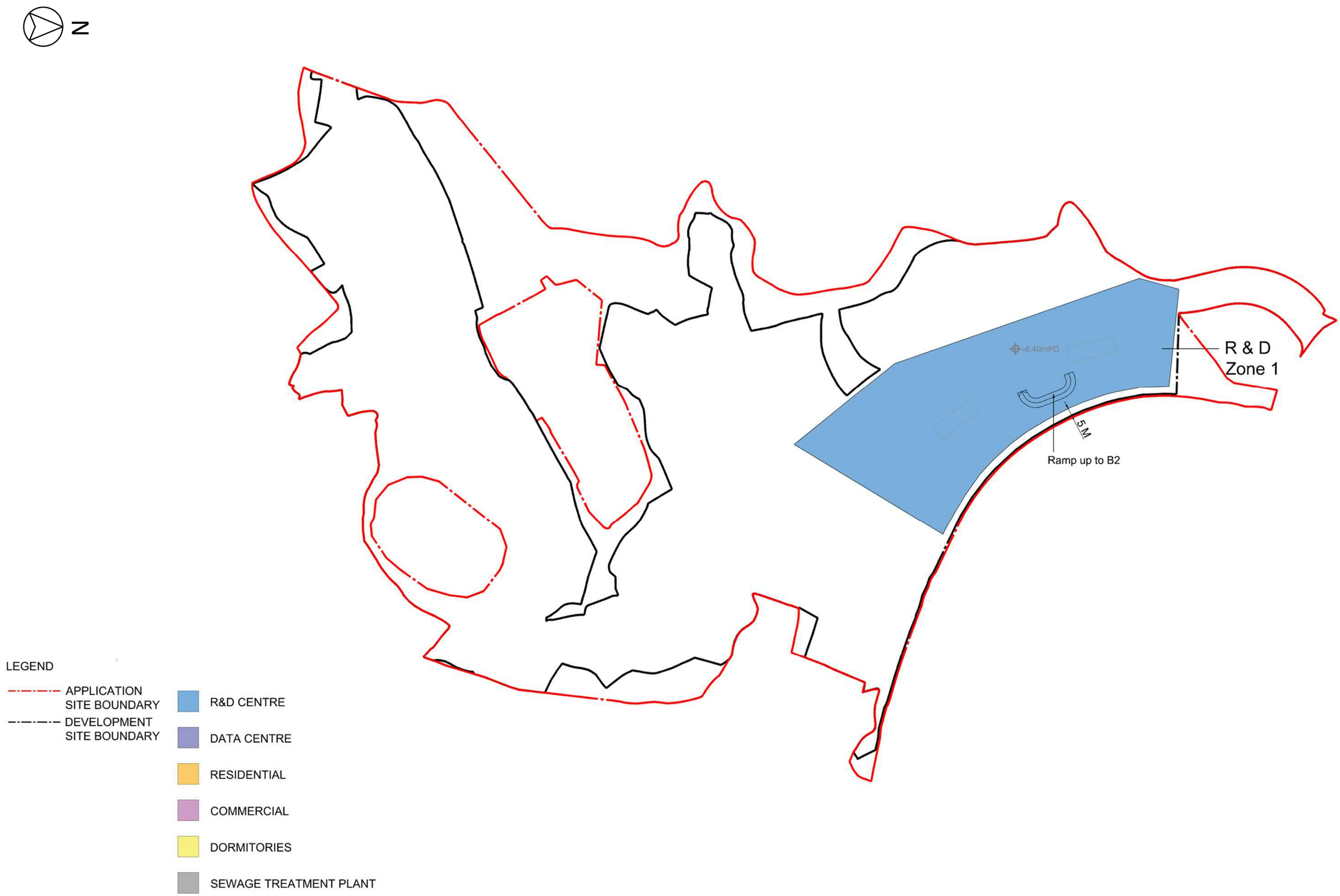
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 3.1
Date: JULY 26 / Scale: NTS	Drawing Title: MASTER LAYOUT PLAN OF INDICATIVE SCHEME	ARUP
Drawn: CKTY / Job No.: 287082-72		



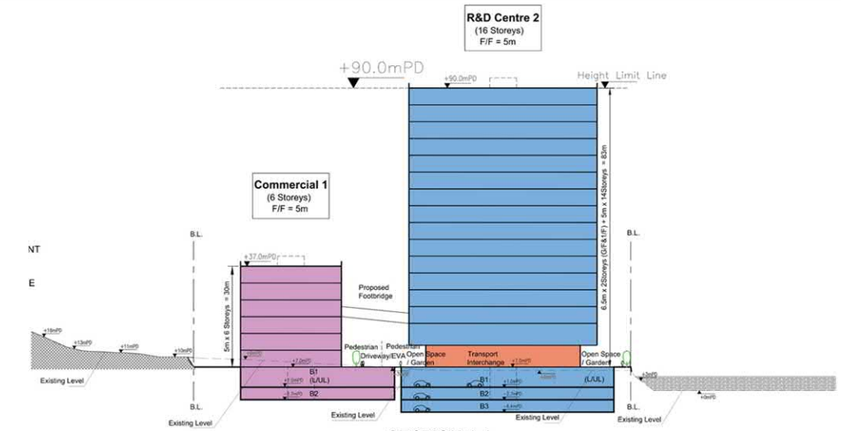
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 3.2
Date: JULY 26	Scale: NTS	Drawing Title: B1 BASEMENT LEVEL PLAN OF INDICATIVE SCHEME
Drawn: CKTY	Job No.: 287082-72	ARUP



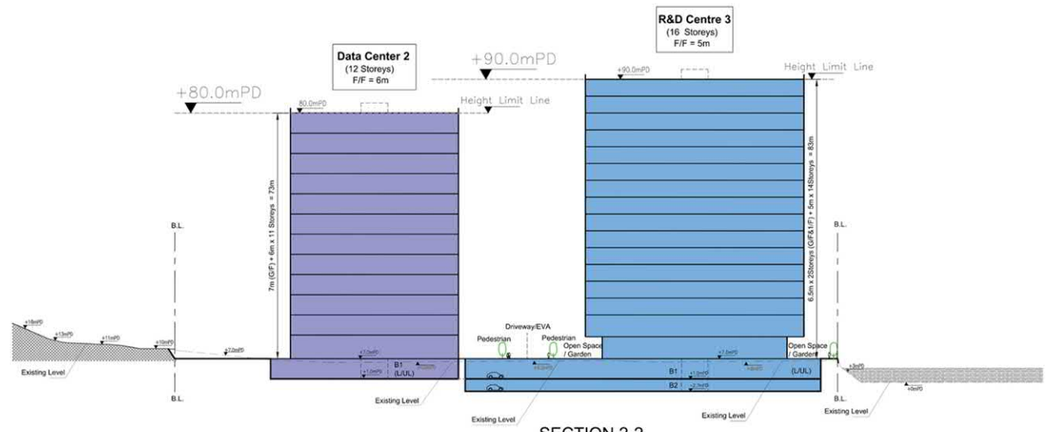
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 3.3
Date: JULY 26	Scale: NTS	Drawing Title: B2 BASEMENT LEVEL PLAN OF INDICATIVE SCHEME
Drawn: CKTY	Job No.: 287082-72	ARUP



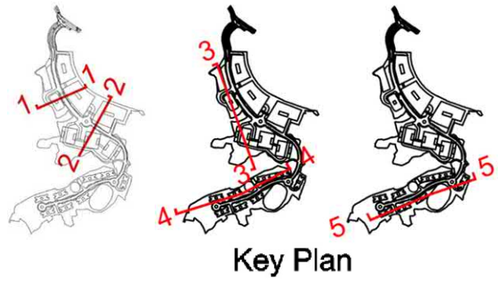
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 3.4
Date: JULY 26	Scale: NTS	Drawing Title: B3 BASEMENT LEVEL PLAN OF INDICATIVE SCHEME
Drawn: CKTY	Job No.: 287082-72	ARUP

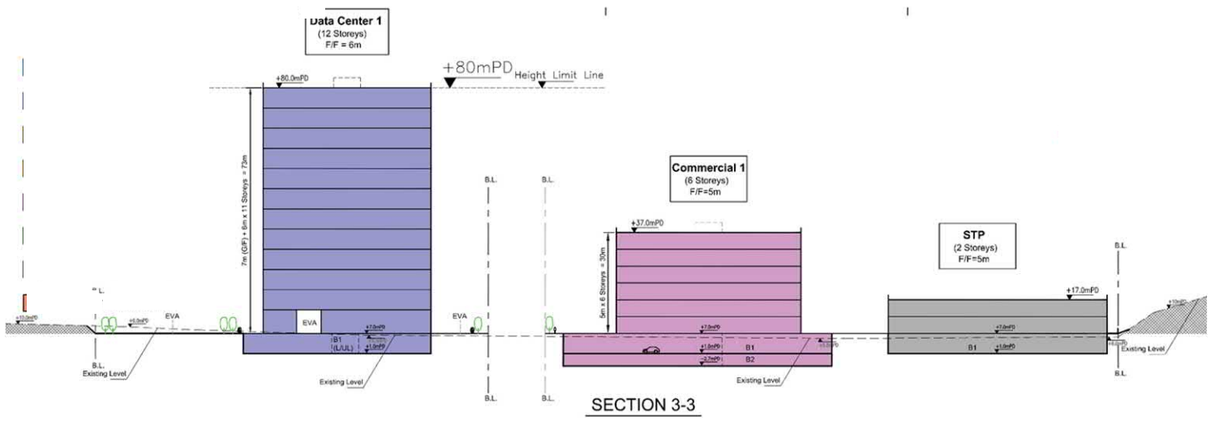


SECTION 1-1

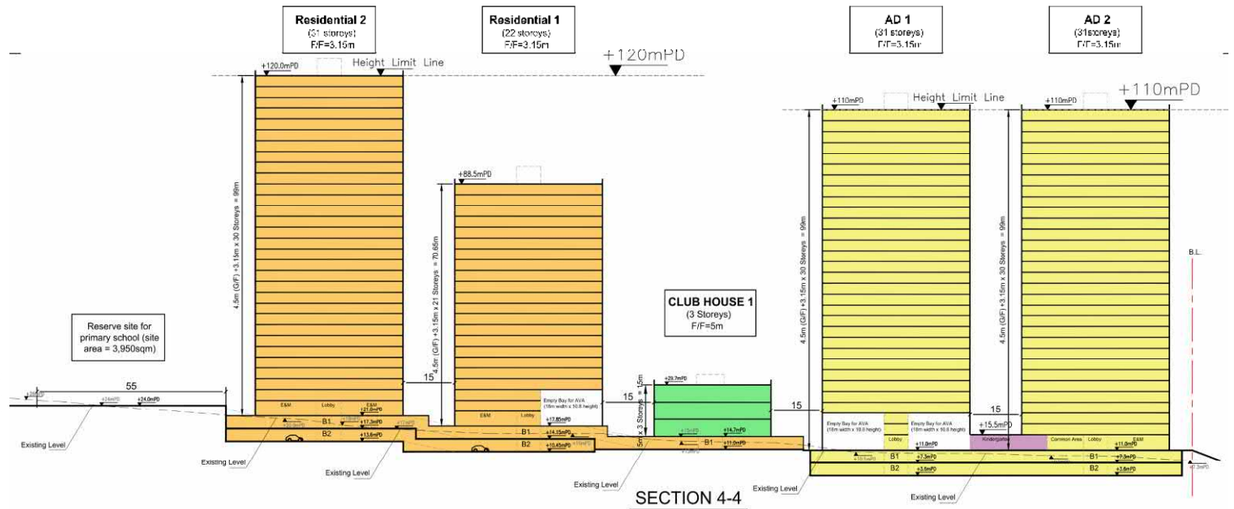


SECTION 2-2

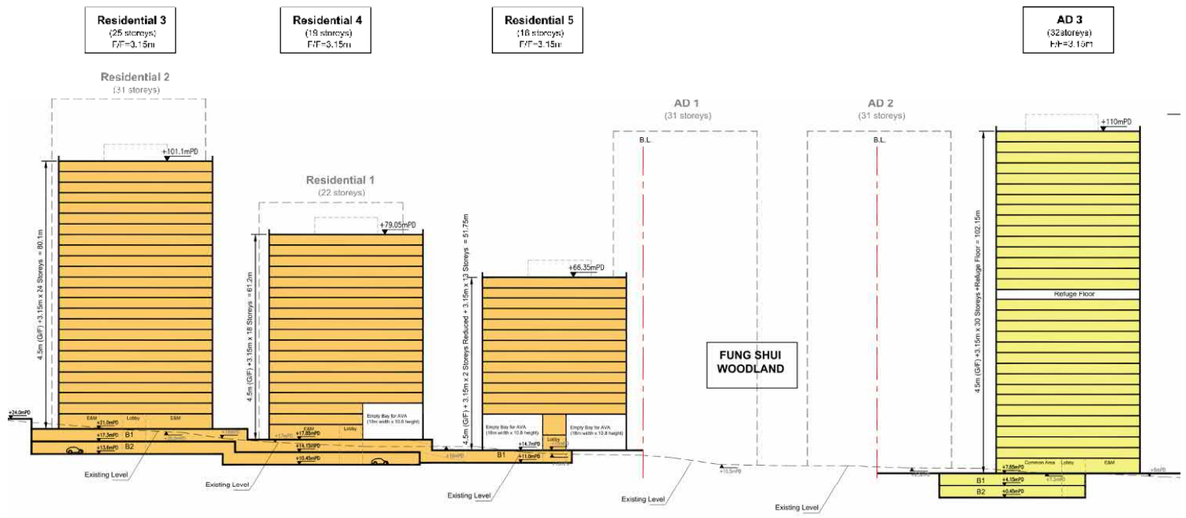




SECTION 3-3



SECTION 4-4

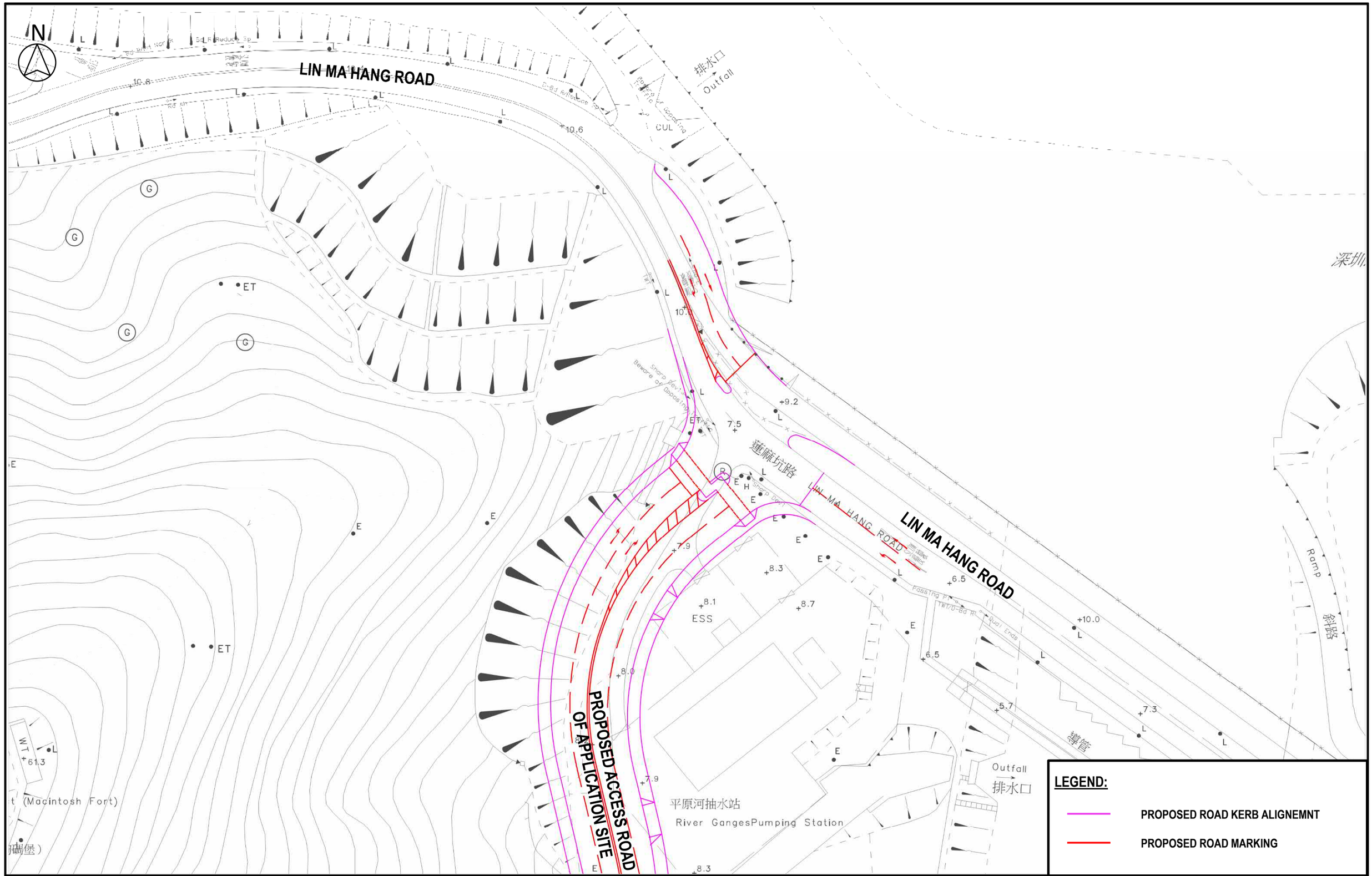


SECTION 5-5

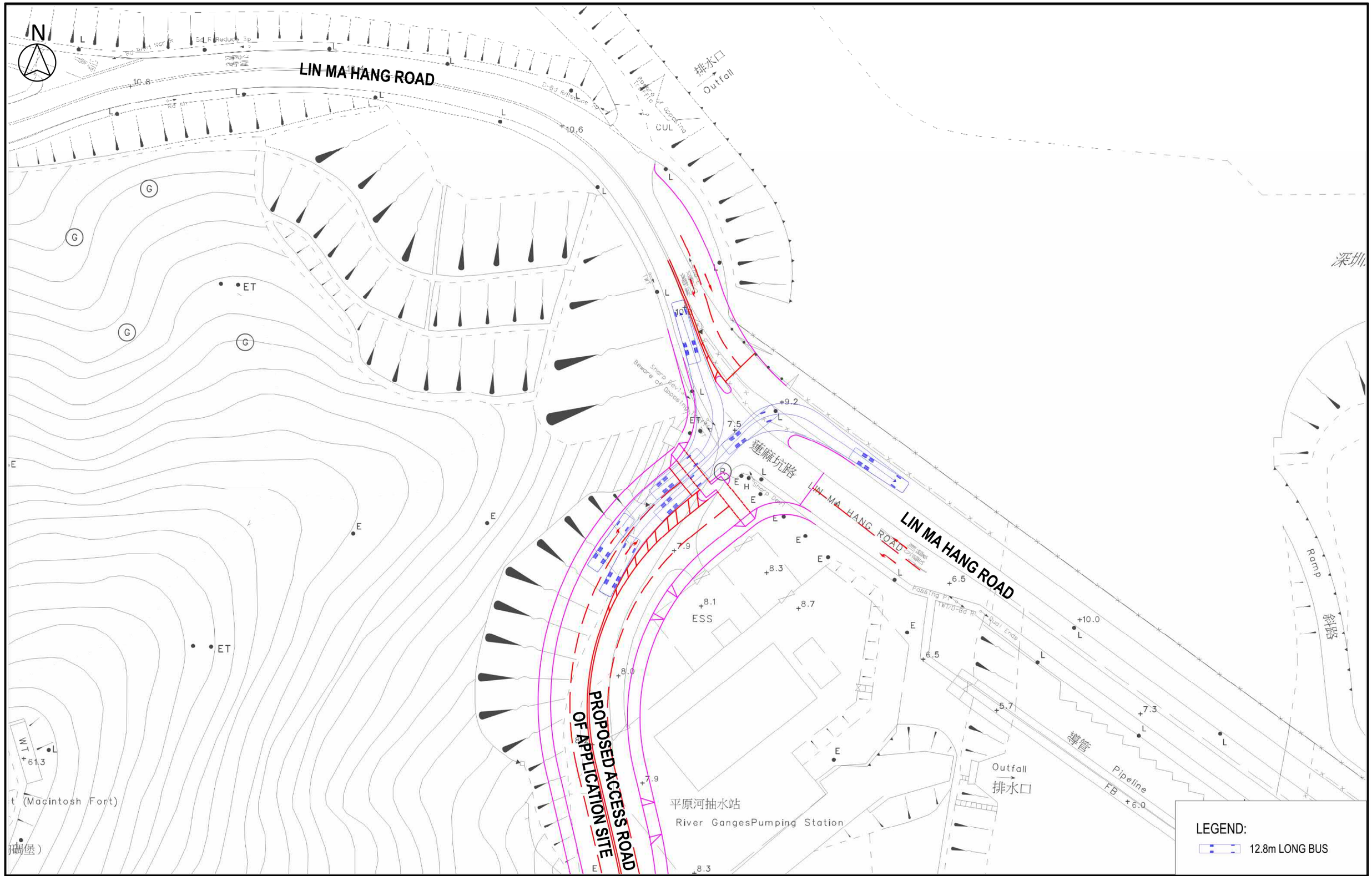
LEGEND

- R&D CENTRE
- DATA CENTRE
- ANCILLARY DORMITORY
- RESIDENTIAL
- COMMERCIAL
- CLUBHOUSE
- SEWAGE TREATMENT PLANT
- TRANSPORT INTERCHANGE

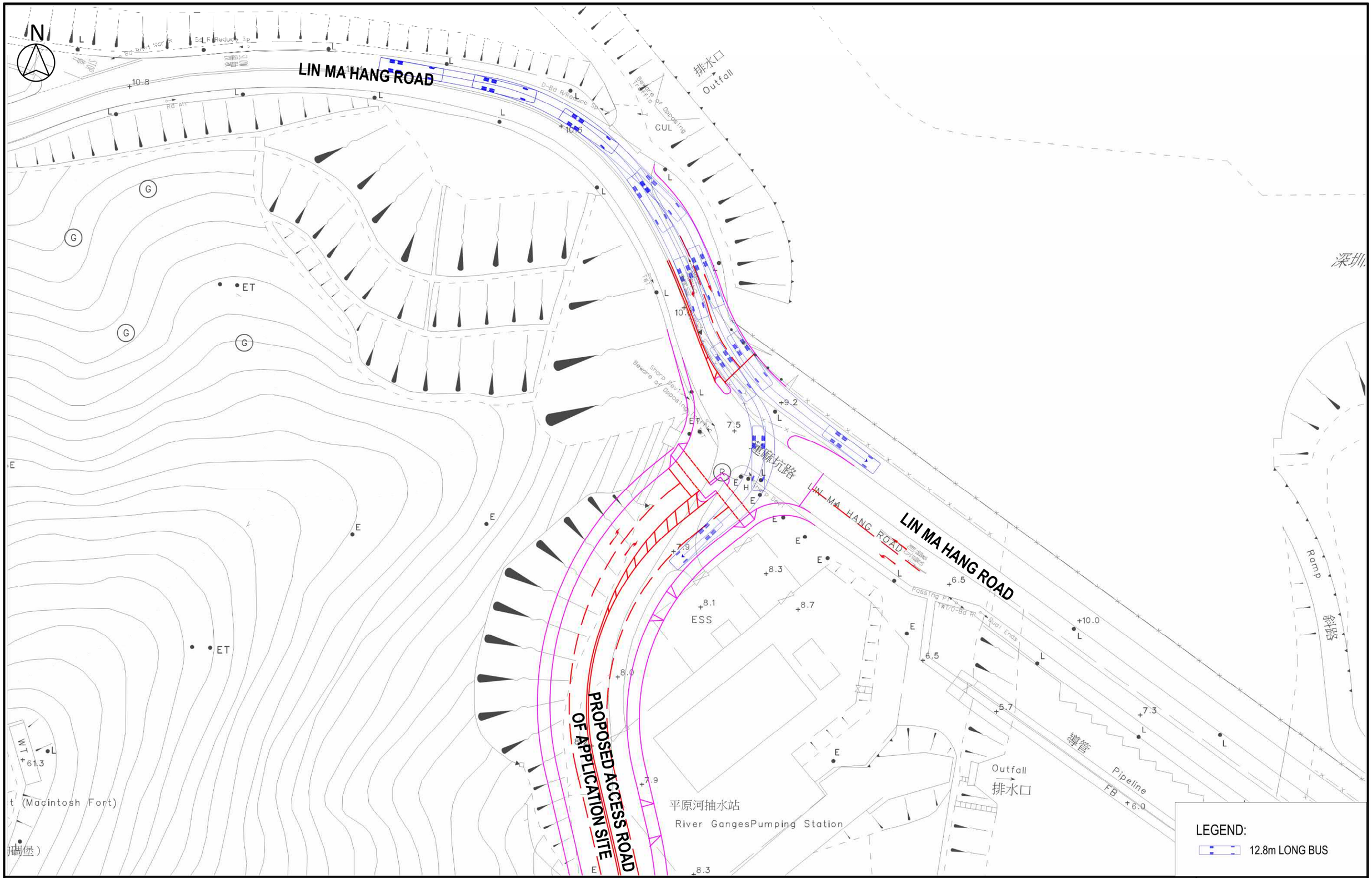
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 3.5
Date: JULY 26	Scale: NTS	Drawing Title: SECTION PLAN OF INDICATIVE SCHEME
Drawn: CKTY	Job No.: 287082-72	ARUP



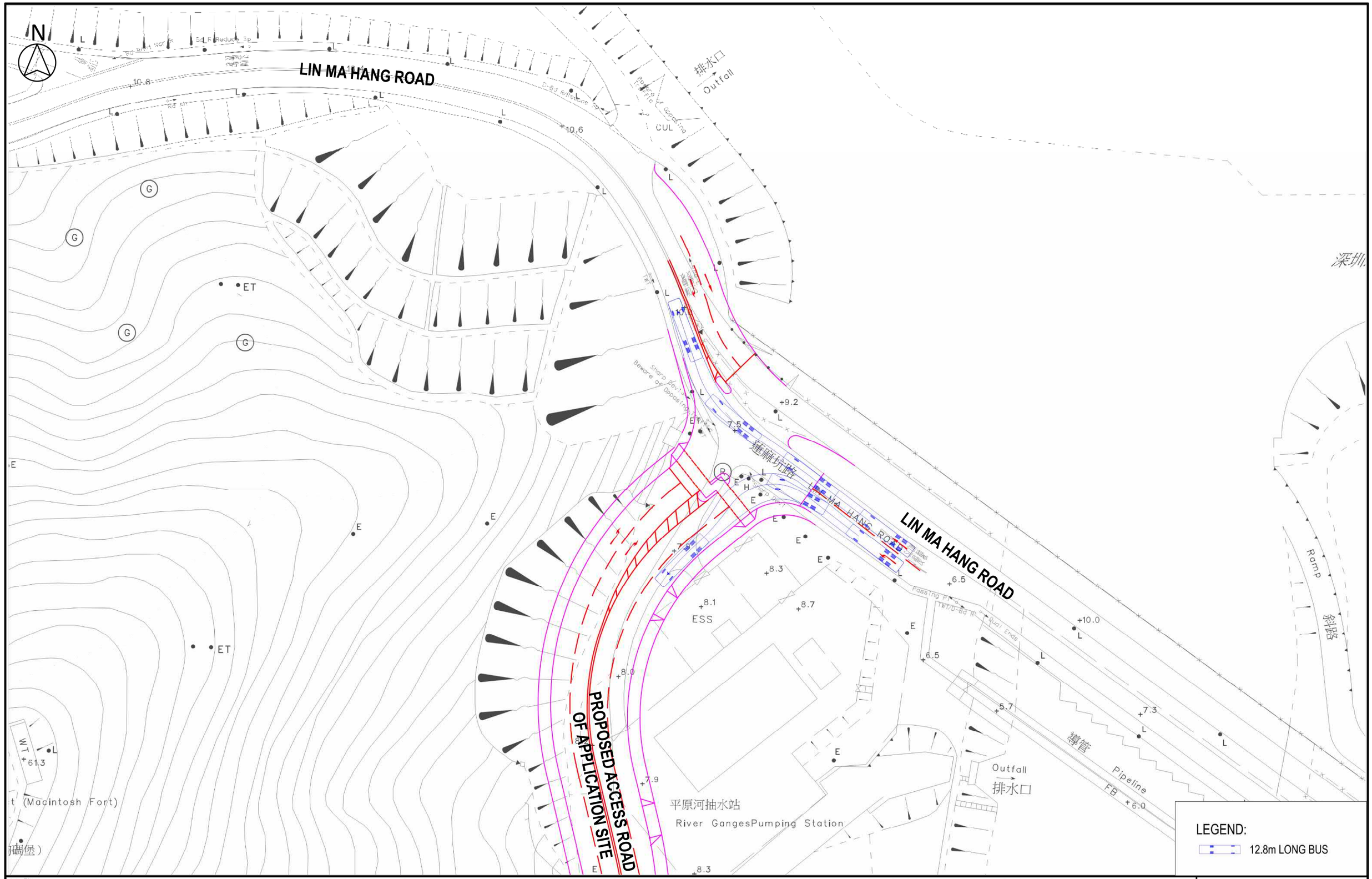
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 3.6
Date: JULY 26 / Scale: NTS	Drawing Title: PROPOSED ACCESSES ROAD AND SIGNALISED JUNCTION OF INDICATIVE SCHEME	ARUP
Drawn: CKTY / Job No.: 287082-72		



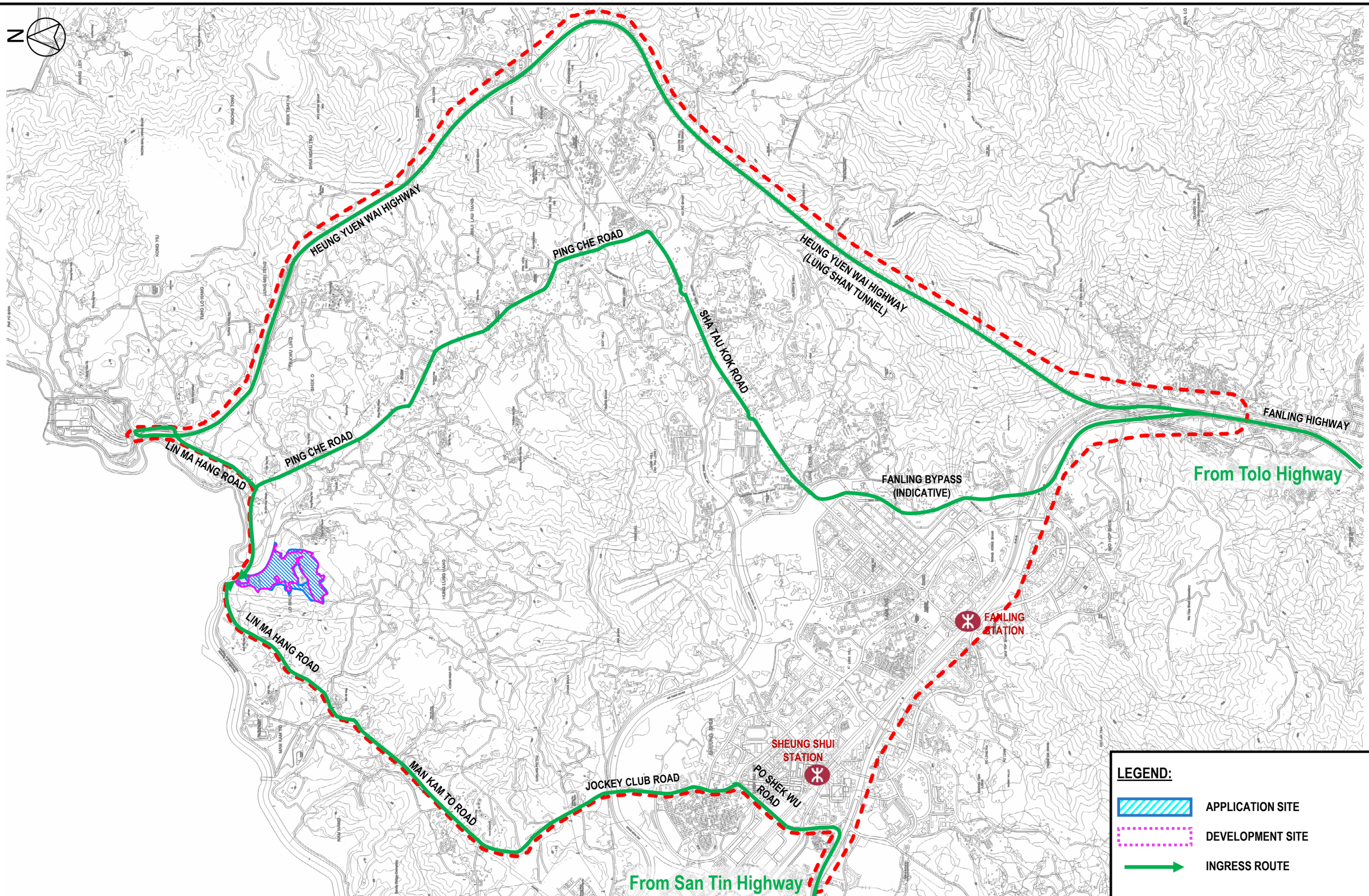
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 3.7
Date: JULY 26 / Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF THE PROPOSED ACCESSES ROAD AND SIGNALISED JUNCTION OF INDICATIVE SCHEME – PROPOSED ACCESS ROAD	ARUP
Drawn: CKTY / Job No.: 287082-72		



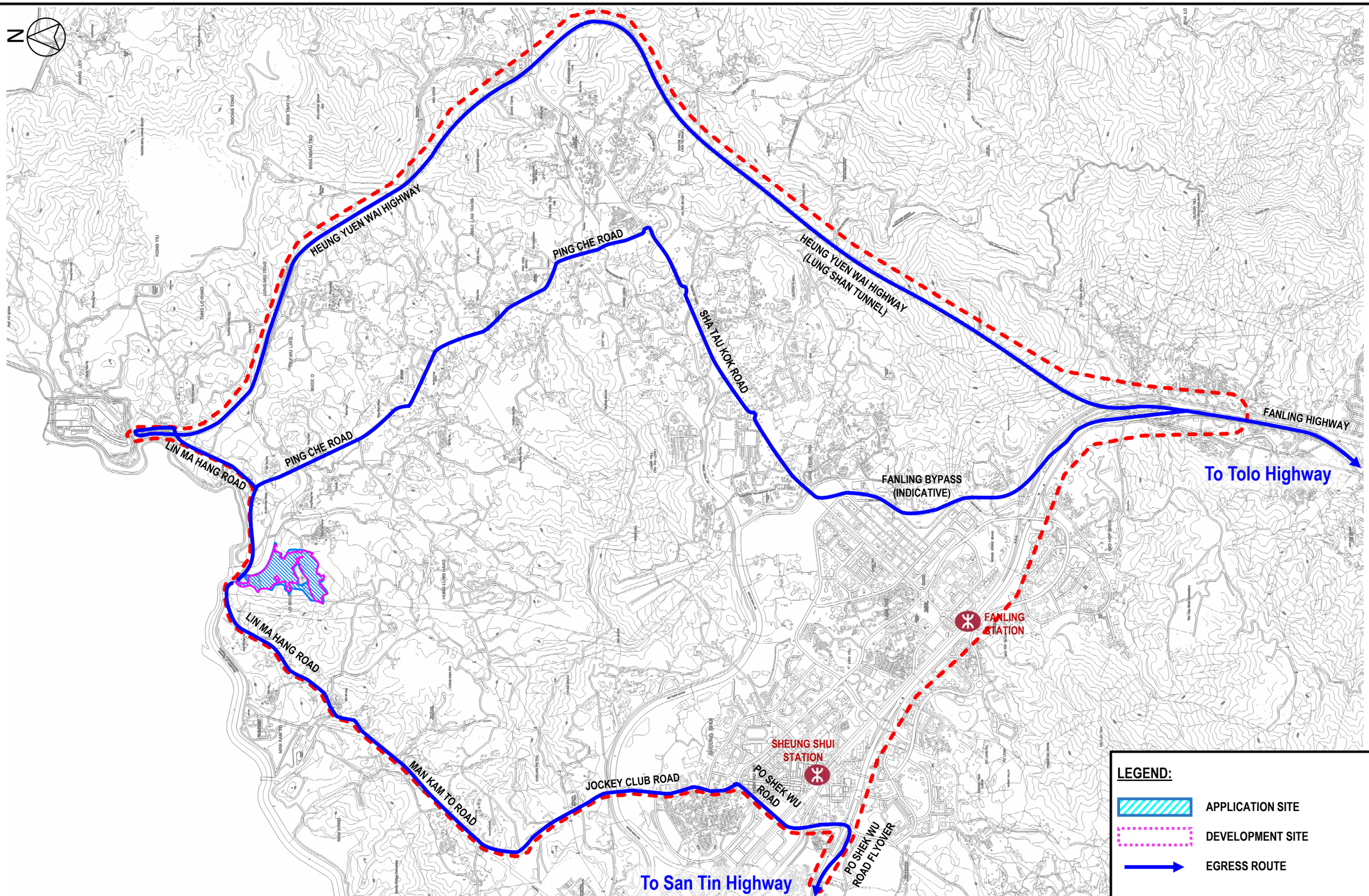
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 3.8
Date: JULY 26 / Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF THE PROPOSED ACCESSES ROAD AND SIGNALISED JUNCTION OF INDICATIVE SCHEME – LIN MA HANG ROAD EASTBOUND	ARUP
Drawn: CKTY / Job No.: 287082-72		



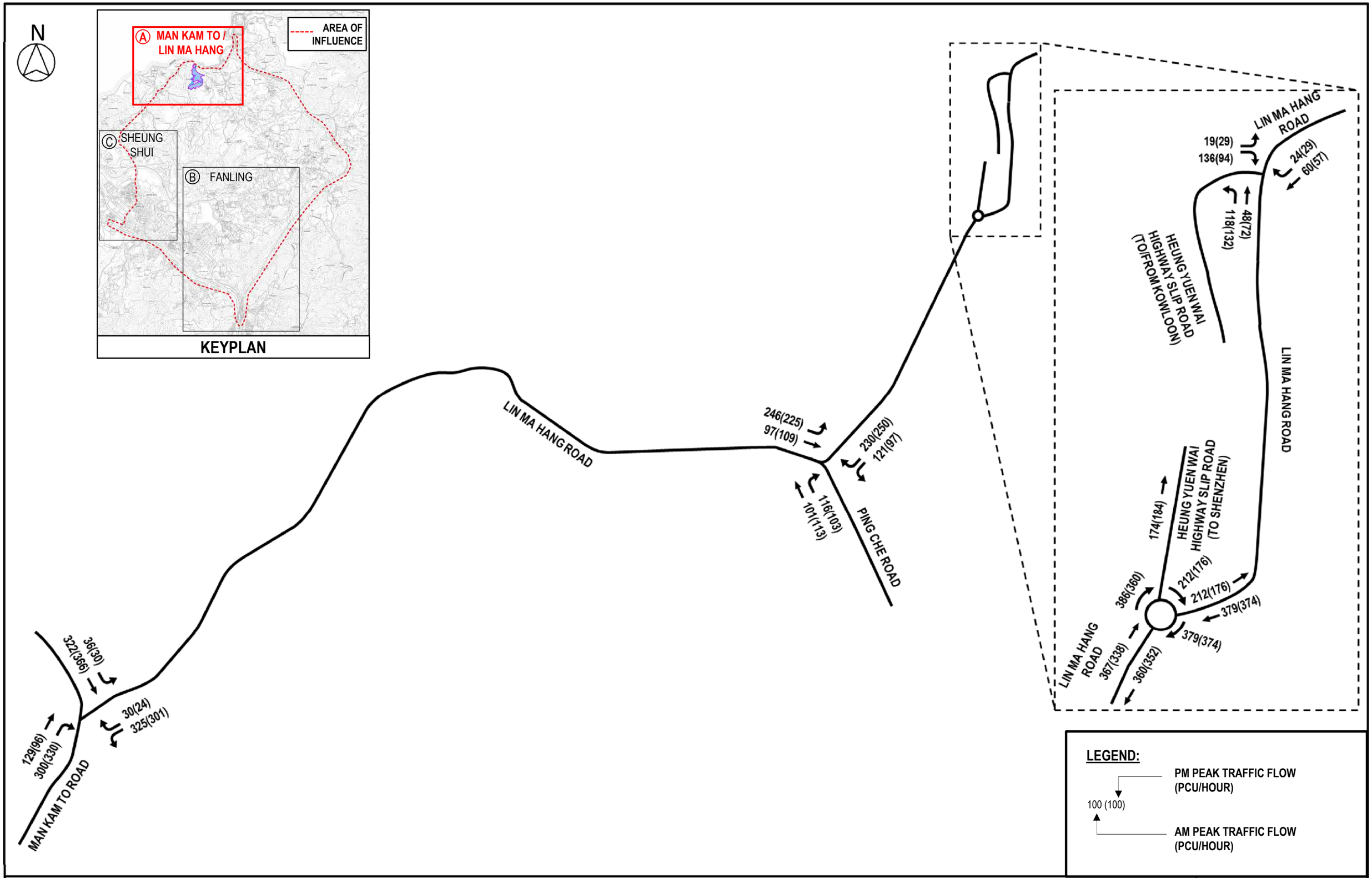
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 3.9
Date: JULY 26 / Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF THE PROPOSED ACCESSES ROAD AND SIGNALISED JUNCTION OF INDICATIVE SCHEME – LIN MA HANG ROAD WESTBOUND	ARUP
Drawn: CKTY / Job No.: 287082-72		



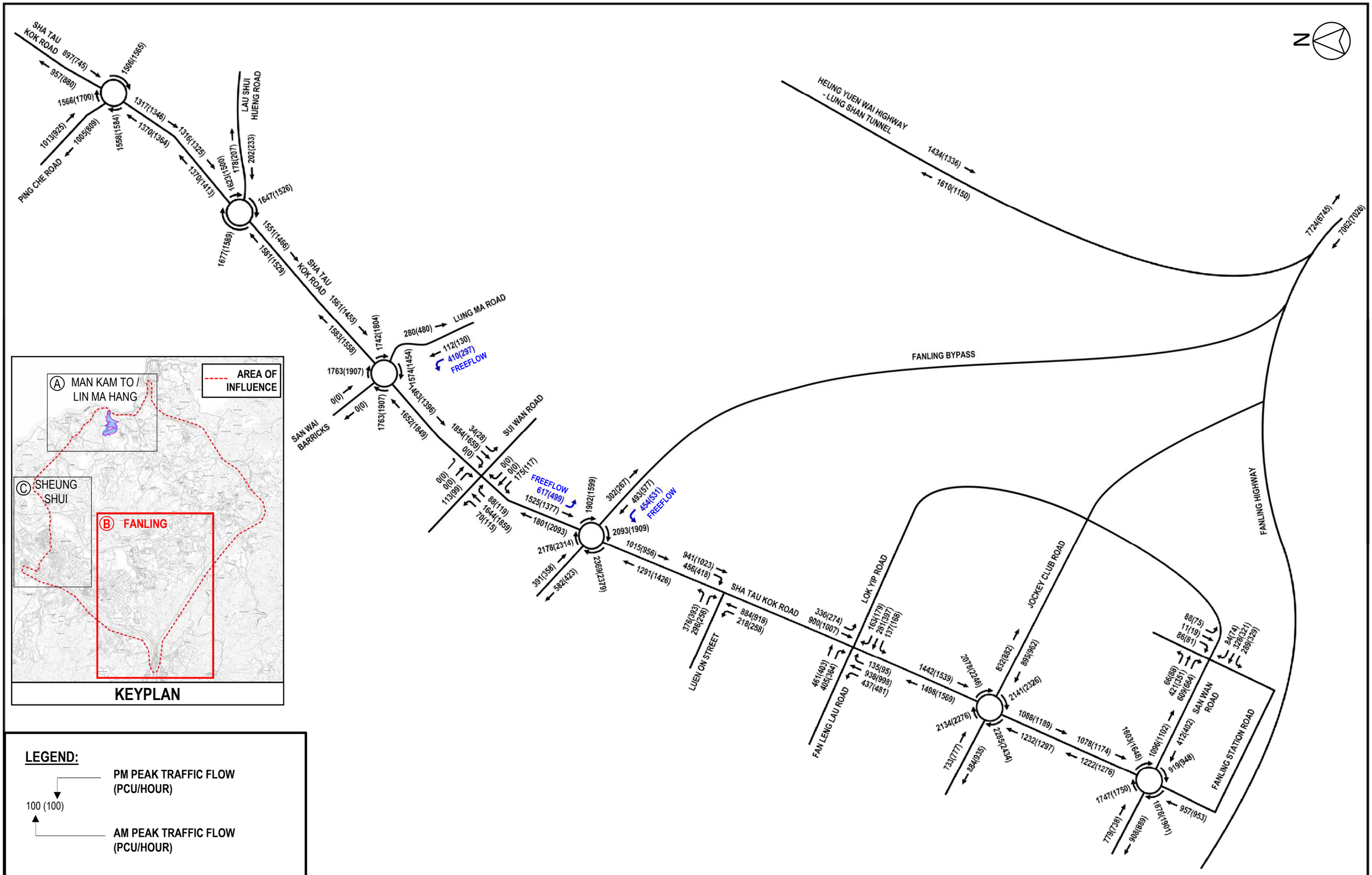
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 3.10
Date: JULY 26 / Scale: NTS	Drawing Title: MAJOR INGRESS VEHICULAR ROUTES OF INDICATIVE SCHEME	ARUP
Drawn: CKTY / Job No.: 287082-72		



Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 3.11
Date: JULY 26 / Scale: NTS	Drawing Title: MAJOR EGRESS VEHICULAR ROUTES OF INDICATIVE SCHEME	ARUP
Drawn: CKTY / Job No.: 287082-72		



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.1
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2035 REFERENCE TRAFFIC FLOW – MAN KAM TO / LIN MA HANG AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



LEGEND:

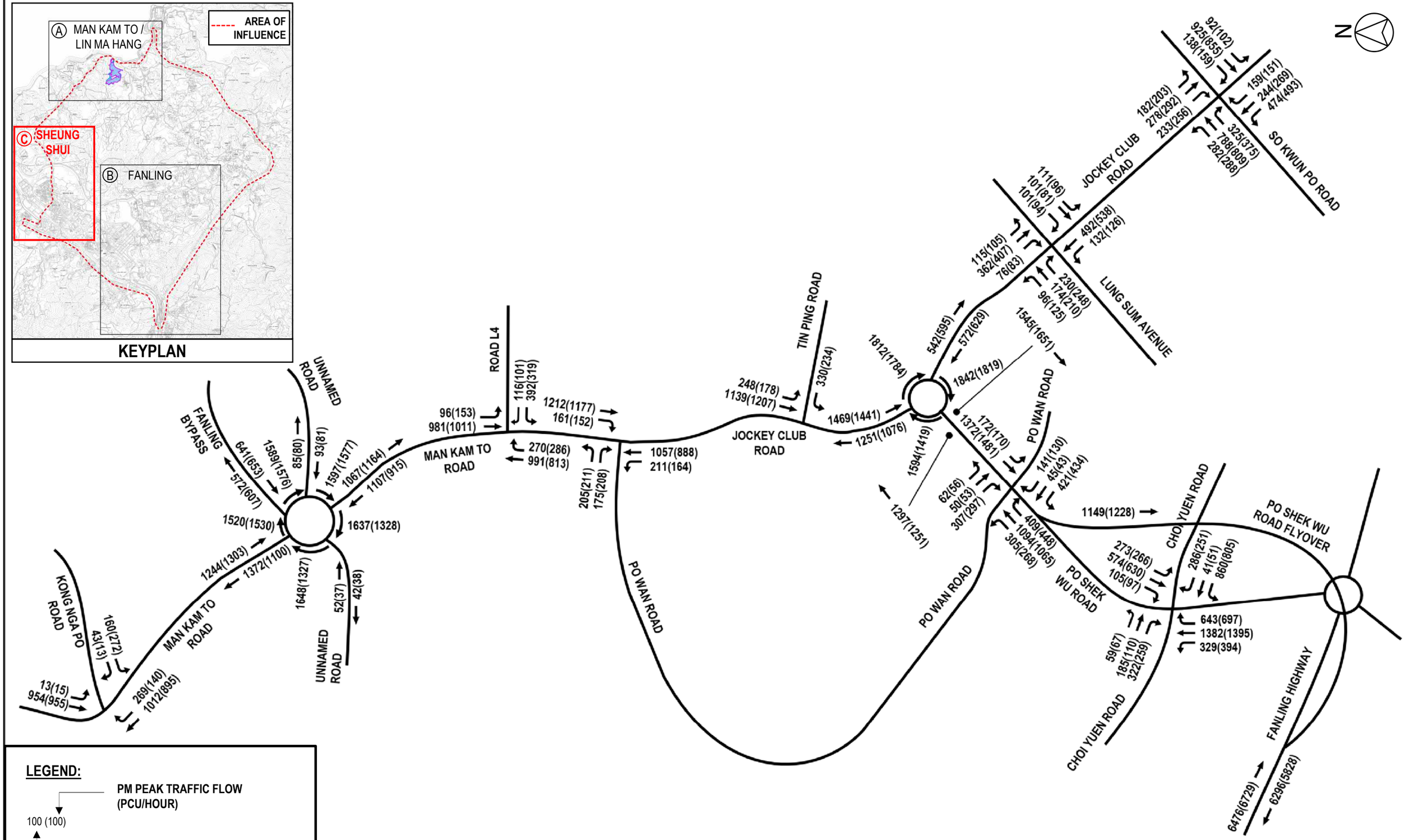
100 (100)

PM PEAK TRAFFIC FLOW (PCU/HOUR)

AM PEAK TRAFFIC FLOW (PCU/HOUR)

Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.2
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2035 REFERENCE TRAFFIC FLOW – FANLING AREA
Drawn: CKTY	Job No.: 287082-72	ARUP

KEYPLAN



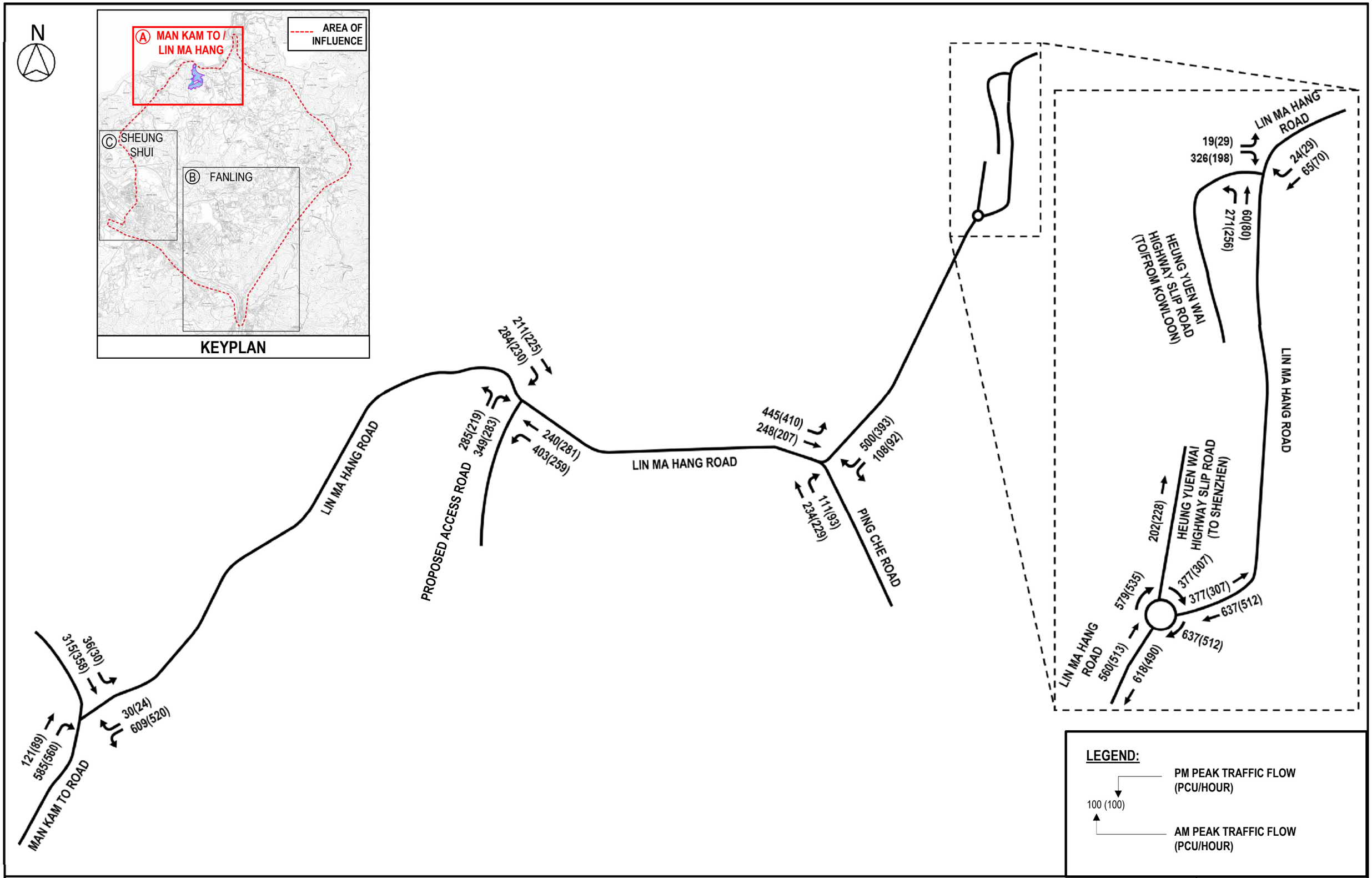
LEGEND:

100 (100)

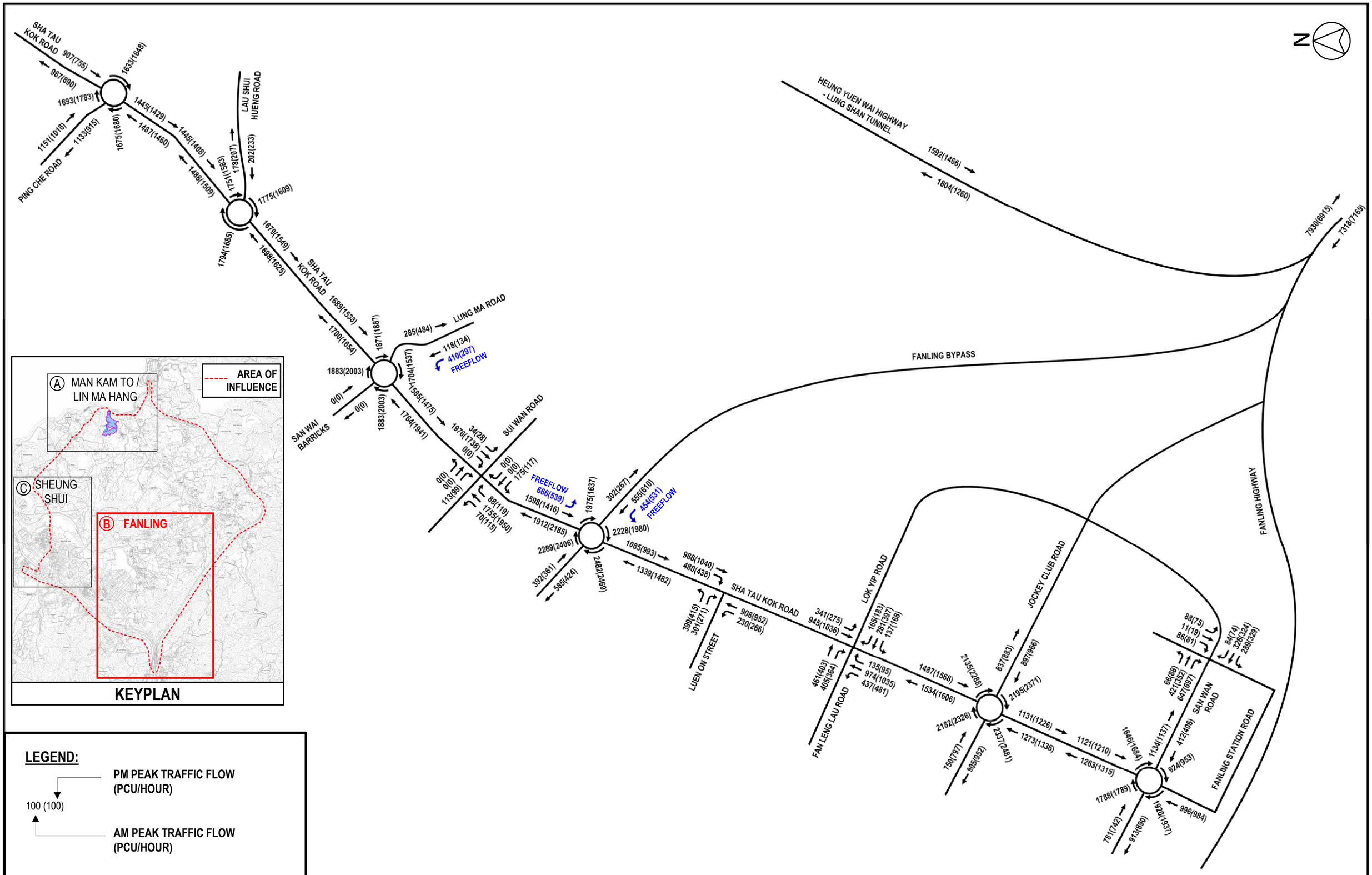
PM PEAK TRAFFIC FLOW (PCU/HOUR)

AM PEAK TRAFFIC FLOW (PCU/HOUR)

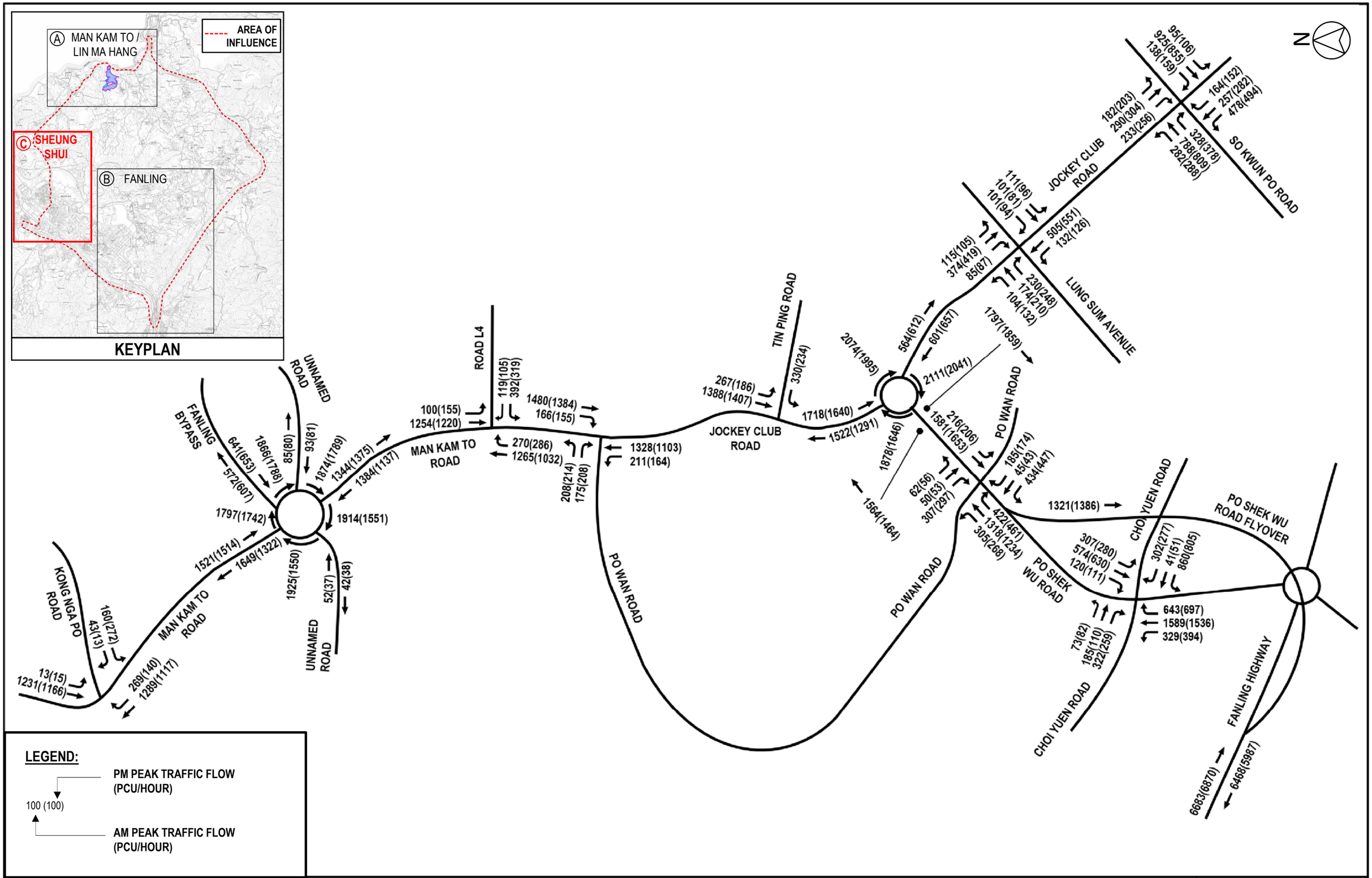
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.3
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2035 REFERENCE TRAFFIC FLOW – SHEUNG SHUI AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.4
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2035 DESIGN TRAFFIC FLOW – MAN KAM TO / LIN MA HANG AREA	ARUP
Drawn: CKTY	Job No.: 287082-72		



Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 4.5
Date: JULY 26 / Scale: NTS	Drawing Title: YEAR 2035 DESIGN TRAFFIC FLOW – FANLING AREA	ARUP
Drawn: CKTY / Job No.: 287082-72		



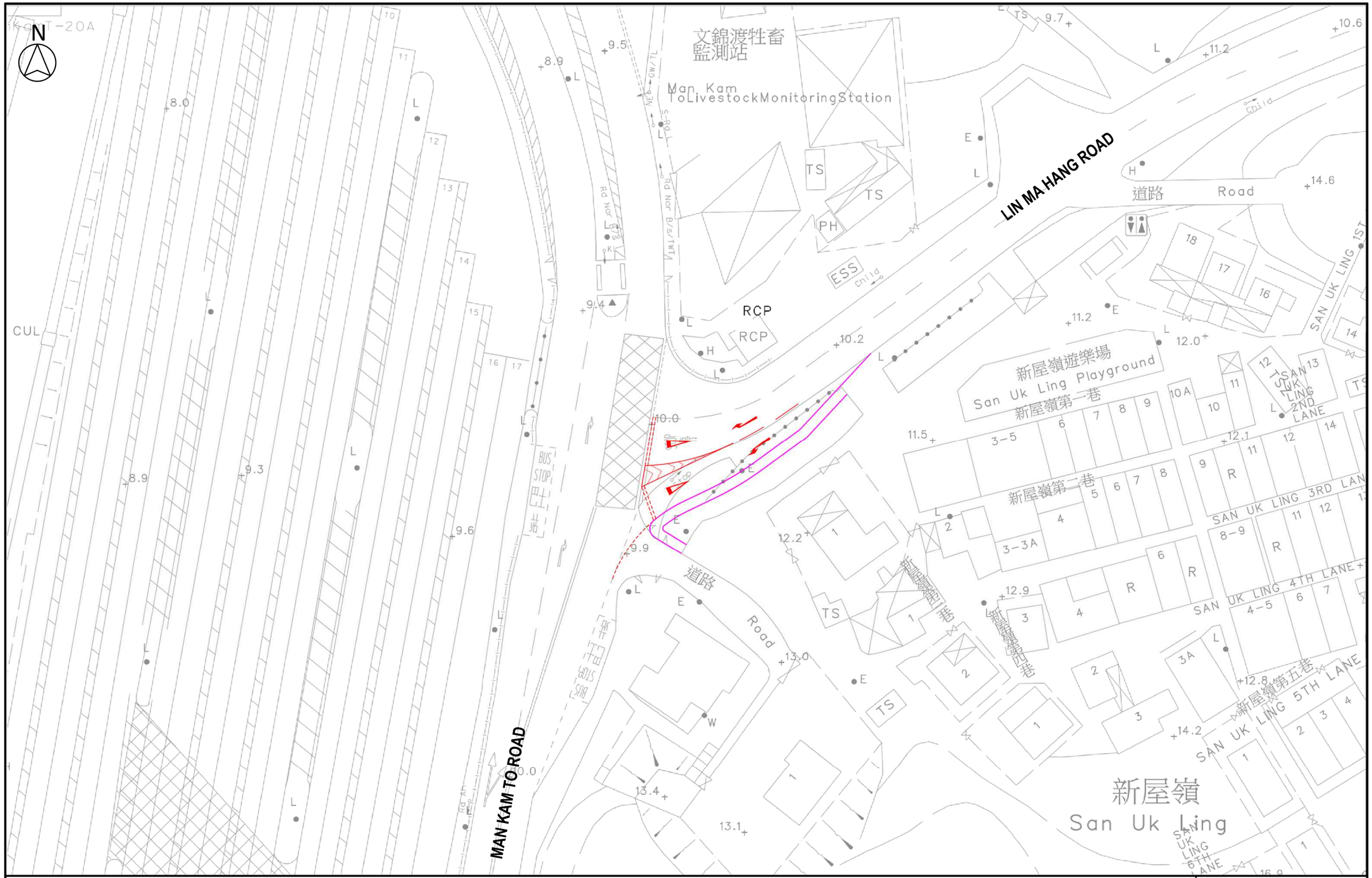
LEGEND:

100 (100)

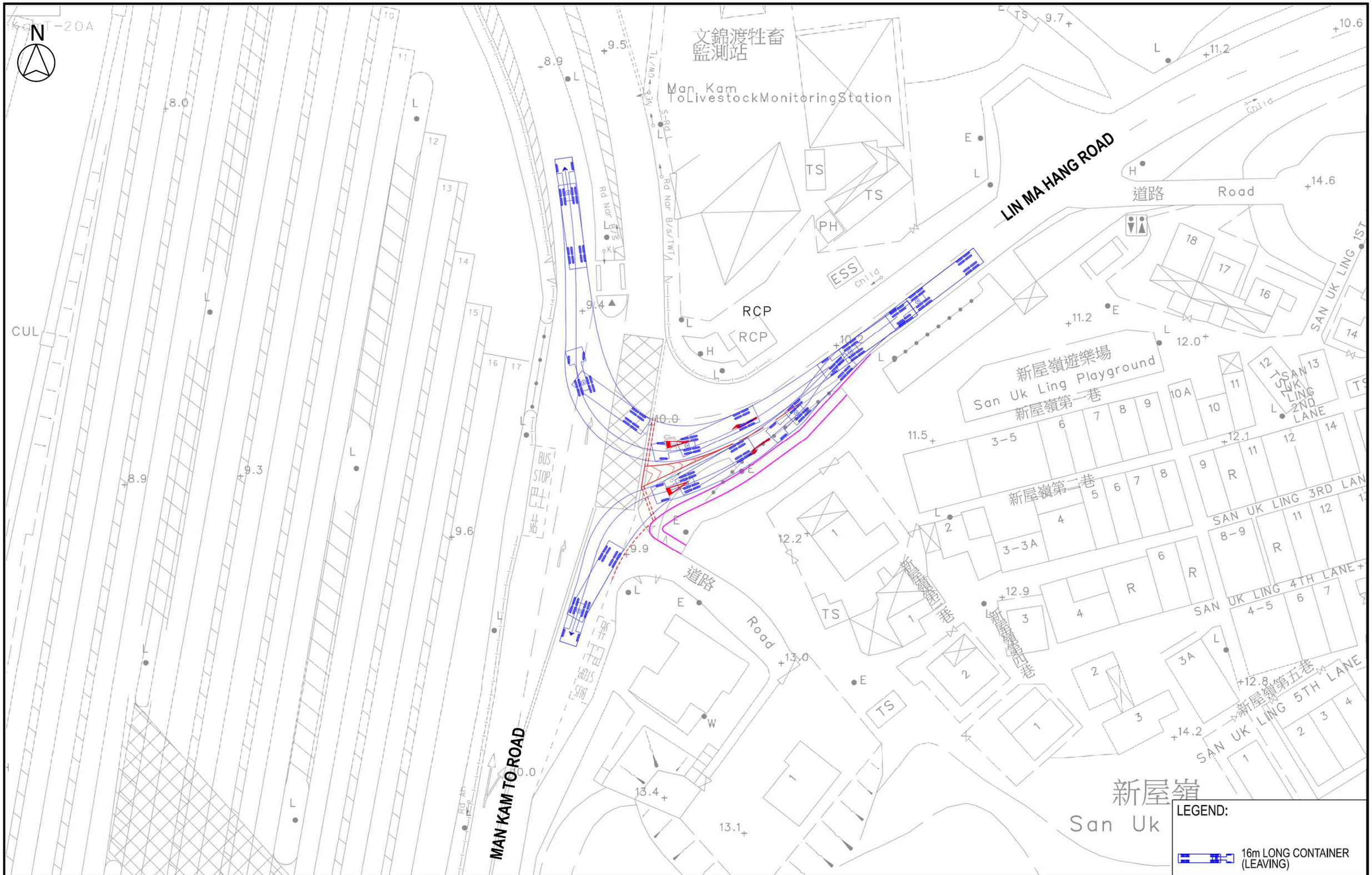
PM PEAK TRAFFIC FLOW (PCU/HOUR)

AM PEAK TRAFFIC FLOW (PCU/HOUR)

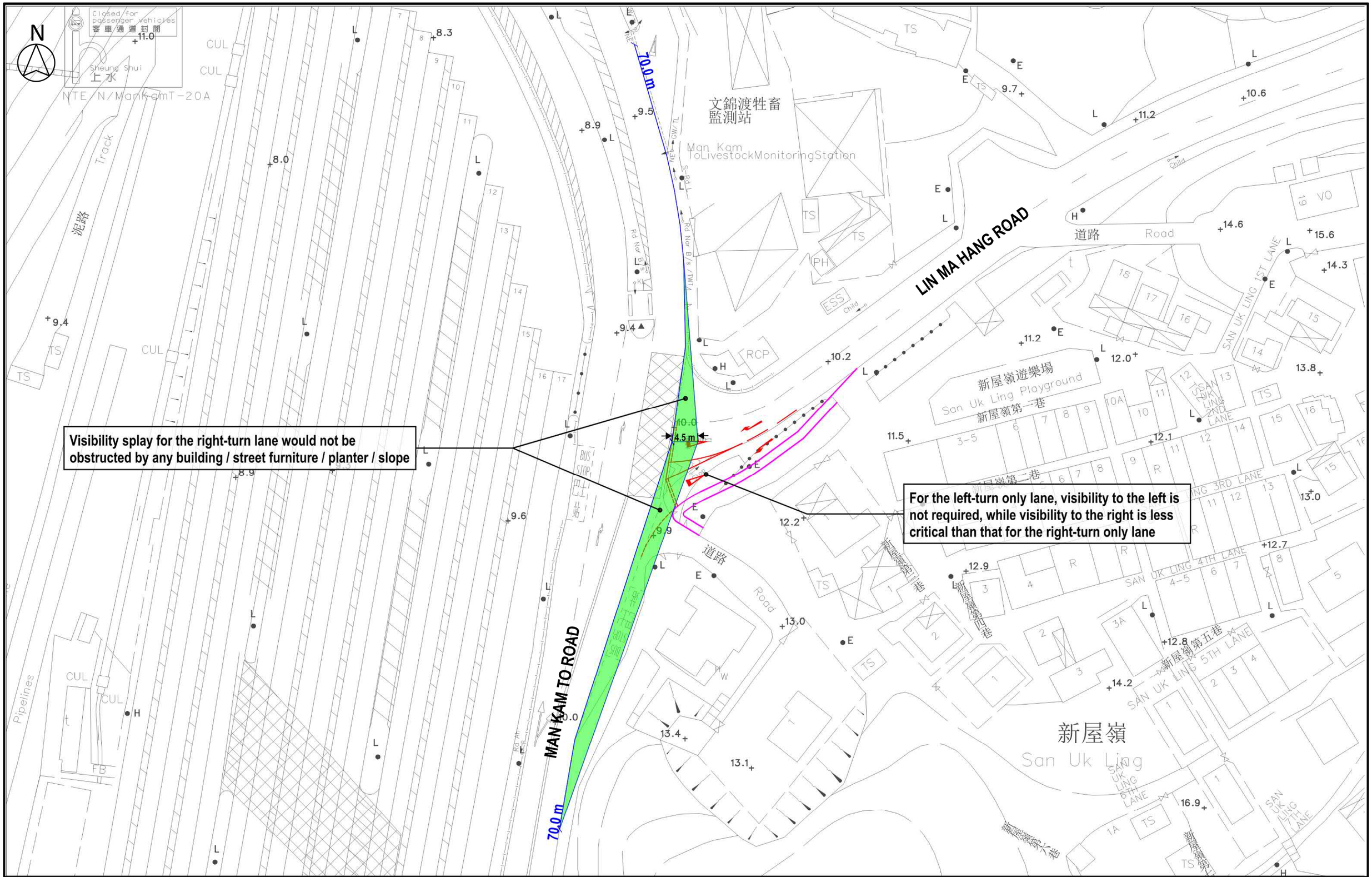
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.6
Date: JULY 26	Scale: NTS	Drawing Title: YEAR 2036 DESIGN TRAFFIC FLOW – SHEUNG SHUI AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



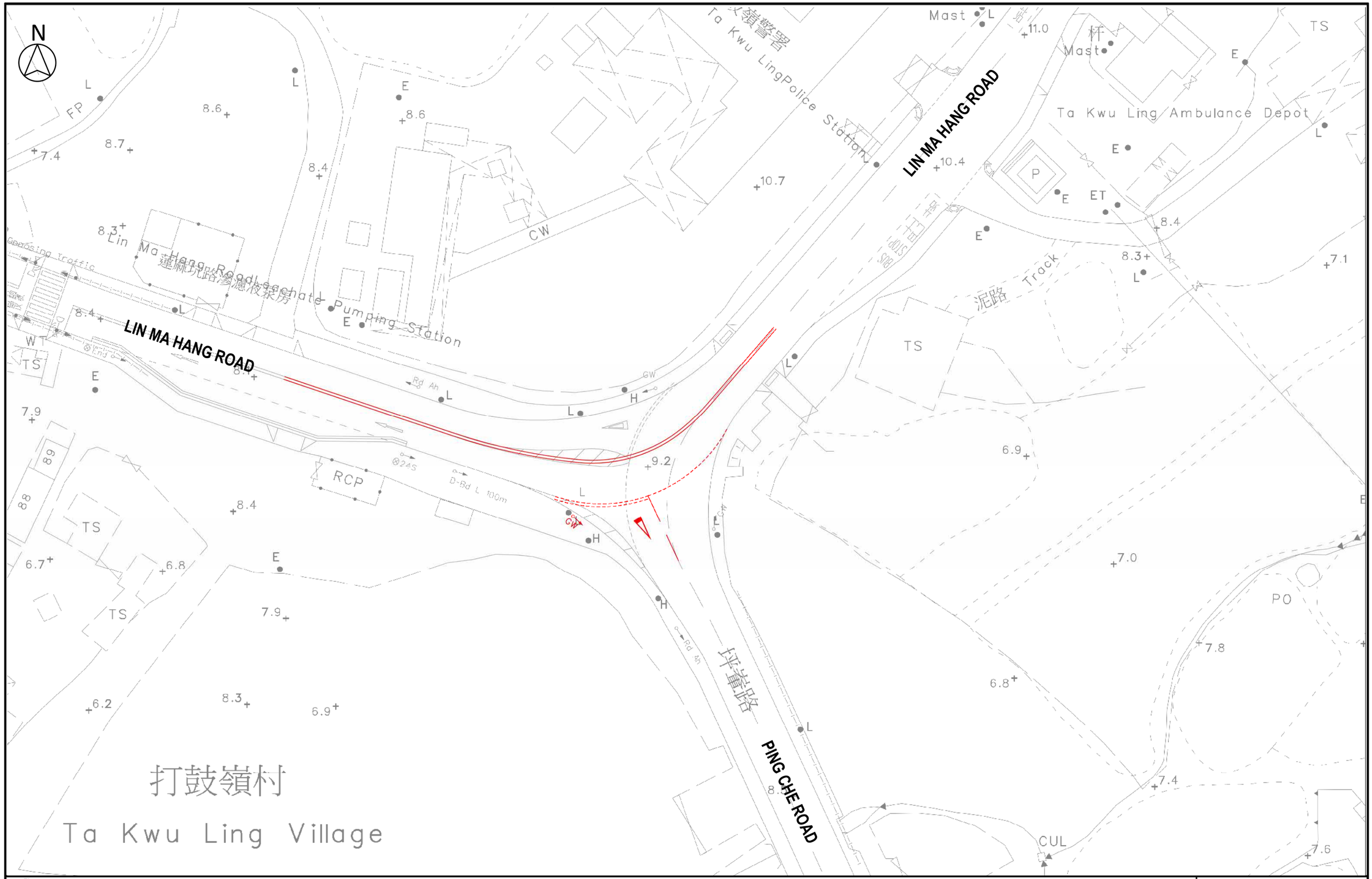
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.7
Date: JULY 26	Scale: NTS	
Drawn: CKTY	Job No.: 287082-72	
Drawing Title: PROPOSED JUNCTION MODIFICATION FOR J1 – LIN MA HANG ROAD / MAN KAM TO ROAD		ARUP



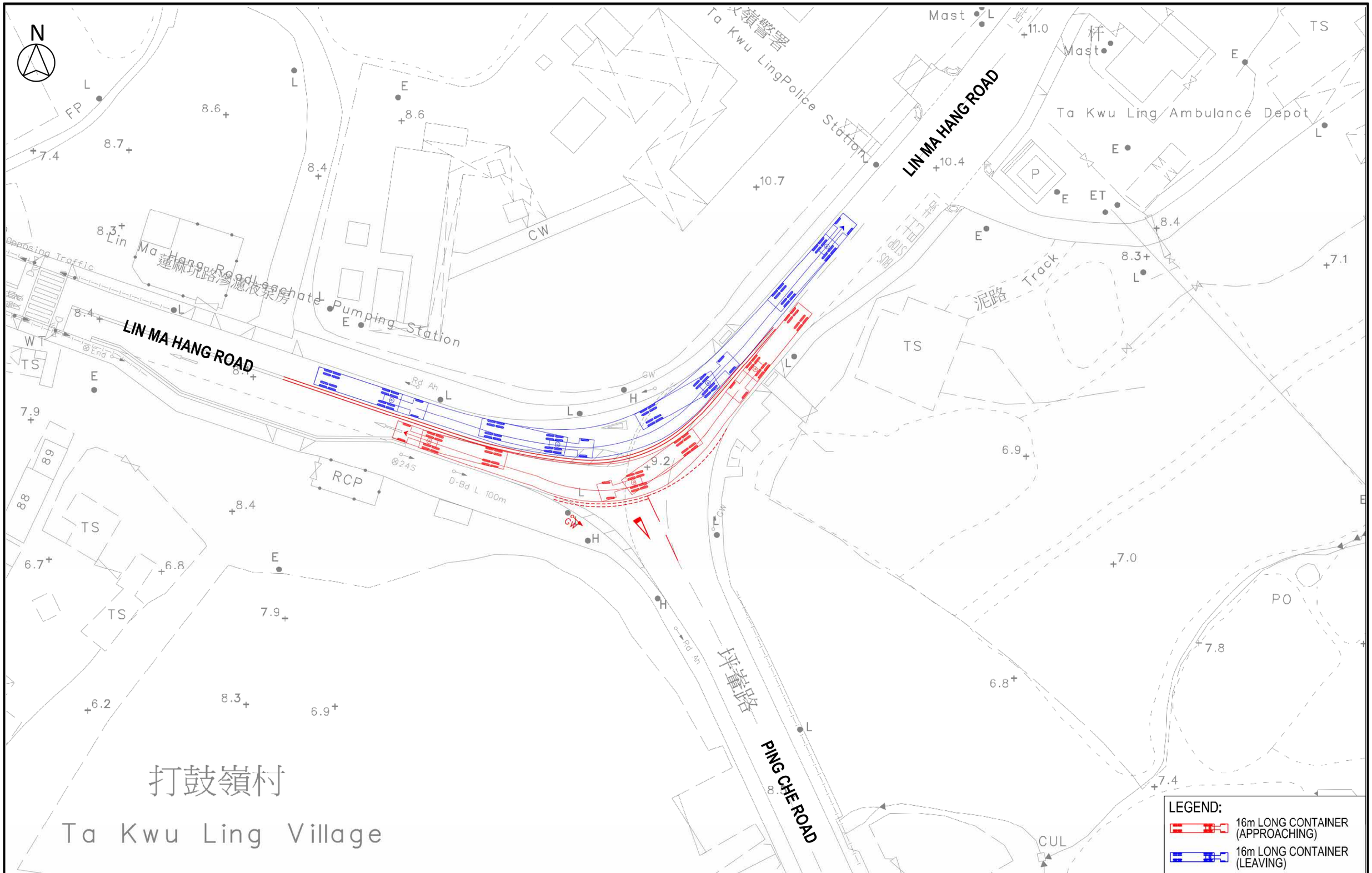
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.8
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF PROPOSED JUNCTION MODIFICATION FOR J1 – LIN MA HANG ROAD / MAN KAM TO ROAD
Drawn: CKTY	Job No.: 287082-72	ARUP



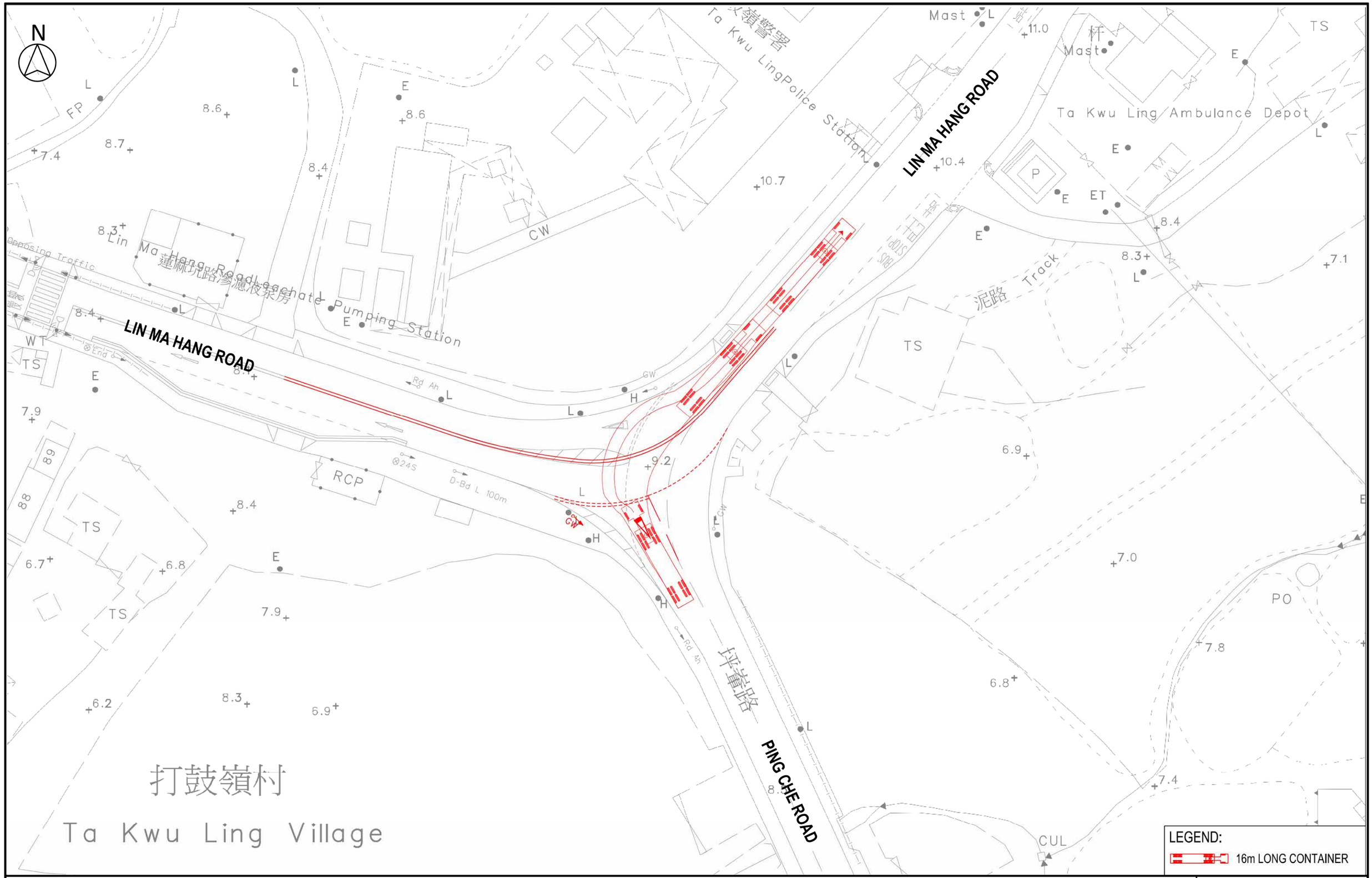
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 4.9
Date: JULY 26 / Scale: NTS	Drawing Title: VISIBILITY ANALYSIS OF PROPOSED JUNCTION MODIFICATION FOR J1 - LIN MA HANG ROAD / MAN KAM TO ROAD	ARUP
Drawn: CKTY / Job No.: 287082-72		



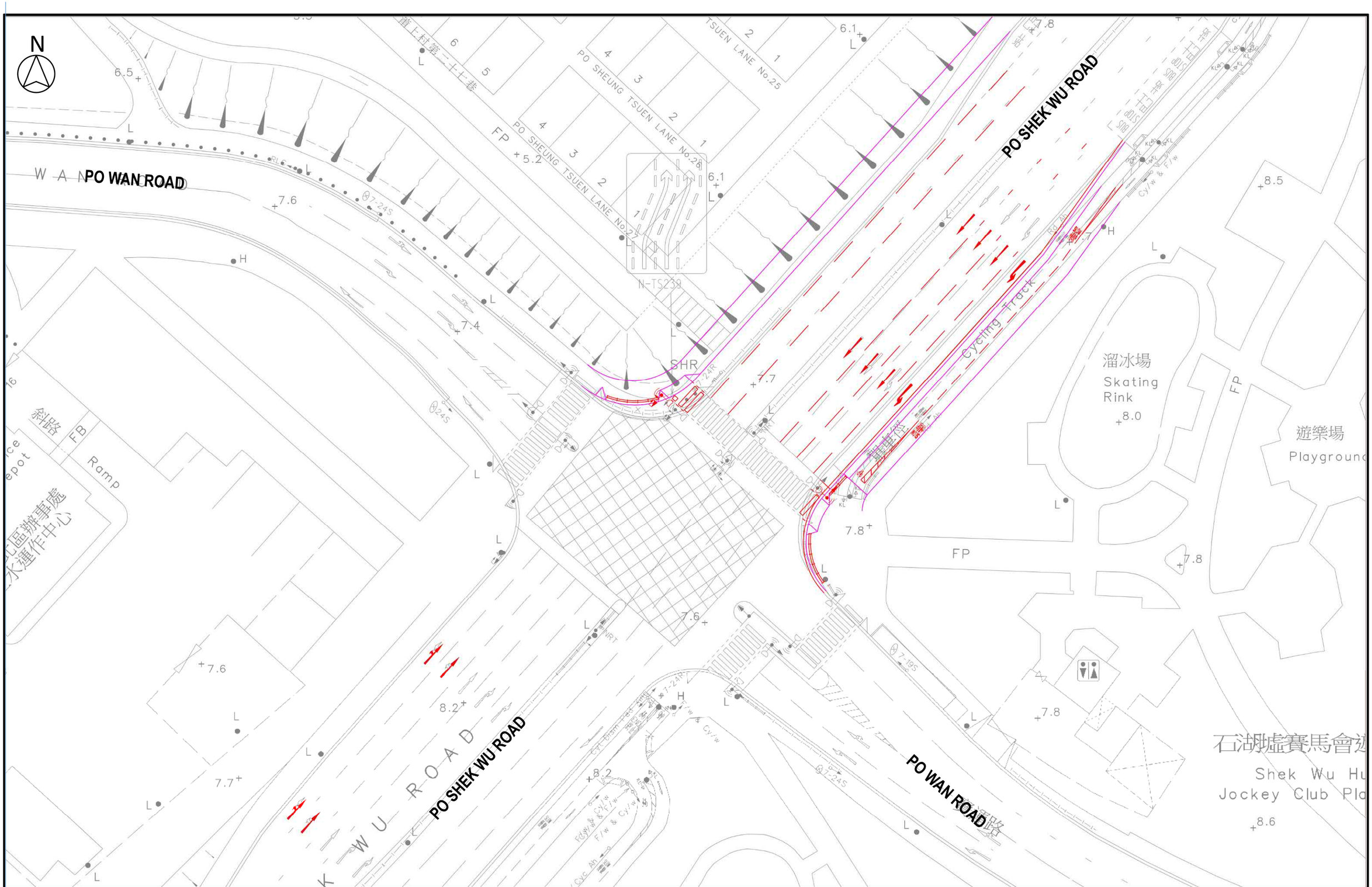
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.10
Date: JULY 26	Scale: NTS	Drawing Title: PROPOSED JUNCTION MODIFICATION FOR J2 – LIN MA HANG ROAD / PING CHE ROAD
Drawn: CKTY	Job No.: 287082-72	ARUP



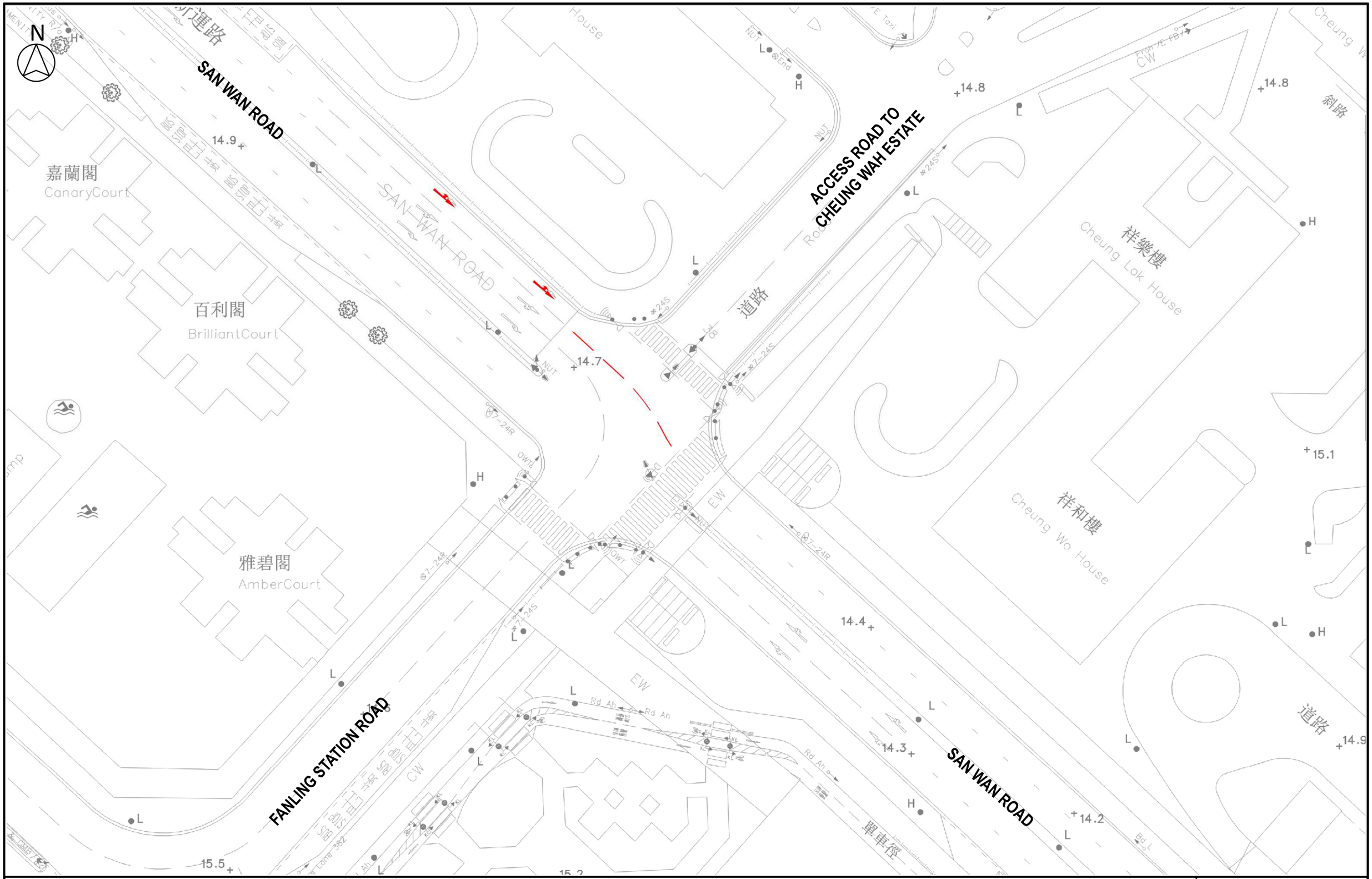
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.11
Date: JULY 26 / Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF PROPOSED JUNCTION MODIFICATION FOR J2 – LIN MA HANG ROAD / PING CHE ROAD (BOTH BOUNDS ALONG LIN MA HANG ROAD)	ARUP
Drawn: CKTY / Job No.: 287082-72		



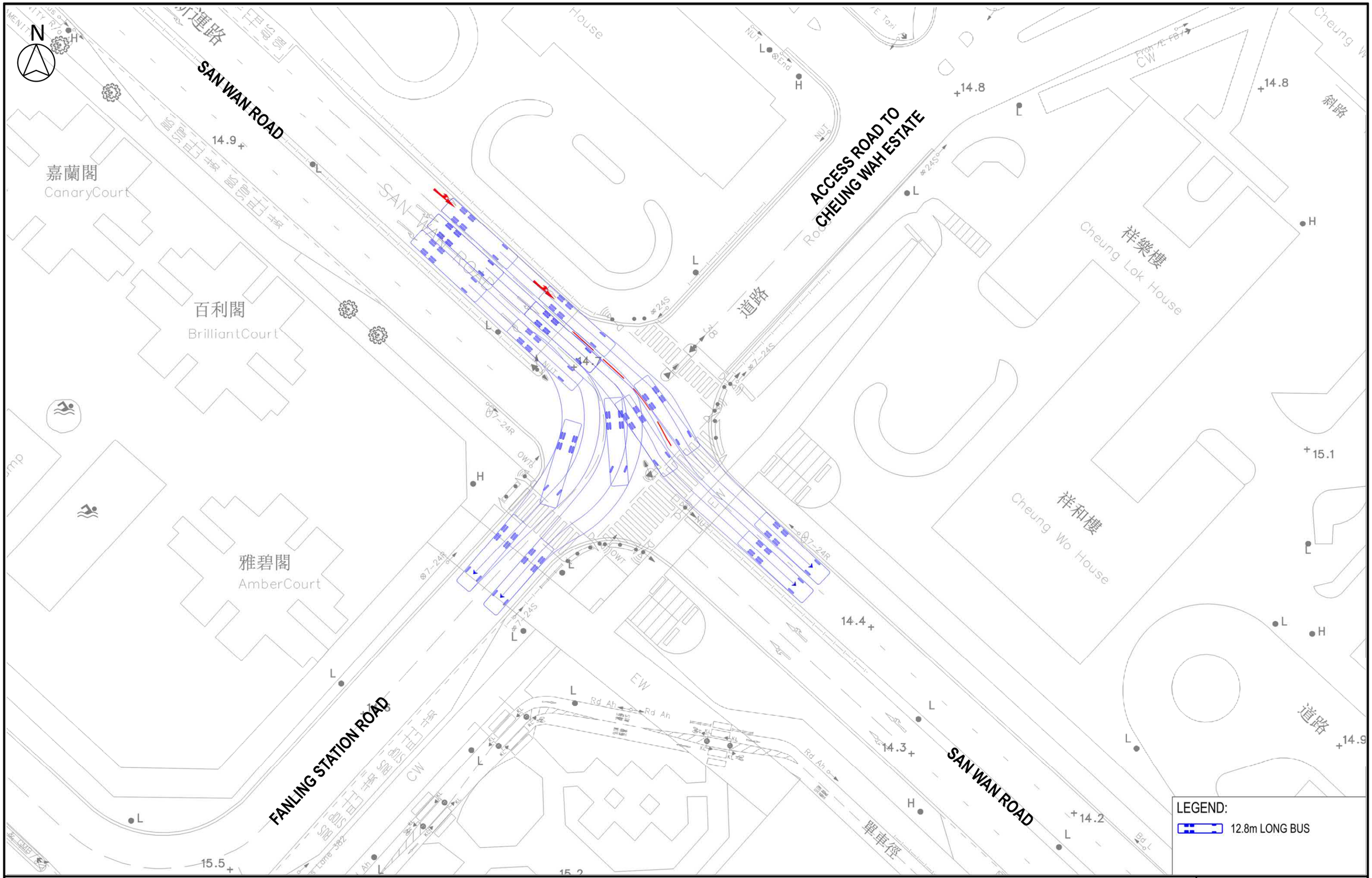
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 4.12
Date: JULY 26 / Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF PROPOSED JUNCTION MODIFICATION FOR J2 – LIN MA HANG ROAD / PING CHE ROAD (PING CHE ROAD RIGHT-TURN TO LIN MA HANG ROAD)	ARUP
Drawn: CKTY / Job No.: 287082-72		



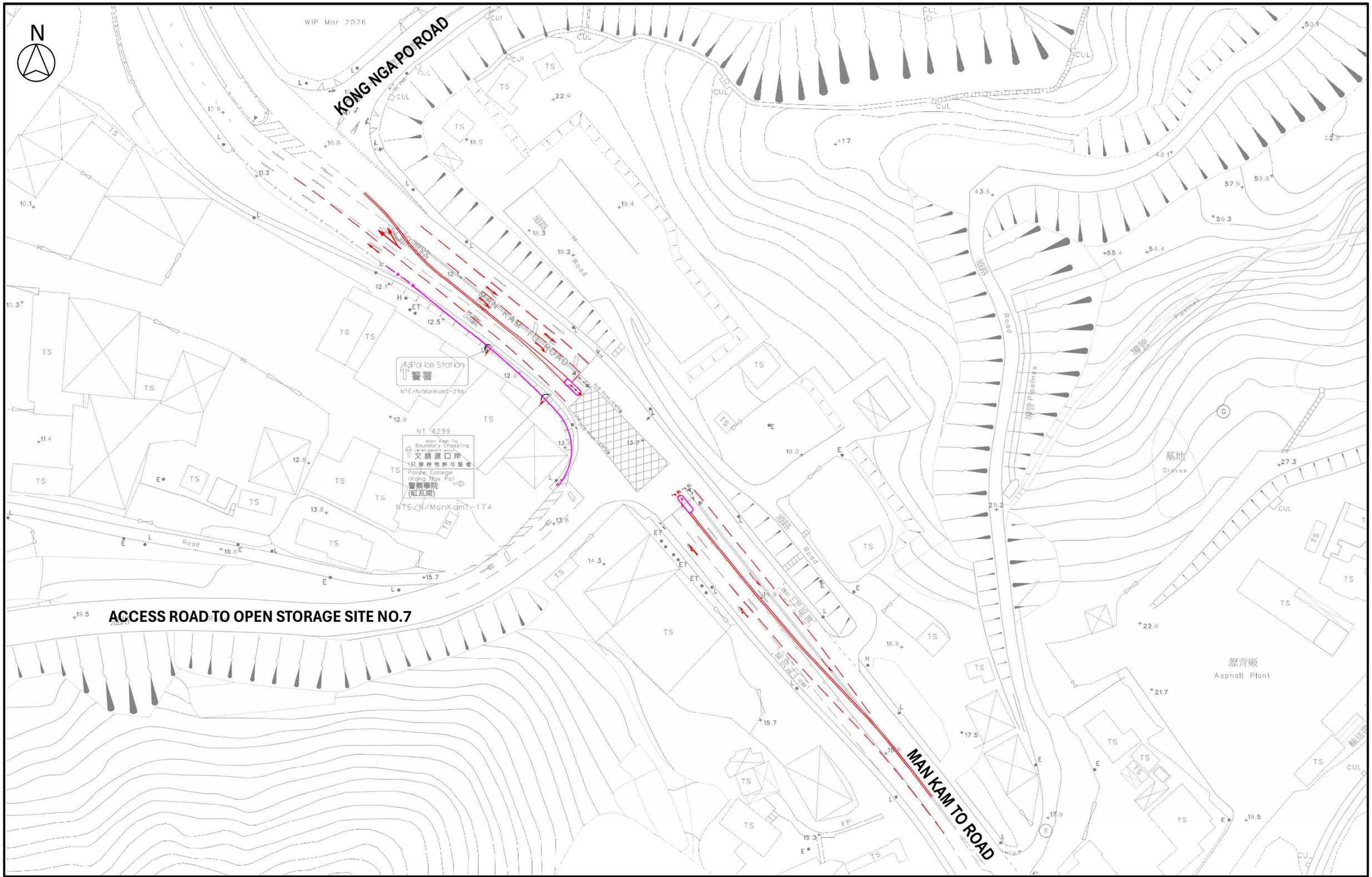
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.13
Date: JULY 26	Scale: NTS	Drawing Title: PROPOSED JUNCTION MODIFICATION FOR J13 – PO SHEK WU ROAD / PO WAN ROAD
Drawn: CKTY	Job No.: 287082-72	ARUP



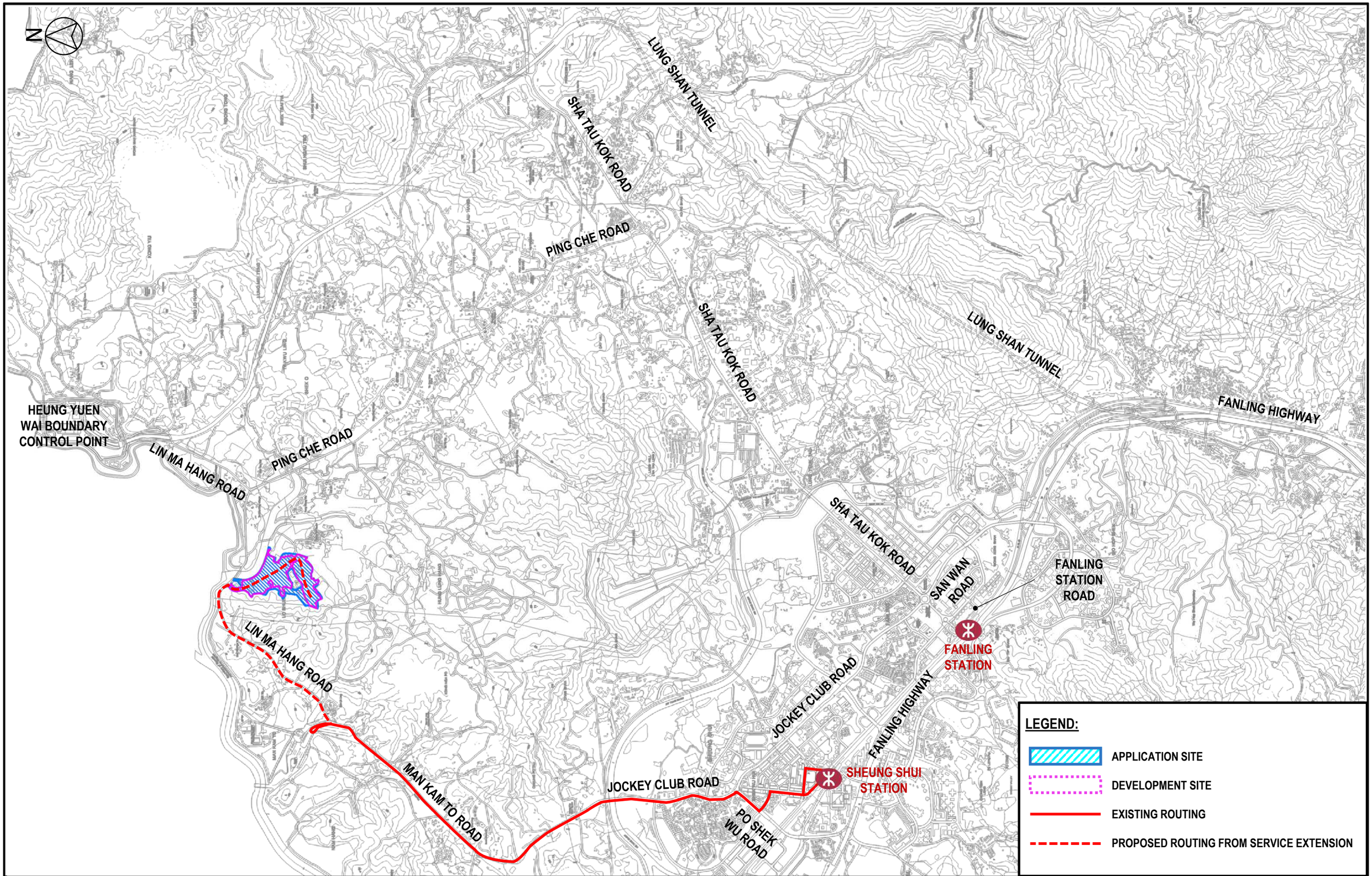
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 4.14
Date: JULY 26 / Scale: NTS	Drawing Title: PROPOSED JUNCTION MODIFICATION FOR J23 – SAN WAN ROAD / FANLING STATION ROAD	ARUP
Drawn: CKTY / Job No.: 287082-72		



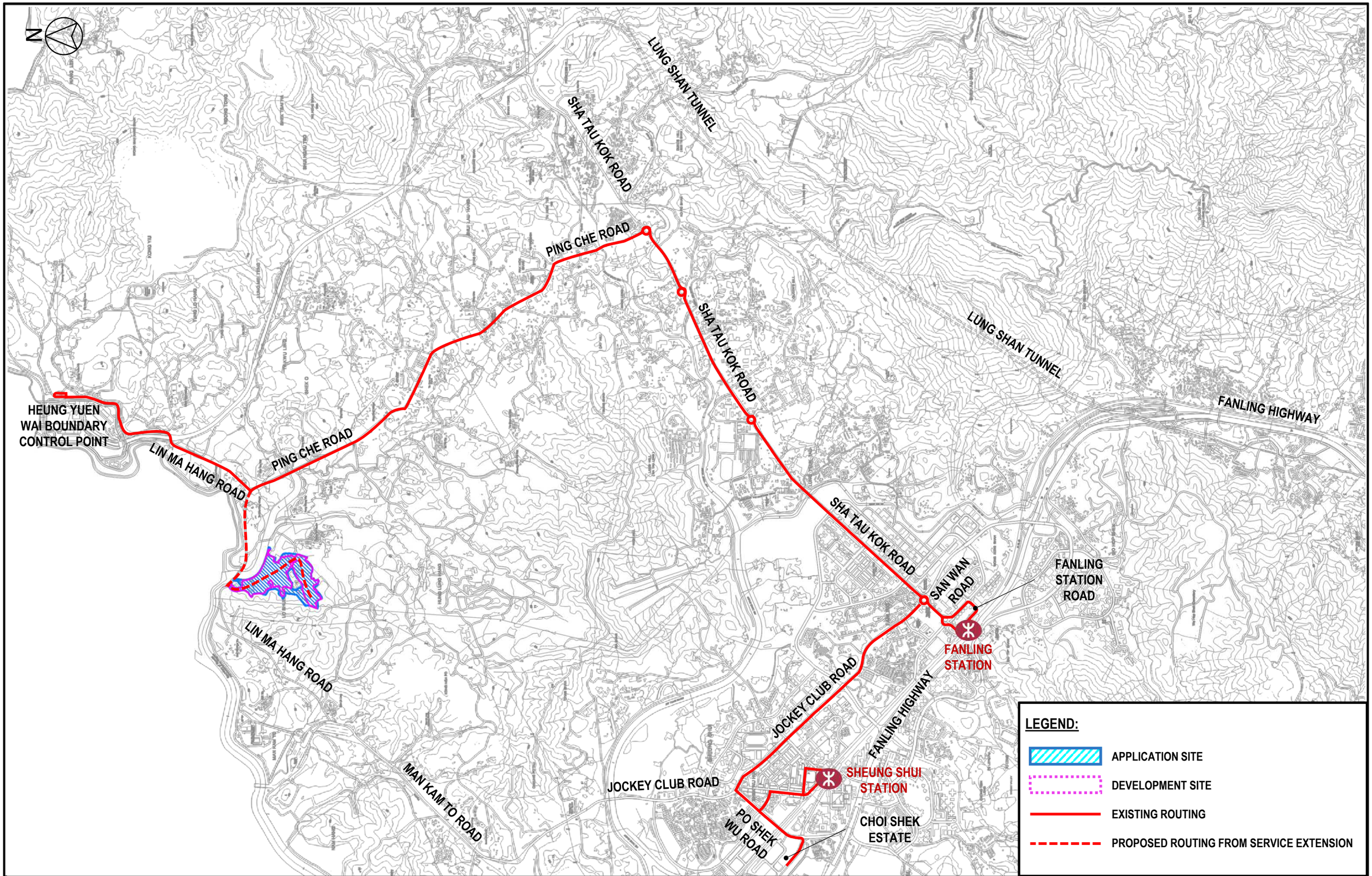
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.15
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF PROPOSED JUNCTION MODIFICATION FOR J23 – SAN WAN ROAD / FANLING STATION ROAD
Drawn: CKTY	Job No.: 287082-72	ARUP



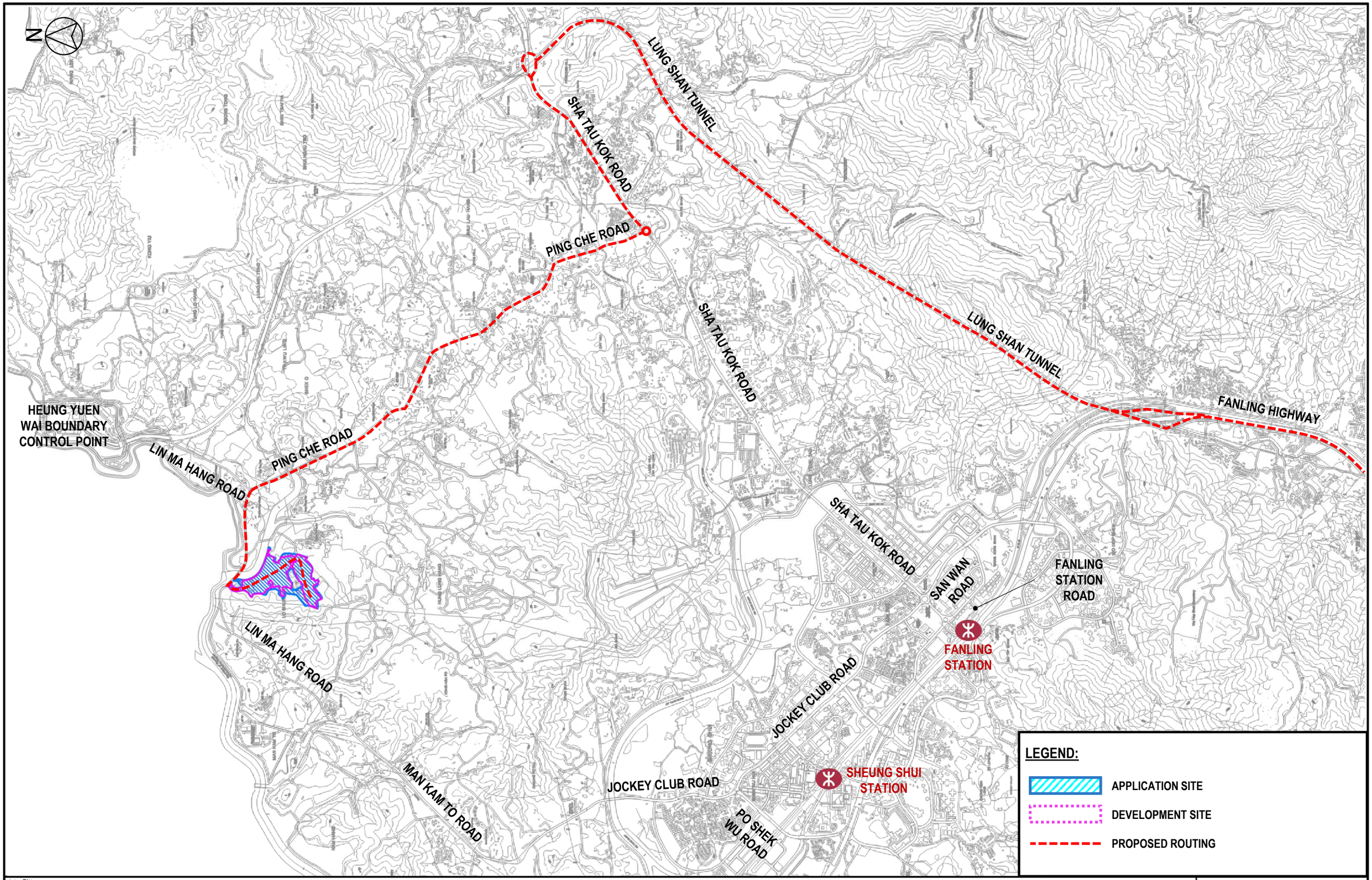
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	FIGURE 4.16
Date: JULY 26 / Scale: NTS	Drawing Title: PROPOSED JUNCTION MODIFICATION FOR JA – MAN KAM TO ROAD / ACCESS ROAD TO OPEN STORAGE SITE NO.7	ARUP
Drawn: CKTY / Job No.: 287082-72		



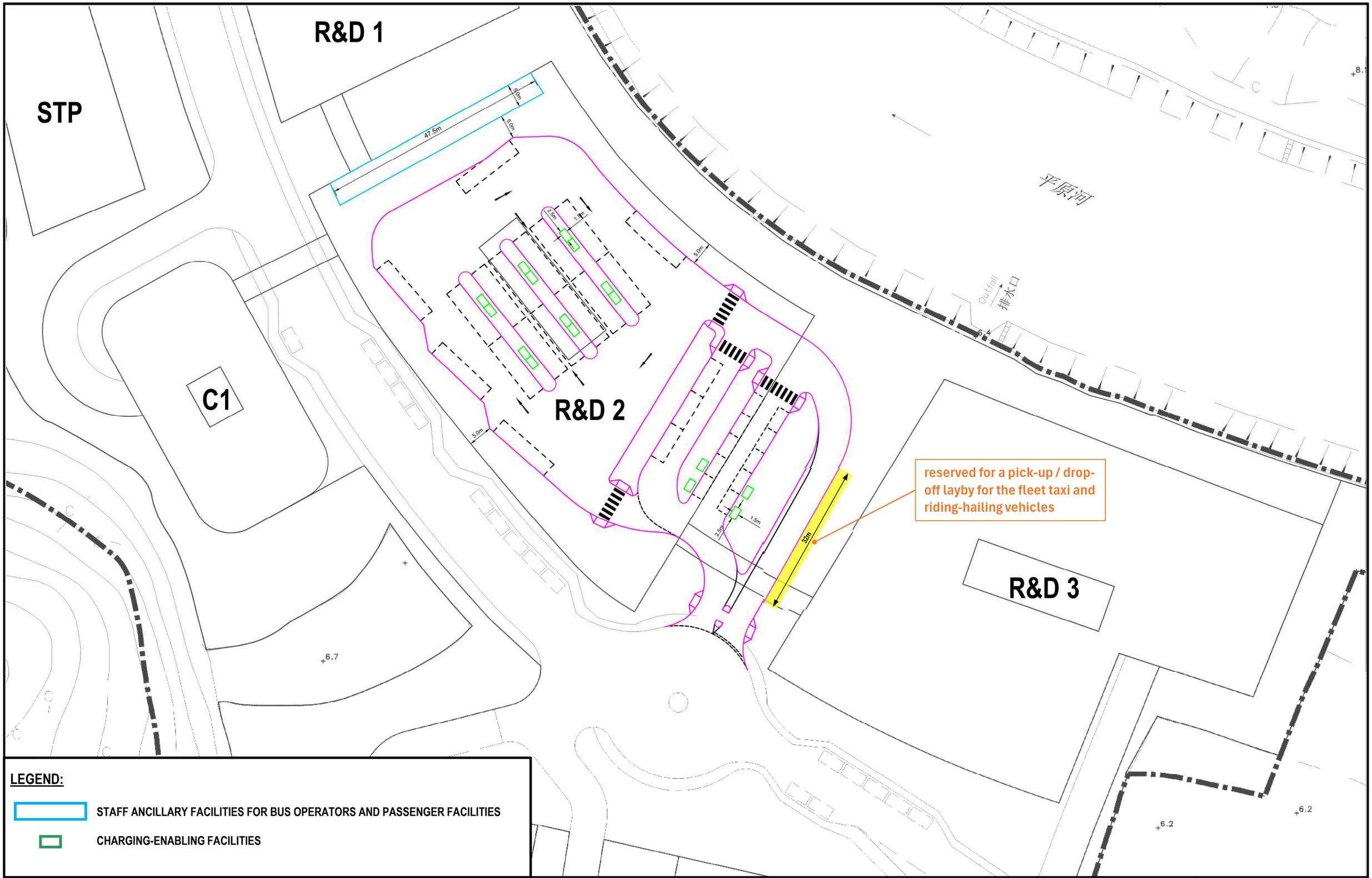
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.17
Date: JULY 26	Scale: NTS	Drawing Title: PROPOSED ROUTING OF KMB 73K FOR SERVICE EXTENSION TO THE APPLICATION SITE
Drawn: CKTY	Job No.: 287082-72	ARUP



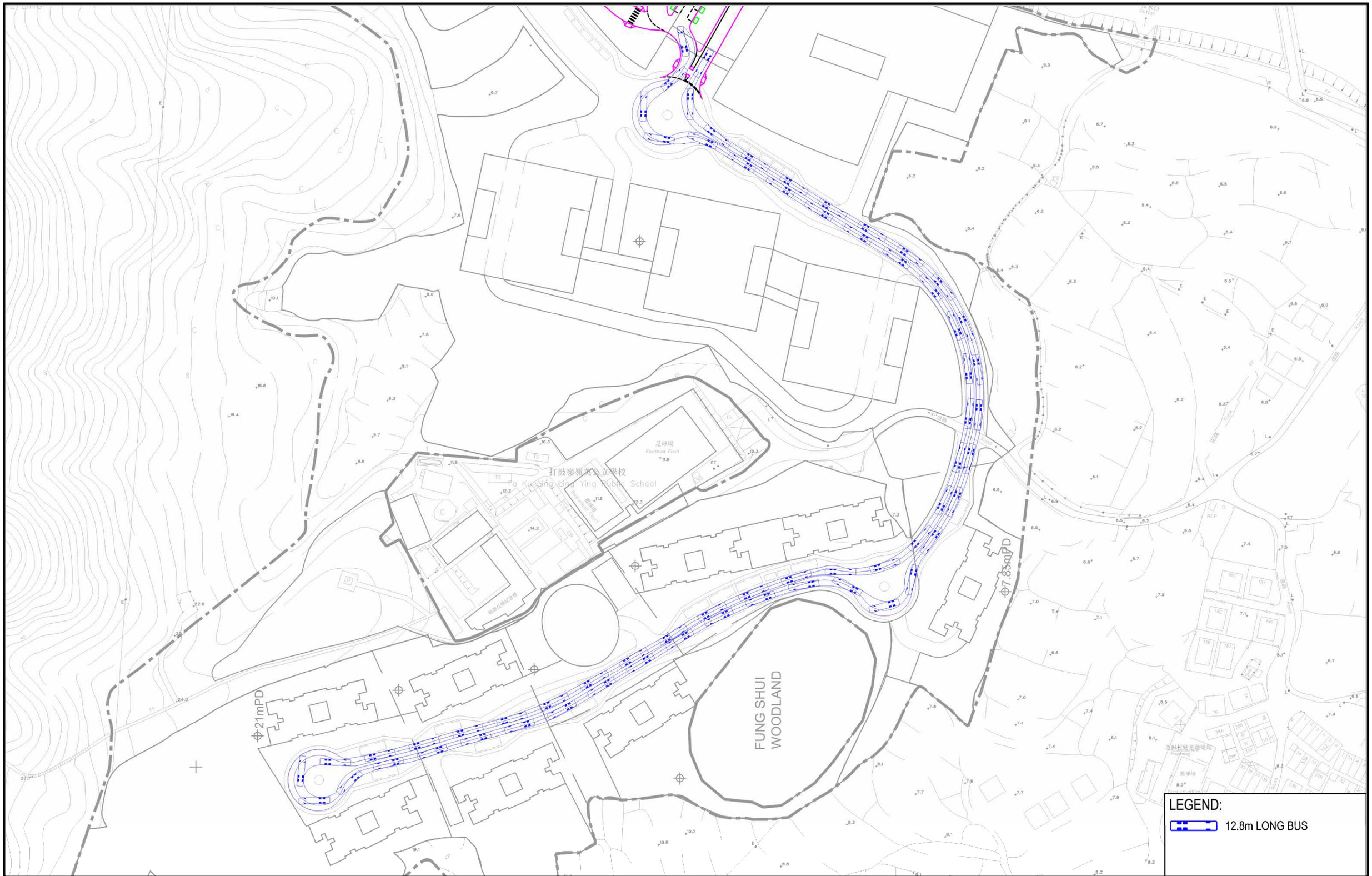
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.18
Date: JULY 26	Scale: NTS	Drawing Title: PROPOSED ROUTING OF KMB 79K FOR SERVICE EXTENSION TO THE APPLICATION SITE
Drawn: CKTY	Job No.: 287082-72	ARUP



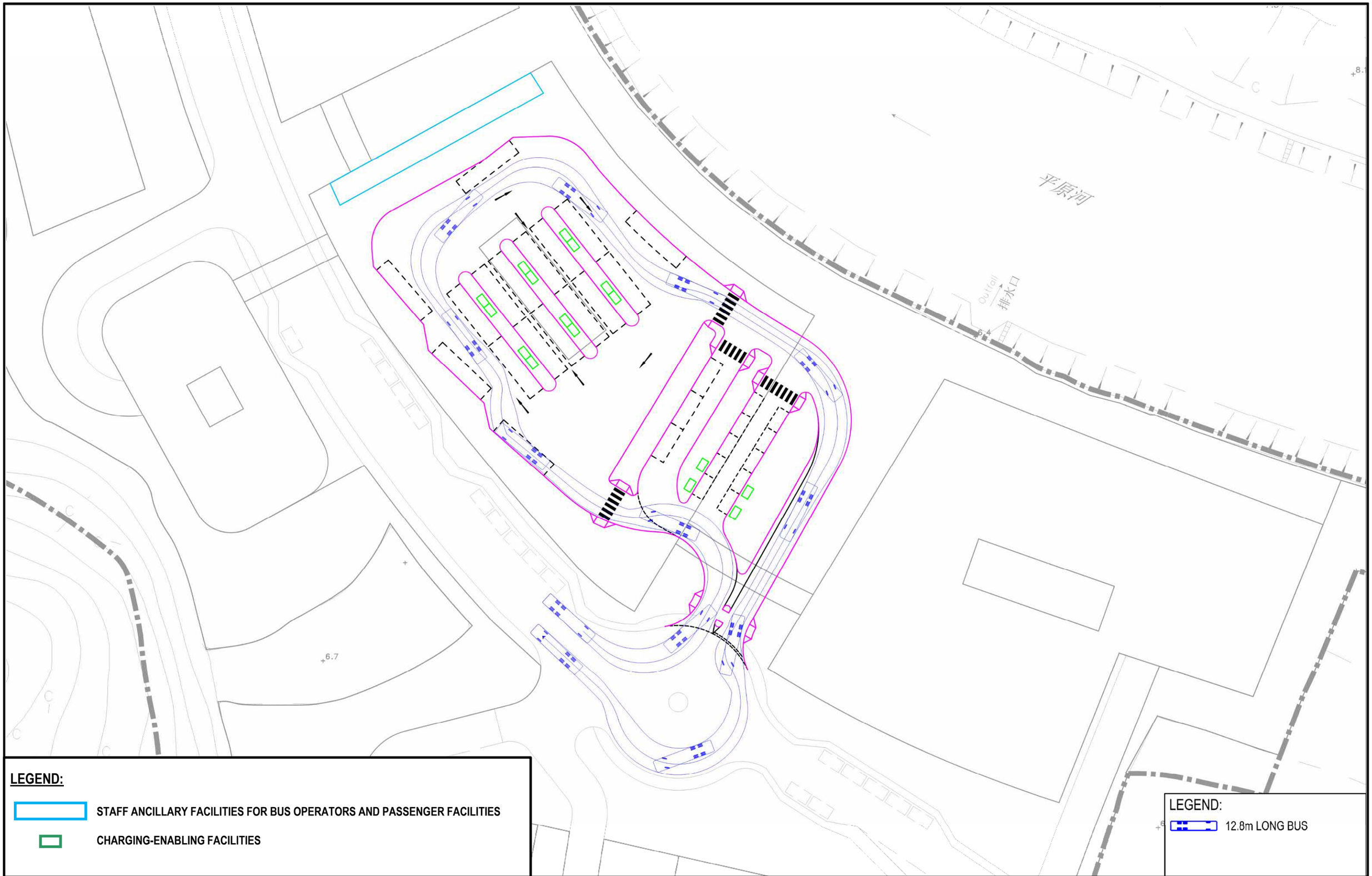
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.19
Date: JULY 26	Scale: NTS	Drawing Title: PROPOSED ROUTING OF PROPOSED CROSS-DISTRICT FRANCHISED BUS ROUTE MKT1
Drawn: CKTY	Job No.: 287082-72	ARUP



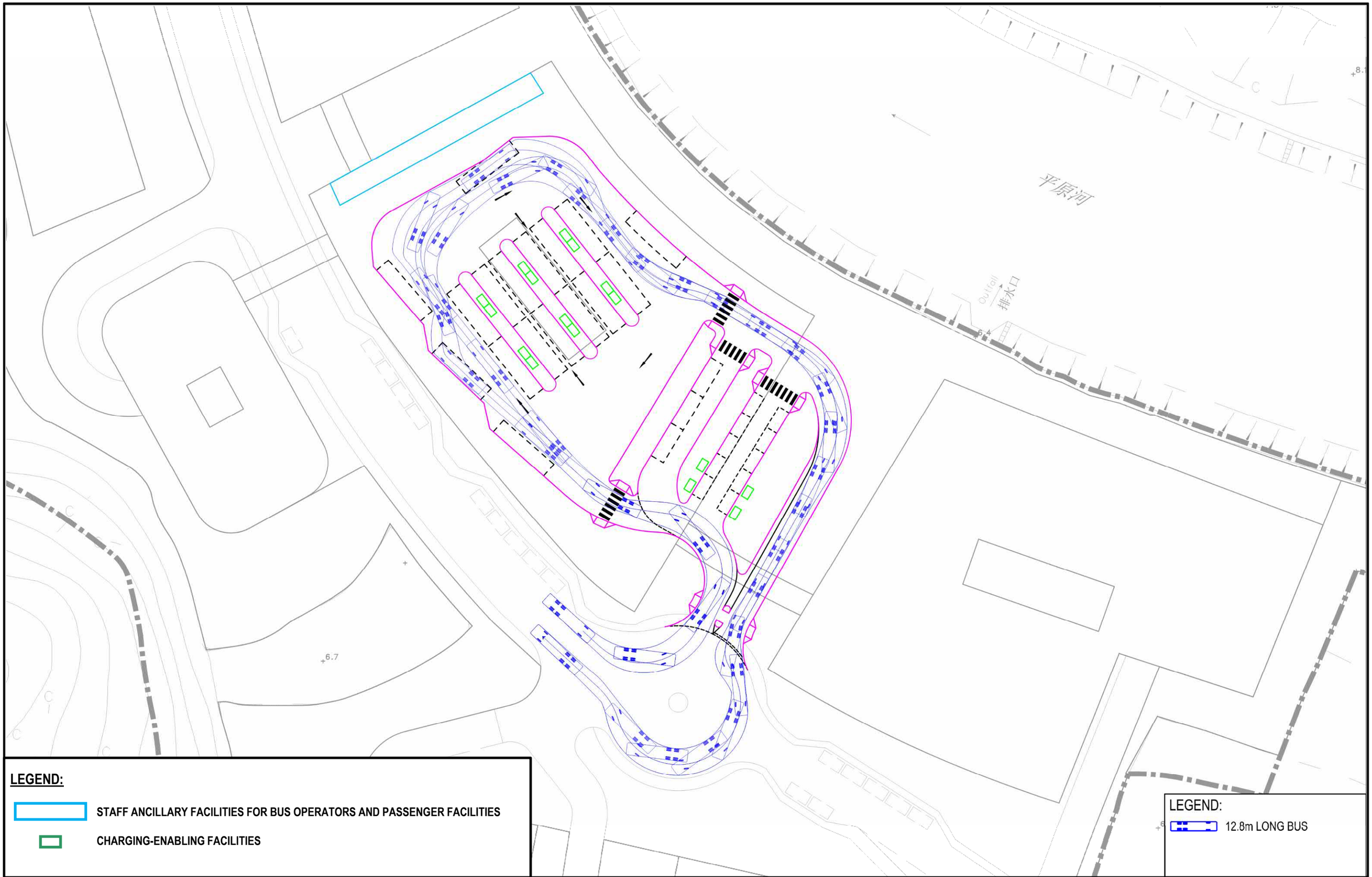
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.20
Date: JULY 26	Scale: NTS	Drawing Title: PROPOSED LAYOUT OF TERMINATING FACILITIES	ARUP
Drawn: CKTY	Job No.: 287082-72		



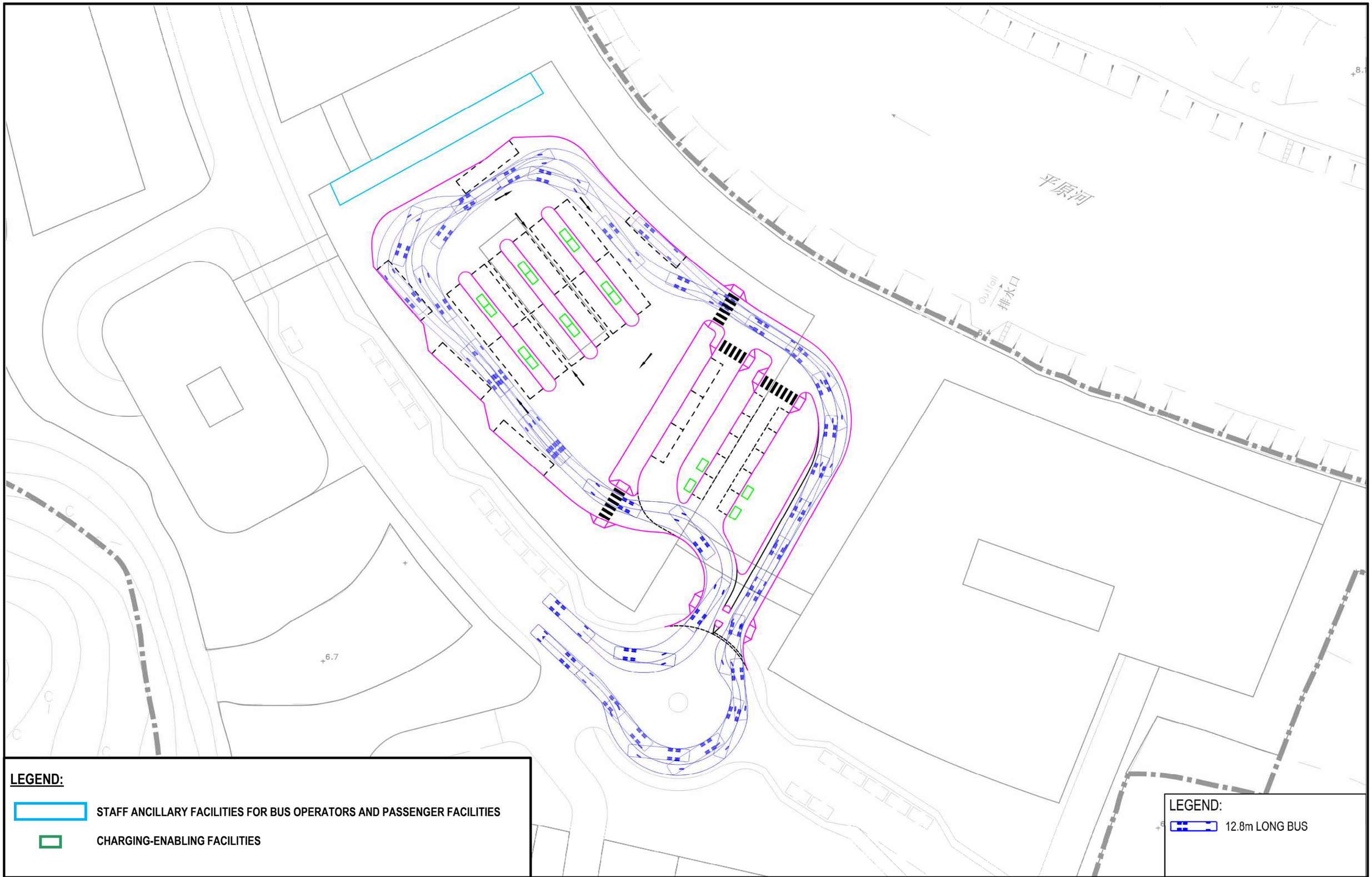
Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES	**FIGURE 4.21**
Date: JULY 26 / Scale: NTS	Drawing Title: **SWEPT PATH ANALYSIS OF 12.8m LONG BUS BETWEEN THE PROPOSED TRANSPORT INTERCHANGE AND THE EN-ROUTE BUS STOPS**	ARUP
Drawn: CKTY / Job No.: 287082-72		



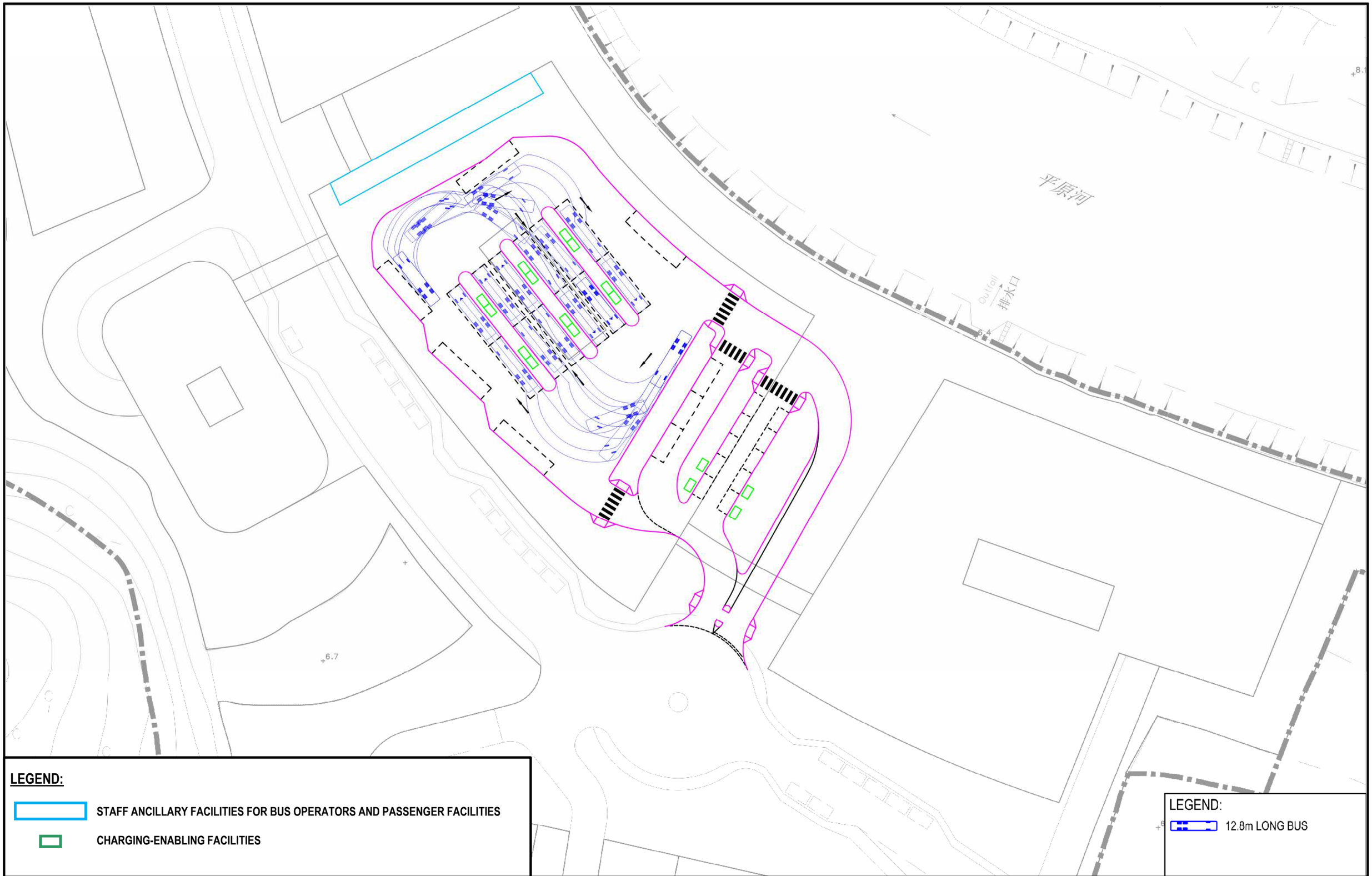
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.22
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 12.8m LONG BUS FROM INTERNAL DRIVEWAY APPROACHING BUS DROP-OFF BAY
Drawn: CKTY	Job No.: 287082-72	ARUP



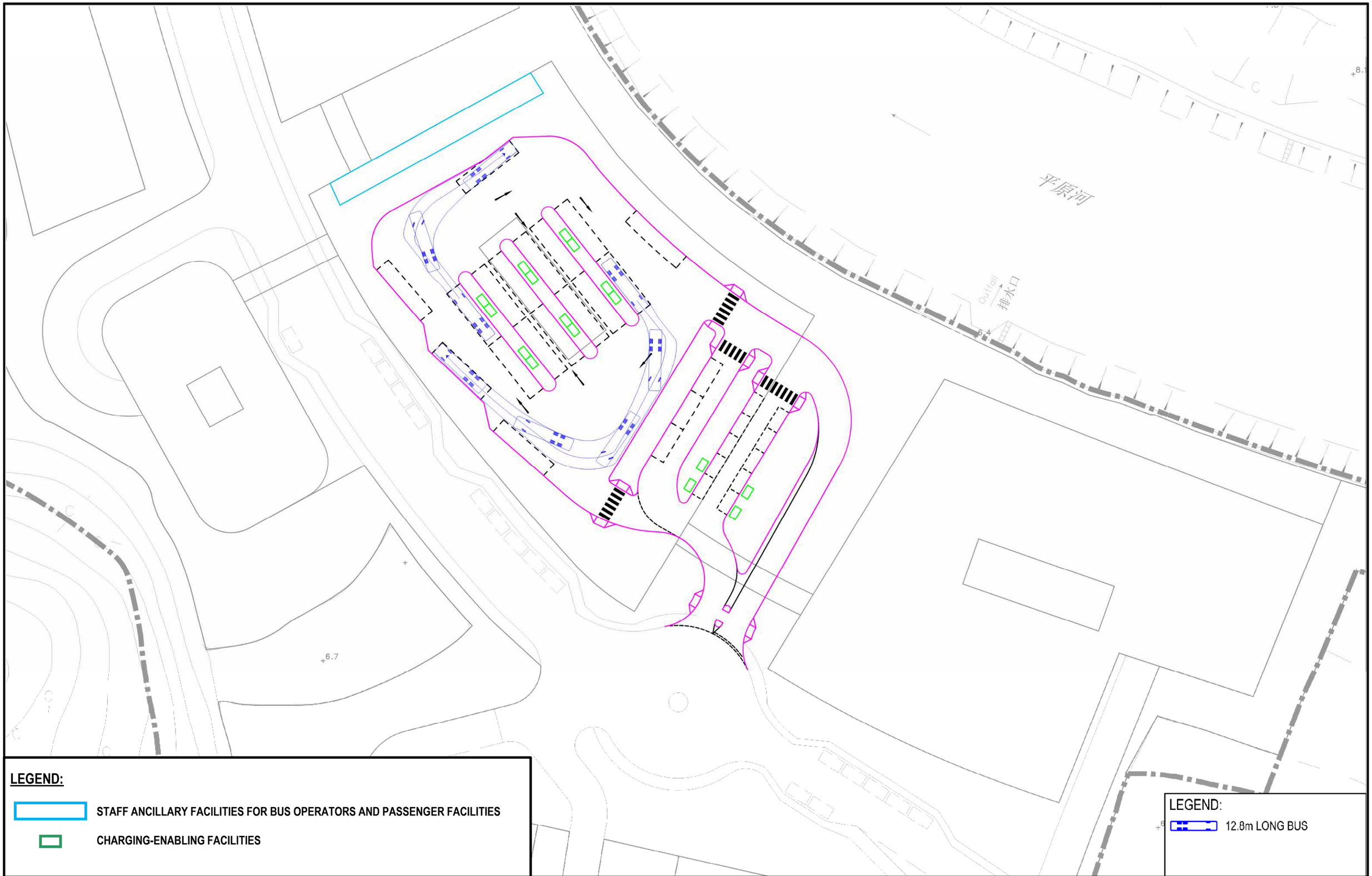
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.23
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 12.8m LONG BUS FROM INTERNAL DRIVEWAY APPROACHING BUS PICK-UP BAY 1, 3
Drawn: CKTY	Job No.: 287082-72	ARUP



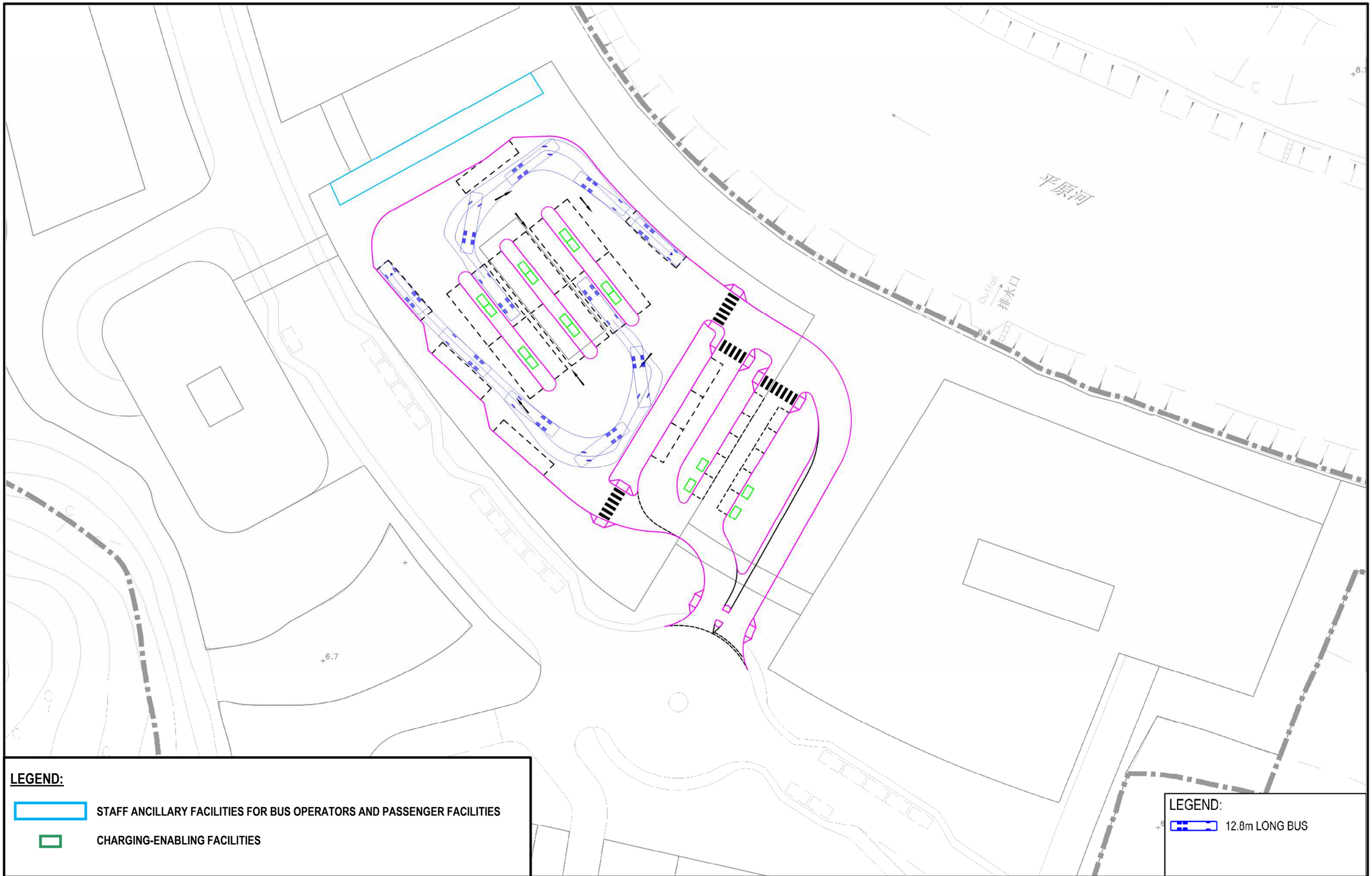
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.24
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 12.8m LONG BUS FROM INTERNAL DRIVEWAY APPROACHING BUS PICK-UP BAY 2, 4
Drawn: CKTY	Job No.: 287082-72	ARUP



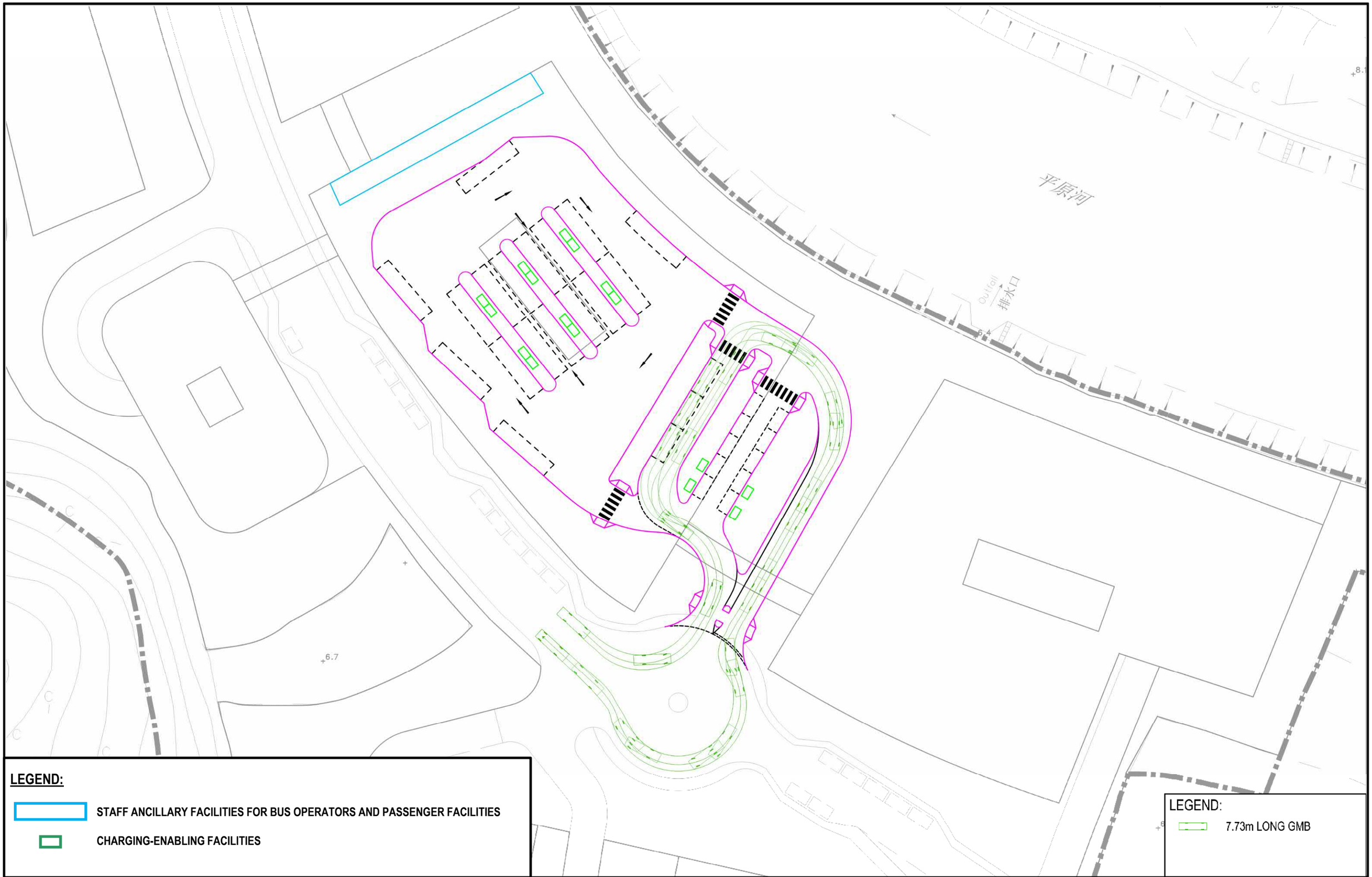
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.25
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 12.8m LONG BUS APPROACHING BUS STACKING AREA
Drawn: CKTY	Job No.: 287082-72	ARUP



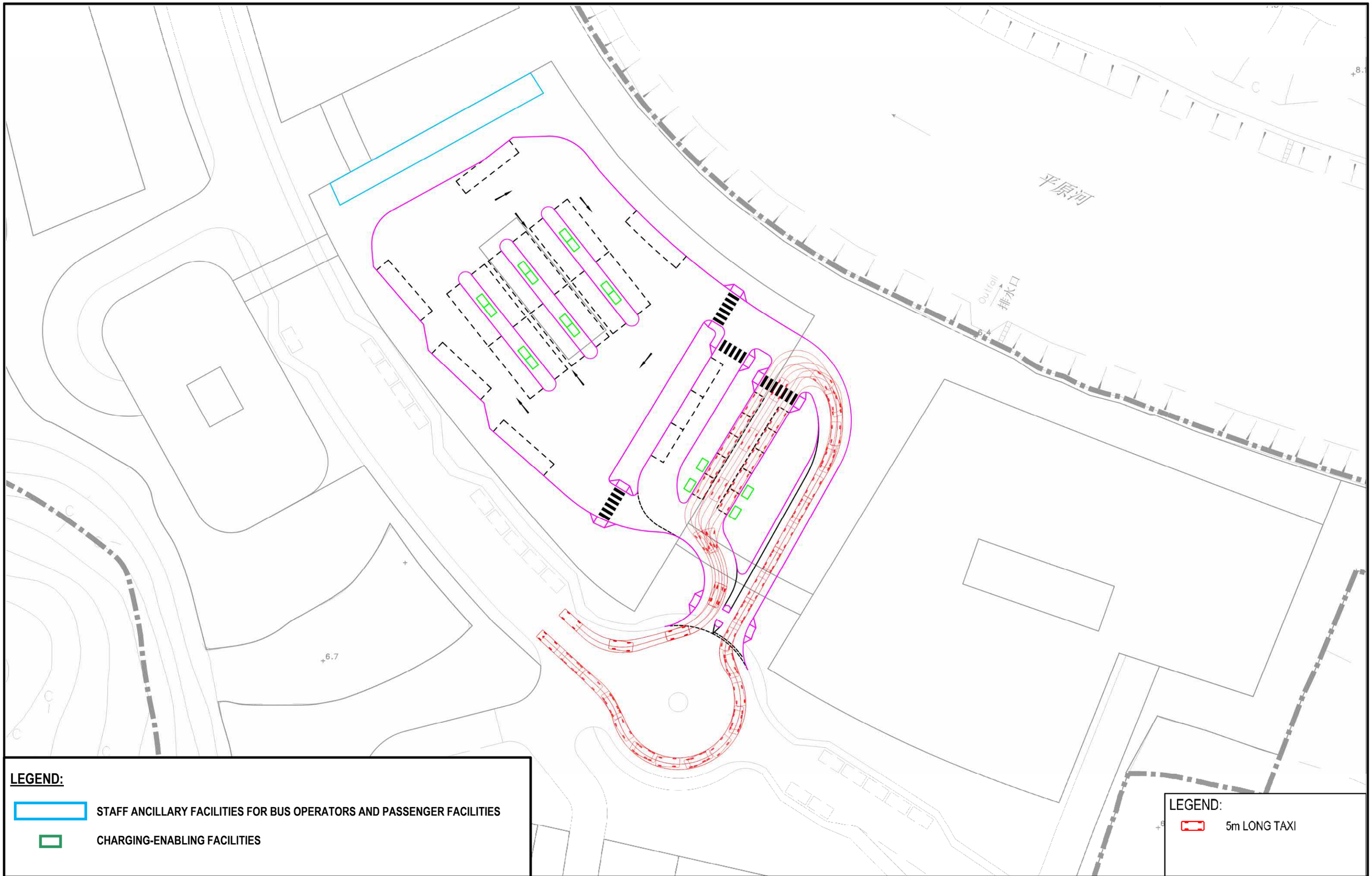
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.26
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 12.8m LONG BUS FROM BUS STACKING AREA APPROACHING BUS PICK-UP BAY 1, 3
Drawn: CKTY	Job No.: 287082-72	ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.27
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 12.8m LONG BUS FROM BUS STACKING AREA APPROACHING BUS PICK-UP BAY 2, 4
Drawn: CKTY	Job No.: 287082-72	ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.28
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 7.73m LONG MINIBUS ON GMB STAND
Drawn: CKTY	Job No.: 287082-72	ARUP

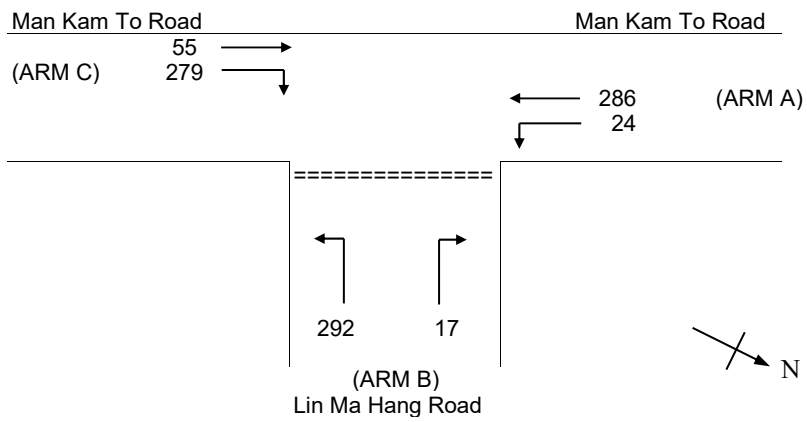


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED INNOVATION AND TECHNOLOGY HUB AT VARIOUS LOTS IN D.D. 82 AND D.D. 86 AND ADJOINING GOVERNMENT LAND, MAN KAM TO, NEW TERRITORIES		FIGURE 4.29
Date: JULY 26	Scale: NTS	Drawing Title: SWEPT PATH ANALYSIS OF 5m LONG TAXI ON TAXI STANDS
Drawn: CKTY	Job No.: 287082-72	ARUP

Appendix A

Junction Calculation Sheets

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_EXT_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	24	(pcu/hr)
q a-c	=	286	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	55	(pcu/hr)
q c-b	=	279	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	17	(pcu/hr)
q b-c	=	292	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	495
Q b-c	=	742
Q c-b	=	753
Q b-ac	=	722

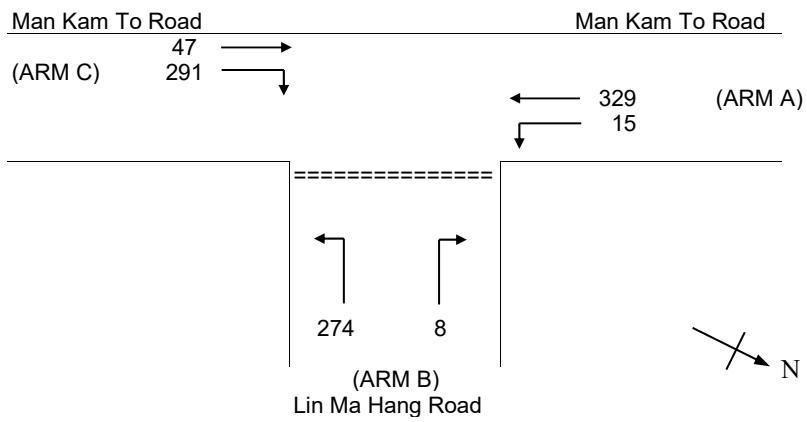
TOTAL FLOW = 953 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.03
DFC b-c	=	0.39
DFC c-b	=	0.37
DFC b-ac	=	0.43

CRITICAL DFC = 0.43

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_EXT_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	329	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	47	(pcu/hr)
q c-b	=	291	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	8	(pcu/hr)
q b-c	=	274	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	484
Q b-c	=	733
Q c-b	=	746
Q b-ac	=	722

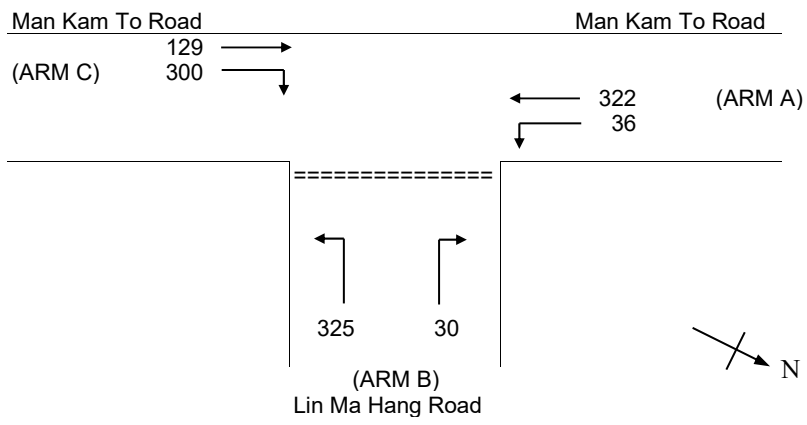
TOTAL FLOW = 964 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.02
DFC b-c	=	0.37
DFC c-b	=	0.39
DFC b-ac	=	0.39

CRITICAL DFC = 0.39

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_REF_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	36	(pcu/hr)
q a-c	=	322	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	129	(pcu/hr)
q c-b	=	300	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	325	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	470
Q b-c	=	733
Q c-b	=	742
Q b-ac	=	700

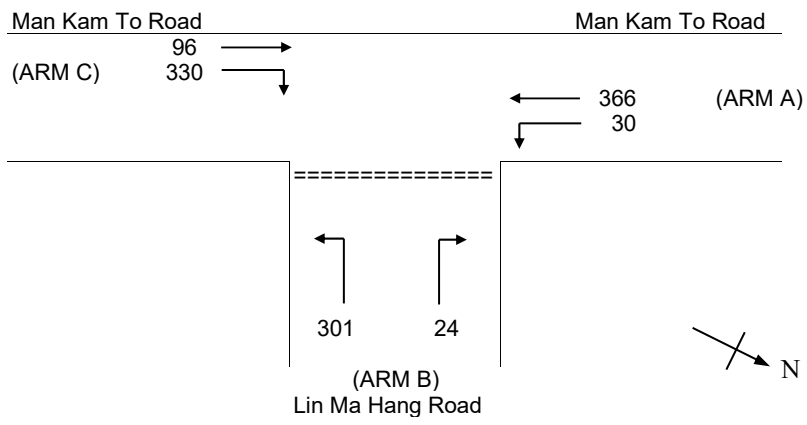
TOTAL FLOW = 1142 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.06
DFC b-c	=	0.44
DFC c-b	=	0.40
DFC b-ac	=	0.51

CRITICAL DFC = 0.51

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_REF_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	366	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	96	(pcu/hr)
q c-b	=	330	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	24	(pcu/hr)
q b-c	=	301	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	456
Q b-c	=	723
Q c-b	=	734
Q b-ac	=	693

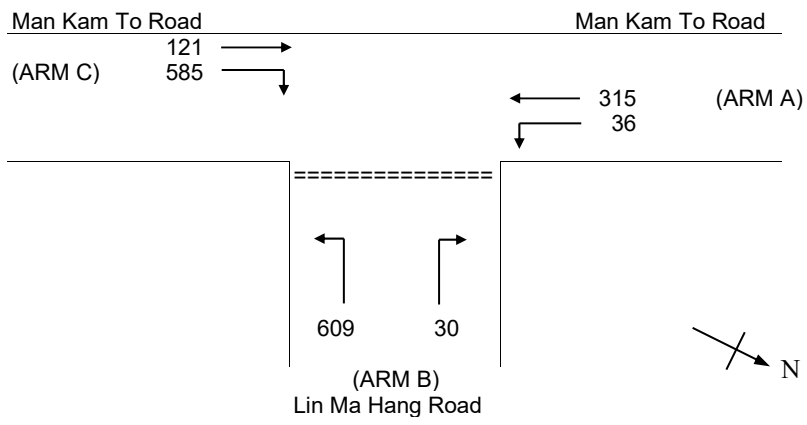
TOTAL FLOW = 1147 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.05
DFC b-c	=	0.42
DFC c-b	=	0.45
DFC b-ac	=	0.47

CRITICAL DFC = 0.47

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_DES_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	36	(pcu/hr)
q a-c	=	315	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	121	(pcu/hr)
q c-b	=	585	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	609	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	385
Q b-c	=	734
Q c-b	=	744
Q b-ac	=	704

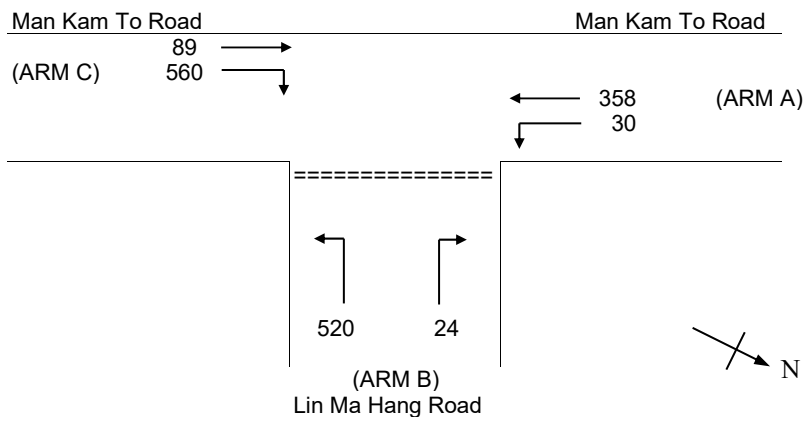
TOTAL FLOW = 1696 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.08
DFC b-c	=	0.83
DFC c-b	=	0.79
DFC b-ac	=	0.91

CRITICAL DFC = 0.91

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_DES_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	358	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	89	(pcu/hr)
q c-b	=	560	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	24	(pcu/hr)
q b-c	=	520	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	388
Q b-c	=	725
Q c-b	=	736
Q b-ac	=	698

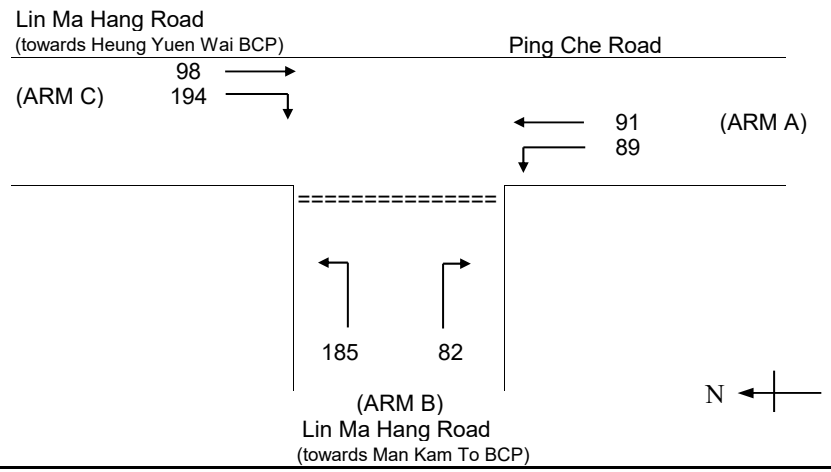
TOTAL FLOW = 1581 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.06
DFC b-c	=	0.72
DFC c-b	=	0.76
DFC b-ac	=	0.78

CRITICAL DFC = 0.78

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_EXT_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	89	(pcu/hr)
q a-c	=	91	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	98	(pcu/hr)
q c-b	=	194	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	82	(pcu/hr)
q b-c	=	185	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	497
Q b-c	=	823
Q c-b	=	633
Q b-ac	=	685

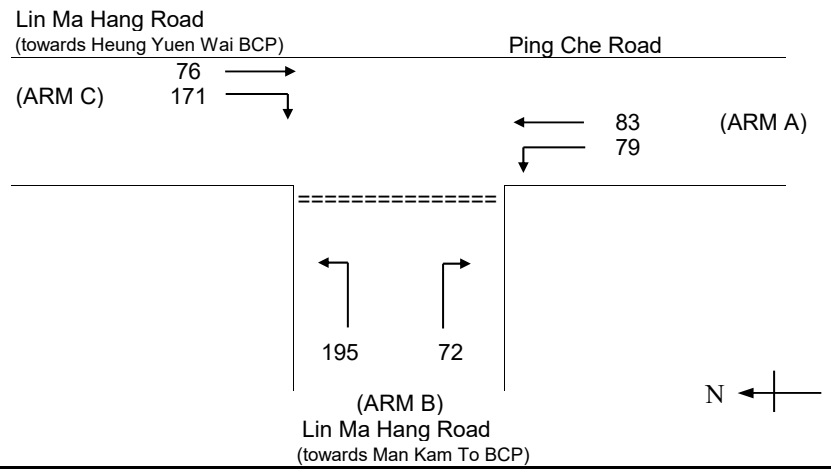
TOTAL FLOW = 739 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.16
DFC b-c	=	0.22
DFC c-b	=	0.31
DFC b-ac	=	0.39

CRITICAL DFC = 0.39

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_EXT_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	79	(pcu/hr)
q a-c	=	83	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	76	(pcu/hr)
q c-b	=	171	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	72	(pcu/hr)
q b-c	=	195	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	513
Q b-c	=	826
Q c-b	=	637
Q b-ac	=	709

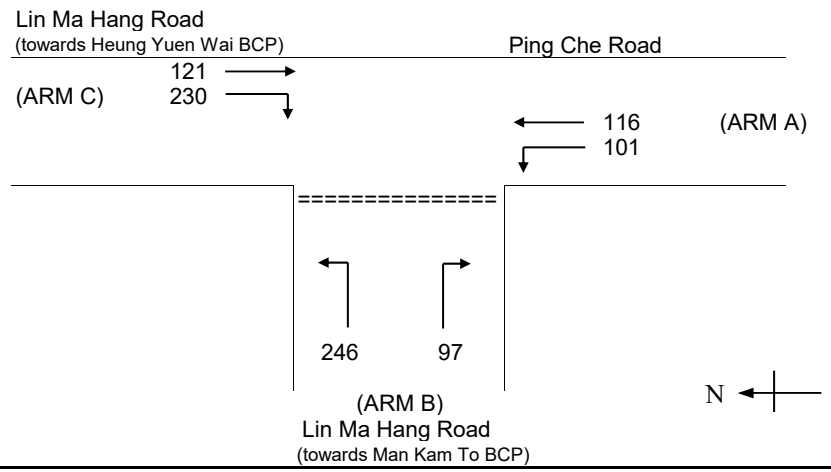
TOTAL FLOW = 676 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.14
DFC b-c	=	0.24
DFC c-b	=	0.27
DFC b-ac	=	0.38

CRITICAL DFC = 0.38

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_REF_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	101	(pcu/hr)
q a-c	=	116	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	121	(pcu/hr)
q c-b	=	230	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	97	(pcu/hr)
q b-c	=	246	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	471
Q b-c	=	813
Q c-b	=	624
Q b-ac	=	674

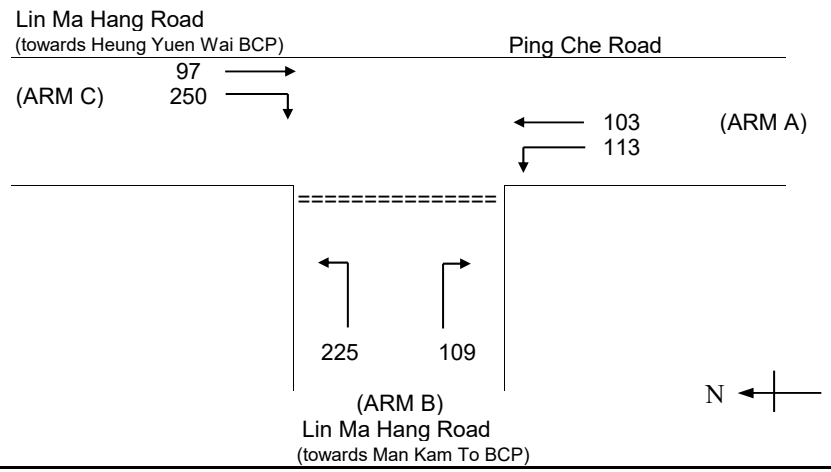
TOTAL FLOW = 911 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.21
DFC b-c	=	0.30
DFC c-b	=	0.37
DFC b-ac	=	0.51

CRITICAL DFC = 0.51

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_REF_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	113	(pcu/hr)
q a-c	=	103	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	97	(pcu/hr)
q c-b	=	250	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	109	(pcu/hr)
q b-c	=	225	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	470
Q b-c	=	816
Q c-b	=	624
Q b-ac	=	658

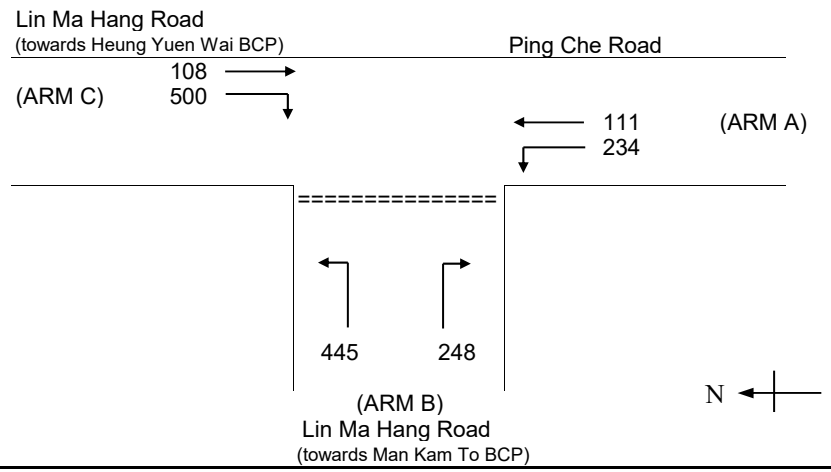
TOTAL FLOW = 897 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.23
DFC b-c	=	0.28
DFC c-b	=	0.40
DFC b-ac	=	0.51

CRITICAL DFC = 0.51

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_DES_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	234	(pcu/hr)
q a-c	=	111	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	108	(pcu/hr)
q c-b	=	500	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	248	(pcu/hr)
q b-c	=	445	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	356
Q b-c	=	798
Q c-b	=	592
Q b-ac	=	553

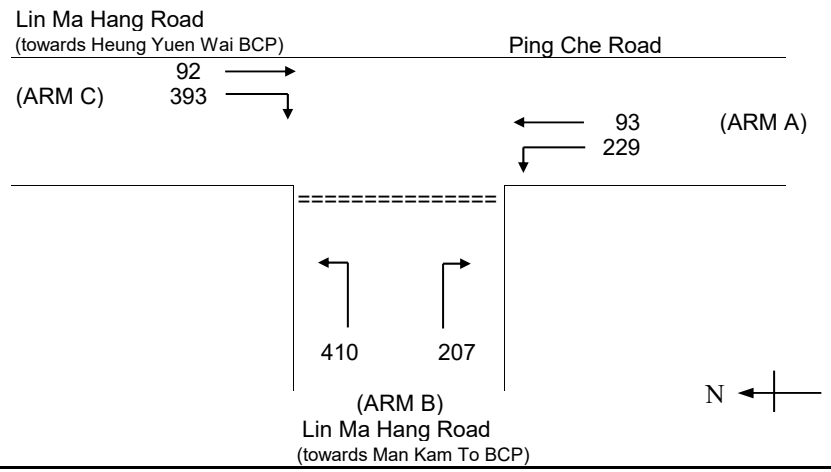
TOTAL FLOW = 1646 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.70
DFC b-c	=	0.56
DFC c-b	=	0.84
DFC b-ac	=	1.25

CRITICAL DFC = 1.25

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_DES_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	229	(pcu/hr)
q a-c	=	93	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	92	(pcu/hr)
q c-b	=	393	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	207	(pcu/hr)
q b-c	=	410	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	406
Q b-c	=	805
Q c-b	=	598
Q b-ac	=	605

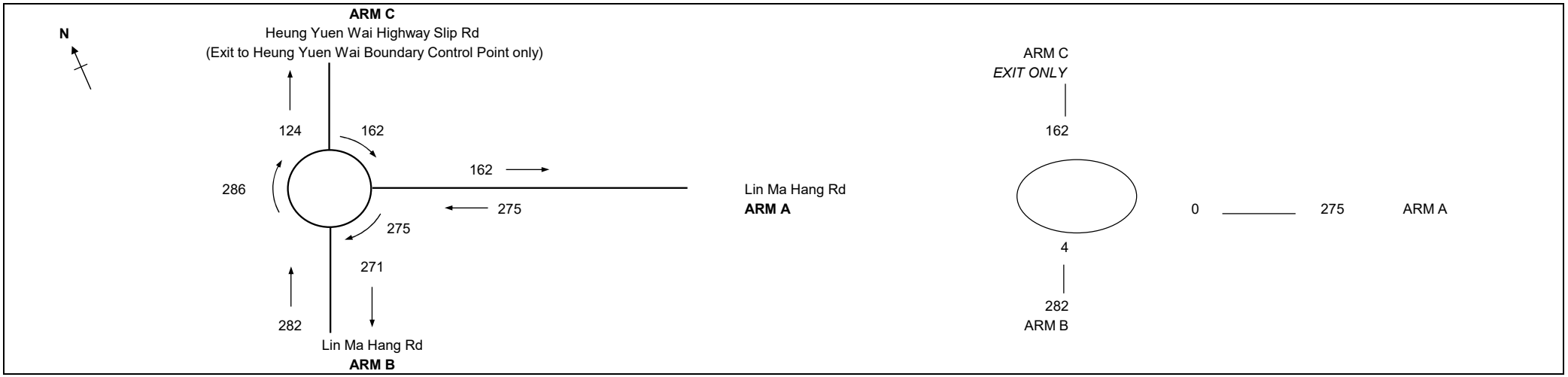
TOTAL FLOW = 1424 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.51
DFC b-c	=	0.51
DFC c-b	=	0.66
DFC b-ac	=	1.02

CRITICAL DFC = 1.02

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J3 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J3_EXT_AM	DATE 8/7/2026	

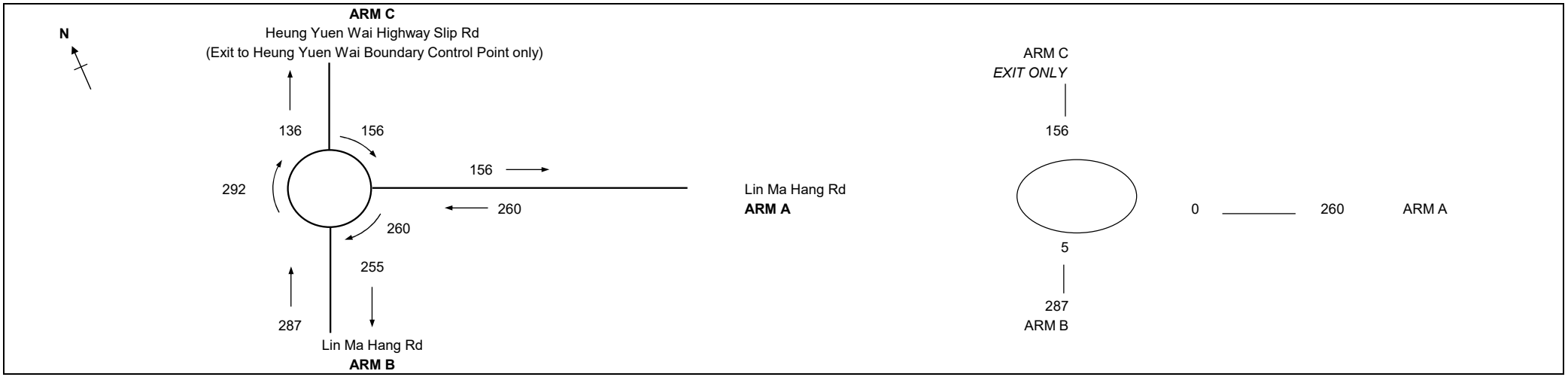


ARM			A	B
INPUT PARAMETERS:				
V	=	Approach half width (m)	3.65	3.65
E	=	Entry width (m)	4.00	4.00
L	=	Effective length of flare (m)	10	10
R	=	Entry radius (m)	100	45
D	=	Inscribed circle diameter (m)	25	25
A	=	Entry angle (degree)	10	15
Q	=	Entry flow (pcu/h)	275	282
Qc	=	Circulating flow across entry (pcu/h)	0	4
OUTPUT PARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08
X2	=	V + ((E-V)/(1+2S))	3.96	3.96
M	=	EXP((D-60)/10)	0.03	0.03
F	=	303*X2	1201	1201
Td	=	1+(0.5/(1+M))	1.49	1.49
Fc	=	0.21*Td(1+0.2*X2)	0.56	0.56
Qe	=	K(F-Fc*Qc)	1332	1294
DFC	=	Design flow/Capacity = Q/Qe	0.21	0.22

Total In Sum = 557 PCU

DFC of Critical Approach = 0.22

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J3 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J3_EXT_PM	DATE 8/7/2026	

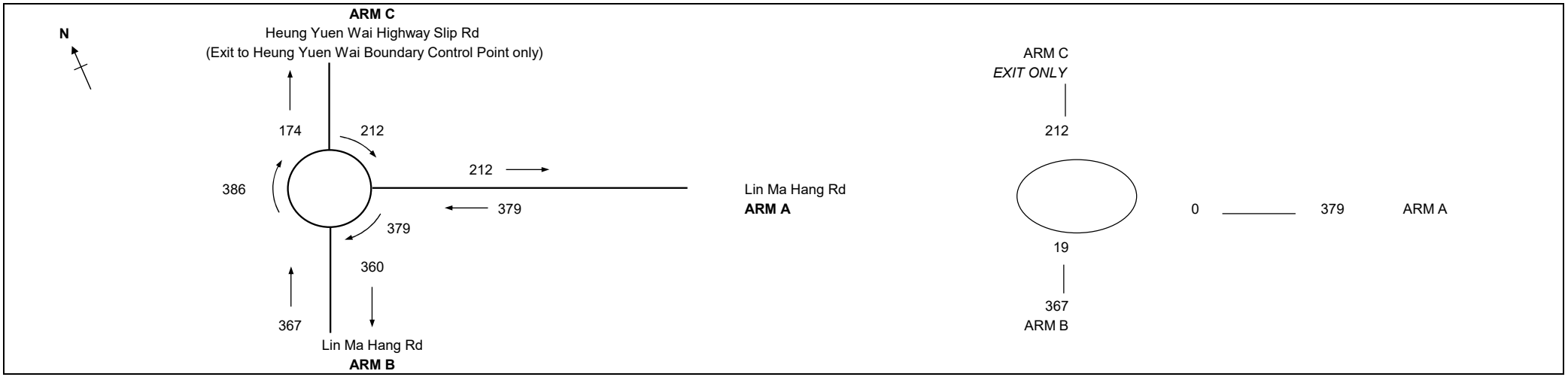


ARM			A	B
INPUT PARAMETERS:				
V	=	Approach half width (m)	3.65	3.65
E	=	Entry width (m)	4.00	4.00
L	=	Effective length of flare (m)	10	10
R	=	Entry radius (m)	100	45
D	=	Inscribed circle diameter (m)	25	25
A	=	Entry angle (degree)	10	15
Q	=	Entry flow (pcu/h)	260	287
Qc	=	Circulating flow across entry (pcu/h)	0	5
OUTPUT PARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08
X2	=	V + ((E-V)/(1+2S))	3.96	3.96
M	=	EXP((D-60)/10)	0.03	0.03
F	=	303*X2	1201	1201
Td	=	1+(0.5/(1+M))	1.49	1.49
Fc	=	0.21*Td(1+0.2*X2)	0.56	0.56
Qe	=	K(F-Fc*Qc)	1332	1293
DFC	=	Design flow/Capacity = Q/Qe	0.20	0.22

Total In Sum = 547 PCU

DFC of Critical Approach = 0.22

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J3 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J3_REF_AM	DATE 8/7/2026	

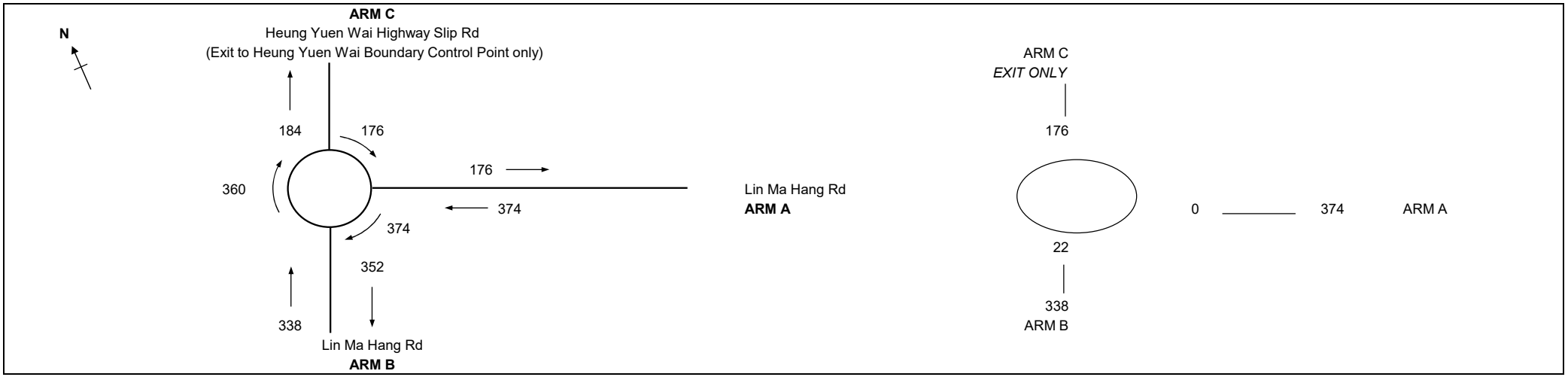


ARM			A	B
INPUT PARAMETERS:				
V	=	Approach half width (m)	3.65	3.65
E	=	Entry width (m)	4.00	4.00
L	=	Effective length of flare (m)	10	10
R	=	Entry radius (m)	100	45
D	=	Inscribed circle diameter (m)	25	25
A	=	Entry angle (degree)	10	15
Q	=	Entry flow (pcu/h)	379	367
Qc	=	Circulating flow across entry (pcu/h)	0	19
OUTPUT PARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08
X2	=	V + ((E-V)/(1+2S))	3.96	3.96
M	=	EXP((D-60)/10)	0.03	0.03
F	=	303*X2	1201	1201
Td	=	1+(0.5/(1+M))	1.49	1.49
Fc	=	0.21*Td(1+0.2*X2)	0.56	0.56
Qe	=	K(F-Fc*Qc)	1332	1285
DFC	=	Design flow/Capacity = Q/Qe	0.29	0.29

Total In Sum = 746 PCU

DFC of Critical Approach = 0.29

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J3 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J3_REF_PM	DATE 8/7/2026	

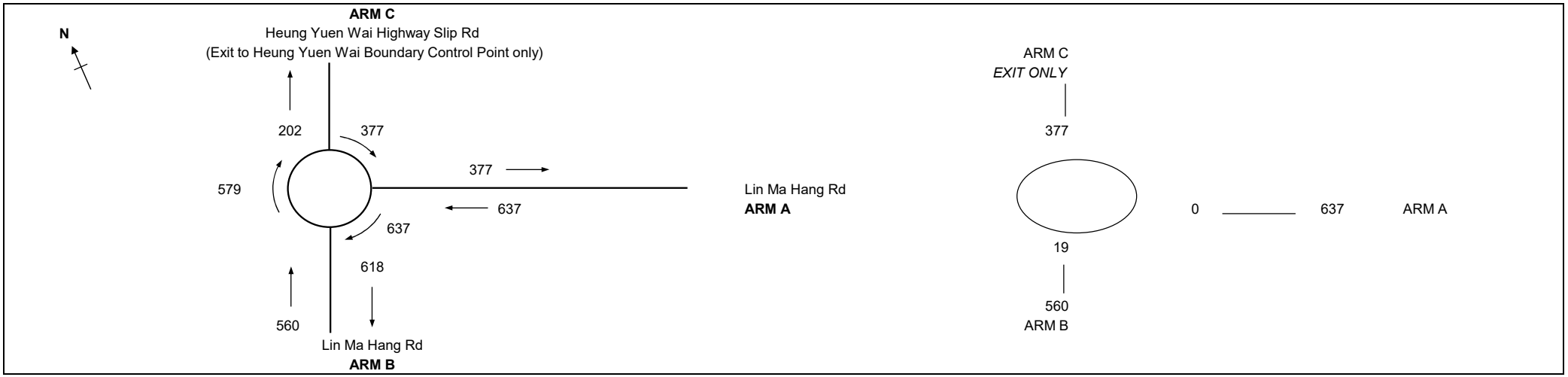


ARM			A	B
INPUT PARAMETERS:				
V	=	Approach half width (m)	3.65	3.65
E	=	Entry width (m)	4.00	4.00
L	=	Effective length of flare (m)	10	10
R	=	Entry radius (m)	100	45
D	=	Inscribed circle diameter (m)	25	25
A	=	Entry angle (degree)	10	15
Q	=	Entry flow (pcu/h)	374	338
Qc	=	Circulating flow across entry (pcu/h)	0	22
OUTPUT PARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08
X2	=	V + ((E-V)/(1+2S))	3.96	3.96
M	=	EXP((D-60)/10)	0.03	0.03
F	=	303*X2	1201	1201
Td	=	1+(0.5/(1+M))	1.49	1.49
Fc	=	0.21*Td(1+0.2*X2)	0.56	0.56
Qe	=	K(F-Fc*Qc)	1332	1283
DFC	=	Design flow/Capacity = Q/Qe	0.29	0.27

Total In Sum = 712 PCU

DFC of Critical Approach = 0.29

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J3 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J3_DES_AM	DATE 8/7/2026	

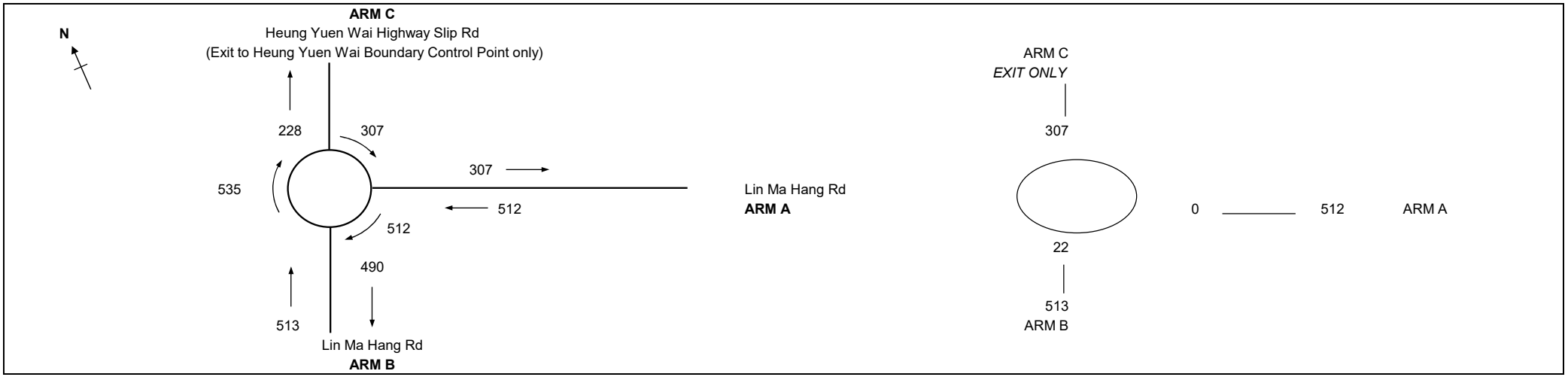


ARM			A	B
INPUT PARAMETERS:				
V	=	Approach half width (m)	3.65	3.65
E	=	Entry width (m)	4.00	4.00
L	=	Effective length of flare (m)	10	10
R	=	Entry radius (m)	100	45
D	=	Inscribed circle diameter (m)	25	25
A	=	Entry angle (degree)	10	15
Q	=	Entry flow (pcu/h)	637	560
Qc	=	Circulating flow across entry (pcu/h)	0	19
OUTPUT PARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08
X2	=	V + ((E-V)/(1+2S))	3.96	3.96
M	=	EXP((D-60)/10)	0.03	0.03
F	=	303*X2	1201	1201
Td	=	1+(0.5/(1+M))	1.49	1.49
Fc	=	0.21*Td(1+0.2*X2)	0.56	0.56
Qe	=	K(F-Fc*Qc)	1332	1285
DFC	=	Design flow/Capacity = Q/Qe	0.48	0.44

Total In Sum = 1197 PCU

DFC of Critical Approach = 0.48

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J3 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J3_DES_PM	DATE 8/7/2026	

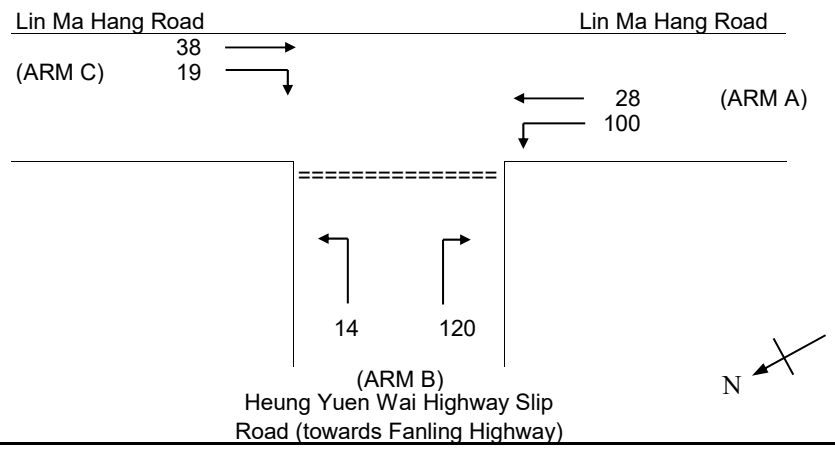


ARM			A	B
INPUT PARAMETERS:				
V	=	Approach half width (m)	3.65	3.65
E	=	Entry width (m)	4.00	4.00
L	=	Effective length of flare (m)	10	10
R	=	Entry radius (m)	100	45
D	=	Inscribed circle diameter (m)	25	25
A	=	Entry angle (degree)	10	15
Q	=	Entry flow (pcu/h)	512	513
Qc	=	Circulating flow across entry (pcu/h)	0	22
OUTPUT PARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.08
X2	=	V + ((E-V)/(1+2S))	3.96	3.96
M	=	EXP((D-60)/10)	0.03	0.03
F	=	303*X2	1201	1201
Td	=	1+(0.5/(1+M))	1.49	1.49
Fc	=	0.21*Td(1+0.2*X2)	0.56	0.56
Qe	=	K(F-Fc*Qc)	1332	1283
DFC	=	Design flow/Capacity = Q/Qe	0.39	0.40

Total In Sum = 1025 PCU

DFC of Critical Approach = 0.40

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J4 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J4_EXT_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	100	(pcu/hr)
q a-c	=	28	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.65	(metres)
Vr c-b	=	50	(metres)
q c-a	=	38	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	5.00	(metres)
W b-c	=	5.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	120	(pcu/hr)
q b-c	=	14	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.07
E	=	1.11
F	=	0.94
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	638
Q b-c	=	804
Q c-b	=	665
Q b-ac	=	652

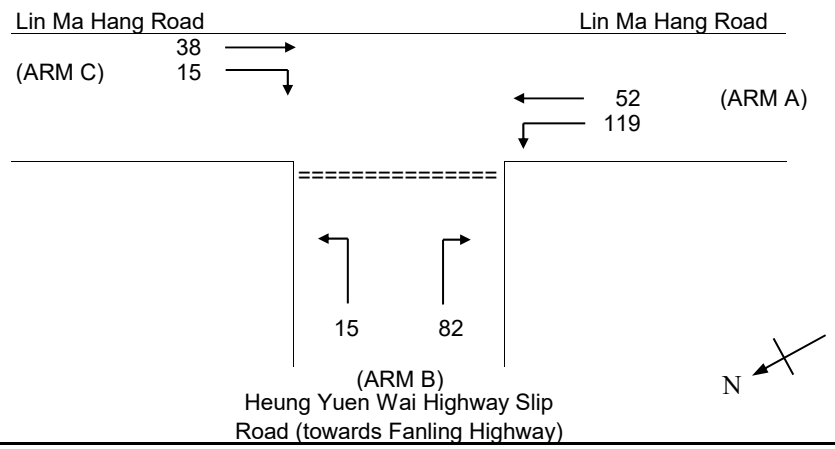
TOTAL FLOW = 319 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.19
DFC b-c	=	0.02
DFC c-b	=	0.03
DFC b-ac	=	0.21

CRITICAL DFC = 0.21

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J4 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J4_EXT_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	119	(pcu/hr)
q a-c	=	52	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.65	(metres)
Vr c-b	=	50	(metres)
q c-a	=	38	(pcu/hr)
q c-b	=	15	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	5.00	(metres)
W b-c	=	5.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	82	(pcu/hr)
q b-c	=	15	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.07
E	=	1.11
F	=	0.94
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	631
Q b-c	=	795
Q c-b	=	654
Q b-ac	=	652

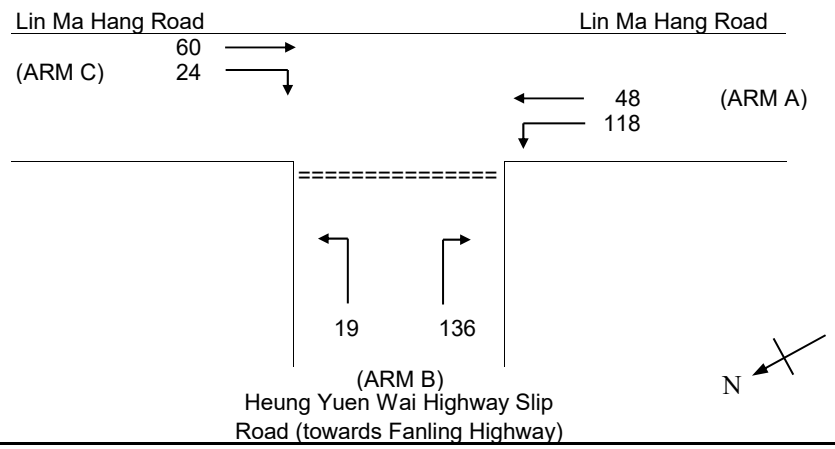
TOTAL FLOW = 321 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.13
DFC b-c	=	0.02
DFC c-b	=	0.02
DFC b-ac	=	0.15

CRITICAL DFC = 0.15

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J4 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J4_REF_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	118	(pcu/hr)
q a-c	=	48	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.65	(metres)
Vr c-b	=	50	(metres)
q c-a	=	60	(pcu/hr)
q c-b	=	24	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	5.00	(metres)
W b-c	=	5.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	136	(pcu/hr)
q b-c	=	19	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.07
E	=	1.11
F	=	0.94
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	624
Q b-c	=	796
Q c-b	=	656
Q b-ac	=	641

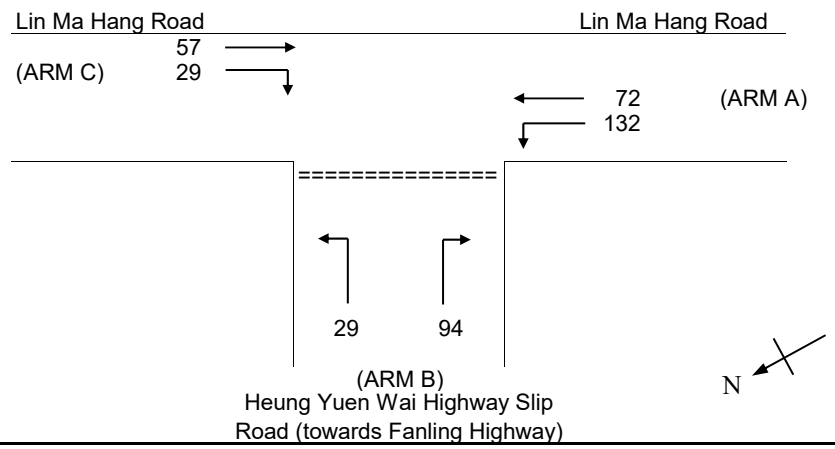
TOTAL FLOW = 405 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.22
DFC b-c	=	0.02
DFC c-b	=	0.04
DFC b-ac	=	0.24

CRITICAL DFC = 0.24

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J4 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J4_REF_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	132	(pcu/hr)
q a-c	=	72	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.65	(metres)
Vr c-b	=	50	(metres)
q c-a	=	57	(pcu/hr)
q c-b	=	29	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	5.00	(metres)
W b-c	=	5.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	94	(pcu/hr)
q b-c	=	29	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.07
E	=	1.11
F	=	0.94
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	614
Q b-c	=	787
Q c-b	=	646
Q b-ac	=	648

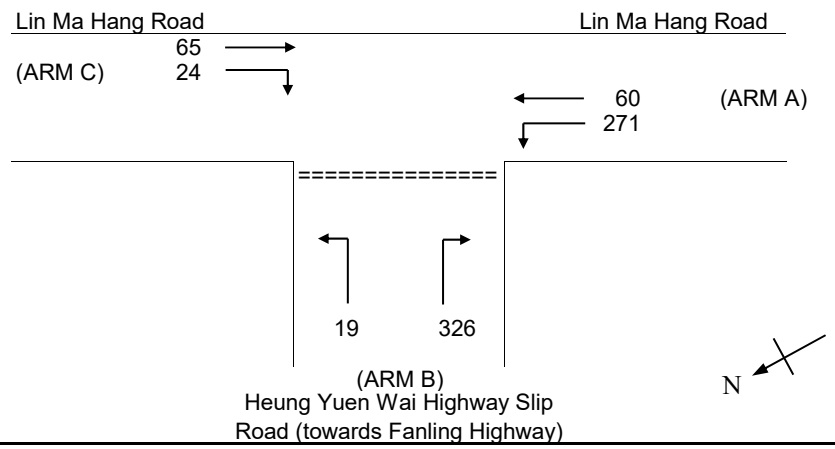
TOTAL FLOW = 413 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.15
DFC b-c	=	0.04
DFC c-b	=	0.04
DFC b-ac	=	0.19

CRITICAL DFC = 0.19

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J4 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J4_DES_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	271	(pcu/hr)
q a-c	=	60	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.65	(metres)
Vr c-b	=	50	(metres)
q c-a	=	65	(pcu/hr)
q c-b	=	24	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	5.00	(metres)
W b-c	=	5.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	326	(pcu/hr)
q b-c	=	19	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.07
E	=	1.11
F	=	0.94
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	602
Q b-c	=	774
Q c-b	=	614
Q b-ac	=	609

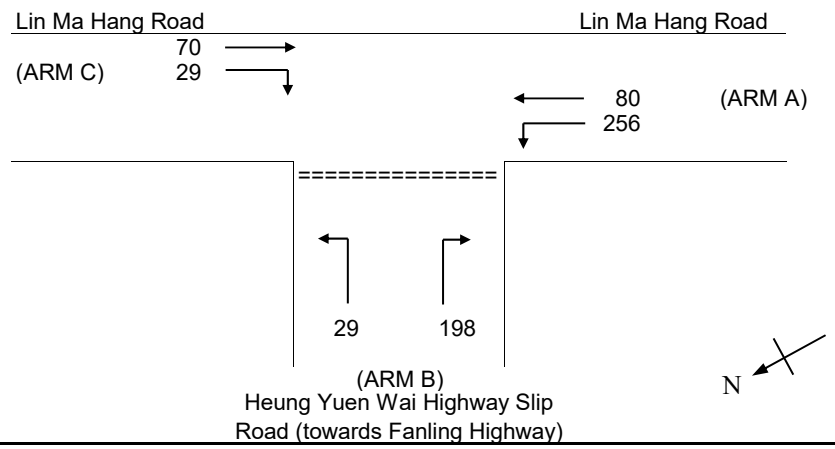
TOTAL FLOW = 765 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.54
DFC b-c	=	0.02
DFC c-b	=	0.04
DFC b-ac	=	0.57

CRITICAL DFC = 0.57

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J4 - Lin Ma Hang Road / Heung Yuen Wai Highway Slip Road	J4_DES_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	256	(pcu/hr)
q a-c	=	80	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.65	(metres)
Vr c-b	=	50	(metres)
q c-a	=	70	(pcu/hr)
q c-b	=	29	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	5.00	(metres)
W b-c	=	5.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	198	(pcu/hr)
q b-c	=	29	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.07
E	=	1.11
F	=	0.94
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	595
Q b-c	=	770
Q c-b	=	612
Q b-ac	=	613

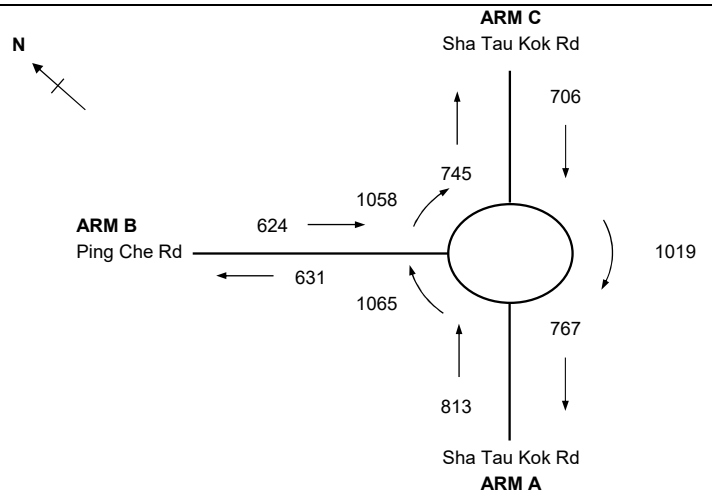
TOTAL FLOW = 662 (PCU/HR)

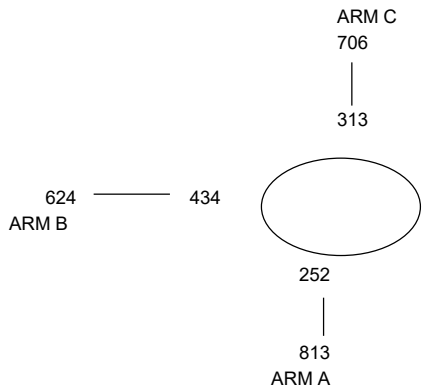
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.33
DFC b-c	=	0.04
DFC c-b	=	0.05
DFC b-ac	=	0.37

CRITICAL DFC = 0.37

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J5 - Sha Tau Kok Road / Ping Che Road	J5_EXT_AM	DATE 8/7/2026	



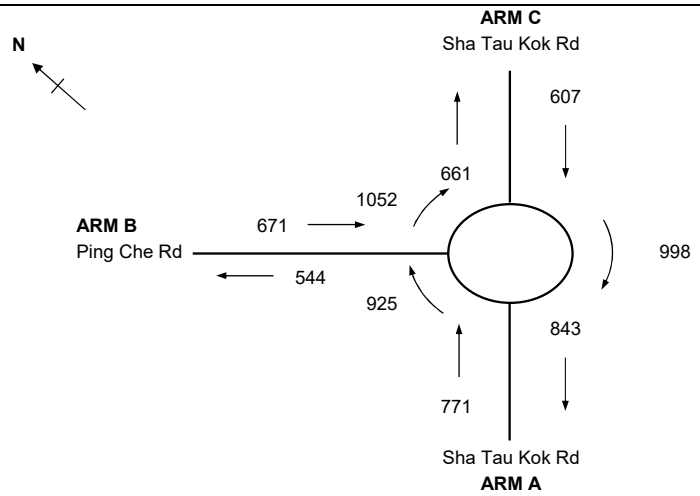


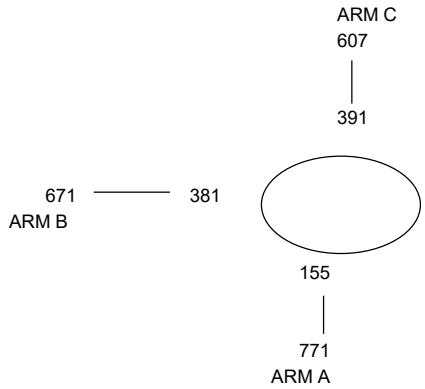
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	5.50	7.30
E	=	Entry width (m)	9.00	8.50	9.00
L	=	Effective length of flare (m)	5	5	5
R	=	Entry radius (m)	40	15	40
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	20	40	25
Q	=	Entry flow (pcu/h)	813	624	706
Qc	=	Circulating flow across entry (pcu/h)	252	434	313
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.54	0.96	0.54
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	0.95	1.04
X2	=	V + ((E-V)/(1+2S))	8.11	6.53	8.11
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2459	1978	2459
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.66	0.75
Qe	=	K(F-Fc*Qc)	2403	1605	2316
DFC	=	Design flow/Capacity = Q/Qe	0.34	0.39	0.30

Total In Sum = 2143 PCU

DFC of Critical Approach = 0.39

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J5 - Sha Tau Kok Road / Ping Che Road	J5_EXT_PM	DATE 8/7/2026	



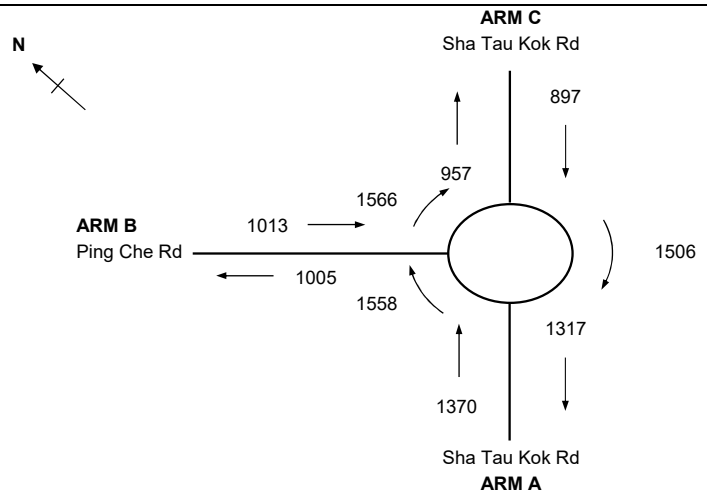


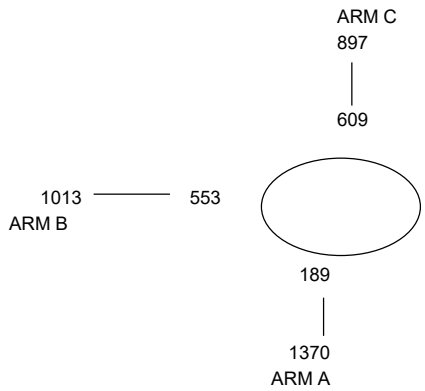
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	5.50	7.30
E	=	Entry width (m)	9.00	8.50	9.00
L	=	Effective length of flare (m)	5	5	5
R	=	Entry radius (m)	40	15	40
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	20	40	25
Q	=	Entry flow (pcu/h)	771	671	607
Qc	=	Circulating flow across entry (pcu/h)	155	381	391
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.54	0.96	0.54
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	0.95	1.04
X2	=	V + ((E-V)/(1+2S))	8.11	6.53	8.11
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2459	1978	2459
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.66	0.75
Qe	=	K(F-Fc*Qc)	2481	1638	2255
DFC	=	Design flow/Capacity = Q/Qe	0.31	0.41	0.27

Total In Sum = 2049 PCU

DFC of Critical Approach = 0.41

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J5 - Sha Tau Kok Road / Ping Che Road	J5_REF_AM	DATE 8/7/2026	



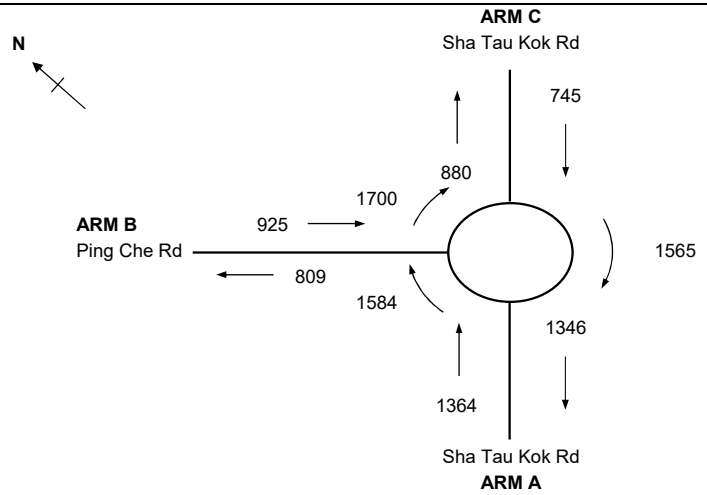


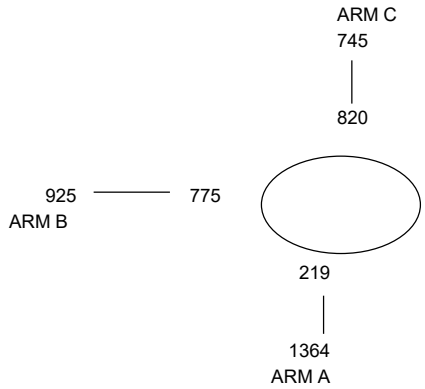
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	5.50	7.30
E	=	Entry width (m)	9.00	8.50	9.00
L	=	Effective length of flare (m)	5	5	5
R	=	Entry radius (m)	40	15	40
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	20	40	25
Q	=	Entry flow (pcu/h)	1370	1013	897
Qc	=	Circulating flow across entry (pcu/h)	189	553	609
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.54	0.96	0.54
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	0.95	1.04
X2	=	V + ((E-V)/(1+2S))	8.11	6.53	8.11
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2459	1978	2459
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.66	0.75
Qe	=	K(F-Fc*Qc)	2453	1530	2084
DFC	=	Design flow/Capacity = Q/Qe	0.56	0.67	0.44

Total In Sum = 3280 PCU

DFC of Critical Approach = 0.67

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J5 - Sha Tau Kok Road / Ping Che Road	J5_REF_PM	DATE 8/7/2026	



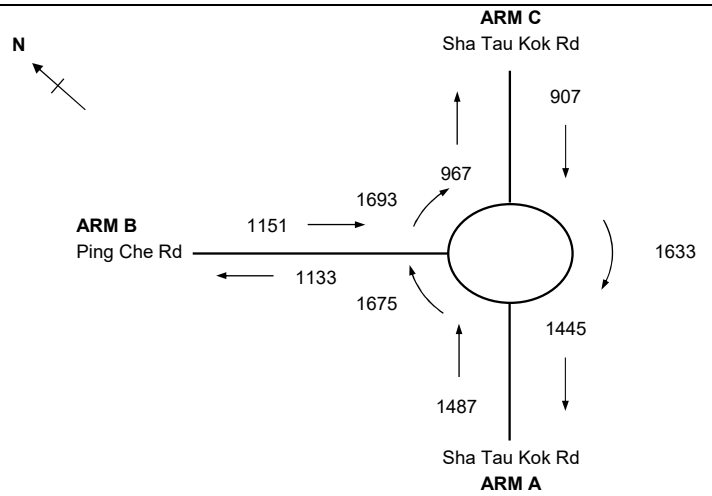


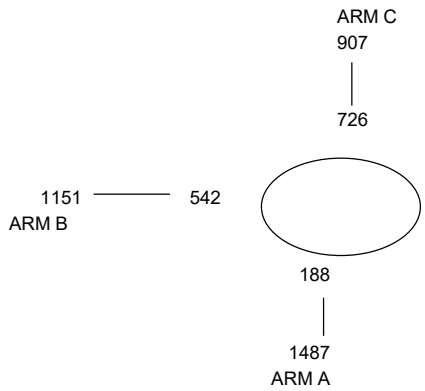
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	5.50	7.30
E	=	Entry width (m)	9.00	8.50	9.00
L	=	Effective length of flare (m)	5	5	5
R	=	Entry radius (m)	40	15	40
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	20	40	25
Q	=	Entry flow (pcu/h)	1364	925	745
Qc	=	Circulating flow across entry (pcu/h)	219	775	820
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.54	0.96	0.54
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	0.95	1.04
X2	=	V + ((E-V)/(1+2S))	8.11	6.53	8.11
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2459	1978	2459
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.66	0.75
Qe	=	K(F-Fc*Qc)	2430	1391	1919
DFC	=	Design flow/Capacity = Q/Qe	0.57	0.67	0.39

Total In Sum = 3034 PCU

DFC of Critical Approach = 0.67

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J5 - Sha Tau Kok Road / Ping Che Road	J5_DES_AM	DATE 8/7/2026	



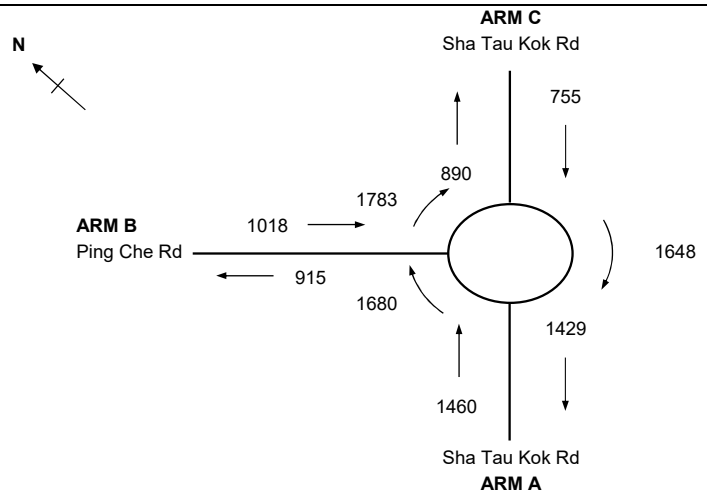


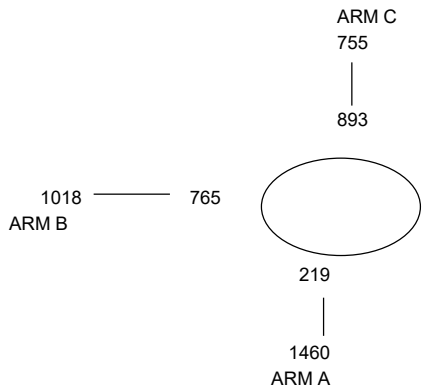
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	5.50	7.30
E	=	Entry width (m)	9.00	8.50	9.00
L	=	Effective length of flare (m)	5	5	5
R	=	Entry radius (m)	40	15	40
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	20	40	25
Q	=	Entry flow (pcu/h)	1487	1151	907
Qc	=	Circulating flow across entry (pcu/h)	188	542	726
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.54	0.96	0.54
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	0.95	1.04
X2	=	V + ((E-V)/(1+2S))	8.11	6.53	8.11
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2459	1978	2459
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.66	0.75
Qe	=	K(F-Fc*Qc)	2454	1537	1992
DFC	=	Design flow/Capacity = Q/Qe	0.61	0.75	0.46

Total In Sum = 3545 PCU

DFC of Critical Approach = 0.75

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J5 - Sha Tau Kok Road / Ping Che Road	J5_DES_PM	DATE 8/7/2026	



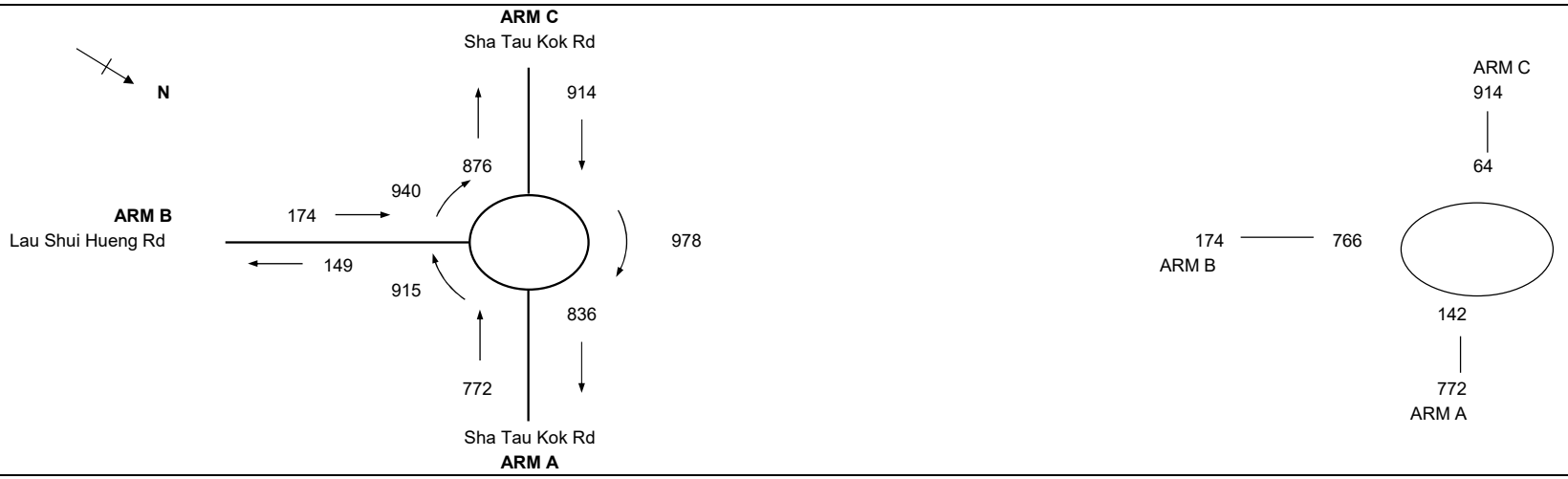


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	5.50	7.30
E	=	Entry width (m)	9.00	8.50	9.00
L	=	Effective length of flare (m)	5	5	5
R	=	Entry radius (m)	40	15	40
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	20	40	25
Q	=	Entry flow (pcu/h)	1460	1018	755
Qc	=	Circulating flow across entry (pcu/h)	219	765	893
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.54	0.96	0.54
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	0.95	1.04
X2	=	V + ((E-V)/(1+2S))	8.11	6.53	8.11
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2459	1978	2459
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.66	0.75
Qe	=	K(F-Fc*Qc)	2430	1397	1862
DFC	=	Design flow/Capacity = Q/Qe	0.61	0.73	0.41

Total In Sum = 3233 PCU

DFC of Critical Approach = 0.73

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J6 - Sha Tau Kok Road / Lau Shui Heung Road	J6_EXT_AM	DATE 8/7/2026	

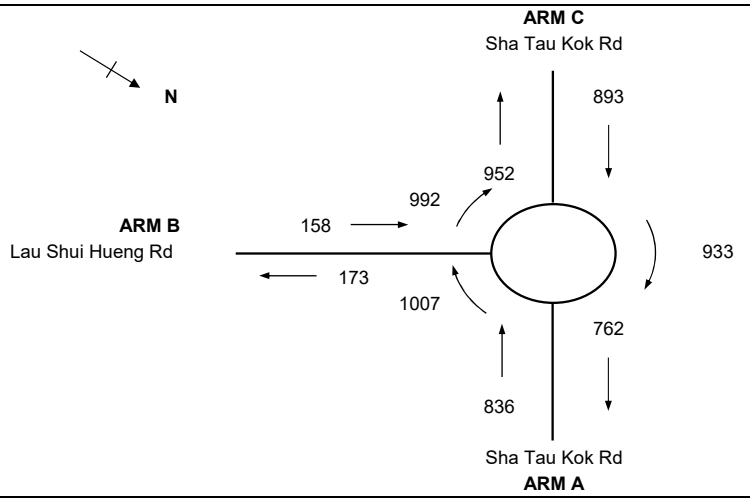


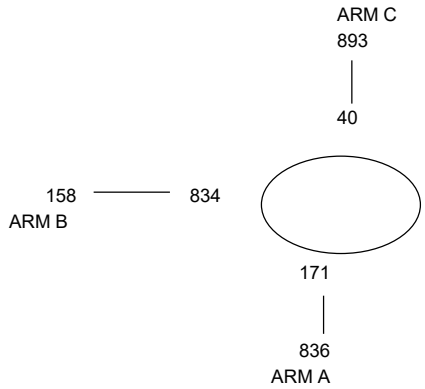
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	3.30	7.30
E	=	Entry width (m)	9.00	5.00	9.00
L	=	Effective length of flare (m)	15	5	15
R	=	Entry radius (m)	15	80	80
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	40	25	10
Q	=	Entry flow (pcu/h)	772	174	914
Qc	=	Circulating flow across entry (pcu/h)	142	766	64
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.18	0.54	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.11
X2	=	V + ((E-V)/(1+2S))	8.55	4.11	8.55
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2590	1247	2590
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.78	0.52	0.78
Qe	=	K(F-Fc*Qc)	2353	892	2810
DFC	=	Design flow/Capacity = Q/Qe	0.33	0.20	0.33

Total In Sum = 1860 PCU

DFC of Critical Approach = 0.33

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J6 - Sha Tau Kok Road / Lau Shui Heung Road	J6_EXT_PM	DATE 8/7/2026	



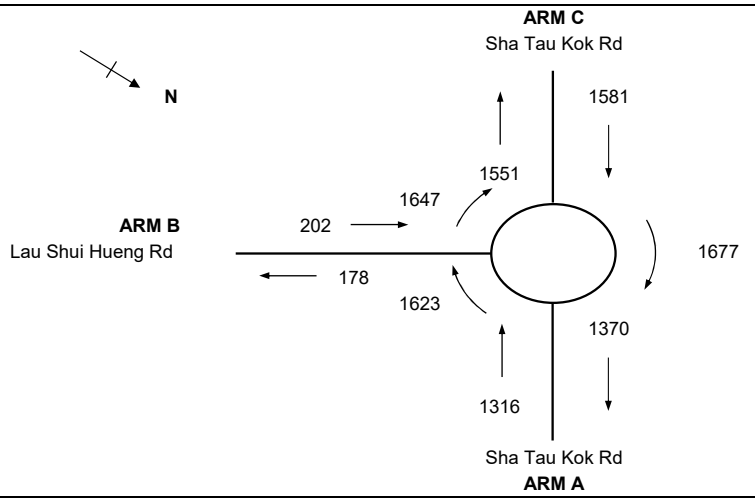


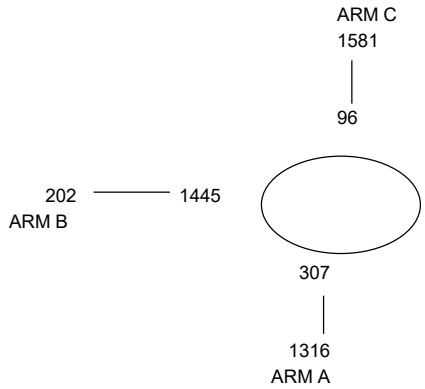
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	3.30	7.30
E	=	Entry width (m)	9.00	5.00	9.00
L	=	Effective length of flare (m)	15	5	15
R	=	Entry radius (m)	15	80	80
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	40	25	10
Q	=	Entry flow (pcu/h)	836	158	893
Qc	=	Circulating flow across entry (pcu/h)	171	834	40
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.18	0.54	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.11
X2	=	V + ((E-V)/(1+2S))	8.55	4.11	8.55
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2590	1247	2590
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.78	0.52	0.78
Qe	=	K(F-Fc*Qc)	2332	854	2830
DFC	=	Design flow/Capacity = Q/Qe	0.36	0.18	0.32

Total In Sum = 1887 PCU

DFC of Critical Approach = 0.36

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J6 - Sha Tau Kok Road / Lau Shui Heung Road	J6_REF_AM	DATE 8/7/2026	



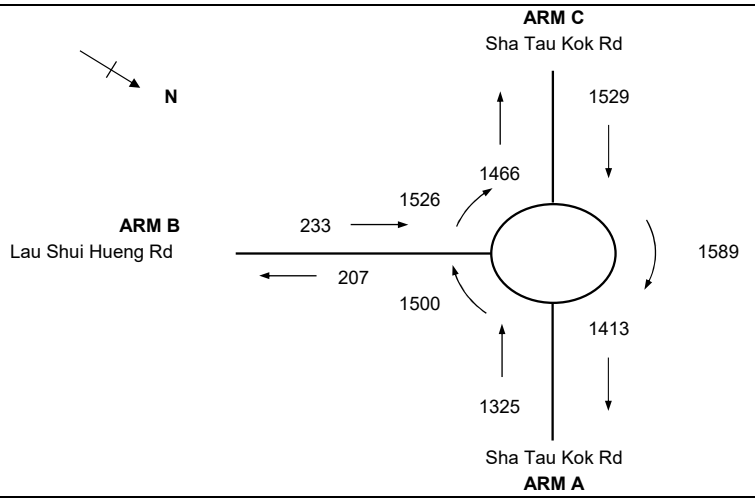


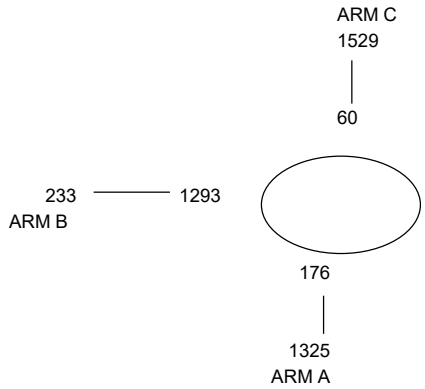
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	3.30	7.30
E	=	Entry width (m)	9.00	5.00	9.00
L	=	Effective length of flare (m)	15	5	15
R	=	Entry radius (m)	15	80	80
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	40	25	10
Q	=	Entry flow (pcu/h)	1316	202	1581
Qc	=	Circulating flow across entry (pcu/h)	307	1445	96
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.18	0.54	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.11
X2	=	V + ((E-V)/(1+2S))	8.55	4.11	8.55
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2590	1247	2590
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.78	0.52	0.78
Qe	=	K(F-Fc*Qc)	2231	518	2782
DFC	=	Design flow/Capacity = Q/Qe	0.59	0.40	0.57

Total In Sum = 3099 PCU

DFC of Critical Approach = 0.59

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J6 - Sha Tau Kok Road / Lau Shui Heung Road	J6_REF_PM	DATE 8/7/2026	



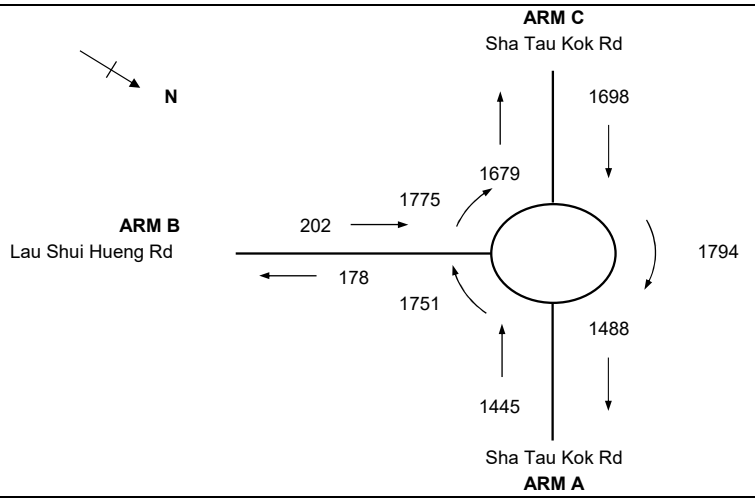


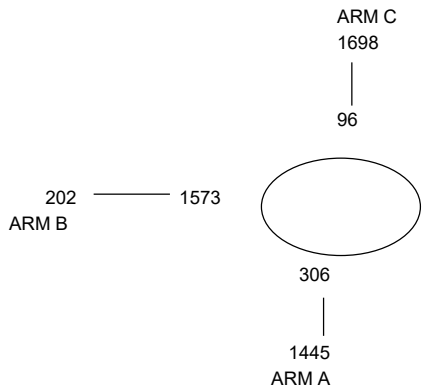
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	3.30	7.30
E	=	Entry width (m)	9.00	5.00	9.00
L	=	Effective length of flare (m)	15	5	15
R	=	Entry radius (m)	15	80	80
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	40	25	10
Q	=	Entry flow (pcu/h)	1325	233	1529
Qc	=	Circulating flow across entry (pcu/h)	176	1293	60
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.18	0.54	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.11
X2	=	V + ((E-V)/(1+2S))	8.55	4.11	8.55
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2590	1247	2590
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.78	0.52	0.78
Qe	=	K(F-Fc*Qc)	2328	602	2813
DFC	=	Design flow/Capacity = Q/Qe	0.57	0.39	0.55

Total In Sum = 3087 PCU

DFC of Critical Approach = 0.57

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J6 - Sha Tau Kok Road / Lau Shui Heung Road	J6_DES_AM	DATE 8/7/2026	



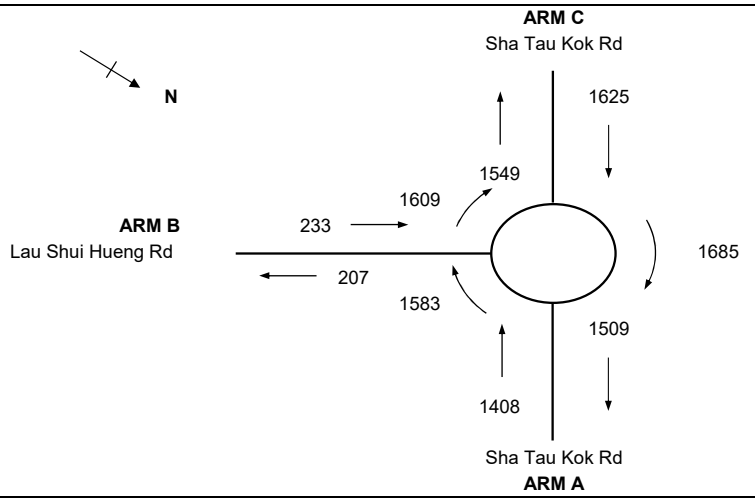


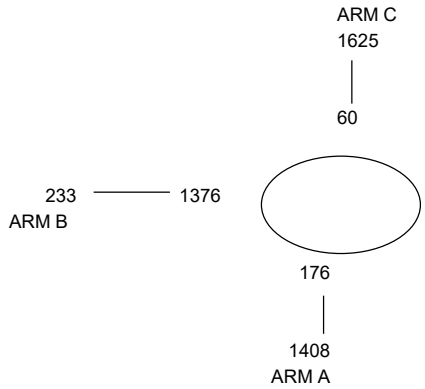
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	3.30	7.30
E	=	Entry width (m)	9.00	5.00	9.00
L	=	Effective length of flare (m)	15	5	15
R	=	Entry radius (m)	15	80	80
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	40	25	10
Q	=	Entry flow (pcu/h)	1445	202	1698
Qc	=	Circulating flow across entry (pcu/h)	306	1573	96
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.18	0.54	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.11
X2	=	V + ((E-V)/(1+2S))	8.55	4.11	8.55
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2590	1247	2590
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.78	0.52	0.78
Qe	=	K(F-Fc*Qc)	2232	447	2782
DFC	=	Design flow/Capacity = Q/Qe	0.65	0.46	0.62

Total In Sum = 3345 PCU

DFC of Critical Approach = 0.65

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J6 - Sha Tau Kok Road / Lau Shui Heung Road	J6_DES_PM	DATE 8/7/2026	



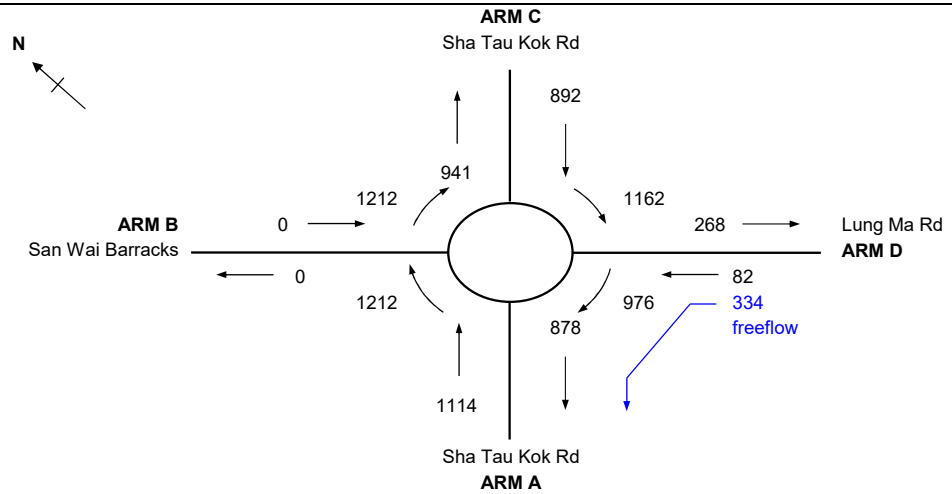


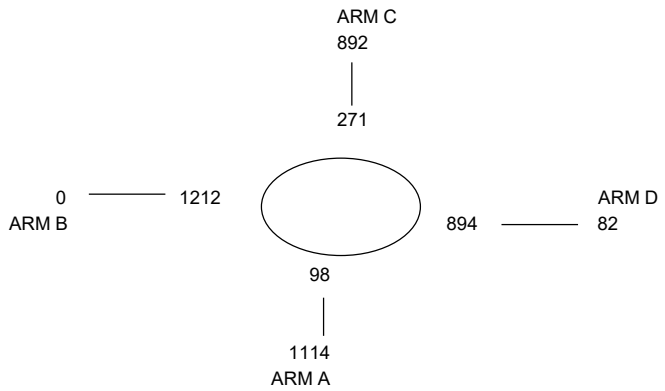
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.30	3.30	7.30
E	=	Entry width (m)	9.00	5.00	9.00
L	=	Effective length of flare (m)	15	5	15
R	=	Entry radius (m)	15	80	80
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	40	25	10
Q	=	Entry flow (pcu/h)	1408	233	1625
Qc	=	Circulating flow across entry (pcu/h)	176	1376	60
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.18	0.54	0.18
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.11
X2	=	V + ((E-V)/(1+2S))	8.55	4.11	8.55
M	=	EXP((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2590	1247	2590
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.78	0.52	0.78
Qe	=	K(F-Fc*Qc)	2328	556	2813
DFC	=	Design flow/Capacity = Q/Qe	0.61	0.42	0.58

Total In Sum = 3266 PCU

DFC of Critical Approach = 0.61

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J7 - Sha Tau Kok Road / Lung Ma Road / San Wai Barracks	J7_EXT_AM	DATE 8/7/2026	



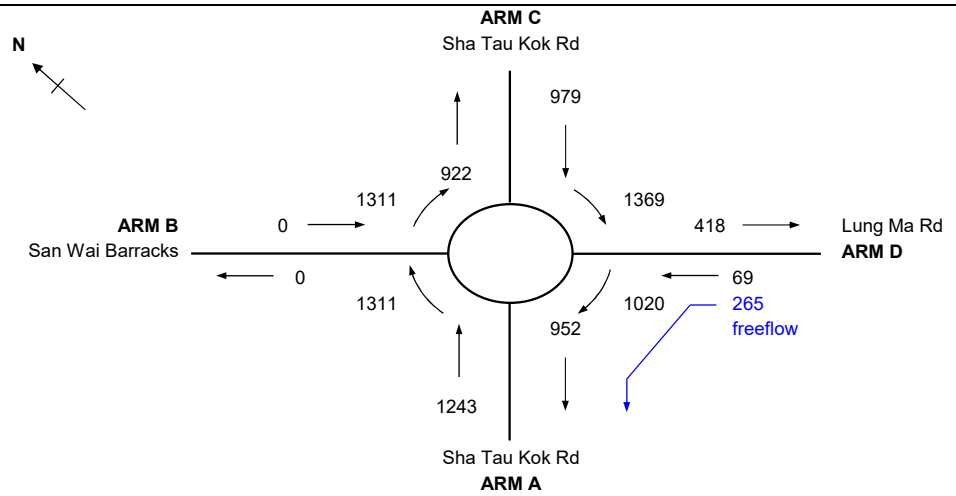


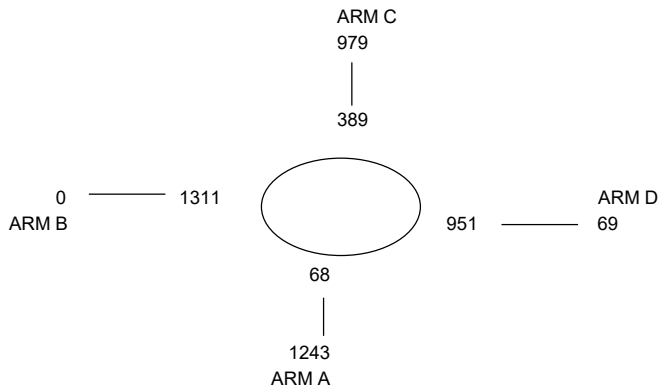
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.30	7.30	3.50
E	=	Entry width (m)	10.00	5.00	10.00	5.00
L	=	Effective length of flare (m)	20	5	10	5
R	=	Entry radius (m)	30	60	30	70
D	=	Inscribed circle diameter (m)	50	50	50	50
A	=	Entry angle (degree)	15	15	25	15
Q	=	Entry flow (pcu/h)	1114	0	892	82
Qc	=	Circulating flow across entry (pcu/h)	98	1212	271	894
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.22	0.54	0.43	0.48
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.07	1.08	1.03	1.09
X2	=	V + ((E-V)/(1+2S))	9.19	4.11	8.75	4.27
M	=	EXP((D-60)/10)	0.37	0.37	0.37	0.37
F	=	303*X2	2783	1247	2651	1292
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.81	0.52	0.79	0.53
Qe	=	K(F-Fc*Qc)	2888	665	2519	888
DFC	=	Design flow/Capacity = Q/Qe	0.39	0.00	0.35	0.09

Total In Sum = 2006 PCU

DFC of Critical Approach = 0.39

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J7 - Sha Tau Kok Road / Lung Ma Road / San Wai Barracks	J7_EXT_PM	DATE 8/7/2026	



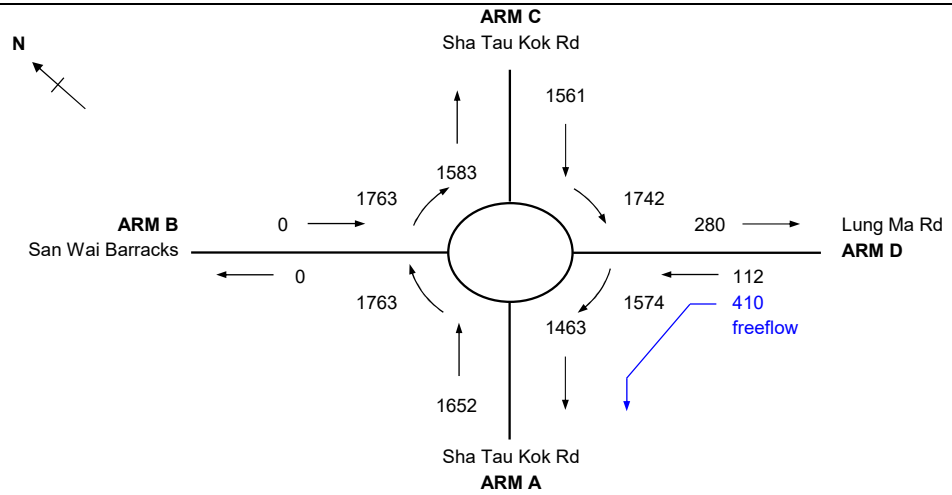


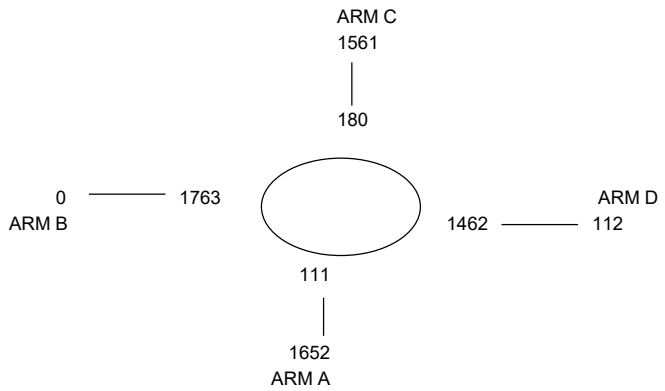
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.30	7.30	3.50
E	=	Entry width (m)	10.00	5.00	10.00	5.00
L	=	Effective length of flare (m)	20	5	10	5
R	=	Entry radius (m)	30	60	30	70
D	=	Inscribed circle diameter (m)	50	50	50	50
A	=	Entry angle (degree)	15	15	25	15
Q	=	Entry flow (pcu/h)	1243	0	979	69
Qc	=	Circulating flow across entry (pcu/h)	68	1311	389	951
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.22	0.54	0.43	0.48
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.07	1.08	1.03	1.09
X2	=	V + ((E-V)/(1+2S))	9.19	4.11	8.75	4.27
M	=	EXP((D-60)/10)	0.37	0.37	0.37	0.37
F	=	303*X2	2783	1247	2651	1292
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.81	0.52	0.79	0.53
Qe	=	K(F-Fc*Qc)	2914	609	2423	855
DFC	=	Design flow/Capacity = Q/Qe	0.43	0.00	0.40	0.08

Total In Sum = 2222 PCU

DFC of Critical Approach = 0.43

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J7 - Sha Tau Kok Road / Lung Ma Road / San Wai Barracks	J7_REF_AM	DATE 8/7/2026	



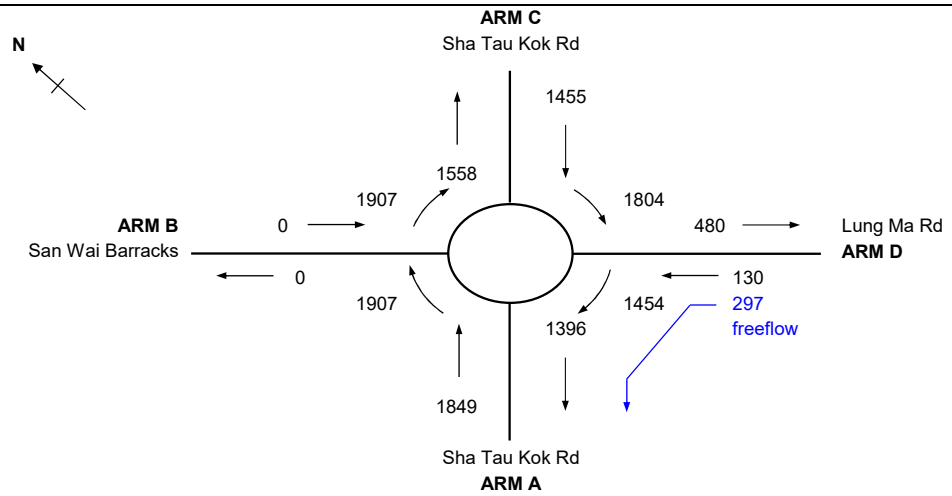


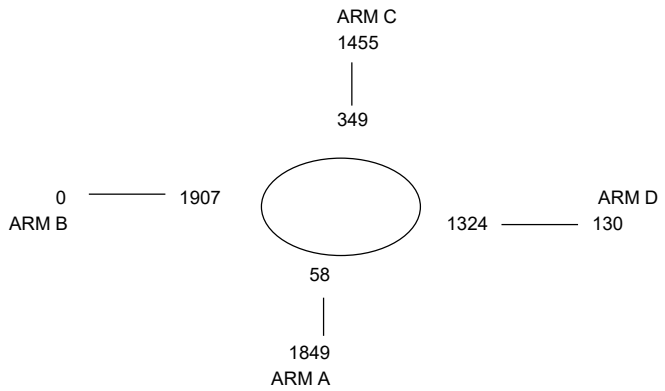
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.30	7.30	3.50
E	=	Entry width (m)	10.00	5.00	10.00	5.00
L	=	Effective length of flare (m)	20	5	10	5
R	=	Entry radius (m)	30	60	30	70
D	=	Inscribed circle diameter (m)	50	50	50	50
A	=	Entry angle (degree)	15	15	25	15
Q	=	Entry flow (pcu/h)	1652	0	1561	112
Qc	=	Circulating flow across entry (pcu/h)	111	1763	180	1462
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.22	0.54	0.43	0.48
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.07	1.08	1.03	1.09
X2	=	V + ((E-V)/(1+2S))	9.19	4.11	8.75	4.27
M	=	EXP((D-60)/10)	0.37	0.37	0.37	0.37
F	=	303*X2	2783	1247	2651	1292
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.81	0.52	0.79	0.53
Qe	=	K(F-Fc*Qc)	2877	353	2593	560
DFC	=	Design flow/Capacity = Q/Qe	0.58	0.00	0.61	0.20

Total In Sum = 3213 PCU

DFC of Critical Approach = 0.61

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J7 - Sha Tau Kok Road / Lung Ma Road / San Wai Barracks	J7_REF_PM	DATE 8/7/2026	



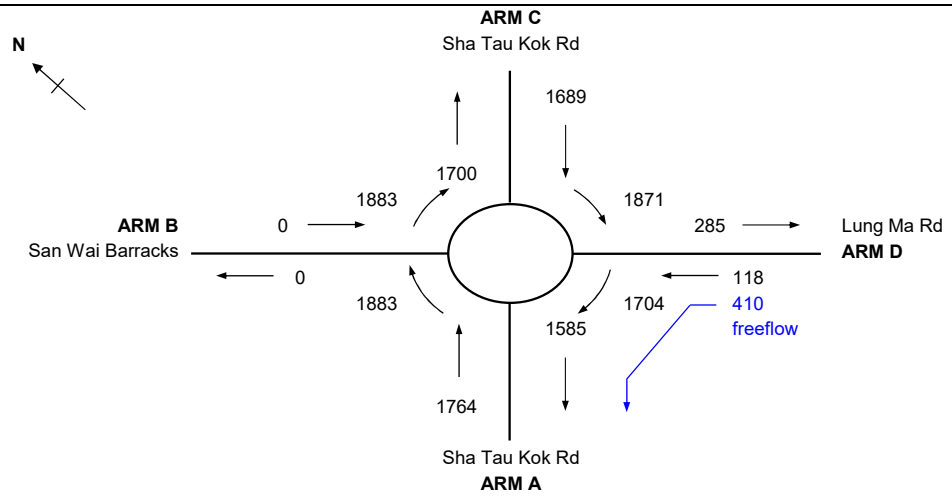


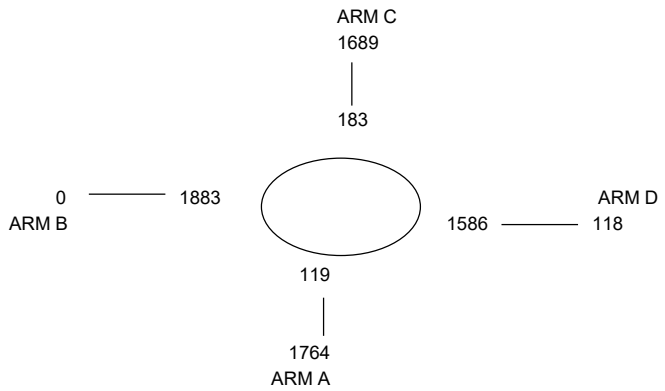
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.30	7.30	3.50
E	=	Entry width (m)	10.00	5.00	10.00	5.00
L	=	Effective length of flare (m)	20	5	10	5
R	=	Entry radius (m)	30	60	30	70
D	=	Inscribed circle diameter (m)	50	50	50	50
A	=	Entry angle (degree)	15	15	25	15
Q	=	Entry flow (pcu/h)	1849	0	1455	130
Qc	=	Circulating flow across entry (pcu/h)	58	1907	349	1324
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.22	0.54	0.43	0.48
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.07	1.08	1.03	1.09
X2	=	V + ((E-V)/(1+2S))	9.19	4.11	8.75	4.27
M	=	EXP((D-60)/10)	0.37	0.37	0.37	0.37
F	=	303*X2	2783	1247	2651	1292
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.81	0.52	0.79	0.53
Qe	=	K(F-Fc*Qc)	2923	271	2456	640
DFC	=	Design flow/Capacity = Q/Qe	0.64	0.00	0.60	0.21

Total In Sum = 3304 PCU

DFC of Critical Approach = 0.64

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J7 - Sha Tau Kok Road / Lung Ma Road / San Wai Barracks	J7_DES_AM	DATE 8/7/2026	



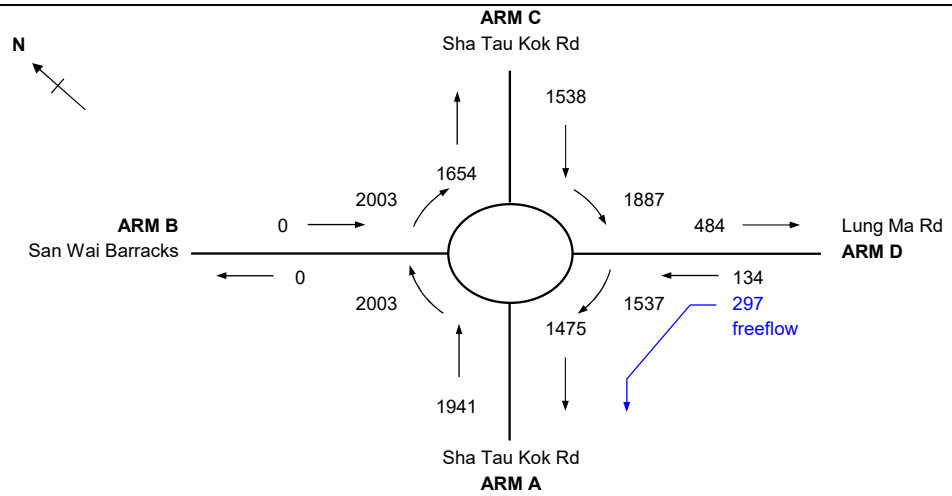


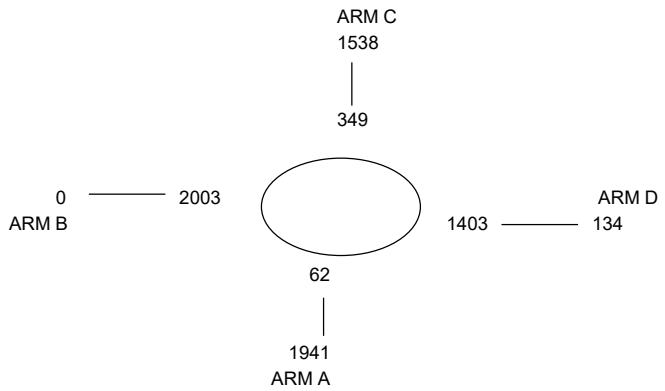
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.30	7.30	3.50
E	=	Entry width (m)	10.00	5.00	10.00	5.00
L	=	Effective length of flare (m)	20	5	10	5
R	=	Entry radius (m)	30	60	30	70
D	=	Inscribed circle diameter (m)	50	50	50	50
A	=	Entry angle (degree)	15	15	25	15
Q	=	Entry flow (pcu/h)	1764	0	1689	118
Qc	=	Circulating flow across entry (pcu/h)	119	1883	183	1586
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.22	0.54	0.43	0.48
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.07	1.08	1.03	1.09
X2	=	V + ((E-V)/(1+2S))	9.19	4.11	8.75	4.27
M	=	EXP((D-60)/10)	0.37	0.37	0.37	0.37
F	=	303*X2	2783	1247	2651	1292
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.81	0.52	0.79	0.53
Qe	=	K(F-Fc*Qc)	2870	285	2591	489
DFC	=	Design flow/Capacity = Q/Qe	0.62	0.00	0.66	0.25

Total In Sum = 3453 PCU

DFC of Critical Approach = 0.66

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J7 - Sha Tau Kok Road / Lung Ma Road / San Wai Barracks	J7_DES_PM	DATE 8/7/2026	



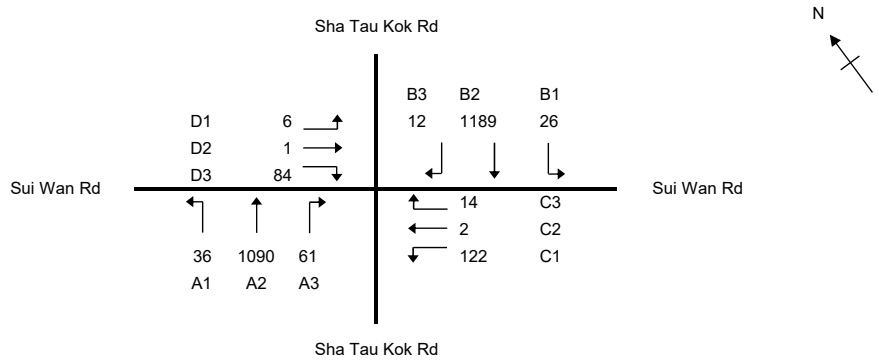


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	3.30	7.30	3.50
E	=	Entry width (m)	10.00	5.00	10.00	5.00
L	=	Effective length of flare (m)	20	5	10	5
R	=	Entry radius (m)	30	60	30	70
D	=	Inscribed circle diameter (m)	50	50	50	50
A	=	Entry angle (degree)	15	15	25	15
Q	=	Entry flow (pcu/h)	1941	0	1538	134
Qc	=	Circulating flow across entry (pcu/h)	62	2003	349	1403
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.22	0.54	0.43	0.48
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.07	1.08	1.03	1.09
X2	=	V + ((E-V)/(1+2S))	9.19	4.11	8.75	4.27
M	=	EXP((D-60)/10)	0.37	0.37	0.37	0.37
F	=	303*X2	2783	1247	2651	1292
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37	1.37
Fc	=	0.21*Td(1+0.2*X2)	0.81	0.52	0.79	0.53
Qe	=	K(F-Fc*Qc)	2920	216	2456	594
DFC	=	Design flow/Capacity = Q/Qe	0.67	0.00	0.63	0.23

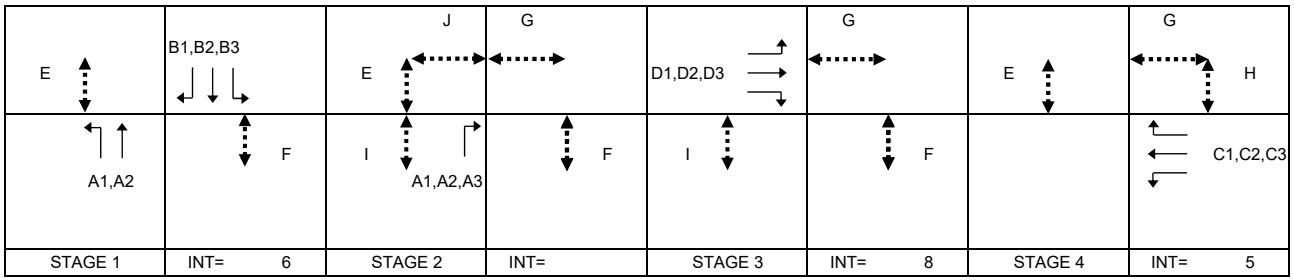
Total In Sum = 3479 PCU

DFC of Critical Approach = 0.67

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J8
J8 - Sha Tau Kok Road / Sui Wan Road	J8_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	136 sec
Sum(y)		Y =	0.430
Loss time		L =	30 sec
Total Flow		=	2643 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.7 sec
Cm	= L/(1-Y)	=	52.6 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	56.9 %
Cp	= 0.9*L/(0.9-Y)	=	57.5 sec
Ymax	= 1-L/C	=	0.779
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	63 %

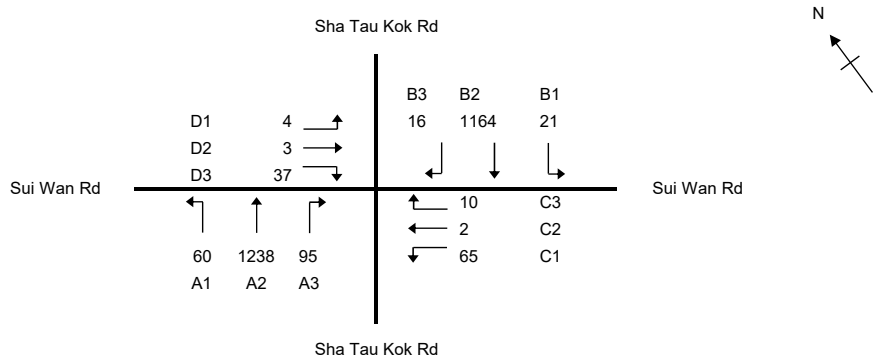


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	5	5	1	6	110	1	6	OK
F	10.5	5	2	12	98	2	12	OK
G	10.5	5	2	12	43	2	12	OK
H	5	5	4	6	14	4	6	OK
I	7.5	5	7	8	18	7	8	OK
J	7.5	5	1	8	5	1	8	OK

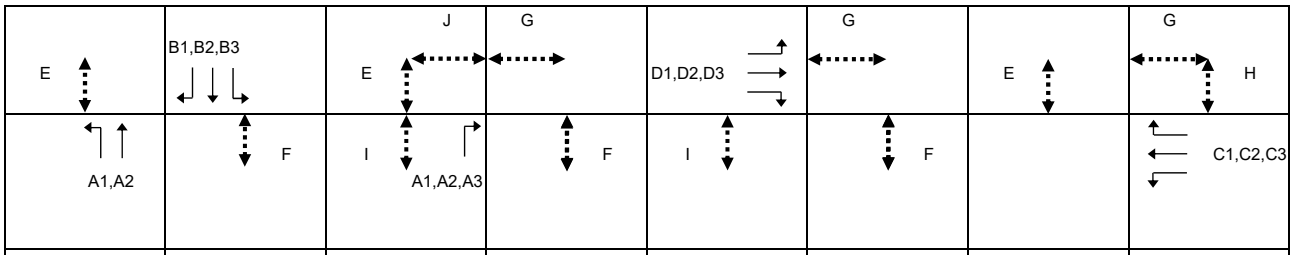
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
B1,B2	1	3.50	2	1	10		N	1965	26	559		585	0.04	1952			1952	0.300	0.300		74	74	0.552	61
B2	1	3.50	2	1				2105		630		630	0.00	2105			2105	0.299			74	74	0.551	65
B3	1	3.50	2	1		O		2105		12		12	0.00	1875			1875	0.006			2	74	0.012	1
A1,A2	1	3.50	1	1	10			2105	36	524		560	0.06	2085			2085	0.269			66	68	0.538	64
A2	1	3.50	1	1				2105		566		566	0.00	2105			2105	0.269			66	68	0.539	64
A3	2	3.50	5	1	10			2105			61	61	1.00	1830			1830	0.033			8	10	0.453	13
D1,D2,D3	3	4.00	4	1	10		N	2015	6	1	84	91	0.99	1755			1755	0.052	0.052		13	13	0.552	19
C1,C2,C3	4	4.00	3	1	10		N	2015	122	2	14	138	0.99	1755			1755	0.079	0.079		19	19	0.552	27
PED	2		J																	14				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J8
J8 - Sha Tau Kok Road / Sui Wan Road	J8_EXT_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	136 sec
Sum(y)		Y =	0.431
Loss time		L =	26 sec
Total Flow		=	2715 pcu
Co	= (1.5*L+5)/(1-Y)	=	77.4 sec
Cm	= L/(1-Y)	=	45.7 sec
Yult		=	0.705
R.C.ult	= (Yult-Y)/Y*100%	=	63.5 %
Cp	= 0.9*L/(0.9-Y)	=	49.9 sec
Ymax	= 1-L/C	=	0.809
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	69 %

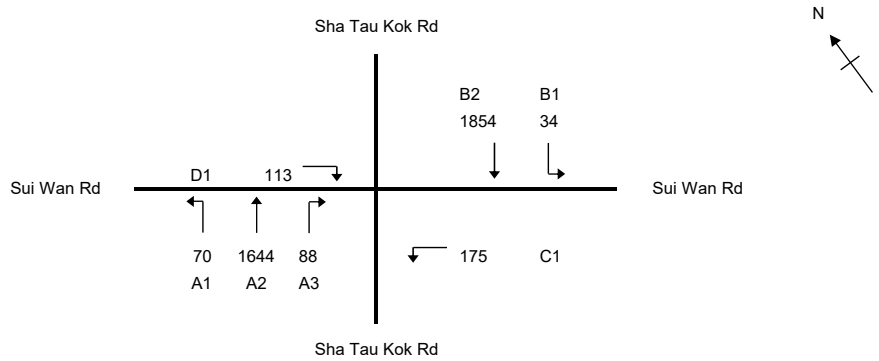


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	5	5	1	6	117	1	6	OK
F	10.5	5	2	12	106	2	12	OK
G	10.5	5	2	12	32	2	12	OK
H	5	5	4	6	6	4	6	OK
I	7.5	5	7	8	15	7	8	OK
J	7.5	5	1	8	8	1	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				26				
B1,B2	1	3.50	2	1	10		N	1965	21	550		571	0.04	1954			1954	0.292	0.311		75	85	0.466	48
B2	1	3.50	2	1				2105		614		614	0.00	2105			2105	0.292			74	85	0.465	52
B3	1	3.50	2	1		O		2105		16		16	0.00	1875			1875	0.009			2	85	0.014	1
A1,A2	1	3.50	1	1	10			2105	60	584		644	0.09	2076			2076	0.310			79	79	0.532	61
A2	1	3.50	1	1				2105		654		654	0.00	2105			2105	0.311			79	79	0.533	62
A3	2	3.50	5	1	10			2105			95	95	1.00	1830			1830	0.052	0.052		13	13	0.533	19
D1,D2,D3	3	4.00	4	1	10		N	2015	4	3	37	44	0.93	1768			1768	0.025	0.025		6	6	0.533	10
C1,C2,C3	4	4.00	3	1	10		N	2015	65	2	10	77	0.97	1758			1758	0.044	0.044		11	11	0.533	16

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J8
J8 - Sha Tau Kok Road / Sui Wan Road	J8_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	136 sec
Sum(y)		Y =	0.471
Loss time		L =	15 sec
Total Flow		=	3978 pcu
Co	= (1.5*L+5)/(1-Y)	=	52.0 sec
Cm	= L/(1-Y)	=	28.4 sec
Yult		=	0.788
R.C.ult	= (Yult-Y)/Y*100%	=	67.2 %
Cp	= 0.9*L/(0.9-Y)	=	31.5 sec
Ymax	= 1-L/C	=	0.890
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	70 %

STAGE 1	STAGE 2	STAGE 3	STAGE 4
E, A1,A2	B1,B2, F	E, A1,A2,A3	G, C1
INT= 7	INT= 5	INT= 6	INT=

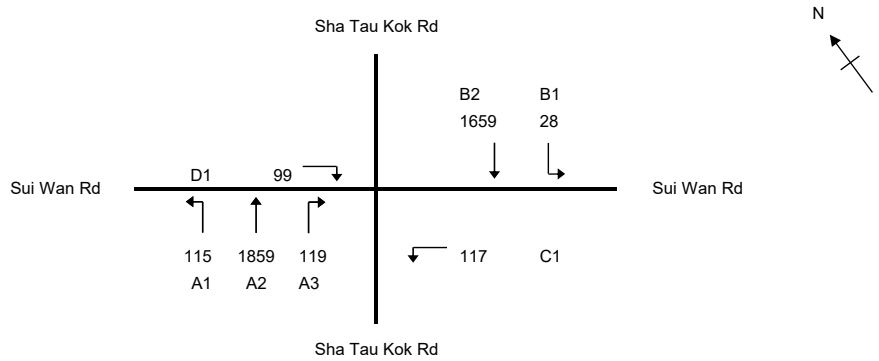
J, D1, I	G, H, F	

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	5	5	3	6	106	3	6	OK
F	10.5	5	2	12	90	2	12	OK
G	10.5	5	2	12	38	2	12	OK
H	5	5	2	6	13	2	6	OK
I	7.5	5	0	8	13	0	8	OK
J	7.5	5	1	8	12	1	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				15				
B1,B2	1	3.50	2	1	10		N	1965	34	563		597	0.06	1948			1948	0.306	0.307		79	79	0.529	57
B2	1	3.50	2	2				4210		1291		1291	0.00	4210			4210	0.307			79	79	0.529	62
A1,A2	1,2	3.50	1	1	10			2105	70	782		852	0.08	2079			2079	0.410			105	106	0.524	42
A2	1,2	3.50	1	1				2105		862		862	0.00	2105			2105	0.410			105	106	0.523	42
A3	2	3.50	5	1	10			2105			88	88	1.00	1830			1830	0.048	0.100		12	23	0.289	17
C1	2	4.00	4	1	10		N	2015	175			175	1.00	1752			1752	0.100			26	26	0.529	32
D1	3	4.00	3	1	10		N	2015			113	113	1.00	1752			1752	0.064	0.064		17	17	0.529	22

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J8
J8 - Sha Tau Kok Road / Sui Wan Road	J8_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	136 sec
Sum(y)		Y =	0.530
Loss time		L =	13 sec
Total Flow		=	3996 pcu
Co	= (1.5*L+5)/(1-Y)	=	52.1 sec
Cm	= L/(1-Y)	=	27.6 sec
Yult		=	0.803
R.C.ult	= (Yult-Y)/Y*100%	=	51.5 %
Cp	= 0.9*L/(0.9-Y)	=	31.6 sec
Ymax	= 1-L/C	=	0.904
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	54 %

STAGE 1	STAGE 2	STAGE 3	STAGE 4
E, A1,A2	B1,B2, F	E, A1,A2,A3	G, C1
INT= 9	INT=	INT= 6	INT=

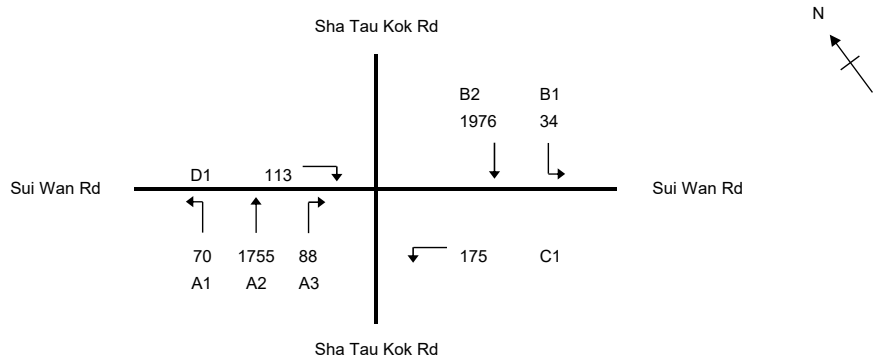
J, D1, I	G, H, F		

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	5	5	3	6	110	3	6	OK
F	10.5	5	2	12	85	2	12	OK
G	10.5	5	2	12	40	2	12	OK
H	5	5	2	6	9	2	6	OK
I	7.5	5	0	8	9	0	8	OK
J	7.5	5	1	8	8	1	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				13				
B1,B2	1	3.50	2	1	10		N	1965	28	506		534	0.05	1950			1950	0.274			64	77	0.486	53
B2	1	3.50	2	2				4210		1153		1153	0.00	4210			4210	0.274			64	77	0.486	57
A1,A2	1,2	3.50	1	1	10			2105	115	863		978	0.12	2069			2069	0.473	0.473		110	110	0.585	43
A2	1,2	3.50	1	1				2105		996		996	0.00	2105			2105	0.473			110	110	0.586	43
A3	2	3.50	5	1	10			2105			119	119	1.00	1830			1830	0.065			15	28	0.313	21
C1	2	4.00	4	1	10		N	2015	117			117	1.00	1752			1752	0.067			16	31	0.290	20
D1	3	4.00	3	1	10		N	2015			99	99	1.00	1752			1752	0.057	0.057		13	13	0.586	20

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J8
J8 - Sha Tau Kok Road / Sui Wan Road	J8_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	136 sec
Sum(y)		Y =	0.501
Loss time		L =	13 sec
Total Flow		=	4211 pcu
Co	= (1.5*L+5)/(1-Y)	=	49.1 sec
Cm	= L/(1-Y)	=	26.0 sec
Yult		=	0.803
R.C.ult	= (Yult-Y)/Y*100%	=	60.3 %
Cp	= 0.9*L/(0.9-Y)	=	29.3 sec
Ymax	= 1-L/C	=	0.904
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	63 %

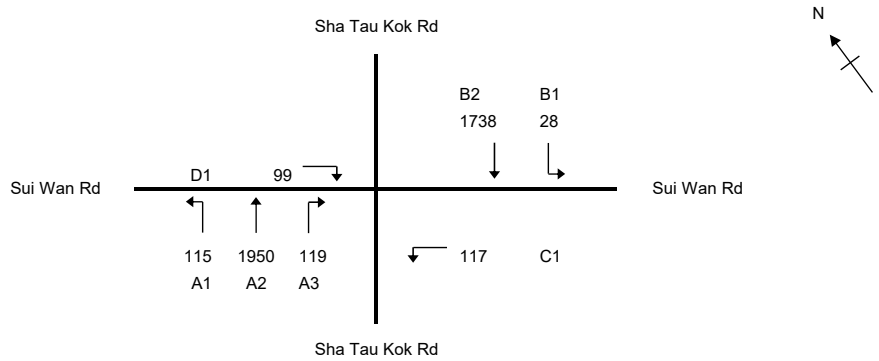
E	B1,B2	E	G	J	G		
				D1	H		
A1,A2	F	A1,A2,A3	C1	I	F		
STAGE 1	INT= 9	STAGE 2	INT=	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	5	5	3	6	107	3	6	OK
F	10.5	5	2	12	91	2	12	OK
G	10.5	5	2	12	37	2	12	OK
H	5	5	2	6	12	2	6	OK
I	7.5	5	0	8	12	0	8	OK
J	7.5	5	1	8	11	1	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				13				
B1,B2	1	3.50	2	1	10		N	1965	34	602		636	0.05	1949			1949	0.326			80	80	0.553	59
B2	1	3.50	2	2				4210		1374		1374	0.00	4210			4210	0.326			80	80	0.554	64
A1,A2	1,2	3.50	1	1	10			2105	70	837		907	0.08	2081			2081	0.436	0.436		107	107	0.553	44
A2	1,2	3.50	1	1				2105		918		918	0.00	2105			2105	0.436			107	107	0.554	44
A3	2	3.50	5	1	10			2105			88	88	1.00	1830			1830	0.048			12	22	0.298	17
C1	2	4.00	4	1	10		N	2015	175			175	1.00	1752			1752	0.100			25	25	0.544	32
D1	3	4.00	3	1	10		N	2015			113	113	1.00	1752			1752	0.064	0.064		16	16	0.554	23

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J8
J8 - Sha Tau Kok Road / Sui Wan Road	J8_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	136 sec
Sum(y)		Y =	0.551
Loss time		L =	13 sec
Total Flow		=	4166 pcu
Co	= (1.5*L+5)/(1-Y)	=	54.6 sec
Cm	= L/(1-Y)	=	29.0 sec
Yult		=	0.803
R.C.ult	= (Yult-Y)/Y*100%	=	45.6 %
Cp	= 0.9*L/(0.9-Y)	=	33.5 sec
Ymax	= 1-L/C	=	0.904
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	48 %

STAGE 1	STAGE 2	STAGE 3	STAGE 4
E, A1,A2	B1,B2, F	E, A1,A2,A3	G, C1
INT= 9	INT=	INT= 6	INT=

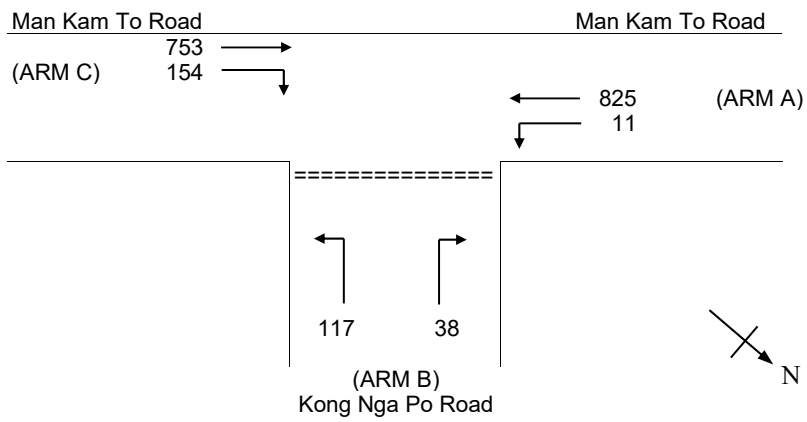
			G	J	G			
	B1,B2	E		D1		H		
A1,A2	F	A1,A2,A3	C1	I	F			

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	5	5	3	6	110	3	6	OK
F	10.5	5	2	12	85	2	12	OK
G	10.5	5	2	12	40	2	12	OK
H	5	5	2	6	9	2	6	OK
I	7.5	5	0	8	9	0	8	OK
J	7.5	5	1	8	8	1	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				13				
B1,B2	1	3.50	2	1	10		N	1965	28	531		559	0.05	1950			1950	0.287			64	77	0.506	55
B2	1	3.50	2	2				4210		1207		1207	0.00	4210			4210	0.287			64	77	0.506	59
A1,A2	1,2	3.50	1	1	10			2105	115	909		1024	0.11	2070			2070	0.495	0.495		110	110	0.609	44
A2	1,2	3.50	1	1				2105		1041		1041	0.00	2105			2105	0.495			110	110	0.609	44
A3	2	3.50	5	1	10			2105			119	119	1.00	1830			1830	0.065			15	28	0.311	21
C1	2	4.00	4	1	10		N	2015	117			117	1.00	1752			1752	0.067			15	31	0.289	20
D1	3	4.00	3	1	10		N	2015			99	99	1.00	1752			1752	0.057	0.057		13	13	0.609	20

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J9 - Man Kam To Road / Kong Nga Po Road	J9_EXT_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.00	(metres)
W cr	=	2.00	(metres)
q a-b	=	11	(pcu/hr)
q a-c	=	825	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	50	(metres)
q c-a	=	753	(pcu/hr)
q c-b	=	154	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	38	(pcu/hr)
q b-c	=	117	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.94
E	=	1.01
F	=	0.97
Y	=	0.62

THE CAPACITY OF MOVEMENT :

Q b-a	=	292
Q b-c	=	564
Q c-b	=	538
Q b-ac	=	459

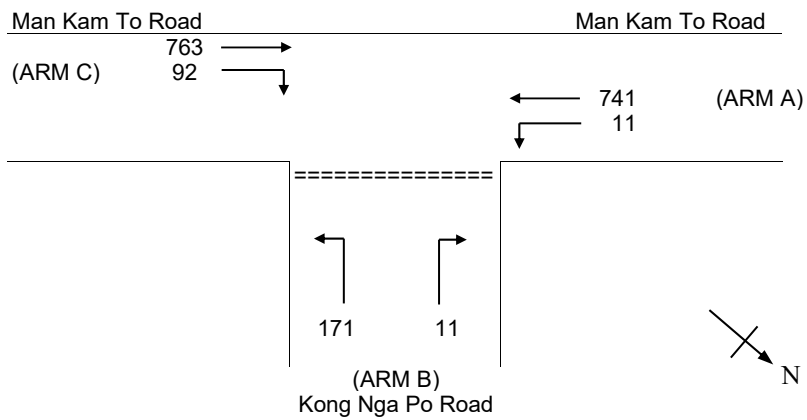
TOTAL FLOW = 1898 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.13
DFC b-c	=	0.21
DFC c-b	=	0.29
DFC b-ac	=	0.34

CRITICAL DFC = 0.34

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J9 - Man Kam To Road / Kong Nga Po Road	J9_EXT_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.00	(metres)
W cr	=	2.00	(metres)
q a-b	=	11	(pcu/hr)
q a-c	=	741	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	50	(metres)
q c-a	=	763	(pcu/hr)
q c-b	=	92	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	11	(pcu/hr)
q b-c	=	171	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.94
E	=	1.01
F	=	0.97
Y	=	0.62

THE CAPACITY OF MOVEMENT :

Q b-a	=	327
Q b-c	=	583
Q c-b	=	557
Q b-ac	=	557

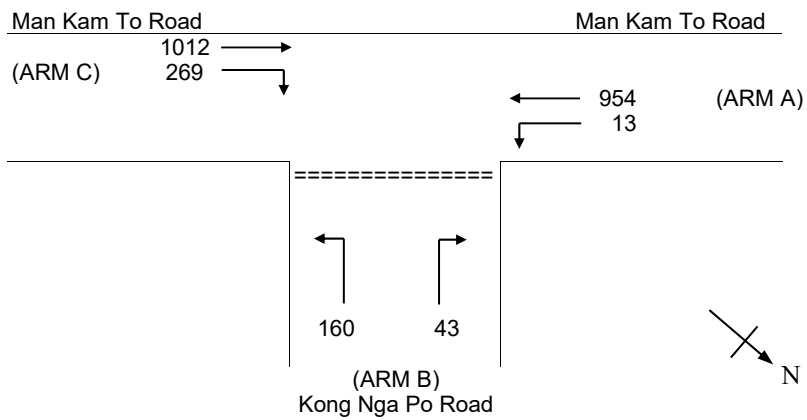
TOTAL FLOW = 1789 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.03
DFC b-c	=	0.29
DFC c-b	=	0.17
DFC b-ac	=	0.33

CRITICAL DFC = 0.33

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J9 - Man Kam To Road / Kong Nga Po Road	J9_REF_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.00	(metres)
W cr	=	2.00	(metres)
q a-b	=	13	(pcu/hr)
q a-c	=	954	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	50	(metres)
q c-a	=	1012	(pcu/hr)
q c-b	=	269	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	160	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.94
E	=	1.01
F	=	0.97
Y	=	0.62

THE CAPACITY OF MOVEMENT :

Q b-a	=	195
Q b-c	=	535
Q c-b	=	510
Q b-ac	=	391

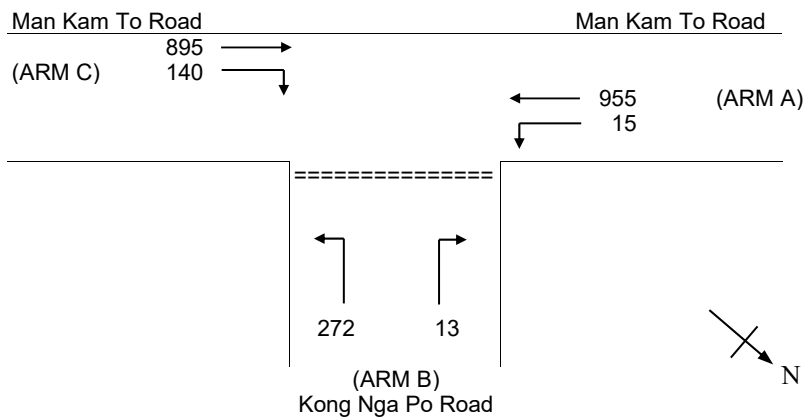
TOTAL FLOW = 2451 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.22
DFC b-c	=	0.30
DFC c-b	=	0.53
DFC b-ac	=	0.52

CRITICAL DFC = 0.53

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J9 - Man Kam To Road / Kong Nga Po Road	J9_REF_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.00	(metres)
W cr	=	2.00	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	955	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	50	(metres)
q c-a	=	895	(pcu/hr)
q c-b	=	140	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	13	(pcu/hr)
q b-c	=	272	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.94
E	=	1.01
F	=	0.97
Y	=	0.62

THE CAPACITY OF MOVEMENT :

Q b-a	=	249
Q b-c	=	534
Q c-b	=	509
Q b-ac	=	508

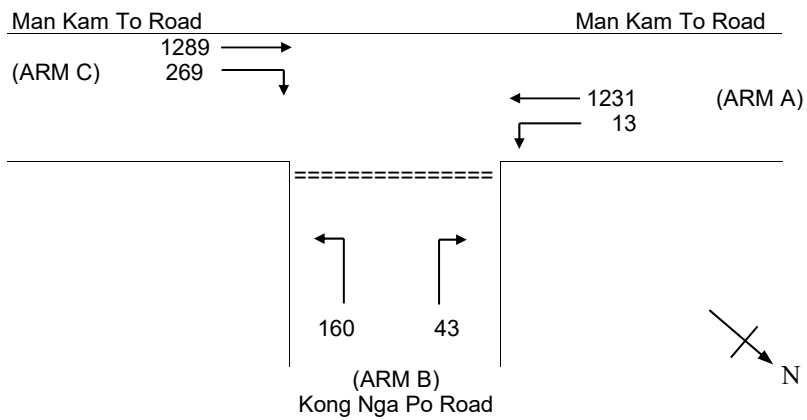
TOTAL FLOW = 2290 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.05
DFC b-c	=	0.51
DFC c-b	=	0.28
DFC b-ac	=	0.57

CRITICAL DFC = 0.57

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J9 - Man Kam To Road / Kong Nga Po Road	J9_DES_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.00	(metres)
W cr	=	2.00	(metres)
q a-b	=	13	(pcu/hr)
q a-c	=	1231	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	50	(metres)
q c-a	=	1289	(pcu/hr)
q c-b	=	269	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	160	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.94
E	=	1.01
F	=	0.97
Y	=	0.62

THE CAPACITY OF MOVEMENT :

Q b-a	=	99
Q b-c	=	471
Q c-b	=	449
Q b-ac	=	262

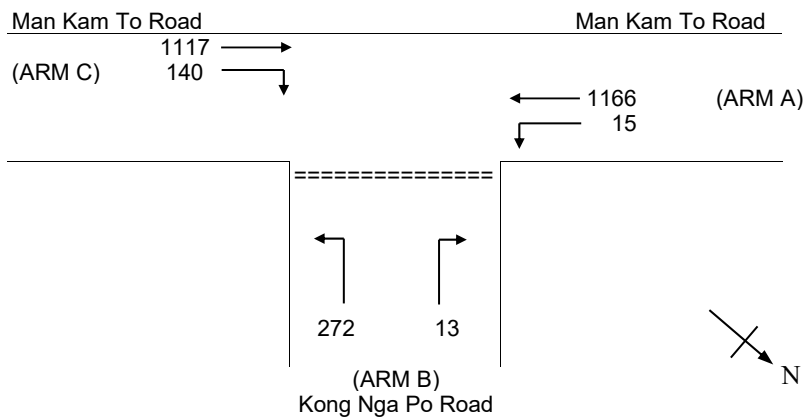
TOTAL FLOW = 3005 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.43
DFC b-c	=	0.34
DFC c-b	=	0.60
DFC b-ac	=	0.77

CRITICAL DFC = 0.77

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J9 - Man Kam To Road / Kong Nga Po Road	J9_DES_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.00	(metres)
W cr	=	2.00	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	1166	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	50	(metres)
q c-a	=	1117	(pcu/hr)
q c-b	=	140	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	13	(pcu/hr)
q b-c	=	272	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.94
E	=	1.01
F	=	0.97
Y	=	0.62

THE CAPACITY OF MOVEMENT :

Q b-a	=	175
Q b-c	=	486
Q c-b	=	463
Q b-ac	=	450

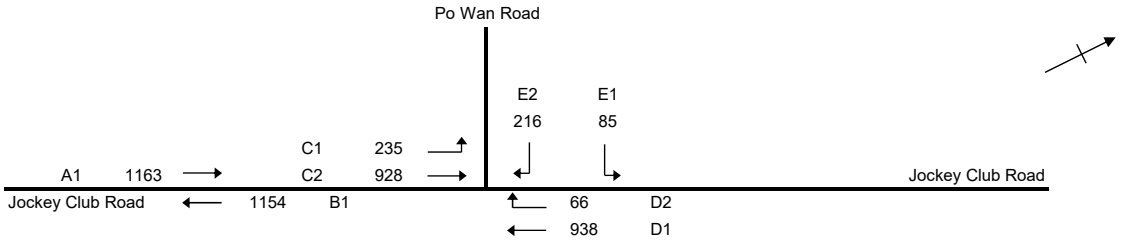
TOTAL FLOW = 2723 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

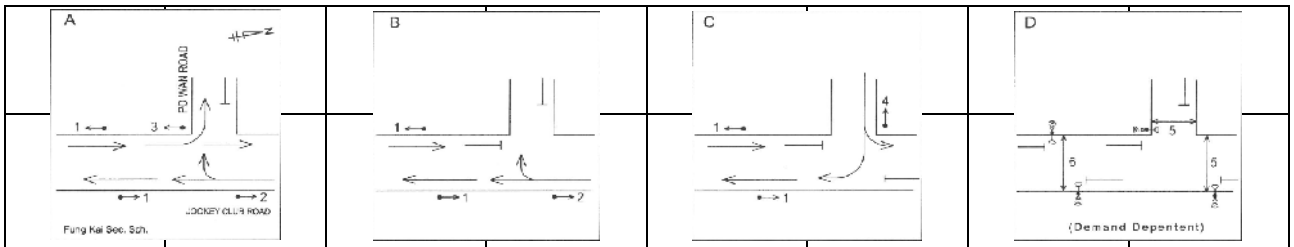
DFC b-a	=	0.07
DFC b-c	=	0.56
DFC c-b	=	0.30
DFC b-ac	=	0.63

CRITICAL DFC = 0.63

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J10
J10 - Jockey Club Road / Po Wan Road	J10_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	90 sec
Sum(y)		Y =	0.383
Loss time		L =	33 sec
Total Flow		=	4785 pcu
Co	= (1.5*L+5)/(1-Y)	=	88.4 sec
Cm	= L/(1-Y)	=	53.5 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	70.2 %
Cp	= 0.9*L/(0.9-Y)	=	57.5 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	49 %



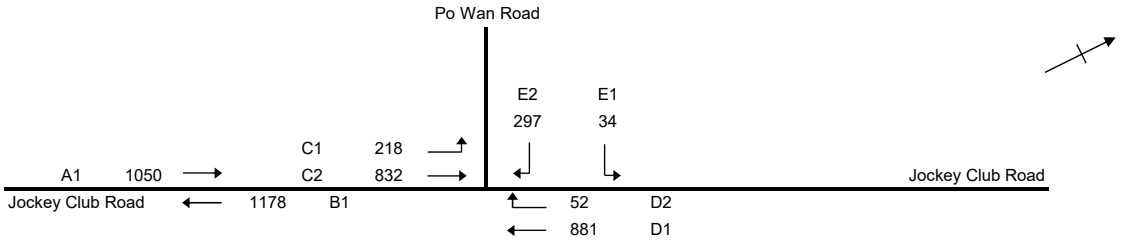
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	8	5	6	7	5	6	7	OK
6	8	5	4	7	7	4	7	OK

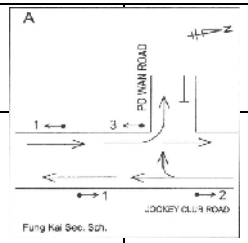
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
C1,C2	1	3.30	3	1	10		N	1945	235	308		543	0.43	1826			1826	0.297	0.297		44	44	0.605	41
C2	1	3.30	3	1				2085		620		620	0.00	2085			2085	0.297			44	44	0.605	47
A1	1,2,3	3.30	1	1			N	1945		561		561	0.00	1945			1945	0.288			43	68	0.382	21
A1	1,2,3	3.30	1	1				2085		602		602	0.00	2085			2085	0.289			43	68	0.382	22
B1	1,2,3	3.30	1	1			N	1945		557		557	0.00	1945			1945	0.286			43	68	0.379	20
B1	1,2,3	3.30	1	1				2085		597		597	0.00	2085			2085	0.286			43	68	0.379	22
D1	1,2	3.30	2	1			N	1945		516		516	0.00	1945			1945	0.265			39	50	0.476	34
D1,D2	1,2	3.30	2	1	20	O		2085		422	66	488	0.14	1836			1836	0.266			40	50	0.476	32
E1,E2	3	3.30	4	1	10		N	1945	85		60	145	1.00	1691			1691	0.086	0.086		13	13	0.603	19
E2	3	3.30	4	1	10			2085			156	156	1.00	1813			1813	0.086			13	13	0.605	20
	2																			6				
PED	4		5																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

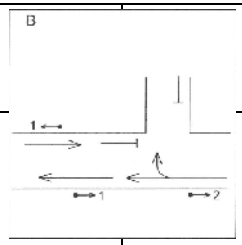
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J10
J10 - Jockey Club Road / Po Wan Road	J10_EXT_PM	DATE : 8/7/2026	FILENAME :



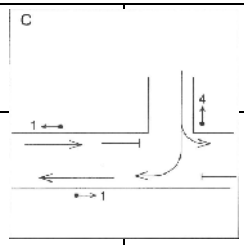
No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	90 sec
Sum(y)		Y =	0.363
Loss time		L =	33 sec
Total Flow		=	4542 pcu
Co	= (1.5*L+5)/(1-Y)	=	85.6 sec
Cm	= L/(1-Y)	=	51.8 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	79.6 %
Cp	= 0.9*L/(0.9-Y)	=	55.3 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	57 %



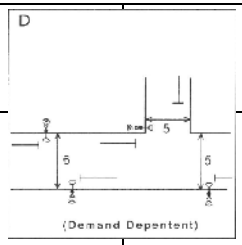
STAGE 1 INT= 5



STAGE 2 INT=



STAGE 3 INT= 6



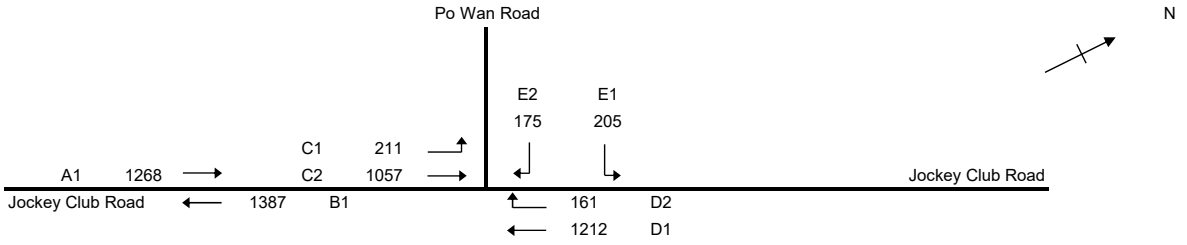
STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	8	5	6	7	5	6	7	OK
6	8	5	4	7	7	4	7	OK

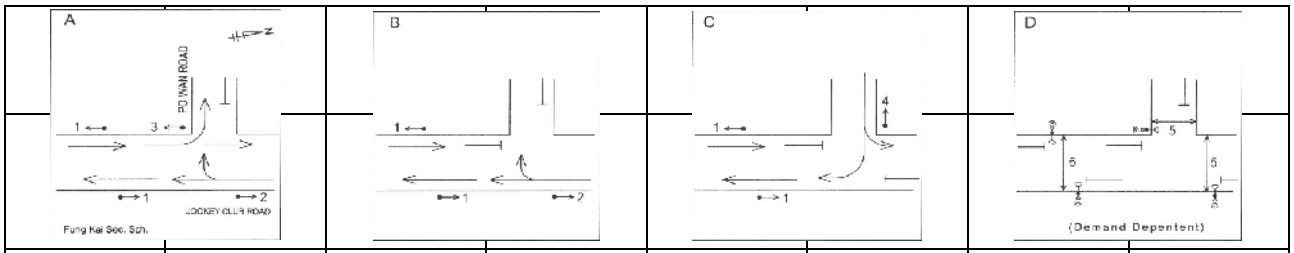
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
C1,C2	1	3.30	3	1	10		N	1945	218	272		490	0.44	1823			1823	0.269	0.269		42	42	0.574	39
C2	1	3.30	3	1				2085		560		560	0.00	2085			2085	0.269			42	42	0.573	45
A1	1,2,3	3.30	1	1			N	1945		507		507	0.00	1945			1945	0.261			41	68	0.345	19
A1	1,2,3	3.30	1	1				2085		543		543	0.00	2085			2085	0.260			41	68	0.345	20
B1	1,2,3	3.30	1	1			N	1945		569		569	0.00	1945			1945	0.293			46	68	0.387	21
B1	1,2,3	3.30	1	1				2085		609		609	0.00	2085			2085	0.292			46	68	0.387	22
D1	1,2	3.30	2	1			N	1945		479		479	0.00	1945			1945	0.246			39	48	0.460	33
D1,D2	1,2	3.30	2	1	20	O		2085		402	52	454	0.11	1839			1839	0.247			39	48	0.461	32
E1,E2	3	3.30	4	1	10		N	1945	34		126	160	1.00	1691			1691	0.095	0.095		15	15	0.574	20
E2	3	3.30	4	1	10			2085			171	171	1.00	1813			1813	0.094			15	15	0.572	21
	2																			6				
PED	4		5																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J10
J10 - Jockey Club Road / Po Wan Road	J10_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.486
Loss time		L =	27 sec
Total Flow		=	5676 pcu
Co	= (1.5*L+5)/(1-Y)	=	88.5 sec
Cm	= L/(1-Y)	=	52.5 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	43.6 %
Cp	= 0.9*L/(0.9-Y)	=	58.7 sec
Ymax	= 1-L/C	=	0.775
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	44 %



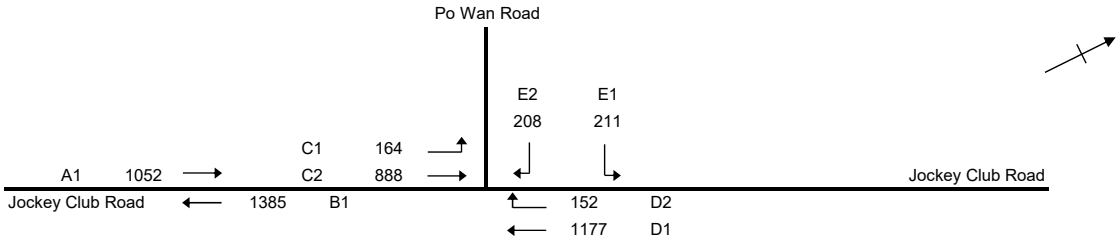
STAGE 1	INT=	STAGE 2	INT= 5	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	8	5	6	7	5	6	7	OK
6	8	5	4	7	7	4	7	OK

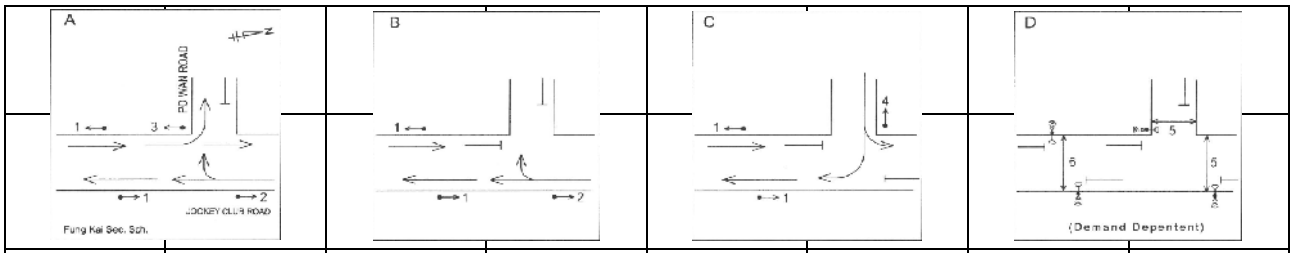
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
C1,C2	1	3.30	3	1	10		N	1945	211	385		596	0.35	1847			1847	0.323			62	64	0.607	56
C2	1	3.30	3	1				2085		672		672	0.00	2085			2085	0.322			62	64	0.606	63
A1	1,2,3	3.30	1	1			N	1945		612		612	0.00	1945			1945	0.315			60	98	0.385	22
A1	1,2,3	3.30	1	1				2085		656		656	0.00	2085			2085	0.315			60	98	0.385	24
B1	1,2,3	3.30	1	1			N	1945		669		669	0.00	1945			1945	0.344			66	98	0.421	25
B1	1,2,3	3.30	1	1				2085		718		718	0.00	2085			2085	0.344			66	98	0.422	26
D1	1,2	3.30	2	1			N	1945		709		709	0.00	1945			1945	0.365	0.365		70	70	0.627	59
D1,D2	1,2	3.30	2	1	20	O		2085		503	161	664	0.24	1822			1822	0.364			70	70	0.627	56
E1,E2	3	3.30	4	1	10		N	1945	205		0	205	1.00	1691			1691	0.121	0.121		23	23	0.627	33
E2	3	3.30	4	1	10			2085			175	175	1.00	1813			1813	0.097			18	23	0.499	28
PED	4		5																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J10
J10 - Jockey Club Road / Po Wan Road	J10_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.478
Loss time		L =	27 sec
Total Flow		=	5237 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.1 sec
Cm	= L/(1-Y)	=	51.7 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	46.1 %
Cp	= 0.9*L/(0.9-Y)	=	57.5 sec
Ymax	= 1-L/C	=	0.775
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	46 %



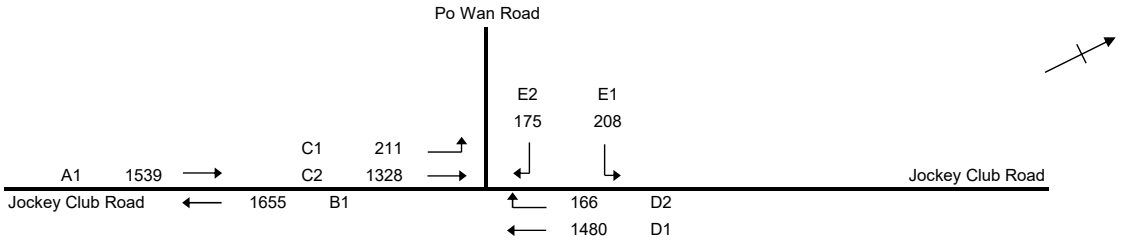
STAGE 1	INT=	STAGE 2	INT= 5	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	8	5	6	7	5	6	7	OK
6	8	5	4	7	7	4	7	OK

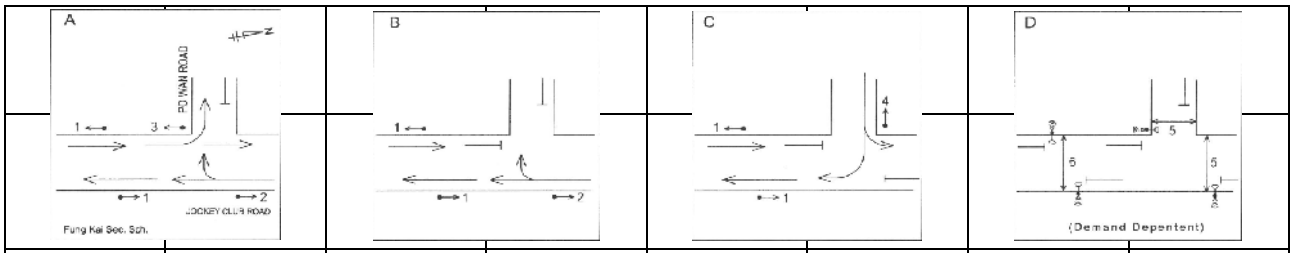
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
C1,C2	1	3.30	3	1	10		N	1945	164	331		495	0.33	1853			1853	0.267			52	63	0.511	47
C2	1	3.30	3	1				2085		557		557	0.00	2085			2085	0.267			52	63	0.511	53
A1	1,2,3	3.30	1	1			N	1945		508		508	0.00	1945			1945	0.261			51	98	0.320	19
A1	1,2,3	3.30	1	1				2085		544		544	0.00	2085			2085	0.261			51	98	0.319	20
B1	1,2,3	3.30	1	1			N	1945		668		668	0.00	1945			1945	0.343			67	98	0.421	24
B1	1,2,3	3.30	1	1				2085		717		717	0.00	2085			2085	0.344			67	98	0.421	26
D1	1,2	3.30	2	1			N	1945		686		686	0.00	1945			1945	0.353	0.353		69	69	0.616	59
D1,D2	1,2	3.30	2	1	20	O		2085		491	152	643	0.24	1823			1823	0.353			69	69	0.616	55
E1,E2	3	3.30	4	1	10		N	1945	211		0	211	1.00	1691			1691	0.125	0.125		24	24	0.616	34
E2	3	3.30	4	1	10			2085			208	208	1.00	1813			1813	0.115			22	24	0.567	33
PED	4		5																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J10
J10 - Jockey Club Road / Po Wan Road	J10_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.559
Loss time		L =	27 sec
Total Flow		=	6762 pcu
Co	= (1.5*L+5)/(1-Y)	=	103.3 sec
Cm	= L/(1-Y)	=	61.3 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	24.7 %
Cp	= 0.9*L/(0.9-Y)	=	71.4 sec
Ymax	= 1-L/C	=	0.775
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	25 %



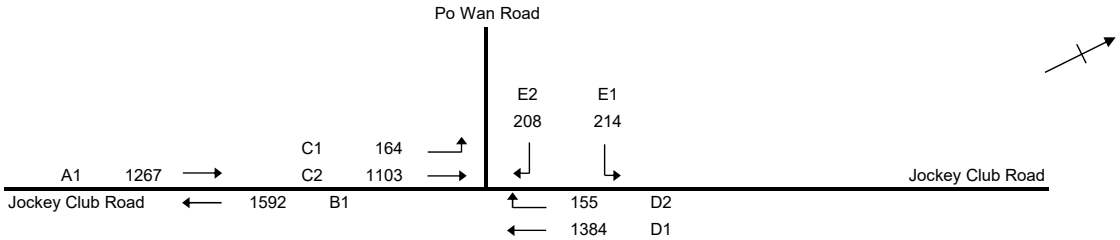
STAGE 1	INT=	STAGE 2	INT= 5	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	8	5	6	7	5	6	7	OK
6	8	5	4	7	7	4	7	OK

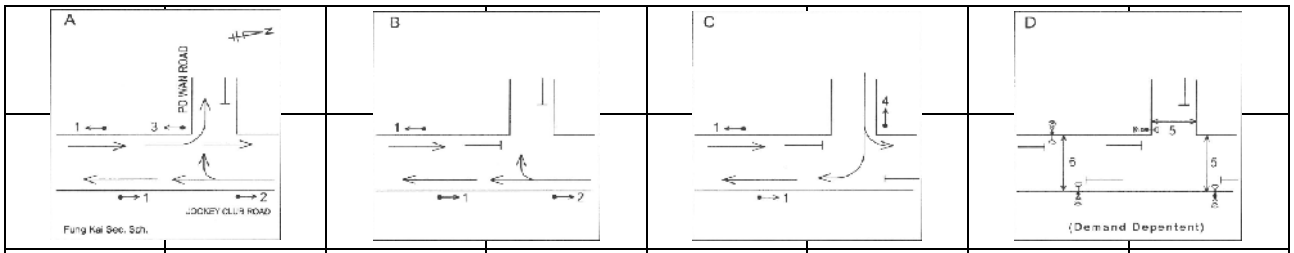
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
C1,C2	1	3.30	3	1	10		N	1945	211	515		726	0.29	1864			1864	0.390			65	67	0.702	65
C2	1	3.30	3	1				2085		813		813	0.00	2085			2085	0.390			65	67	0.703	72
A1	1,2,3	3.30	1	1			N	1945		743		743	0.00	1945			1945	0.382			63	98	0.468	27
A1	1,2,3	3.30	1	1				2085		796		796	0.00	2085			2085	0.382			63	98	0.467	29
B1	1,2,3	3.30	1	1			N	1945		799		799	0.00	1945			1945	0.411			68	98	0.503	29
B1	1,2,3	3.30	1	1				2085		856		856	0.00	2085			2085	0.411			68	98	0.503	31
D1	1,2	3.30	2	1			N	1945		849		849	0.00	1945			1945	0.437	0.437		73	73	0.722	67
D1,D2	1,2	3.30	2	1	20	O		2085		631	166	797	0.21	1826			1826	0.436			73	73	0.722	63
E1,E2	3	3.30	4	1	10		N	1945	208		0	208	1.00	1691			1691	0.123	0.123		20	20	0.722	35
E2	3	3.30	4	1	10			2085			175	175	1.00	1813			1813	0.097			16	20	0.567	29
PED	4		5																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J10
J10 - Jockey Club Road / Po Wan Road	J10_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.535
Loss time		L =	27 sec
Total Flow		=	6087 pcu
Co	= (1.5*L+5)/(1-Y)	=	97.8 sec
Cm	= L/(1-Y)	=	58.0 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	30.4 %
Cp	= 0.9*L/(0.9-Y)	=	66.5 sec
Ymax	= 1-L/C	=	0.775
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	30 %



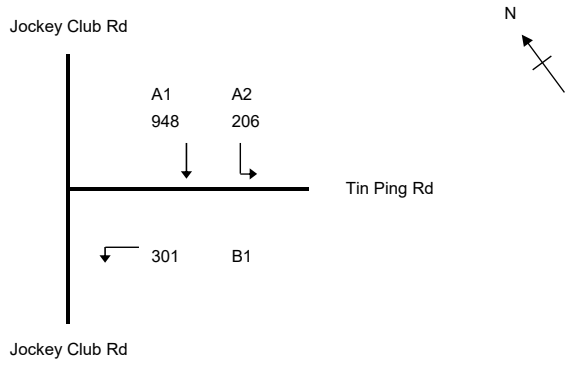
STAGE 1	INT=	STAGE 2	INT= 5	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	8	5	6	7	5	6	7	OK
6	8	5	4	7	7	4	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
C1,C2	1	3.30	3	1	10		N	1945	164	435		599	0.27	1868			1868	0.321			56	65	0.592	55
C2	1	3.30	3	1				2085		668		668	0.00	2085			2085	0.320			56	65	0.592	61
A1	1,2,3	3.30	1	1			N	1945		611		611	0.00	1945			1945	0.314			55	98	0.385	22
A1	1,2,3	3.30	1	1				2085		656		656	0.00	2085			2085	0.315			55	98	0.385	24
B1	1,2,3	3.30	1	1			N	1945		768		768	0.00	1945			1945	0.395			69	98	0.484	28
B1	1,2,3	3.30	1	1				2085		824		824	0.00	2085			2085	0.395			69	98	0.484	30
D1	1,2	3.30	2	1			N	1945		794		794	0.00	1945			1945	0.408	0.408		71	71	0.690	65
D1,D2	1,2	3.30	2	1	20	O		2085		590	155	745	0.21	1826			1826	0.408			71	71	0.689	61
E1,E2	3	3.30	4	1	10		N	1945	214		0	214	1.00	1691			1691	0.127	0.127		22	22	0.690	35
E2	3	3.30	4	1	10			2085			208	208	1.00	1813			1813	0.115			20	22	0.626	34
PED	4		5																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG (FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J11
J11 - Jockey Club Road / Tin Ping Road	J11_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3	
No. of stage using for calculation		N =	2	
Cycle time		C =	68	sec
Sum(y)		Y =	0.344	
Loss time		L =	27	sec
Total Flow		=	1455	pcu
Co	= (1.5*L+5)/(1-Y)	=	69.4	sec
Cm	= L/(1-Y)	=	41.2	sec
Yult		=	0.698	
R.C.ult	= (Yult-Y)/Y*100%	=	102.6	%
Cp	= 0.9*L/(0.9-Y)	=	43.7	sec
Ymax	= 1-L/C	=	0.603	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	58	%

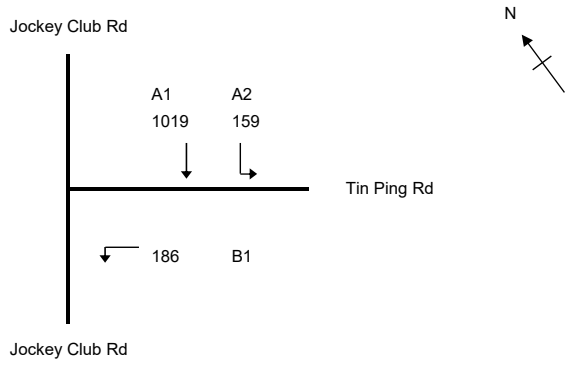
	A1,A2		A1 C		A2		
					B1		
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
C	9	5	2	10	5	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A2	3	3.65	2	1	10		N	1980	155			155	1.00	1722			1722	0.090			11	19	0.313	12
A1,A2	1	3.65	1	1	10		N	1980	52	298		350	0.15	1937			1937	0.180	0.181		21	22	0.570	27
A1	1	3.65	1	1				2120		383		383	0.00	2120			2120	0.181			22	22	0.571	30
A1	2	3.65	1	1				2120		267		267	0.00	2120			2120	0.126			15	15	0.571	24
B1	3	5.00	3	1	10		N	2115	301			301	1.00	1839			1839	0.164	0.164		19	19	0.571	24
PED	2		C																	17				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J11
J11 - Jockey Club Road / Tin Ping Road	J11_EXT_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3	
No. of stage using for calculation		N =	2	
Cycle time		C =	64	sec
Sum(y)		Y =	0.298	
Loss time		L =	27	sec
Total Flow		=	1364	pcu
Co	= (1.5*L+5)/(1-Y)	=	64.9	sec
Cm	= L/(1-Y)	=	38.5	sec
Yult		=	0.698	
R.C.ult	= (Yult-Y)/Y*100%	=	133.7	%
Cp	= 0.9*L/(0.9-Y)	=	40.4	sec
Ymax	= 1-L/C	=	0.578	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	74	%

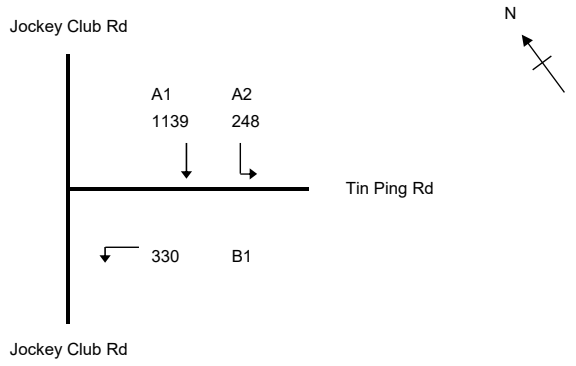
	A1,A2		A1 C		A2		
					B1		
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
C	9	5	2	10	5	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A2	3	3.65	2	1	10		N	1980	119			119	1.00	1722			1722	0.069			9	13	0.354	10
A1,A2	1	3.65	1	1	10		N	1980	40	345		385	0.10	1950			1950	0.197	0.197		24	24	0.516	25
A1	1	3.65	1	1				2120		418		418	0.00	2120			2120	0.197			24	24	0.516	28
A1	2	3.65	1	1				2120		256		256	0.00	2120			2120	0.121			15	15	0.515	21
B1	3	5.00	3	1	10		N	2115	186			186	1.00	1839			1839	0.101	0.101		13	13	0.516	16
PED	2		C																	17				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J11
J11 - Jockey Club Road / Tin Ping Road	J11_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	68 sec
Sum(y)		Y =	0.399
Loss time		L =	27 sec
Total Flow		=	1717 pcu
Co	= (1.5*L+5)/(1-Y)	=	75.7 sec
Cm	= L/(1-Y)	=	44.9 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	74.7 %
Cp	= 0.9*L/(0.9-Y)	=	48.5 sec
Ymax	= 1-L/C	=	0.603
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	36 %

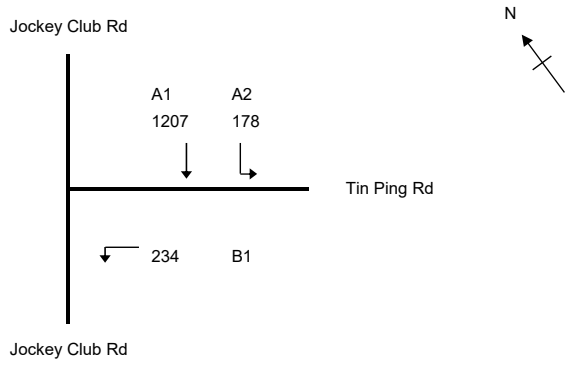
	A1,A2		A1 C		A2		
					B1		
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
C	9	5	2	10	5	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A2	3	3.65	2	1	10		N	1980	186			186	1.00	1722			1722	0.108			11	18	0.399	15
A1,A2	1	3.65	1	1	10		N	1980	62	364		426	0.15	1938			1938	0.220	0.220		23	23	0.662	32
A1	1	3.65	1	1				2120		466		466	0.00	2120			2120	0.220			23	23	0.662	35
A1	2	3.65	1	1				2120		309		309	0.00	2120			2120	0.146			15	15	0.661	27
B1	3	5.00	3	1	10		N	2115	330	0	0	330	1.00	1839			1839	0.179	0.179		18	18	0.662	27
PED	2		C																	17				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J11
J11 - Jockey Club Road / Tin Ping Road	J11_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	64 sec
Sum(y)		Y =	0.359
Loss time		L =	27 sec
Total Flow		=	1619 pcu
Co	= (1.5*L+5)/(1-Y)	=	71.0 sec
Cm	= L/(1-Y)	=	42.1 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	94.2 %
Cp	= 0.9*L/(0.9-Y)	=	44.9 sec
Ymax	= 1-L/C	=	0.578
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	45 %

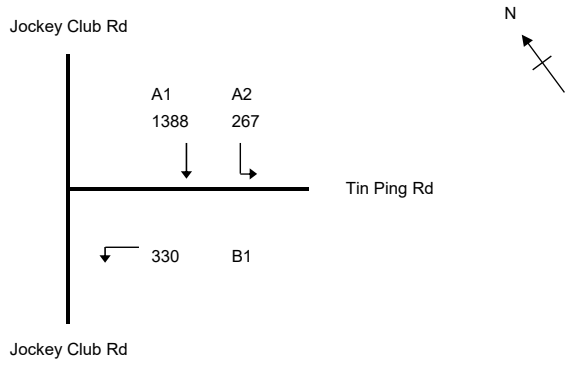
	A1,A2		A1 C		A2		
					B1		
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
C	9	5	2	10	5	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A2	3	3.65	2	1	10		N	1980	134			134	1.00	1722			1722	0.078			8	13	0.379	11
A1,A2	1	3.65	1	1	10		N	1980	45	408		453	0.10	1951			1951	0.232	0.232		24	24	0.621	30
A1	1	3.65	1	1				2120		491		491	0.00	2120			2120	0.232			24	24	0.620	33
A1	2	3.65	1	1				2120		308		308	0.00	2120			2120	0.145			15	15	0.620	25
B1	3	5.00	3	1	10		N	2115	234	0	0	234	1.00	1839			1839	0.127	0.127		13	13	0.621	20
PED	2		C																	17				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J11
J11 - Jockey Club Road / Tin Ping Road	J11_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	68 sec
Sum(y)		Y =	0.452
Loss time		L =	27 sec
Total Flow		=	1985 pcu
Co	= (1.5*L+5)/(1-Y)	=	83.0 sec
Cm	= L/(1-Y)	=	49.2 sec
Yult		=	0.698
R.C.ult	= (Yult-Y)/Y*100%	=	54.5 %
Cp	= 0.9*L/(0.9-Y)	=	54.2 sec
Ymax	= 1-L/C	=	0.603
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	20 %

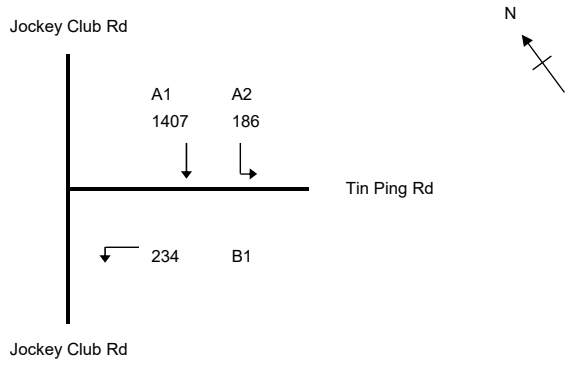
	A1,A2		A1 C		A2		
					B1		
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
C	9	5	2	10	5	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A2	3	3.65	2	1	10		N	1980	200			200	1.00	1722			1722	0.116			11	16	0.485	17
A1,A2	1	3.65	1	1	10		N	1980	67	462		529	0.13	1943			1943	0.272	0.272		25	25	0.749	38
A1	1	3.65	1	1				2120		576		576	0.00	2120			2120	0.272			25	25	0.748	42
A1	2	3.65	1	1				2120		350		350	0.00	2120			2120	0.165			15	15	0.748	31
B1	3	5.00	3	1	10		N	2115	330	0	0	330	1.00	1839			1839	0.179	0.179		16	16	0.749	28
PED	2		C																	17				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J11
J11 - Jockey Club Road / Tin Ping Road	J11_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3	
No. of stage using for calculation		N =	2	
Cycle time		C =	64	sec
Sum(y)		Y =	0.400	
Loss time		L =	27	sec
Total Flow		=	1827	pcu
Co	= (1.5*L+5)/(1-Y)	=	75.8	sec
Cm	= L/(1-Y)	=	45.0	sec
Yult		=	0.698	
R.C.ult	= (Yult-Y)/Y*100%	=	74.4	%
Cp	= 0.9*L/(0.9-Y)	=	48.6	sec
Ymax	= 1-L/C	=	0.578	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	30	%

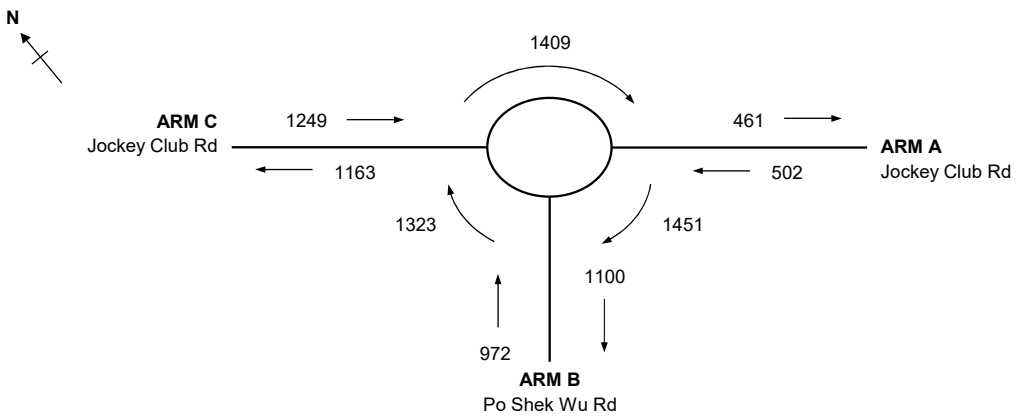
	A1,A2		A1 C		A2		
					B1		
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT=

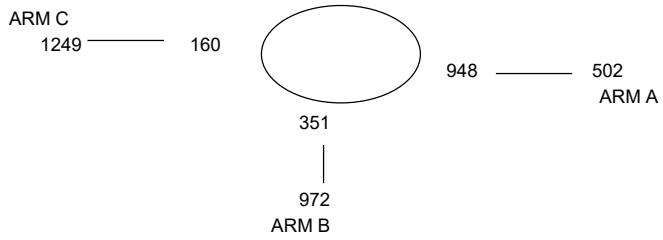
Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
C	9	5	2	10	5	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A2	3	3.65	2	1	10		N	1980	140			140	1.00	1722			1722	0.081			7	12	0.440	12
A1,A2	1	3.65	1	1	10		N	1980	47	486		533	0.09	1954			1954	0.272	0.273		25	25	0.691	34
A1	1	3.65	1	1				2120		578		578	0.00	2120			2120	0.273			25	25	0.692	37
A1	2	3.65	1	1				2120		343		343	0.00	2120			2120	0.162			15	15	0.690	28
B1	3	5.00	3	1	10		N	2115	234	0	0	234	1.00	1839			1839	0.127	0.127		12	12	0.692	20
PED	2		C																	17				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
		PROJECT NO.	287082
J12 - Po Shek Wu Road / Jockey Club Road	J12_EXT_AM	DATE 8/7/2026	



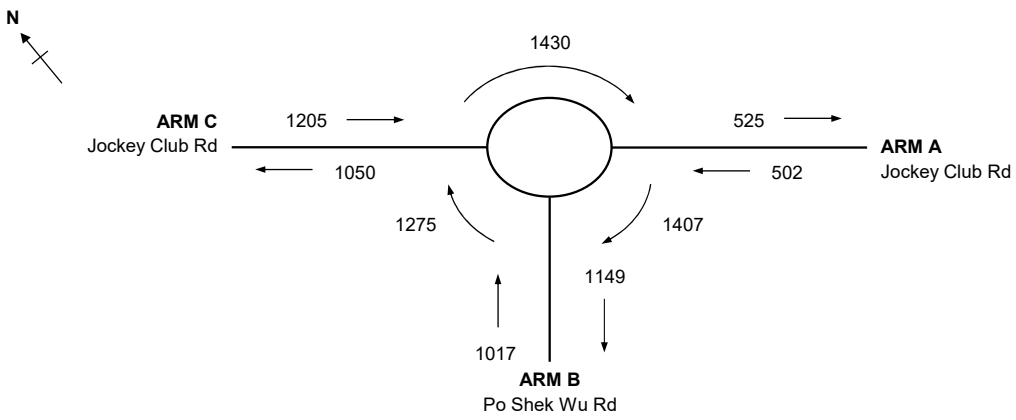


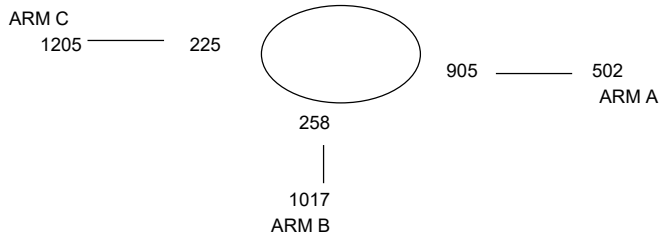
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.50	7.00	7.50
E	=	Entry width (m)	10.50	10.50	10.00
L	=	Effective length of flare (m)	10	10	10
R	=	Entry radius (m)	10	90	100
D	=	Inscribed circle diameter (m)	40	40	40
A	=	Entry angle (degree)	30	20	10
Q	=	Entry flow (pcu/h)	502	972	1249
Qc	=	Circulating flow across entry (pcu/h)	948	351	160
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.56	0.40
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.07	1.11
X2	=	V + ((E-V)/(1+2S))	9.03	8.65	8.89
M	=	EXP((D-60)/10)	0.14	0.14	0.14
F	=	303*X2	2736	2621	2693
Td	=	1+(0.5/(1+M))	1.44	1.44	1.44
Fc	=	0.21*Td(1+0.2*X2)	0.85	0.83	0.84
Qe	=	K(F-Fc*Qc)	1837	2501	2837
DFC	=	Design flow/Capacity = Q/Qe	0.27	0.39	0.44

Total In Sum = 2723 PCU

DFC of Critical Approach = 0.44

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
		PROJECT NO.	287082
J12 - Po Shek Wu Road / Jockey Club Road	J12_EXT_PM	DATE 8/7/2026	



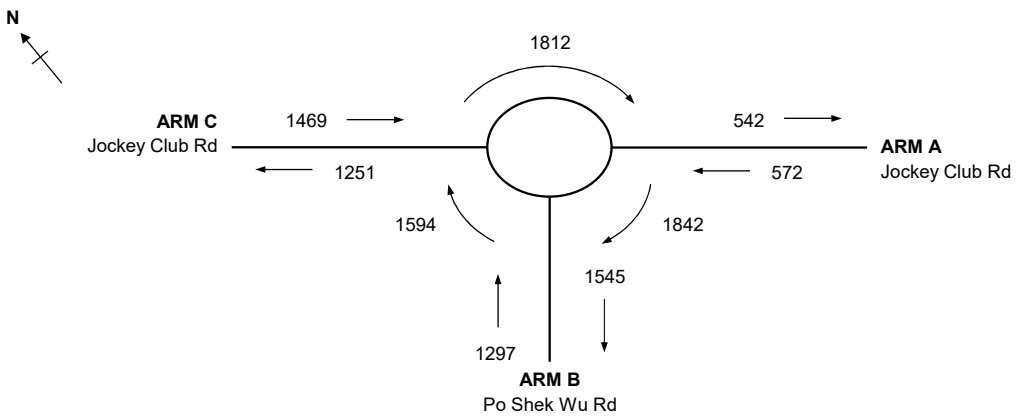


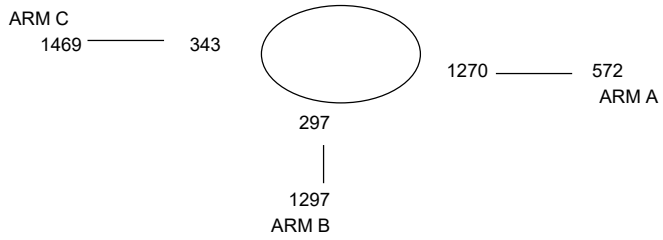
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.50	7.00	7.50
E	=	Entry width (m)	10.50	10.50	10.00
L	=	Effective length of flare (m)	10	10	10
R	=	Entry radius (m)	10	90	100
D	=	Inscribed circle diameter (m)	40	40	40
A	=	Entry angle (degree)	30	20	10
Q	=	Entry flow (pcu/h)	502	1017	1205
Qc	=	Circulating flow across entry (pcu/h)	905	258	225
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.56	0.40
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.07	1.11
X2	=	V + ((E-V)/(1+2S))	9.03	8.65	8.89
M	=	EXP((D-60)/10)	0.14	0.14	0.14
F	=	303*X2	2736	2621	2693
Td	=	1+(0.5/(1+M))	1.44	1.44	1.44
Fc	=	0.21*Td(1+0.2*X2)	0.85	0.83	0.84
Qe	=	K(F-Fc*Qc)	1872	2583	2776
DFC	=	Design flow/Capacity = Q/Qe	0.27	0.39	0.43

Total In Sum = 2724 PCU

DFC of Critical Approach = 0.43

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
		PROJECT NO.	287082
J12 - Po Shek Wu Road / Jockey Club Road	J12_REF_AM	DATE 8/7/2026	



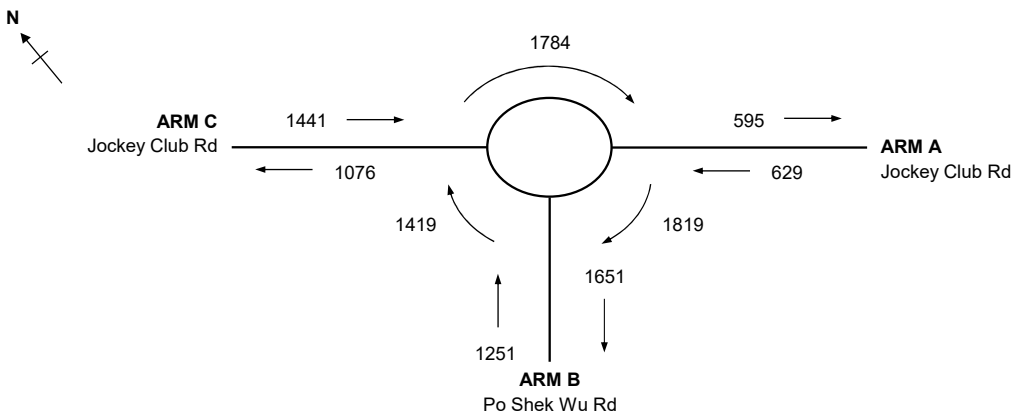


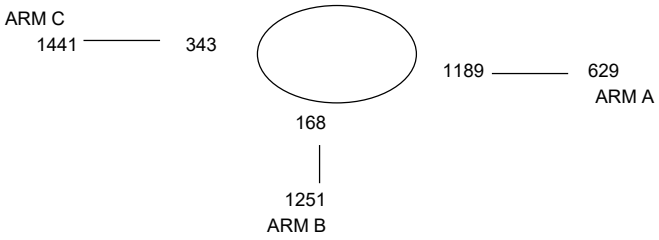
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.50	7.00	7.50
E	=	Entry width (m)	10.50	10.50	10.00
L	=	Effective length of flare (m)	10	10	10
R	=	Entry radius (m)	10	90	100
D	=	Inscribed circle diameter (m)	40	40	40
A	=	Entry angle (degree)	30	20	10
Q	=	Entry flow (pcu/h)	572	1297	1469
Qc	=	Circulating flow across entry (pcu/h)	1270	297	343
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.56	0.40
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.07	1.11
X2	=	V + ((E-V)/(1+2S))	9.03	8.65	8.89
M	=	EXP((D-60)/10)	0.14	0.14	0.14
F	=	303*X2	2736	2621	2693
Td	=	1+(0.5/(1+M))	1.44	1.44	1.44
Fc	=	0.21*Td(1+0.2*X2)	0.85	0.83	0.84
Qe	=	K(F-Fc*Qc)	1577	2549	2666
DFC	=	Design flow/Capacity = Q/Qe	0.37	0.51	0.56

Total In Sum = 3338 PCU

DFC of Critical Approach = 0.56

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
		PROJECT NO.	287082
J12 - Po Shek Wu Road / Jockey Club Road	J12_REF_PM	DATE 8/7/2026	



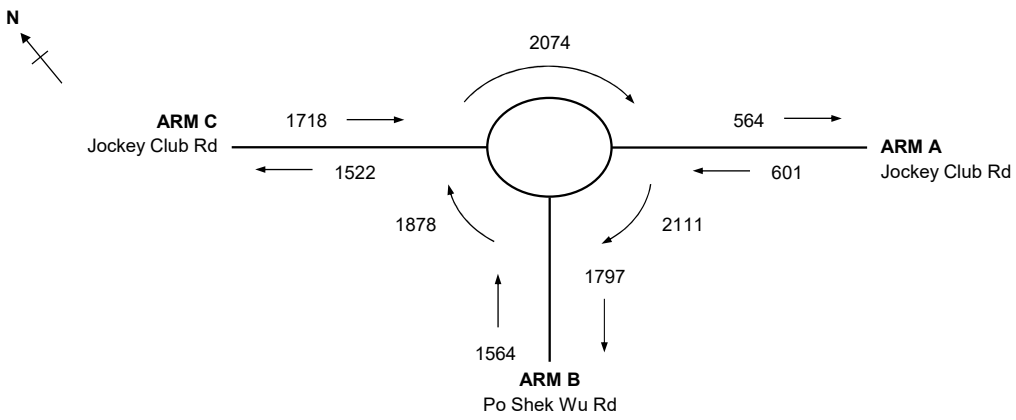


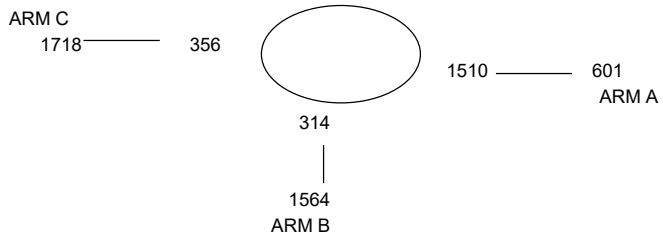
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.50	7.00	7.50
E	=	Entry width (m)	10.50	10.50	10.00
L	=	Effective length of flare (m)	10	10	10
R	=	Entry radius (m)	10	90	100
D	=	Inscribed circle diameter (m)	40	40	40
A	=	Entry angle (degree)	30	20	10
Q	=	Entry flow (pcu/h)	629	1251	1441
Qc	=	Circulating flow across entry (pcu/h)	1189	168	343
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.56	0.40
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.07	1.11
X2	=	V + ((E-V)/(1+2S))	9.03	8.65	8.89
M	=	EXP((D-60)/10)	0.14	0.14	0.14
F	=	303*X2	2736	2621	2693
Td	=	1+(0.5/(1+M))	1.44	1.44	1.44
Fc	=	0.21*Td(1+0.2*X2)	0.85	0.83	0.84
Qe	=	K(F-Fc*Qc)	1643	2663	2666
DFC	=	Design flow/Capacity = Q/Qe	0.39	0.47	0.55

Total In Sum = 3321 PCU

DFC of Critical Approach = 0.55

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
		PROJECT NO.	287082
J12 - Po Shek Wu Road / Jockey Club Road	J12_DES_AM	DATE 8/7/2026	



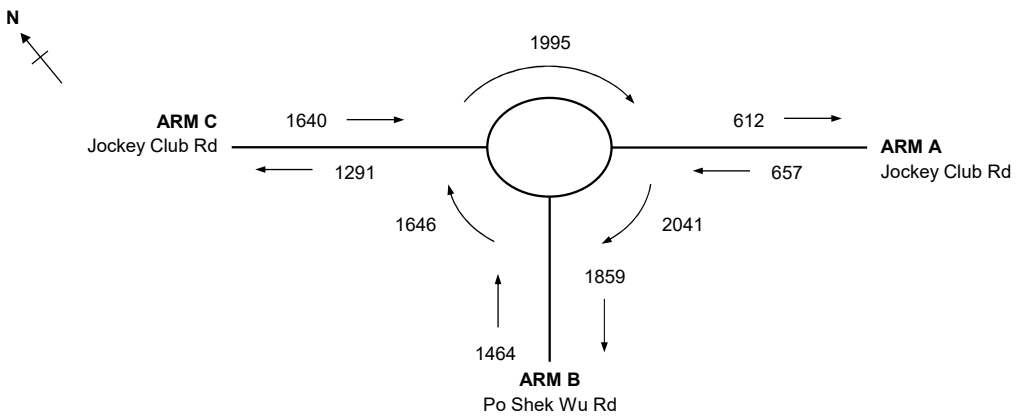


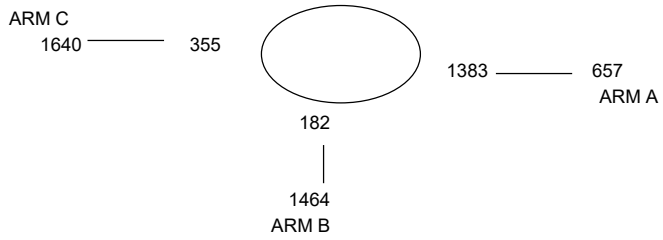
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.50	7.00	7.50
E	=	Entry width (m)	10.50	10.50	10.00
L	=	Effective length of flare (m)	10	10	10
R	=	Entry radius (m)	10	90	100
D	=	Inscribed circle diameter (m)	40	40	40
A	=	Entry angle (degree)	30	20	10
Q	=	Entry flow (pcu/h)	601	1564	1718
Qc	=	Circulating flow across entry (pcu/h)	1510	314	356
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.56	0.40
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.07	1.11
X2	=	V + ((E-V)/(1+2S))	9.03	8.65	8.89
M	=	EXP((D-60)/10)	0.14	0.14	0.14
F	=	303*X2	2736	2621	2693
Td	=	1+(0.5/(1+M))	1.44	1.44	1.44
Fc	=	0.21*Td(1+0.2*X2)	0.85	0.83	0.84
Qe	=	K(F-Fc*Qc)	1383	2534	2654
DFC	=	Design flow/Capacity = Q/Qe	0.44	0.62	0.65

Total In Sum = 3883 PCU

DFC of Critical Approach = 0.65

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
		PROJECT NO.	287082
J12 - Po Shek Wu Road / Jockey Club Road	J12_DES_PM	DATE 8/7/2026	



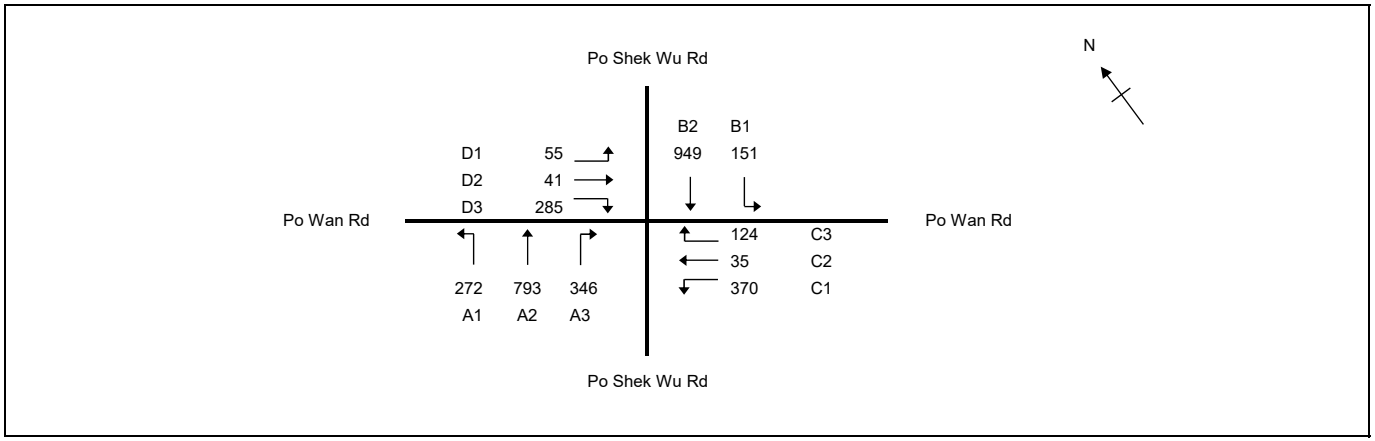


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	7.50	7.00	7.50
E	=	Entry width (m)	10.50	10.50	10.00
L	=	Effective length of flare (m)	10	10	10
R	=	Entry radius (m)	10	90	100
D	=	Inscribed circle diameter (m)	40	40	40
A	=	Entry angle (degree)	30	20	10
Q	=	Entry flow (pcu/h)	657	1464	1640
Qc	=	Circulating flow across entry (pcu/h)	1383	182	355
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.56	0.40
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.07	1.11
X2	=	V + ((E-V)/(1+2S))	9.03	8.65	8.89
M	=	EXP((D-60)/10)	0.14	0.14	0.14
F	=	303*X2	2736	2621	2693
Td	=	1+(0.5/(1+M))	1.44	1.44	1.44
Fc	=	0.21*Td(1+0.2*X2)	0.85	0.83	0.84
Qe	=	K(F-Fc*Qc)	1486	2651	2655
DFC	=	Design flow/Capacity = Q/Qe	0.45	0.56	0.62

Total In Sum = 3761 PCU

DFC of Critical Approach = 0.62

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4	
No. of stage using for calculation		N =	3	
Cycle time		C =	128	sec
Sum(y)		Y =	0.501	
Loss time		L =	18	sec
Total Flow		=	3421	pcu
Co	= (1.5*L+5)/(1-Y)	=	64.1	sec
Cm	= L/(1-Y)	=	36.1	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	52.7	%
Cp	= 0.9*L/(0.9-Y)	=	40.6	sec
Ymax	= 1-L/C	=	0.859	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	54	%

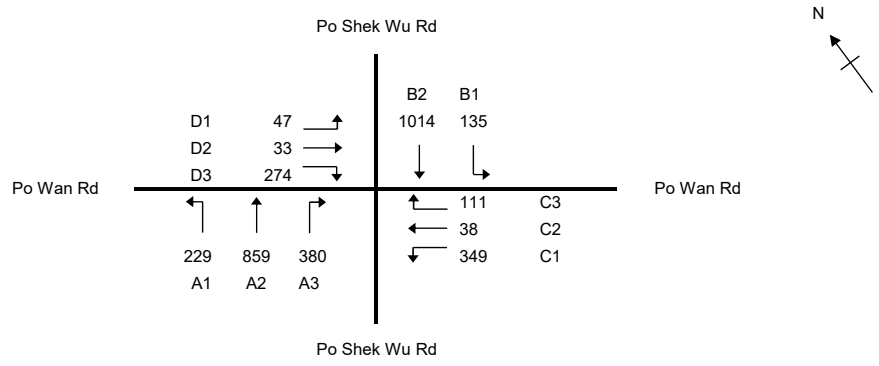
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 7	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	58	5	11	OK
F	12	5	6	13	8	6	13	OK
G	12	5	6	13	8	6	13	OK
H	7.5	5	10	8	9	10	8	OK

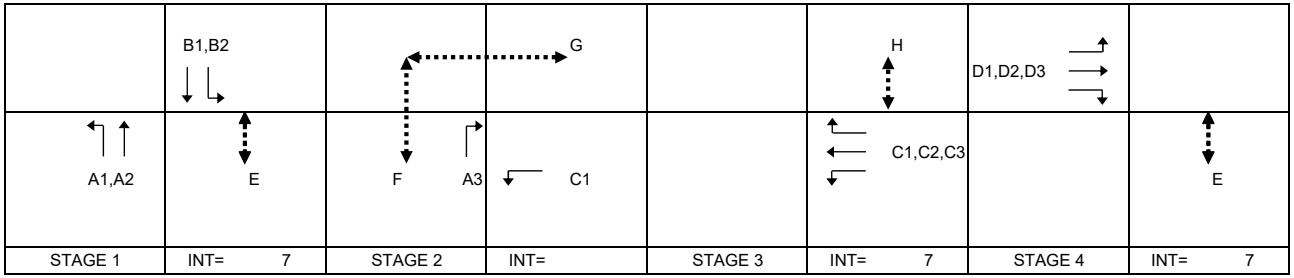
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1	1	3.30	1	1	15		N	1945	272			272	1.00	1768			1768	0.154	0.190		34	42	0.471	39
A1,A2	1	3.30	1	1	20			2085	0	396		396	0.00	2085			2085	0.190			42	42	0.581	57
A2	1	3.30	1	1				2085		397		397	0.00	2085			2085	0.190			42	42	0.583	57
B1,B2	1	3.70	1	1	15		N	1985	151	189		340	0.44	1901			1901	0.179			39	42	0.548	49
B2	1	3.70	1	2				4250		760		760	0.00	4250			4250	0.179			39	42	0.547	55
A3	2	3.30	2	2	20			4170			346	346	1.00	3879			3879	0.089			20	22	0.529	31
C1	2,3	3.30	3,4	1	15		N	1945	370			370	1.00	1768			1768	0.209	0.209		46	46	0.583	51
C2,C3	3	3.30	4	1	20			2085		35	124	159	0.78	1970			1970	0.081			18	21	0.484	28
D1,D2,D3	4	3.30	5	1	15		N	1945	55	41	86	182	0.77	1805			1805	0.101	0.101		22	22	0.581	32
D3	4	3.30	5	1	25			2085			199	199	1.00	1967			1967	0.101			22	22	0.583	35

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_EXT_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.498
Loss time		L =	18 sec
Total Flow		=	3469 pcu
Co	= (1.5*L+5)/(1-Y)	=	63.7 sec
Cm	= L/(1-Y)	=	35.8 sec
Yult		=	0.765
R.C.ult	= (Yult-Y)/Y*100%	=	53.7 %
Cp	= 0.9*L/(0.9-Y)	=	40.3 sec
Ymax	= 1-L/C	=	0.859
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55 %

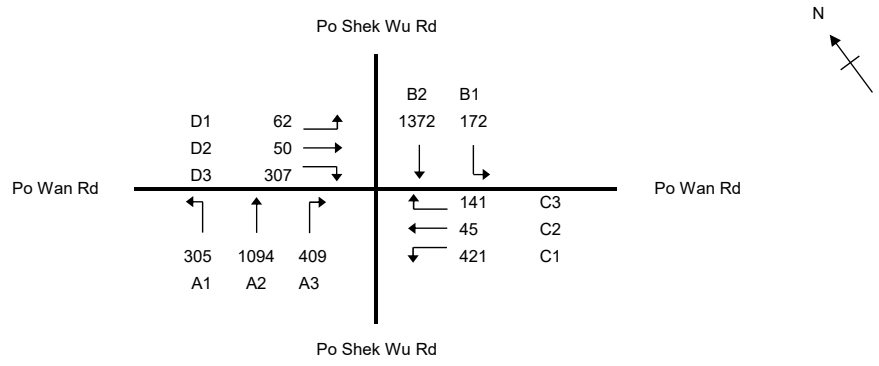


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	60	5	11	OK
F	12	5	6	13	9	6	13	OK
G	12	5	6	13	9	6	13	OK
H	7.5	5	10	8	6	10	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1	1	3.30	1	1	15		N	1945	229			229	1.00	1768			1768	0.130	0.206		29	46	0.364	31
A1,A2	1	3.30	1	1	20			2085	0	429		429	0.00	2085			2085	0.206			45	46	0.578	59
A2	1	3.30	1	1				2085		430		430	0.00	2085			2085	0.206			46	46	0.579	59
B1,B2	1	3.70	1	1	15		N	1985	135	222		357	0.38	1913			1913	0.187			41	46	0.524	49
B2	1	3.70	1	2				4250		792		792	0.00	4250			4250	0.186			41	46	0.523	54
A3	2	3.30	2	2	20			4170			380	380	1.00	3879			3879	0.098			22	23	0.554	33
C1	2,3	3.30	3,4	1	15		N	1945	349			349	1.00	1768			1768	0.197	0.197		44	44	0.579	49
C2,C3	3	3.30	4	1	20			2085		38	111	149	0.74	1975			1975	0.075			17	18	0.537	27
D1,D2,D3	4	3.30	5	1	15		N	1945	47	33	89	169	0.80	1800			1800	0.094	0.094		21	21	0.578	30
D3	4	3.30	5	1	25			2085			185	185	1.00	1967			1967	0.094			21	21	0.579	33

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.612
Loss time		L =	18 sec
Total Flow		=	4378 pcu
Co	= (1.5*L+5)/(1-Y)	=	82.4 sec
Cm	= L/(1-Y)	=	46.3 sec
Yult		=	0.765
R.C.ult	= (Yult-Y)/Y*100%	=	25.1 %
Cp	= 0.9*L/(0.9-Y)	=	56.2 sec
Ymax	= 1-L/C	=	0.859
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	26 %

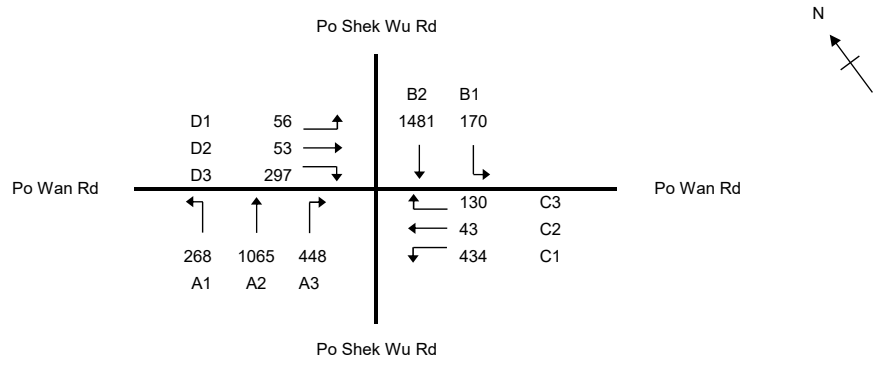
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 7	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	61	5	11	OK
F	12	5	6	13	7	6	13	OK
G	12	5	6	13	7	6	13	OK
H	7.5	5	10	8	7	10	8	OK

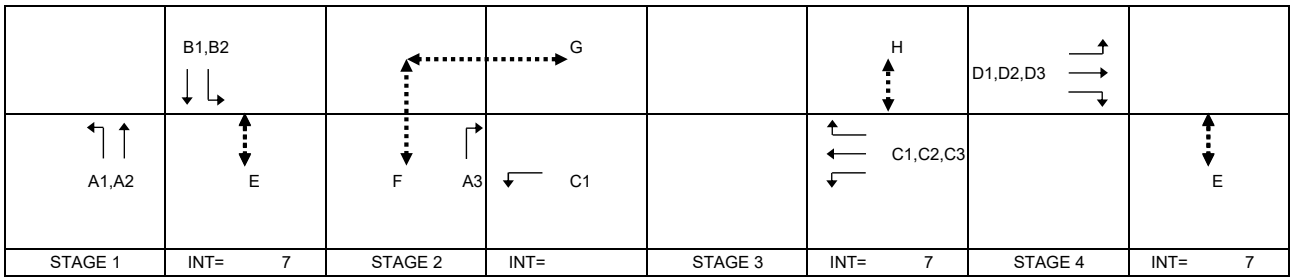
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1	1	3.30	1	1	15		N	1945	305			305	1.00	1768			1768	0.172	0.262		31	47	0.468	41
A1,A2	1	3.30	1	1	20			2085	0	547		547	0.00	2085			2085	0.262			47	47	0.712	74
A2	1	3.30	1	1				2085		547		547	0.00	2085			2085	0.262			47	47	0.712	74
B1,B2	1	3.70	1	1	15		N	1985	172	308		480	0.36	1916			1916	0.250			45	47	0.679	65
B2	1	3.70	1	2				4250		1064		1064	0.00	4250			4250	0.250			45	47	0.679	72
A3	2	3.30	2	2	20			4170			409	409	1.00	3879			3879	0.105			19	21	0.644	36
C1	2,3	3.30	3,4	1	15		N	1945	421			421	1.00	1768			1768	0.238	0.238		43	43	0.712	60
C2,C3	3	3.30	4	1	20			2085		45	141	186	0.76	1973			1973	0.094			17	19	0.640	34
D1,D2,D3	4	3.30	5	1	15		N	1945	62	50	89	201	0.75	1809			1809	0.111	0.111		20	20	0.712	36
D3	4	3.30	5	1	25			2085			218	218	1.00	1967			1967	0.111			20	20	0.710	39

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4	
No. of stage using for calculation		N =	3	
Cycle time		C =	128	sec
Sum(y)		Y =	0.621	
Loss time		L =	18	sec
Total Flow		=	4445	pcu
Co	= (1.5*L+5)/(1-Y)	=	84.3	sec
Cm	= L/(1-Y)	=	47.4	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	23.3	%
Cp	= 0.9*L/(0.9-Y)	=	58.0	sec
Ymax	= 1-L/C	=	0.859	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	25	%

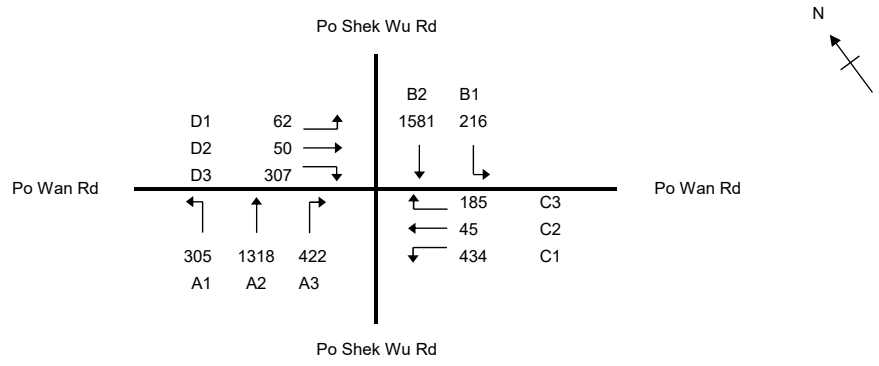


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	60	5	11	OK
F	12	5	6	13	8	6	13	OK
G	12	5	6	13	8	6	13	OK
H	7.5	5	10	8	6	10	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1	1	3.30	1	1	15		N	1945	268			268	1.00	1768			1768	0.152	0.268		27	47	0.409	36
A1,A2	1	3.30	1	1	20			2085	0	532		532	0.00	2085			2085	0.255			45	47	0.689	71
A2	1	3.30	1	1				2085		533		533	0.00	2085			2085	0.256			45	47	0.690	72
B1,B2	1	3.70	1	1	15		N	1985	170	344		514	0.33	1921			1921	0.268			47	47	0.722	69
B2	1	3.70	1	2				4250		1137		1137	0.00	4250			4250	0.268			47	47	0.722	76
A3	2	3.30	2	2	20			4170			448	448	1.00	3879			3879	0.115			20	22	0.658	39
C1	2,3	3.30	3,4	1	15		N	1945	434			434	1.00	1768			1768	0.245	0.245		44	44	0.722	61
C2,C3	3	3.30	4	1	20			2085		43	130	173	0.75	1974			1974	0.088			16	18	0.622	32
D1,D2,D3	4	3.30	5	1	15		N	1945	56	53	86	195	0.73	1813			1813	0.108	0.108		19	19	0.722	35
D3	4	3.30	5	1	25			2085			211	211	1.00	1967			1967	0.107			19	19	0.720	38

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.544
Loss time		L =	40 sec
Total Flow		=	4925 pcu
Co	= (1.5*L+5)/(1-Y)	=	142.6 sec
Cm	= L/(1-Y)	=	87.7 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	10.3 %
Cp	= 0.9*L/(0.9-Y)	=	101.2 sec
Ymax	= 1-L/C	=	0.688
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13 %

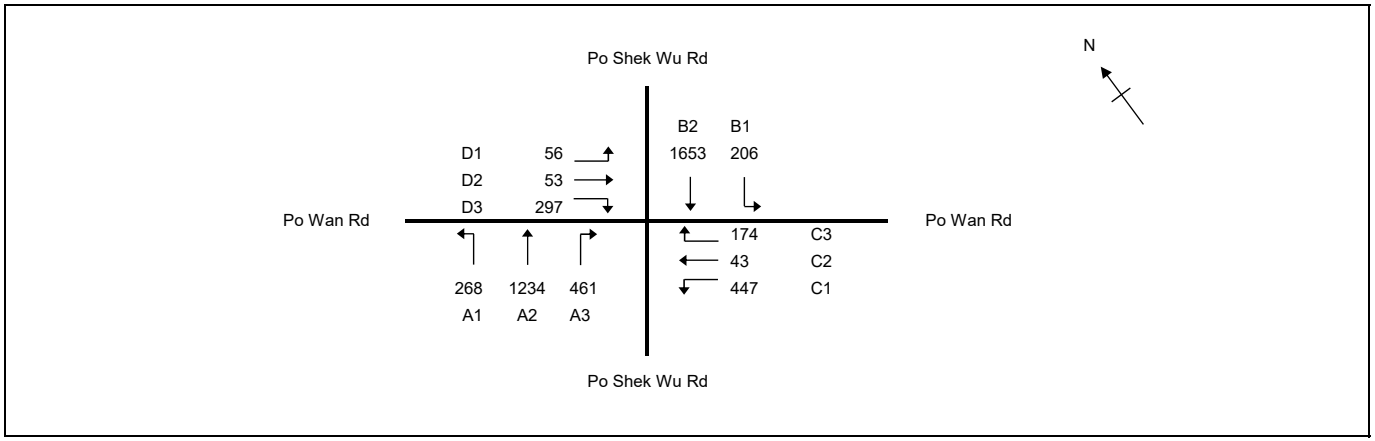
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	63	5	11	OK
F	12	5	6	13	5	6	13	OK
G	12	5	6	13	5	6	13	OK
H	7.5	5	10	8	7	10	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	1	1	15		N	1945	305			305	1.00	1768			1768	0.172	0.316		28	51	0.432	39
A1,A2	1	3.30	1	1	20			2085	0	659		659	0.00	2085			2085	0.316			51	51	0.791	84
A2	1	3.30	1	1				2085		659		659	0.00	2085			2085	0.316			51	51	0.791	84
B1,B2	1	3.70	1	1	15		N	1985	216	342		558	0.39	1911			1911	0.292			47	51	0.731	72
B2	1	3.70	1	2				4250		1239		1239	0.00	4250			4250	0.292			47	51	0.730	79
A3	2	3.30	2	2	20			4170			422	422	1.00	3879			3879	0.109			18	19	0.733	38
C1	2,3	3.30	3,4	1	15		N	1945	434			434	1.00	1768			1768	0.245			40	41	0.768	63
C2,C3	3	3.30	4	1	20			2085		45	185	230	0.80	1966			1966	0.117	0.117		19	19	0.791	42
D1,D2,D3	4	3.30	5	1	15		N	1945	62	50	89	201	0.75	1809			1809	0.111	0.111		18	18	0.791	37
D3	4	3.30	5	1	25			2085			218	218	1.00	1967			1967	0.111			18	18	0.790	40
PED	2		F,G																	24				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.662
Loss time		L =	18 sec
Total Flow		=	4892 pcu
Co	= (1.5*L+5)/(1-Y)	=	94.7 sec
Cm	= L/(1-Y)	=	53.2 sec
Yult		=	0.765
R.C.ult	= (Yult-Y)/Y*100%	=	15.6 %
Cp	= 0.9*L/(0.9-Y)	=	68.0 sec
Ymax	= 1-L/C	=	0.859
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17 %

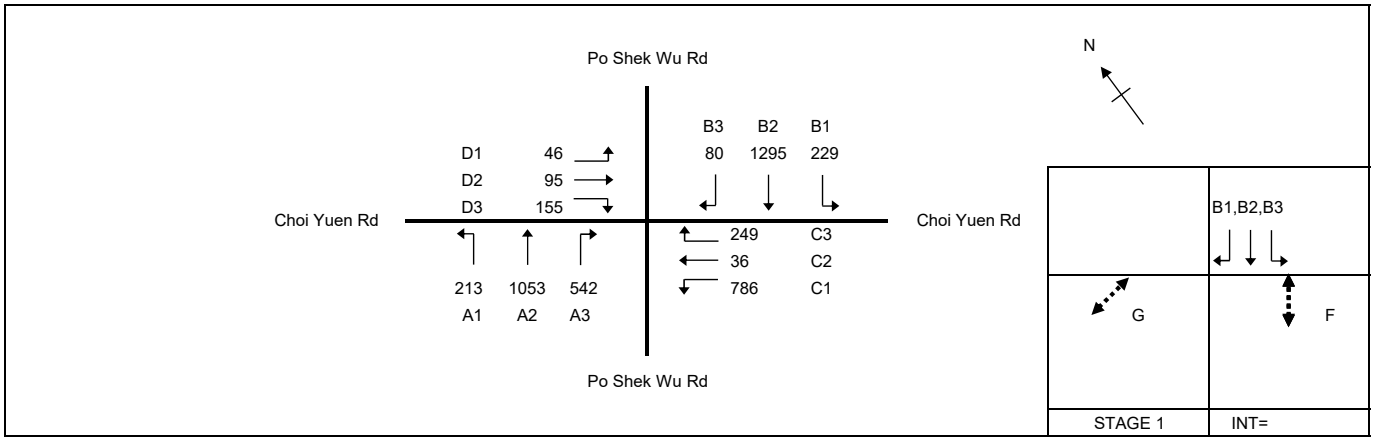
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 7	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	62	5	11	OK
F	12	5	6	13	6	6	13	OK
G	12	5	6	13	6	6	13	OK
H	7.5	5	10	8	7	10	8	OK

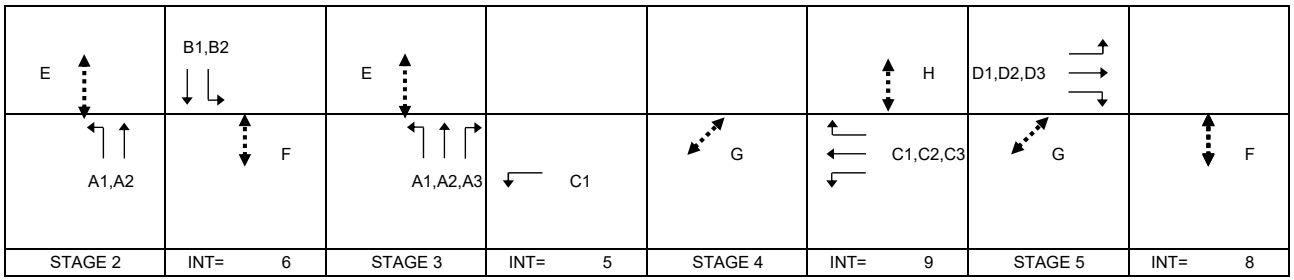
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1	1	3.30	1	1	15		N	1945	268			268	1.00	1768			1768	0.152	0.302		25	50	0.387	35
A1,A2	1	3.30	1	1	20			2085	0	617		617	0.00	2085			2085	0.296			49	50	0.756	80
A2	1	3.30	1	1				2085		617		617	0.00	2085			2085	0.296			49	50	0.756	80
B1,B2	1	3.70	1	1	15		N	1985	206	372		578	0.36	1917			1917	0.302			50	50	0.770	75
B2	1	3.70	1	2				4250		1281		1281	0.00	4250			4250	0.301			50	50	0.770	83
A3	2	3.30	2	2	20			4170			461	461	1.00	3879			3879	0.119			20	20	0.751	41
C1	2,3	3.30	3,4	1	15		N	1945	447			447	1.00	1768			1768	0.253	0.253		42	42	0.770	64
C2,C3	3	3.30	4	1	20			2085		43	174	217	0.80	1967			1967	0.110			18	19	0.753	40
D1,D2,D3	4	3.30	5	1	15		N	1945	56	53	86	195	0.73	1813			1813	0.108	0.108		18	18	0.770	36
D3	4	3.30	5	1	25			2085			211	211	1.00	1967			1967	0.107			18	18	0.768	39

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J14
J14 - Po Shek Wu Road / Choi Yuen Road	J14_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.542
Loss time		L =	24 sec
Total Flow		=	4779 pcu
Co	= (1.5*L+5)/(1-Y)	=	89.5 sec
Cm	= L/(1-Y)	=	52.4 sec
Yult		=	0.720
R.C.ult	= (Yult-Y)/Y*100%	=	32.9 %
Cp	= 0.9*L/(0.9-Y)	=	60.3 sec
Ymax	= 1-L/C	=	0.813
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	35 %

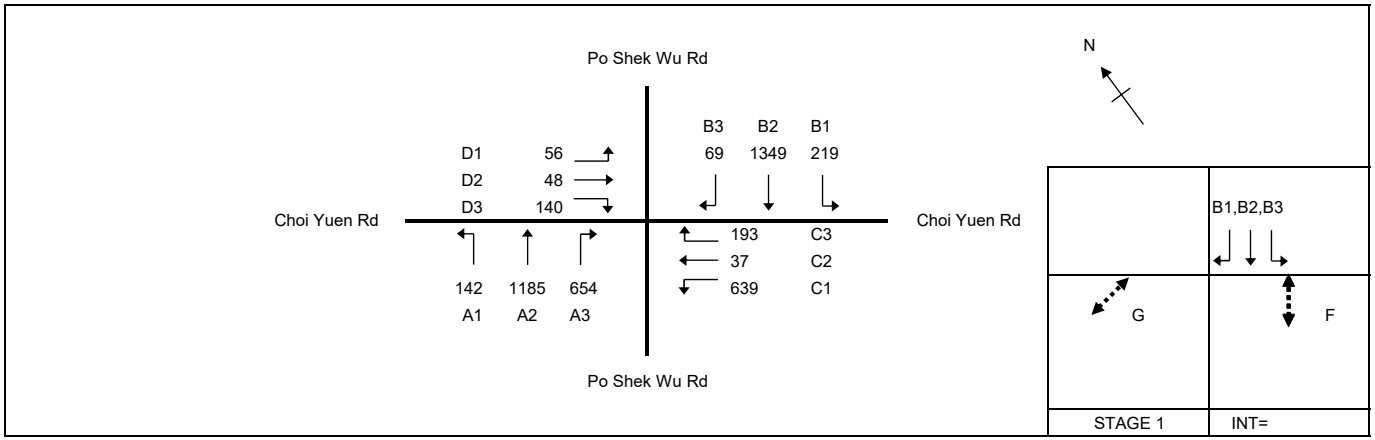


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	13	5	8	18	36	8	18	OK
F	14	6	2	16	46	2	16	OK
G	6	5	2	7	57	2	7	OK
H	11	5	10	12	11	10	12	OK

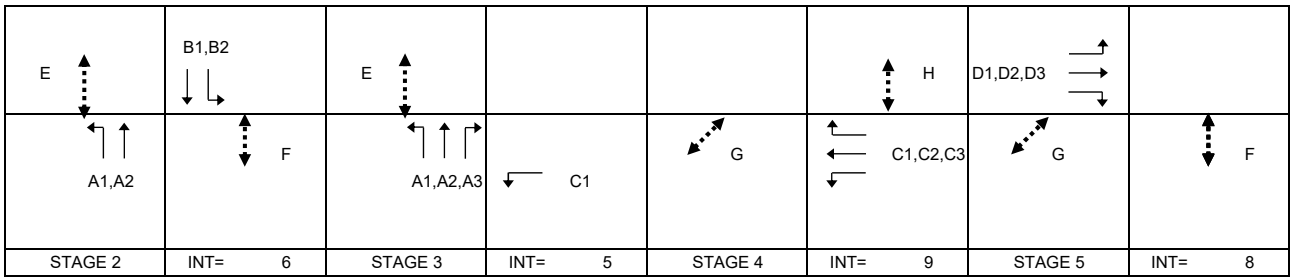
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				24				
A1,A2	2,3	3.40	3,4	1	15		N	1955	213	459		672	0.32	1895		474	2369	0.284			54	56	0.644	80
A2	2,3	3.40	3	1				2095		594		594	0.00	2095			2095	0.284			54	56	0.644	71
A3	3	3.40	5	2	20			4190			542	542	1.00	3898			3898	0.139	0.139		27	27	0.667	46
C1	3,4	3.30	6	2	15		N	4030	786			786	1.00	3664			3664	0.215			41	57	0.485	47
C2,C3	4	3.30	7	1	20			2085		36	249	285	0.87	1957			1957	0.146	0.146		28	28	0.667	48
D1,D2	5	3.30	8	1	15		N	1945	46	48		94	0.49	1854			1854	0.051	0.051		10	10	0.662	19
D2,D3	5	3.30	8	1	25			2085		47	56	103	0.54	2019			2019	0.051			10	10	0.666	20
D3	5	3.30	8	1	20			2085			99	99	1.00	1940			1940	0.051			10	10	0.667	20
B1	1,2	3.40	2	1	15		N	1955	229			229	1.00	1777			1777	0.129	0.206		25	40	0.417	34
B2	1,2	3.40	2	3				6285		1295		1295	0.00	6285			6285	0.206			40	40	0.667	64
B3	1	3.40	1	1	20			2095			80	80	1.00	1949			1949	0.041			8	9	0.592	16

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J14
J14 - Po Shek Wu Road / Choi Yuen Road	J14_EXT_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.542
Loss time		L =	24 sec
Total Flow		=	4731 pcu
Co	= (1.5*L+5)/(1-Y)	=	89.5 sec
Cm	= L/(1-Y)	=	52.4 sec
Yult		=	0.720
R.C.ult	= (Yult-Y)/Y*100%	=	32.8 %
Cp	= 0.9*L/(0.9-Y)	=	60.4 sec
Ymax	= 1-L/C	=	0.813
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	35 %

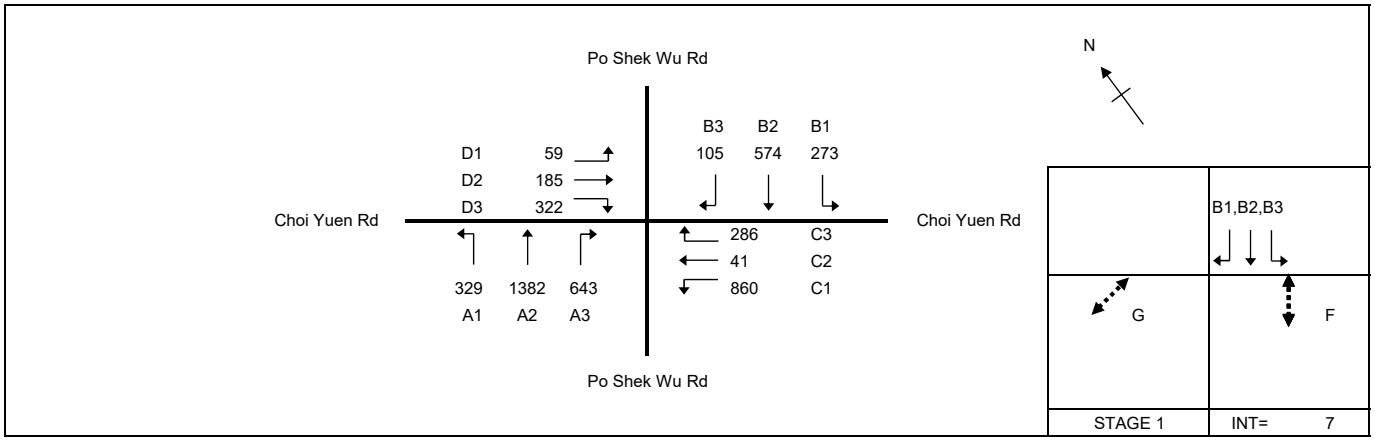


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	13	5	8	18	42	8	18	OK
F	14	6	2	16	46	2	16	OK
G	6	5	2	7	51	2	7	OK
H	11	5	10	12	5	10	12	OK

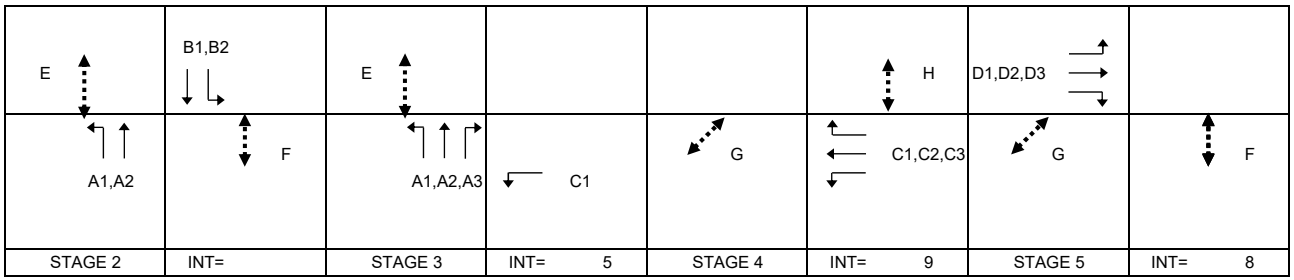
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				24				
A1,A2	2,3	3.40	3,4	1	15		N	1955	142	566		708	0.20	1917		479	2396	0.296			57	62	0.614	78
A2	2,3	3.40	3	1				2095		619		619	0.00	2095			2095	0.295			57	62	0.614	69
A3	3	3.40	5	2	20			4190			654	654	1.00	3898			3898	0.168	0.168		32	32	0.667	52
C1	3,4	3.30	6	2	15		N	4030	639			639	1.00	3664			3664	0.174			33	57	0.394	38
C2,C3	4	3.30	7	1	20			2085		37	193	230	0.84	1962			1962	0.117	0.117		22	22	0.667	40
D1,D2	5	3.30	8	1	15		N	1945	56	21		77	0.73	1813			1813	0.042	0.042		8	8	0.667	15
D2,D3	5	3.30	8	1	25			2085		27	58	85	0.68	2003			2003	0.042			8	8	0.667	17
D3	5	3.30	8	1	20			2085			82	82	1.00	1940			1940	0.042			8	8	0.664	16
B1	1,2	3.40	2	1	15		N	1955	219			219	1.00	1777			1777	0.123	0.215		24	41	0.383	32
B2	1,2	3.40	2	3				6285		1349		1349	0.00	6285			6285	0.215			41	41	0.667	65
B3	1	3.40	1	1	20			2095			69	69	1.00	1949			1949	0.035			7	11	0.420	13

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J14
J14 - Po Shek Wu Road / Choi Yuen Road	J14_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	5	
No. of stage using for calculation		N =	4	
Cycle time		C =	128	sec
Sum(y)		Y =	0.567	
Loss time		L =	25	sec
Total Flow		=	5059	pcu
Co	= (1.5*L+5)/(1-Y)	=	98.2	sec
Cm	= L/(1-Y)	=	57.7	sec
Yult		=	0.713	
R.C.ult	= (Yult-Y)/Y*100%	=	25.6	%
Cp	= 0.9*L/(0.9-Y)	=	67.6	sec
Ymax	= 1-L/C	=	0.805	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28	%

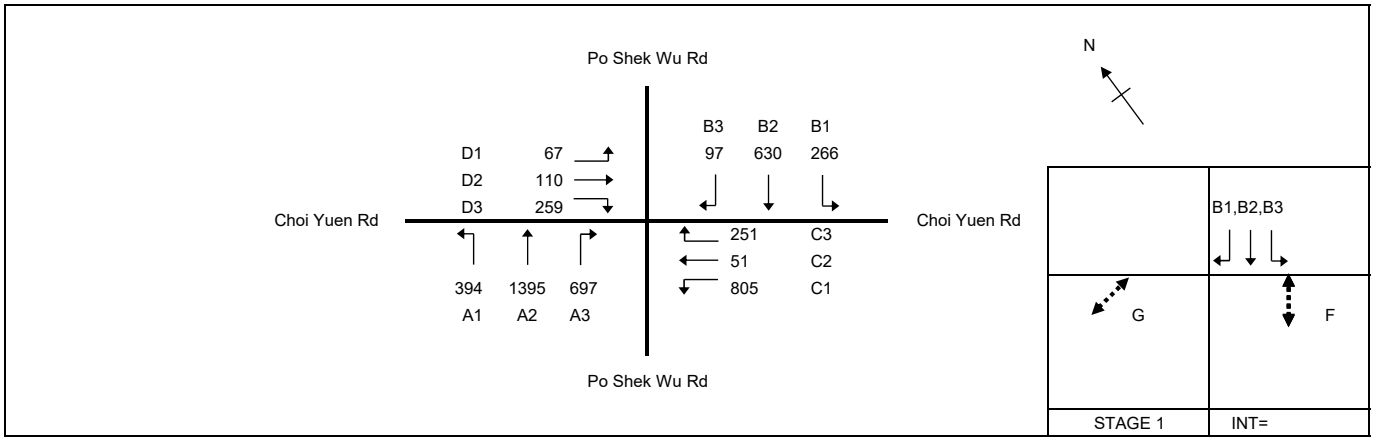


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	13	5	8	18	28	8	18	OK
F	14	6	2	16	39	2	16	OK
G	6	5	2	7	65	2	7	OK
H	11	5	10	12	13	10	12	OK

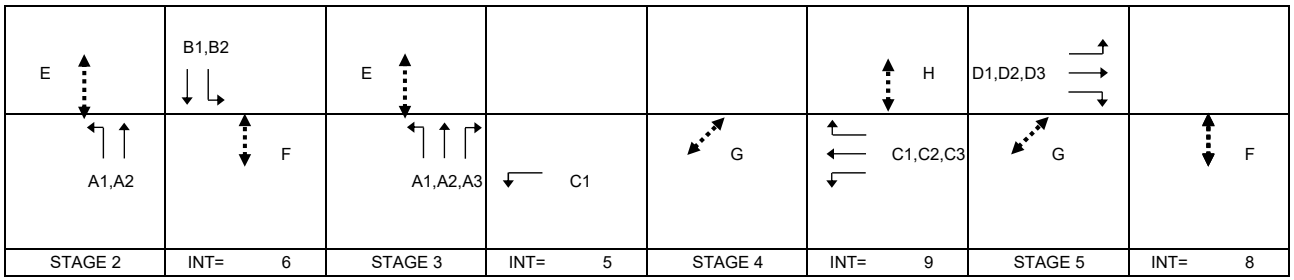
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				25				
A1,A2	2,3	3.40	3,4	1	15		N	1955	329	281		610	0.54	1855		464	2319	0.263	0.263		48	48	0.705	82
A2	2,3	3.40	3	2				4190		1101		1101	0.00	4190			4190	0.263			48	48	0.704	74
A3	3	3.40	5	2	20			4190			643	643	1.00	3898			3898	0.165			30	31	0.671	52
C1	3,4	3.30	6	2	15		N	4030	860			860	1.00	3664			3664	0.235			43	64	0.471	46
C2,C3	4	3.30	7	1	20			2085		41	286	327	0.87	1957			1957	0.167	0.167		30	30	0.705	53
D1,D2	5	3.30	8	1	15		N	1945	59	56		115	0.51	1850			1850	0.062	0.083		11	15	0.528	22
D2	5	3.30	8	1	25			2085		129		129	0.00	2085			2085	0.062			11	15	0.525	24
D3	5	3.30	8	2	20			4170			322	322	1.00	3879			3879	0.083			15	15	0.705	30
B1	1,2	3.40	2	1	10		N	1955	246			246	1.00	1700			1700	0.145			26	27	0.683	41
B1,B2	1,2	3.40	2	1	10			2095	27	271		298	0.09	2067			2067	0.144			26	27	0.681	50
B2	1,2	3.40	2	1				2095		303		303	0.00	2095			2095	0.145			26	27	0.683	51
B3	1	3.40	1	1	20			2095			105	105	1.00	1949			1949	0.054	0.054		10	10	0.705	21

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J14
J14 - Po Shek Wu Road / Choi Yuen Road	J14_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.552
Loss time		L =	24 sec
Total Flow		=	5022 pcu
Co	= (1.5*L+5)/(1-Y)	=	91.5 sec
Cm	= L/(1-Y)	=	53.5 sec
Yult		=	0.720
R.C.ult	= (Yult-Y)/Y*100%	=	30.5 %
Cp	= 0.9*L/(0.9-Y)	=	62.0 sec
Ymax	= 1-L/C	=	0.813
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	33 %

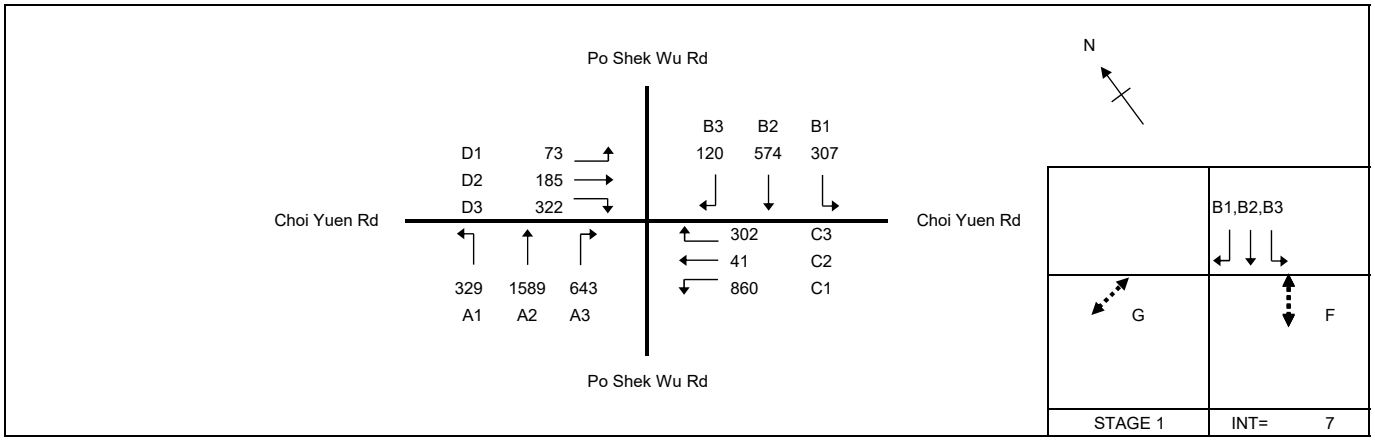


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	13	5	8	18	32	8	18	OK
F	14	6	2	16	38	2	16	OK
G	6	5	2	7	61	2	7	OK
H	11	5	10	12	12	10	12	OK

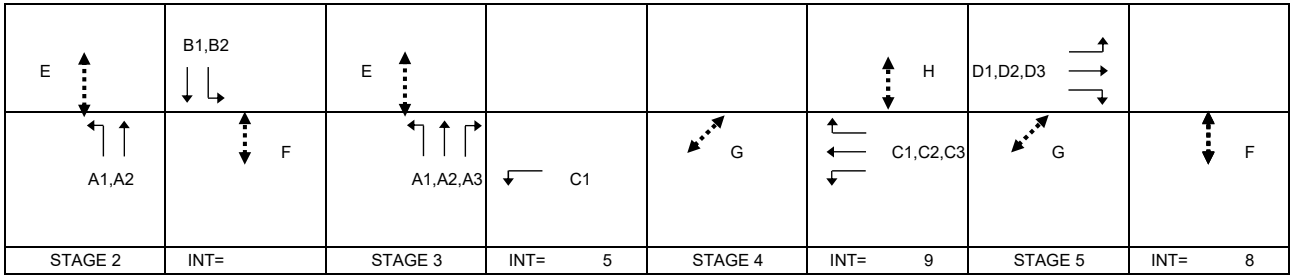
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				24				
A1,A2	2,3	3.40	3,4	1	15		N	1955	394	240		634	0.62	1841		460	2301	0.276			52	52	0.678	80
A2	2,3	3.40	3	2				4190		1155		1155	0.00	4190			4190	0.276			52	52	0.678	73
A3	3	3.40	5	2	20			4190			697	697	1.00	3898			3898	0.179	0.179		34	34	0.679	55
C1	3,4	3.30	6	2	15		N	4030	805			805	1.00	3664			3664	0.220			41	65	0.435	42
C2,C3	4	3.30	7	1	20			2085		51	251	302	0.83	1963			1963	0.154	0.154		29	29	0.679	50
D1,D2	5	3.30	8	1	15		N	1945	67	15		82	0.82	1798			1798	0.046	0.067		9	13	0.464	16
D2	5	3.30	8	1	25			2085		95		95	0.00	2085			2085	0.046			9	13	0.463	18
D3	5	3.30	8	2	20			4170			259	259	1.00	3879			3879	0.067			13	13	0.679	25
B1	1,2	3.40	2	1	10		N	1955	259			259	1.00	1700			1700	0.152	0.152		29	29	0.679	43
B1,B2	1,2	3.40	2	1	10			2095	7	311		318	0.02	2088			2088	0.152			29	29	0.679	53
B2	1,2	3.40	2	1				2095		319		319	0.00	2095			2095	0.152			29	29	0.679	53
B3	1	3.40	1	1	20			2095			97	97	1.00	1949			1949	0.050			9	9	0.679	19

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J14
J14 - Po Shek Wu Road / Choi Yuen Road	J14_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	5	
No. of stage using for calculation		N =	4	
Cycle time		C =	128	sec
Sum(y)		Y =	0.614	
Loss time		L =	25	sec
Total Flow		=	5345	pcu
Co	= (1.5*L+5)/(1-Y)	=	110.1	sec
Cm	= L/(1-Y)	=	64.8	sec
Yult		=	0.713	
R.C.ult	= (Yult-Y)/Y*100%	=	16.0	%
Cp	= 0.9*L/(0.9-Y)	=	78.7	sec
Ymax	= 1-L/C	=	0.805	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18	%

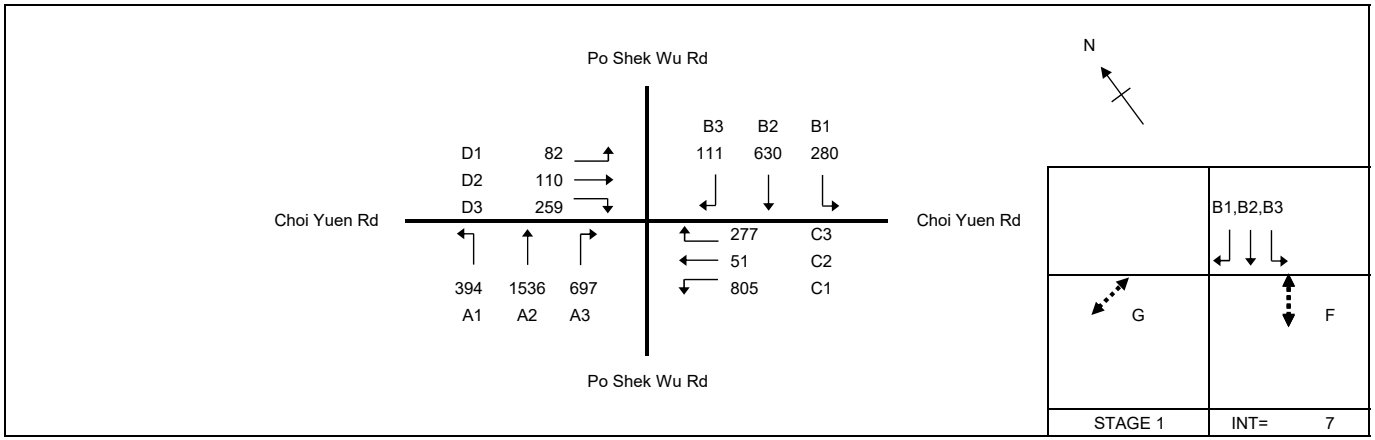


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	13	5	8	18	29	8	18	OK
F	14	6	2	16	40	2	16	OK
G	6	5	2	7	64	2	7	OK
H	11	5	10	12	12	10	12	OK

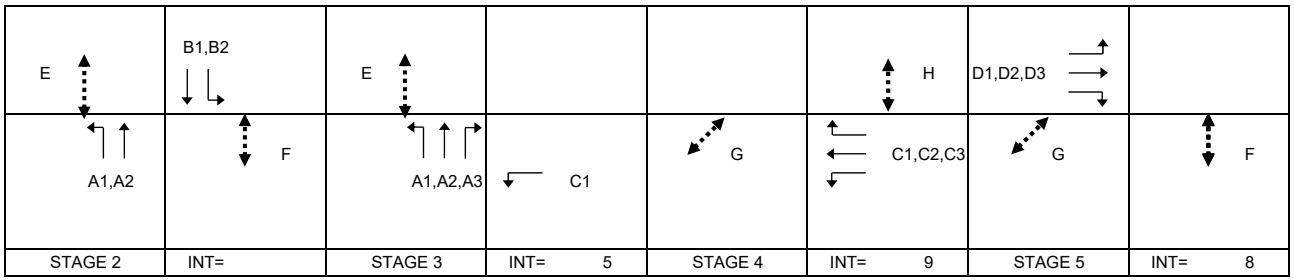
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				25				
A1,A2	2,3	3.40	3,4	1	15		N	1955	329	357		686	0.48	1866		466	2332	0.294	0.294		49	49	0.763	90
A2	2,3	3.40	3	2				4190		1232		1232	0.00	4190			4190	0.294			49	49	0.763	81
A3	3	3.40	5	2	20			4190			643	643	1.00	3898			3898	0.165			28	32	0.667	52
C1	3,4	3.30	6	2	15		N	4030	860			860	1.00	3664			3664	0.235			39	63	0.476	47
C2,C3	4	3.30	7	1	20			2085		41	302	343	0.88	1956			1956	0.175	0.175		29	29	0.763	56
D1,D2	5	3.30	8	1	15		N	1945	73	48		121	0.60	1834			1834	0.066	0.083		11	14	0.606	23
D2	5	3.30	8	1	25			2085		137		137	0.00	2085			2085	0.066			11	14	0.604	26
D3	5	3.30	8	2	20			4170			322	322	1.00	3879			3879	0.083			14	14	0.763	31
B1	1,2	3.40	2	1	10		N	1955	257			257	1.00	1700			1700	0.151			25	29	0.667	42
B1,B2	1,2	3.40	2	1	10			2095	50	259		309	0.16	2045			2045	0.151			25	29	0.667	51
B2	1,2	3.40	2	1				2095		315		315	0.00	2095			2095	0.150			25	29	0.664	52
B3	1	3.40	1	1	20			2095			120	120	1.00	1949			1949	0.062	0.062		10	10	0.763	24

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J14
J14 - Po Shek Wu Road / Choi Yuen Road	J14_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	5	
No. of stage using for calculation		N =	4	
Cycle time		C =	128	sec
Sum(y)		Y =	0.588	
Loss time		L =	25	sec
Total Flow		=	5232	pcu
Co	= (1.5*L+5)/(1-Y)	=	103.1	sec
Cm	= L/(1-Y)	=	60.7	sec
Yult		=	0.713	
R.C.ult	= (Yult-Y)/Y*100%	=	21.2	%
Cp	= 0.9*L/(0.9-Y)	=	72.1	sec
Ymax	= 1-L/C	=	0.805	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	23	%

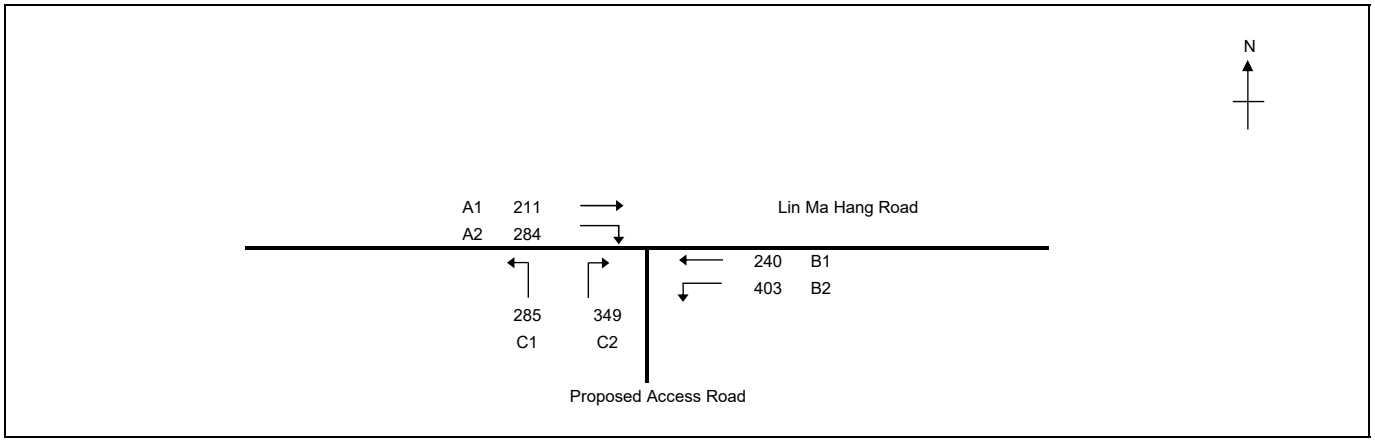


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	13	5	8	18	32	8	18	OK
F	14	6	2	16	39	2	16	OK
G	6	5	2	7	61	2	7	OK
H	11	5	10	12	12	10	12	OK

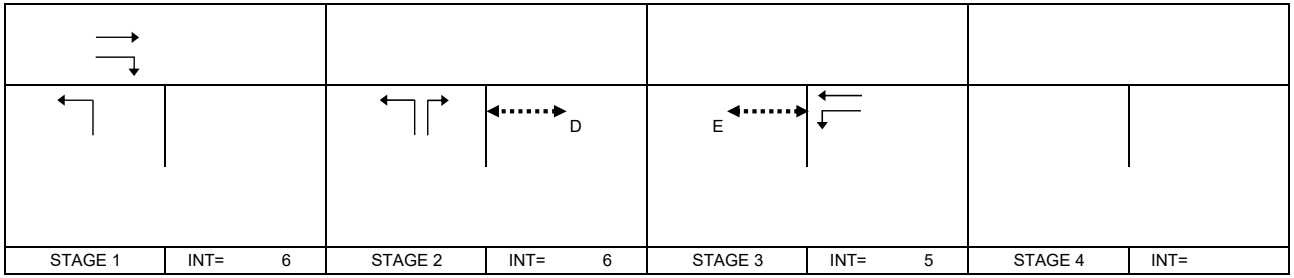
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				25				
A1,A2	2,3	3.40	3,4	1	15		N	1955	394	292		686	0.57	1849		462	2311	0.297	0.297		52	52	0.730	87
A2	2,3	3.40	3	2				4190		1244		1244	0.00	4190			4190	0.297			52	52	0.731	79
A3	3	3.40	5	2	20			4190			697	697	1.00	3898			3898	0.179			31	32	0.708	56
C1	3,4	3.30	6	2	15		N	4030	805			805	1.00	3664			3664	0.220			38	64	0.442	43
C2,C3	4	3.30	7	1	20			2085		51	277	328	0.84	1961			1961	0.167	0.167		29	29	0.731	54
D1,D2	5	3.30	8	1	15		N	1945	82	6		88	0.93	1779			1779	0.049	0.067		9	12	0.541	17
D2	5	3.30	8	1	25			2085		104		104	0.00	2085			2085	0.050			9	12	0.546	20
D3	5	3.30	8	2	20			4170			259	259	1.00	3879			3879	0.067			12	12	0.731	25
B1	1,2	3.40	2	1	10		N	1955	264			264	1.00	1700			1700	0.155			27	31	0.648	43
B1,B2	1,2	3.40	2	1	10			2095	16	306		322	0.05	2080			2080	0.155			27	31	0.646	52
B2	1,2	3.40	2	1				2095		324		324	0.00	2095			2095	0.155			27	31	0.646	53
B3	1	3.40	1	1	20			2095			111	111	1.00	1949			1949	0.057	0.057		10	10	0.731	22

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J15
J15 - Ling Ma Hang Rd / Proposed Access Rd	J15_DES_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	3	
Cycle time	C =	90	sec
Sum(y)	Y =	0.605	
Loss time	L =	14	sec
Total Flow	=	1772	pcu
Co = (1.5*L+5)/(1-Y)	=	65.8	sec
Cm = L/(1-Y)	=	35.4	sec
Yult	=	0.795	
R.C.ult = (Yult-Y)/Y*100%	=	31.4	%
Cp = 0.9*L/(0.9-Y)	=	42.7	sec
Ymax = 1-L/C	=	0.844	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	25	%

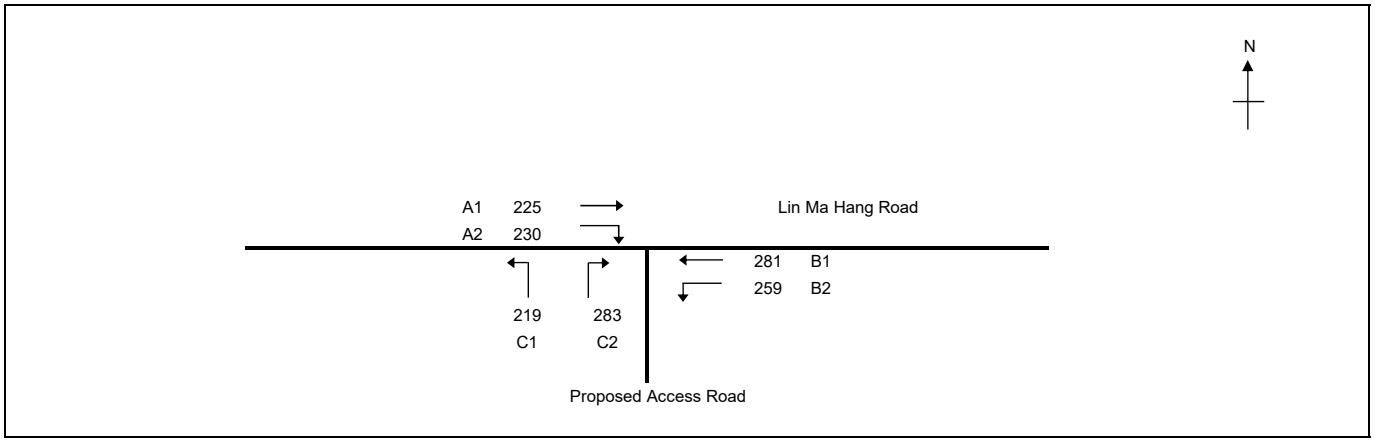


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
D	8.5	5	6	9	13	6	9	OK
E	7.5	5	2	8	25	2	8	OK

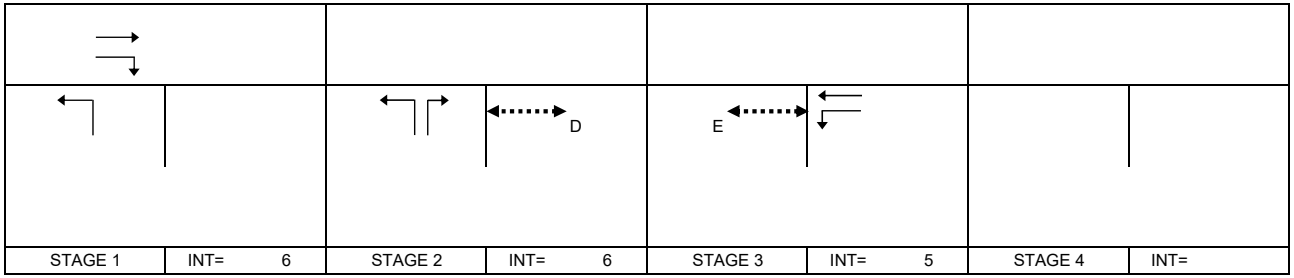
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
A1,A2	1	3.30	A	1	15			2085		211	284	495	0.57	1972		789	2761	0.179	0.179		23	23	0.716	56
C1	1,2	3.65	C	1	10		N	1980	285			285	1.00	1722			1722	0.166			21	50	0.296	19
C2	2	3.65	C	1	15			2120			349	349	1.00	1927			1927	0.181	0.181		23	23	0.716	39
B1,B2	3	3.80	B	1	15		N	1995	403	240		643	0.63	1877		751	2628	0.245	0.245		31	31	0.716	64

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J15
J15 - Ling Ma Hang Rd / Proposed Access Rd	J15_DES_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	3	
Cycle time	C =	90	sec
Sum(y)	Y =	0.513	
Loss time	L =	14	sec
Total Flow	=	1497	pcu
Co = (1.5*L+5)/(1-Y)	=	53.4	sec
Cm = L/(1-Y)	=	28.8	sec
Yult	=	0.795	
R.C.ult = (Yult-Y)/Y*100%	=	54.9	%
Cp = 0.9*L/(0.9-Y)	=	32.6	sec
Ymax = 1-L/C	=	0.844	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	48	%

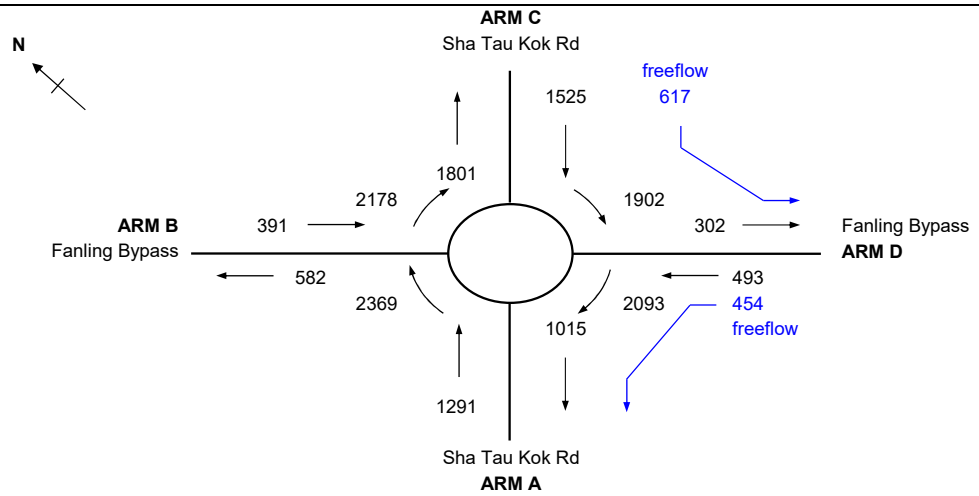


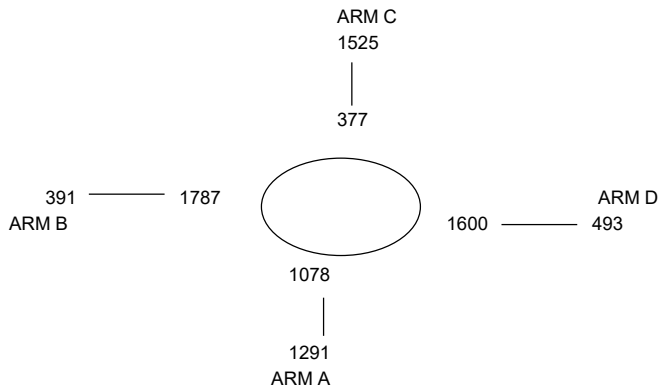
Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
D	8.5	5	6	9	12	6	9	OK
E	7.5	5	2	8	24	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
A1,A2	1	3.30	A	1	15			2085		225	230	455	0.51	1985		794	2779	0.164	0.164		24	24	0.608	50
C1	1,2	3.65	C	1	10		N	1980	219			219	1.00	1722			1722	0.127			19	51	0.224	14
C2	2	3.65	C	1	15			2120			283	283	1.00	1927			1927	0.147	0.147		22	22	0.608	32
B1,B2	3	3.80	B	1	15		N	1995	259	281		540	0.48	1904		761	2665	0.203	0.203		30	30	0.608	54

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J16 - Sha Tau Kok Road / Fanling Bypass	J16_REF_AM	DATE 8/7/2026	



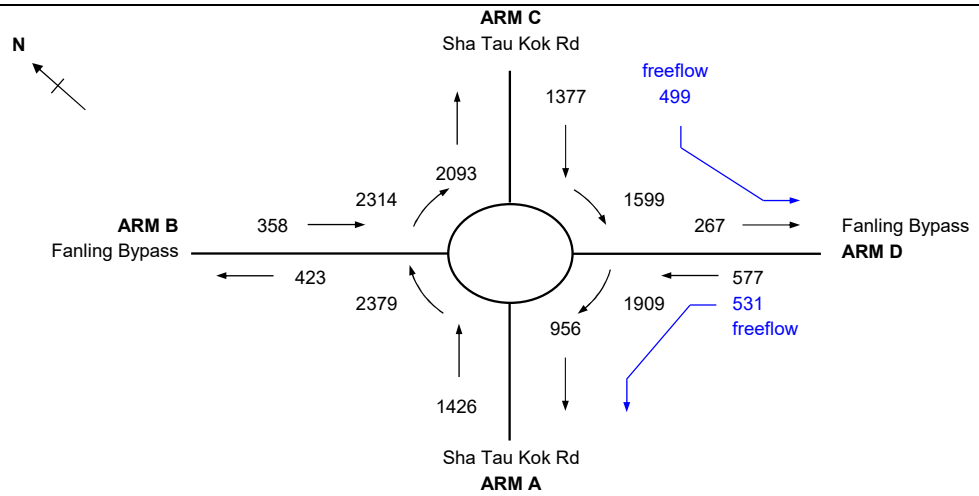


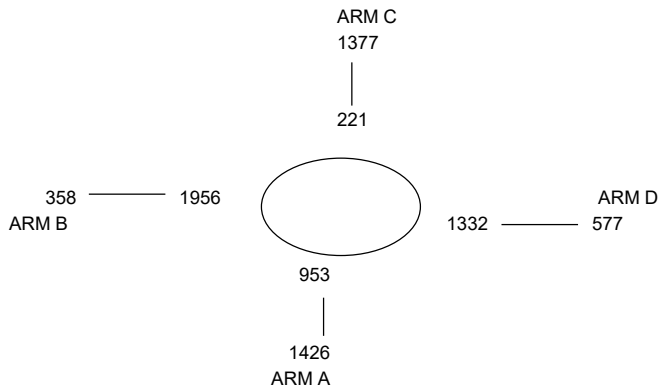
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	4.50	7.30	4.50
E	=	Entry width (m)	10.00	7.00	10.00	7.00
L	=	Effective length of flare (m)	30	10	15	25
R	=	Entry radius (m)	50	20	20	10
D	=	Inscribed circle diameter (m)	75	75	75	75
A	=	Entry angle (degree)	10	25	20	25
Q	=	Entry flow (pcu/h)	1291	391	1525	493
Qc	=	Circulating flow across entry (pcu/h)	1078	1787	377	1600
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.14	0.40	0.29	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.10	1.02	1.03	0.97
X2	=	V + ((E-V)/(1+2S))	9.40	5.89	9.01	6.39
M	=	EXP((D-60)/10)	4.48	4.48	4.48	4.48
F	=	303*X2	2847	1784	2731	1937
Td	=	1+(0.5/(1+M))	1.09	1.09	1.09	1.09
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.50	0.64	0.52
Qe	=	K(F-Fc*Qc)	2347	908	2575	1067
DFC	=	Design flow/Capacity = Q/Qe	0.56	0.44	0.60	0.47

Total In Sum = 3700 PCU

DFC of Critical Approach = 0.60

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J16 - Sha Tau Kok Road / Fanling Bypass	J16_REF_PM	DATE 8/7/2026	



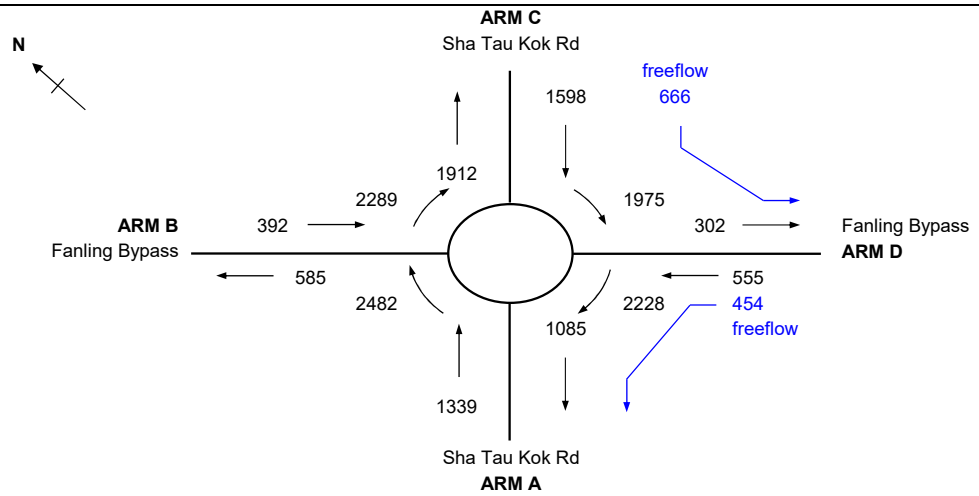


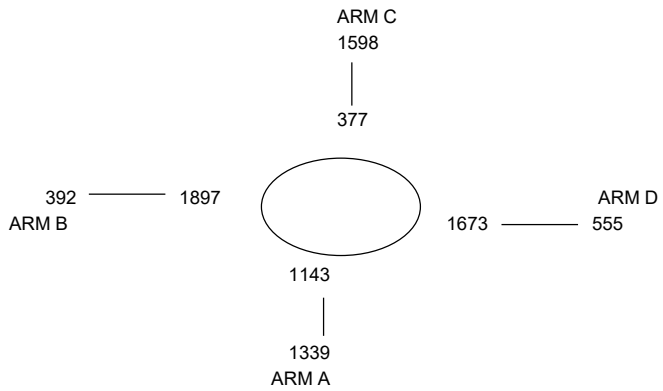
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	4.50	7.30	4.50
E	=	Entry width (m)	10.00	7.00	10.00	7.00
L	=	Effective length of flare (m)	30	10	15	25
R	=	Entry radius (m)	50	20	20	10
D	=	Inscribed circle diameter (m)	75	75	75	75
A	=	Entry angle (degree)	10	25	20	25
Q	=	Entry flow (pcu/h)	1426	358	1377	577
Qc	=	Circulating flow across entry (pcu/h)	953	1956	221	1332
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.14	0.40	0.29	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.10	1.02	1.03	0.97
X2	=	V + ((E-V)/(1+2S))	9.40	5.89	9.01	6.39
M	=	EXP((D-60)/10)	4.48	4.48	4.48	4.48
F	=	303*X2	2847	1784	2731	1937
Td	=	1+(0.5/(1+M))	1.09	1.09	1.09	1.09
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.50	0.64	0.52
Qe	=	K(F-Fc*Qc)	2437	822	2679	1203
DFC	=	Design flow/Capacity = Q/Qe	0.59	0.44	0.52	0.48

Total In Sum = 3738 PCU

DFC of Critical Approach = 0.59

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J16 - Sha Tau Kok Road / Fanling Bypass	J16_DES_AM	DATE 8/7/2026	



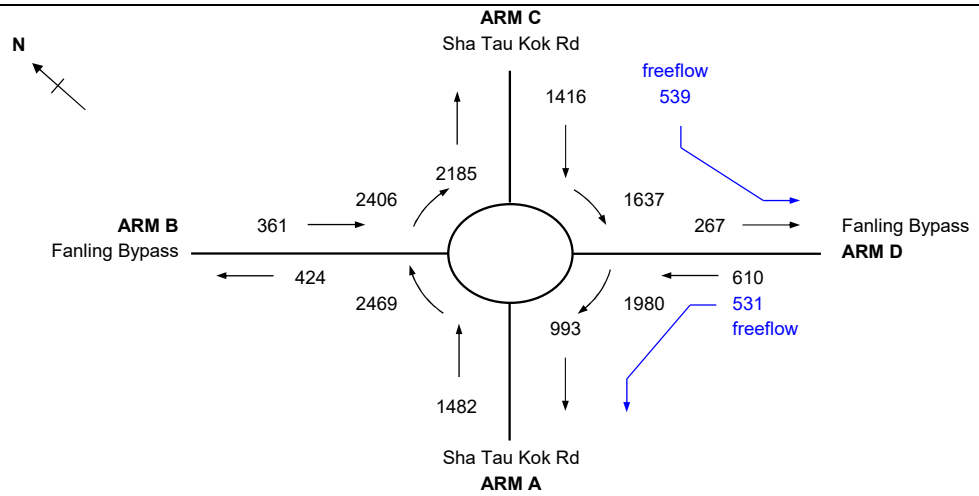


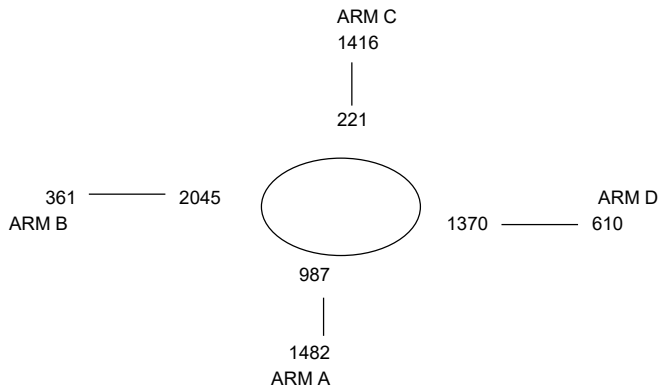
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	4.50	7.30	4.50
E	=	Entry width (m)	10.00	7.00	10.00	7.00
L	=	Effective length of flare (m)	30	10	15	25
R	=	Entry radius (m)	50	20	20	10
D	=	Inscribed circle diameter (m)	75	75	75	75
A	=	Entry angle (degree)	10	25	20	25
Q	=	Entry flow (pcu/h)	1339	392	1598	555
Qc	=	Circulating flow across entry (pcu/h)	1143	1897	377	1673
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.14	0.40	0.29	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.10	1.02	1.03	0.97
X2	=	V + ((E-V)/(1+2S))	9.40	5.89	9.01	6.39
M	=	EXP((D-60)/10)	4.48	4.48	4.48	4.48
F	=	303*X2	2847	1784	2731	1937
Td	=	1+(0.5/(1+M))	1.09	1.09	1.09	1.09
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.50	0.64	0.52
Qe	=	K(F-Fc*Qc)	2300	852	2575	1030
DFC	=	Design flow/Capacity = Q/Qe	0.59	0.47	0.63	0.54

Total In Sum = 3884 PCU

DFC of Critical Approach = 0.63

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J16 - Sha Tau Kok Road / Fanling Bypass	J16_DES_PM	DATE 8/7/2026	



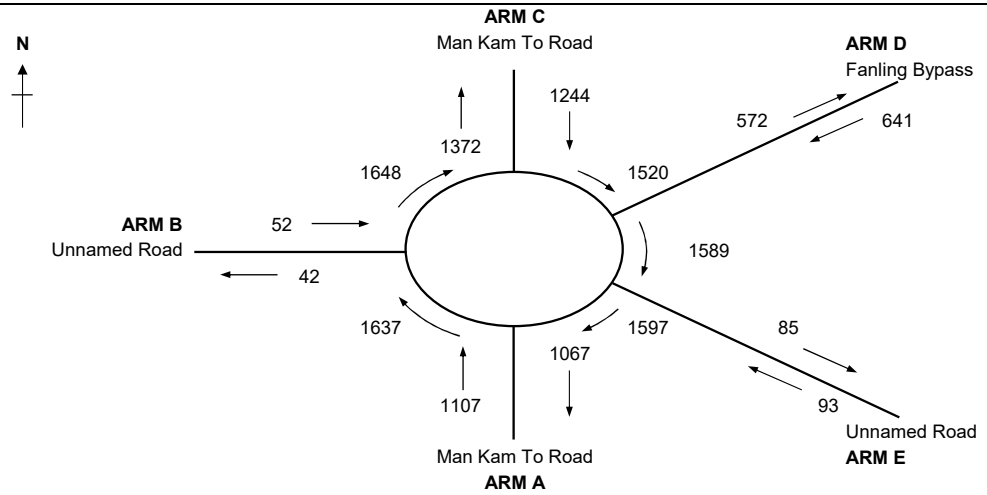


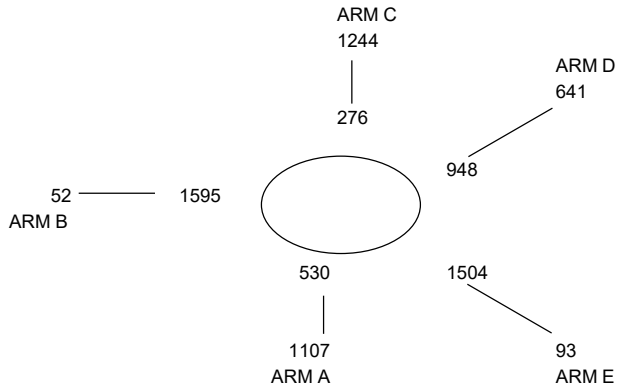
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	4.50	7.30	4.50
E	=	Entry width (m)	10.00	7.00	10.00	7.00
L	=	Effective length of flare (m)	30	10	15	25
R	=	Entry radius (m)	50	20	20	10
D	=	Inscribed circle diameter (m)	75	75	75	75
A	=	Entry angle (degree)	10	25	20	25
Q	=	Entry flow (pcu/h)	1482	361	1416	610
Qc	=	Circulating flow across entry (pcu/h)	987	2045	221	1370
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.14	0.40	0.29	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.10	1.02	1.03	0.97
X2	=	V + ((E-V)/(1+2S))	9.40	5.89	9.01	6.39
M	=	EXP((D-60)/10)	4.48	4.48	4.48	4.48
F	=	303*X2	2847	1784	2731	1937
Td	=	1+(0.5/(1+M))	1.09	1.09	1.09	1.09
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.50	0.64	0.52
Qe	=	K(F-Fc*Qc)	2413	777	2679	1183
DFC	=	Design flow/Capacity = Q/Qe	0.62	0.47	0.53	0.52

Total In Sum = 3869 PCU

DFC of Critical Approach = 0.62

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J17 - Man Kam To Road / Fanling Bypass	J17_REF_AM	DATE 8/7/2026	



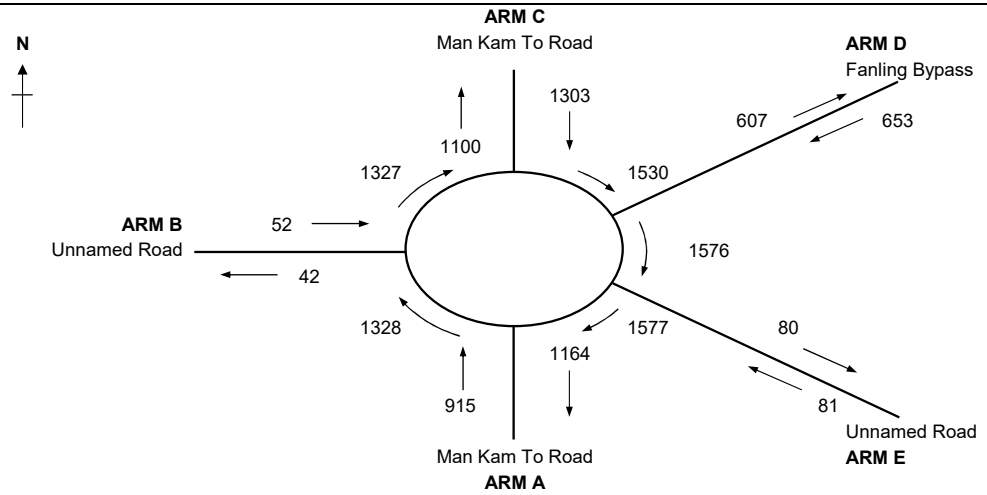


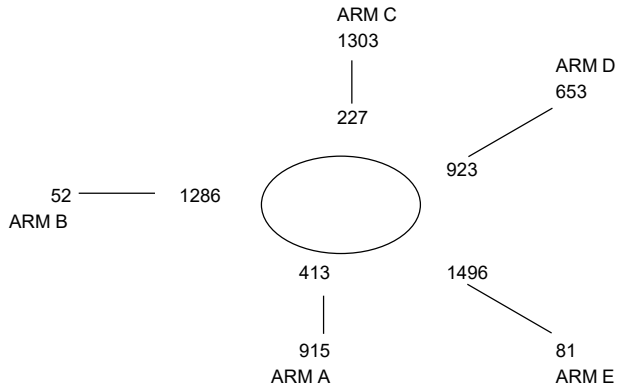
ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	7.00	3.30	5.00	4.50	3.00
E	=	Entry width (m)	10.00	5.00	8.00	8.00	5.00
L	=	Effective length of flare (m)	5	20	10	10	20
R	=	Entry radius (m)	20	20	50	40	15
D	=	Inscribed circle diameter (m)	80	80	80	80	80
A	=	Entry angle (degree)	35	20	15	25	35
Q	=	Entry flow (pcu/h)	1107	52	1244	641	93
Qc	=	Circulating flow across entry (pcu/h)	530	1595	276	948	1504
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.14	0.48	0.56	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.03	1.08	1.04	0.97
X2	=	V + ((E-V)/(1+2S))	8.03	4.64	6.53	6.15	4.52
M	=	EXP((D-60)/10)	7.39	7.39	7.39	7.39	7.39
F	=	303*X2	2432	1405	1979	1864	1368
Td	=	1+(0.5/(1+M))	1.06	1.06	1.06	1.06	1.06
Fc	=	0.21*Td(1+0.2*X2)	0.58	0.43	0.51	0.50	0.42
Qe	=	K(F-Fc*Qc)	2088	746	1987	1452	707
DFC	=	Design flow/Capacity = Q/Qe	0.54	0.07	0.63	0.45	0.14

Total In Sum = 2403 PCU

DFC of Critical Approach = 0.63

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J17 - Man Kam To Road / Fanling Bypass	J17_REF_PM	DATE 8/7/2026	



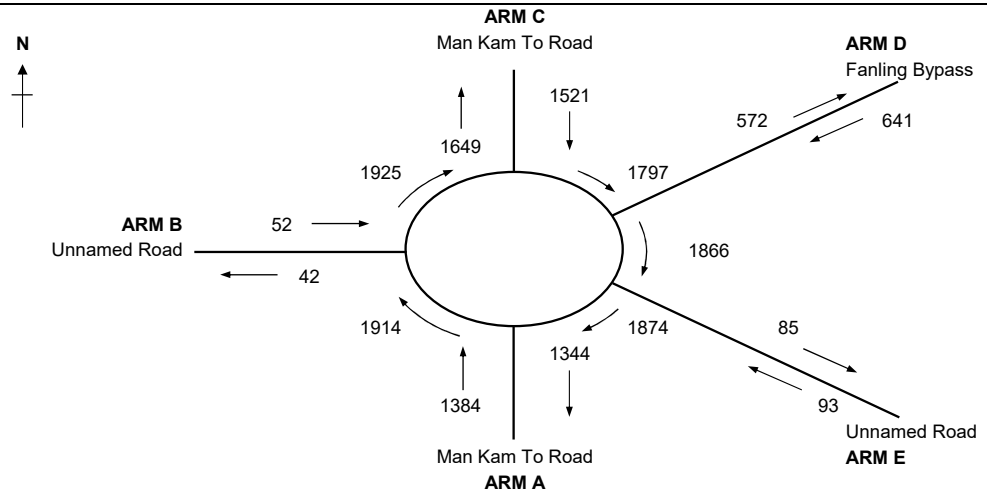


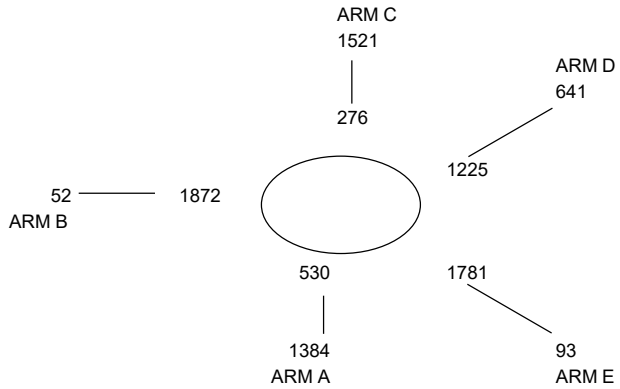
ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	7.00	3.30	5.00	4.50	3.00
E	=	Entry width (m)	10.00	5.00	8.00	8.00	5.00
L	=	Effective length of flare (m)	5	20	10	10	20
R	=	Entry radius (m)	20	20	50	40	15
D	=	Inscribed circle diameter (m)	80	80	80	80	80
A	=	Entry angle (degree)	35	20	15	25	35
Q	=	Entry flow (pcu/h)	915	52	1303	653	81
Qc	=	Circulating flow across entry (pcu/h)	413	1286	227	923	1496
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.14	0.48	0.56	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.03	1.08	1.04	0.97
X2	=	V + ((E-V)/(1+2S))	8.03	4.64	6.53	6.15	4.52
M	=	EXP((D-60)/10)	7.39	7.39	7.39	7.39	7.39
F	=	303*X2	2432	1405	1979	1864	1368
Td	=	1+(0.5/(1+M))	1.06	1.06	1.06	1.06	1.06
Fc	=	0.21*Td(1+0.2*X2)	0.58	0.43	0.51	0.50	0.42
Qe	=	K(F-Fc*Qc)	2155	883	2014	1464	710
DFC	=	Design flow/Capacity = Q/Qe	0.43	0.06	0.65	0.45	0.12

Total In Sum = 2270 PCU

DFC of Critical Approach = 0.65

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J17 - Man Kam To Road / Fanling Bypass	J17_DES_AM	DATE 8/7/2026	



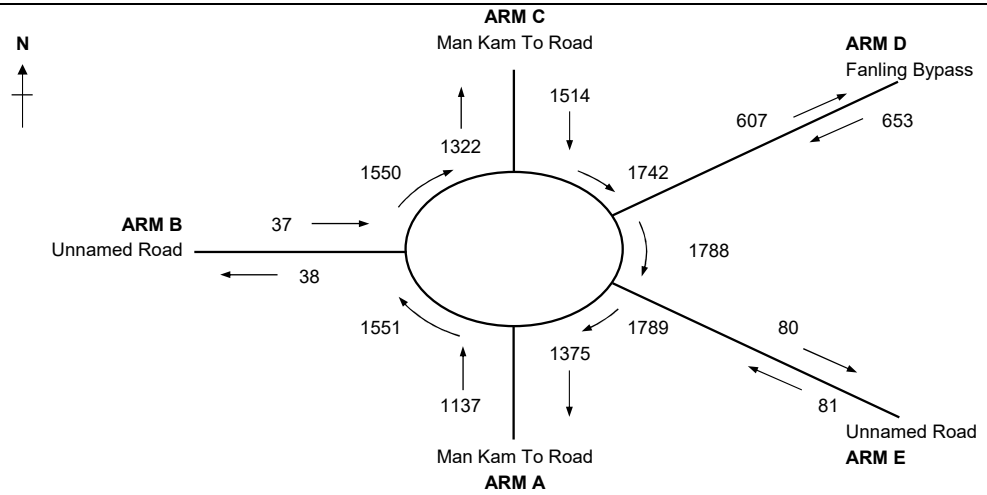


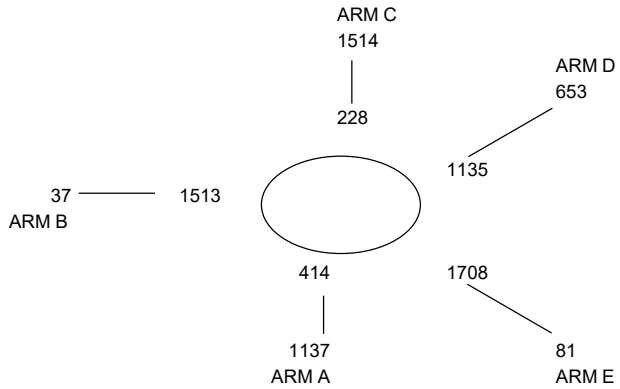
ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	7.00	3.30	5.00	4.50	3.00
E	=	Entry width (m)	10.00	5.00	8.00	8.00	5.00
L	=	Effective length of flare (m)	5	20	10	10	20
R	=	Entry radius (m)	20	20	50	40	15
D	=	Inscribed circle diameter (m)	80	80	80	80	80
A	=	Entry angle (degree)	35	20	15	25	35
Q	=	Entry flow (pcu/h)	1384	52	1521	641	93
Qc	=	Circulating flow across entry (pcu/h)	530	1872	276	1225	1781
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.14	0.48	0.56	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.03	1.08	1.04	0.97
X2	=	V + ((E-V)/(1+2S))	8.03	4.64	6.53	6.15	4.52
M	=	EXP((D-60)/10)	7.39	7.39	7.39	7.39	7.39
F	=	303*X2	2432	1405	1979	1864	1368
Td	=	1+(0.5/(1+M))	1.06	1.06	1.06	1.06	1.06
Fc	=	0.21*Td(1+0.2*X2)	0.58	0.43	0.51	0.50	0.42
Qe	=	K(F-Fc*Qc)	2088	623	1987	1308	593
DFC	=	Design flow/Capacity = Q/Qe	0.67	0.09	0.77	0.49	0.16

Total In Sum = 2957 PCU

DFC of Critical Approach = 0.77

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT NO. 287082
J17 - Man Kam To Road / Fanling Bypass	J17_DES_PM	DATE 8/7/2026	



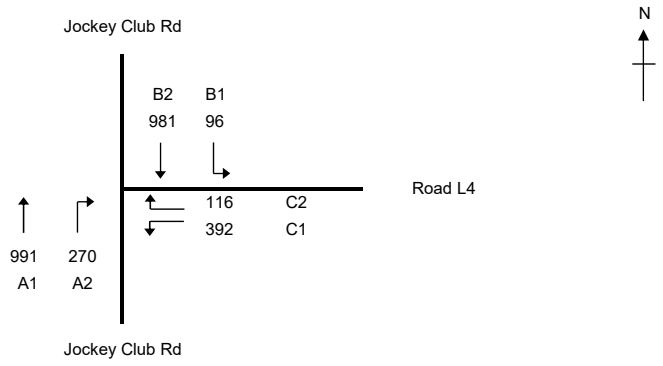


ARM			A	B	C	D	E
INPUT PARAMETERS:							
V	=	Approach half width (m)	7.00	3.30	5.00	4.50	3.00
E	=	Entry width (m)	10.00	5.00	8.00	8.00	5.00
L	=	Effective length of flare (m)	5	20	10	10	20
R	=	Entry radius (m)	20	20	50	40	15
D	=	Inscribed circle diameter (m)	80	80	80	80	80
A	=	Entry angle (degree)	35	20	15	25	35
Q	=	Entry flow (pcu/h)	1137	37	1514	653	81
Qc	=	Circulating flow across entry (pcu/h)	414	1513	228	1135	1708
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.96	0.14	0.48	0.56	0.16
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.03	1.08	1.04	0.97
X2	=	V + ((E-V)/(1+2S))	8.03	4.64	6.53	6.15	4.52
M	=	EXP((D-60)/10)	7.39	7.39	7.39	7.39	7.39
F	=	303*X2	2432	1405	1979	1864	1368
Td	=	1+(0.5/(1+M))	1.06	1.06	1.06	1.06	1.06
Fc	=	0.21*Td(1+0.2*X2)	0.58	0.43	0.51	0.50	0.42
Qe	=	K(F-Fc*Qc)	2154	782	2013	1355	623
DFC	=	Design flow/Capacity = Q/Qe	0.53	0.05	0.76	0.49	0.13

Total In Sum = 2688 PCU

DFC of Critical Approach = 0.76

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J18
J18 - Jockey Club Road / Road L4	J18_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.470
Loss time		L =	29 sec
Total Flow		=	2846 pcu
Co	= (1.5*L+5)/(1-Y)	=	91.5 sec
Cm	= L/(1-Y)	=	54.7 sec
Yult		=	0.683
R.C.ult	= (Yult-Y)/Y*100%	=	45.3 %
Cp	= 0.9*L/(0.9-Y)	=	60.7 sec
Ymax	= 1-L/C	=	0.758
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	45 %

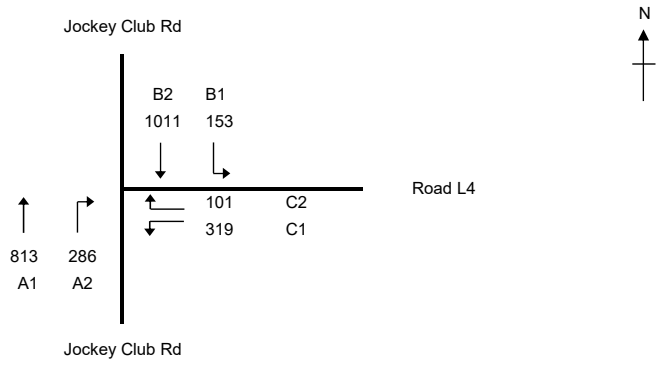
	B1,B2						
A1,A2		A1,A2			C1,C2		D
STAGE 1	INT=	STAGE 2	INT= 7	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
D	9	8	2	8	8	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
A1	1,2	3.50	C	1			N	1965		656		656	0.00	1965			1965	0.334	0.334		65	65	0.619	60
A1,A2	1,2	3.50	C	1	20	O		2105		335	270	605	0.45	1814			1814	0.333			65	65	0.619	56
B1,B2	1	3.50	B	1	20		N	1965	96	420		516	0.19	1938			1938	0.266			52	52	0.619	59
B2	1	3.50	B	1				2105		561		561	0.00	2105			2105	0.267			52	52	0.619	64
C1	3	3.50	D	1	15		N	1965	242			242	1.00	1786			1786	0.135	0.136		26	26	0.618	38
C1,C2	3	3.50	D	1	20			2105	150		116	266	1.00	1958			1958	0.136			26	26	0.619	42
PED	4		D																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J18
J18 - Jockey Club Road / Road L4	J18_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.401
Loss time		L =	40 sec
Total Flow		=	2683 pcu
Co	= (1.5*L+5)/(1-Y)	=	108.5 sec
Cm	= L/(1-Y)	=	66.8 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	49.6 %
Cp	= 0.9*L/(0.9-Y)	=	72.2 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	50 %

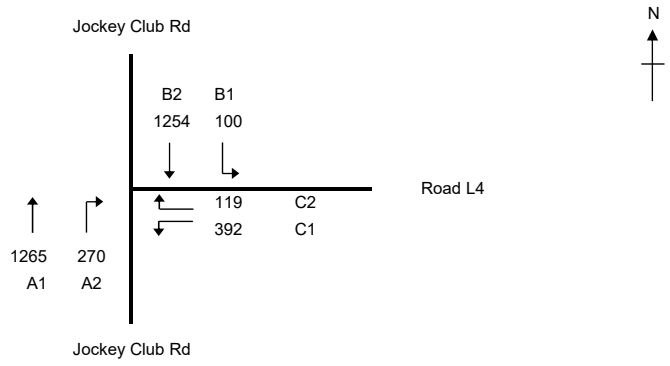
	B1,B2						
A1,A2		A1,A2			C1,C2		D
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
D	9	8	2	8	8	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
A1	1,2	3.50	C	1			N	1965		573		573	0.00	1965			1965	0.292			58	71	0.496	47
A1,A2	1,2	3.50	C	1	20	O		2105		240	286	526	0.54	1802			1802	0.292			58	71	0.496	43
B1,B2	1	3.50	B	1	20		N	1965	153	403		556	0.28	1925			1925	0.289	0.289		58	58	0.602	58
B2	1	3.50	B	1				2105		608		608	0.00	2105			2105	0.289			58	58	0.602	63
C1	3	3.50	D	1	15		N	1965	200			200	1.00	1786			1786	0.112	0.112		22	22	0.600	33
C1,C2	3	3.50	D	1	20			2105	119		101	220	1.00	1958			1958	0.112			22	22	0.602	36
	2																			13				
PED	4		D																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J18
J18 - Jockey Club Road / Road L4	J18_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.542
Loss time		L =	29 sec
Total Flow		=	3400 pcu
Co	= (1.5*L+5)/(1-Y)	=	105.8 sec
Cm	= L/(1-Y)	=	63.3 sec
Yult		=	0.683
R.C.ult	= (Yult-Y)/Y*100%	=	26.0 %
Cp	= 0.9*L/(0.9-Y)	=	72.8 sec
Ymax	= 1-L/C	=	0.758
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	26 %

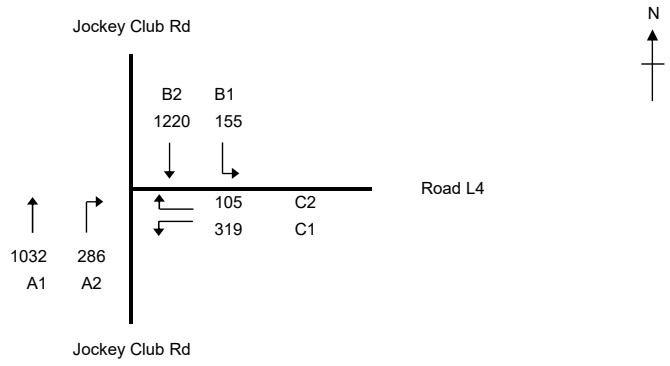
	B1,B2						
A1,A2		A1,A2			C1,C2		D
STAGE 1	INT=	STAGE 2	INT= 7	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
D	9	8	2	8	8	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
A1	1,2	3.50	C	1			N	1965		796		796	0.00	1965			1965	0.405	0.405		68	68	0.714	69
A1,A2	1,2	3.50	C	1	20	O		2105		469	270	739	0.37	1825			1825	0.405			68	68	0.714	64
B1,B2	1	3.50	B	1	20		N	1965	100	550		650	0.15	1943			1943	0.335			56	56	0.714	69
B2	1	3.50	B	1				2105		704		704	0.00	2105			2105	0.334			56	56	0.714	75
C1	3	3.50	D	1	15		N	1965	244			244	1.00	1786			1786	0.137	0.137		23	23	0.714	39
C1,C2	3	3.50	D	1	20			2105	148		119	267	1.00	1958			1958	0.136			23	23	0.713	43
	4		PED																	18				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J18
J18 - Jockey Club Road / Road L4	J18_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.454
Loss time		L =	40 sec
Total Flow		=	3117 pcu
Co	= (1.5*L+5)/(1-Y)	=	119.1 sec
Cm	= L/(1-Y)	=	73.3 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	32.1 %
Cp	= 0.9*L/(0.9-Y)	=	80.7 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	32 %

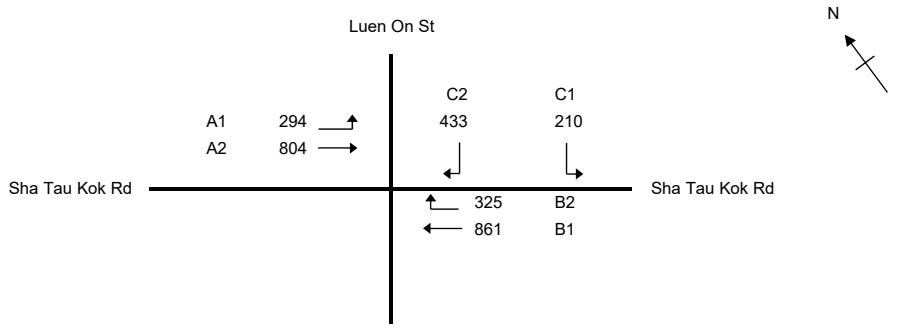
	B1,B2						
A1,A2		A1,A2			C1,C2		D
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
D	9	8	2	8	8	2	8	OK

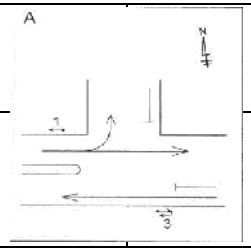
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
A1	1,2	3.50	C	1			N	1965		686		686	0.00	1965			1965	0.349			61	73	0.574	54
A1,A2	1,2	3.50	C	1	20	O		2105		346	286	632	0.45	1813			1813	0.349			61	73	0.573	49
B1,B2	1	3.50	B	1	20		N	1965	155	503		658	0.24	1931			1931	0.341	0.341		60	60	0.681	66
B2	1	3.50	B	1				2105		717		717	0.00	2105			2105	0.341			60	60	0.681	72
C1	3	3.50	D	1	15		N	1965	202			202	1.00	1786			1786	0.113	0.113		20	20	0.679	34
C1,C2	3	3.50	D	1	20			2105	117		105	222	1.00	1958			1958	0.113			20	20	0.681	37
	2																			13				
PED	4		D																	18				

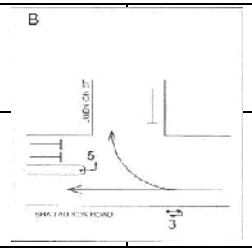
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

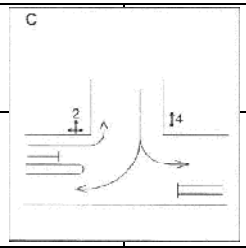
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J19
J19 - Sha Tau Kok Road / Luen On Street	J19_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	127 sec
Sum(y)		Y =	0.480
Loss time		L =	15 sec
Total Flow		=	2927 pcu
Co	= (1.5*L+5)/(1-Y)	=	52.8 sec
Cm	= L/(1-Y)	=	28.8 sec
Yult		=	0.788
R.C.ult	= (Yult-Y)/Y*100%	=	64.2 %
Cp	= 0.9*L/(0.9-Y)	=	32.1 sec
Ymax	= 1-L/C	=	0.882
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	66 %







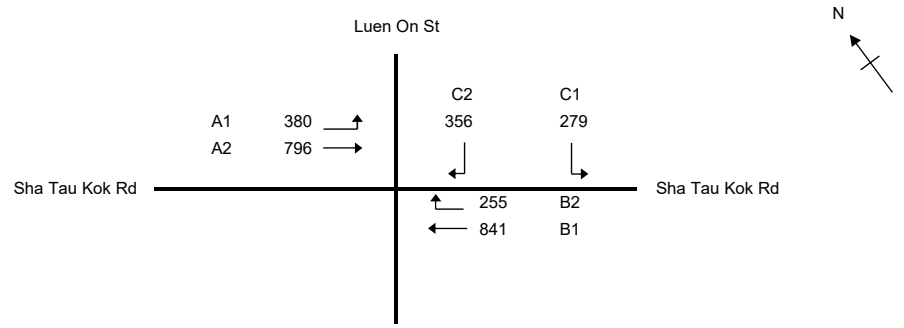
STAGE 1	INT= 6	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

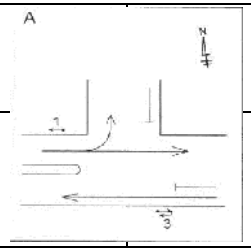
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				15				
A1	1,3	3.50	2	1	15		N	1965	294			294	1.00	1786			1786	0.165			38	75	0.277	25
A2	1	3.50	1	2				4210		804		804	0.00	4210			4210	0.191	0.191		45	45	0.544	55
B1	1,2	3.10	3	1			N	1925		415		415	0.00	1925			1925	0.216			50	89	0.307	26
B1	1,2	3.10	3	1				2065		446		446	0.00	2065			2065	0.216			50	89	0.308	28
B2	2	3.10	5	1	20			2065			325	325	1.00	1921			1921	0.169	0.169		40	40	0.544	47
C1	3	3.40	4	1	10		N	1955	203			203	1.00	1700			1700	0.119	0.119		28	28	0.544	34
C1,C2	3	3.40	4	1	12.5			2095	7		216	223	1.00	1871			1871	0.119			28	28	0.543	37
C2	3	3.40	4	1	10			2095			217	217	1.00	1822			1822	0.119			28	28	0.542	36

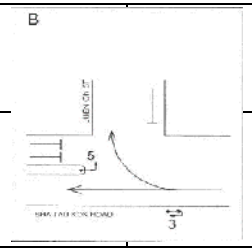
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

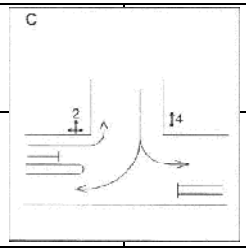
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J19
J19 - Sha Tau Kok Road / Luen On Street	J19_EXT_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	3	
Cycle time	C =	127	sec
Sum(y)	Y =	0.440	
Loss time	L =	15	sec
Total Flow	=	2907	pcu
Co = (1.5*L+5)/(1-Y)	=	49.1	sec
Cm = L/(1-Y)	=	26.8	sec
Yult	=	0.788	
R.C.ult = (Yult-Y)/Y*100%	=	79.0	%
Cp = 0.9*L/(0.9-Y)	=	29.3	sec
Ymax = 1-L/C	=	0.882	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	80	%







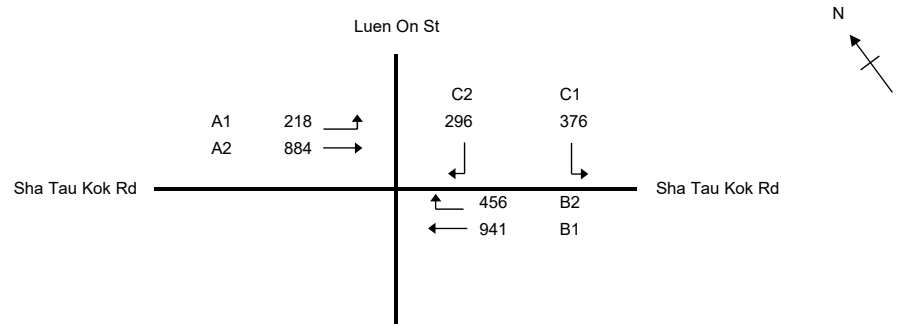
STAGE 1	INT= 6	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

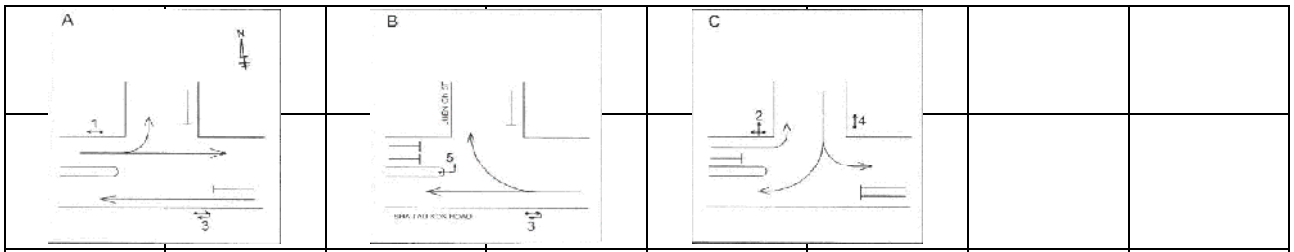
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				15				
A1	1,3	3.50	2	1	15		N	1965	380			380	1.00	1786			1786	0.213			54	81	0.333	29
A2	1	3.50	1	2				4210		796		796	0.00	4210			4210	0.189	0.189		48	48	0.499	52
B1	1,2	3.10	3	1			N	1925		406		406	0.00	1925			1925	0.211			54	87	0.308	27
B1	1,2	3.10	3	1				2065		435		435	0.00	2065			2065	0.211			54	87	0.308	29
B2	2	3.10	5	1	20			2065			255	255	1.00	1921			1921	0.133	0.133		34	34	0.499	40
C1	3	3.40	4	1	10		N	1955	200			200	1.00	1700			1700	0.118	0.118		30	30	0.497	32
C1,C2	3	3.40	4	1	12.5			2095	79		141	220	1.00	1871			1871	0.118			30	30	0.497	36
C2	3	3.40	4	1	10			2095			215	215	1.00	1822			1822	0.118			30	30	0.499	35

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J19
J19 - Sha Tau Kok Road / Luen On Street	J19_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	127 sec
Sum(y)		Y =	0.614
Loss time		L =	10 sec
Total Flow		=	3171 pcu
Co	= (1.5*L+5)/(1-Y)	=	51.8 sec
Cm	= L/(1-Y)	=	25.9 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	34.5 %
Cp	= 0.9*L/(0.9-Y)	=	31.4 sec
Ymax	= 1-L/C	=	0.921
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	35 %

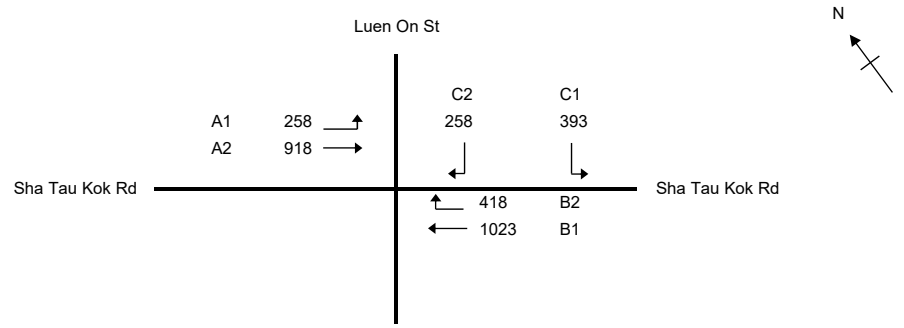


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

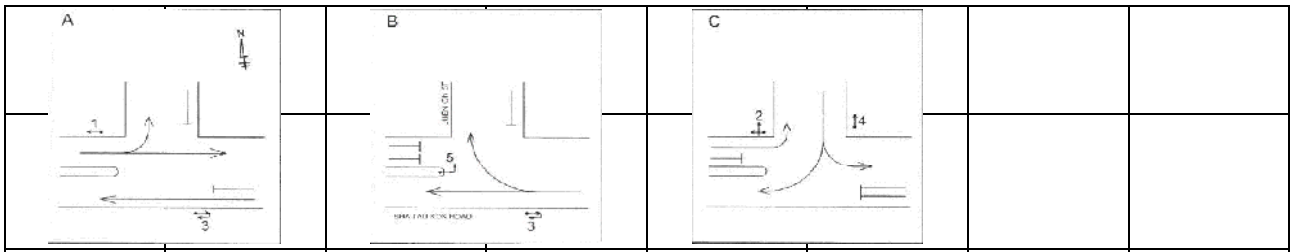
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A1	1,3	3.50	2	1	15		N	1965	218			218	1.00	1786			1786	0.122			23	79	0.197	18
A2	1	3.50	1	2				4210		884		884	0.00	4210			4210	0.210			40	52	0.512	55
B1	1,2	3.10	3	1			N	1925		941		941	0.00	1925			1925	0.489	0.489		93	93	0.666	53
B2	2	3.10	5	2	20			4130			456	456	1.00	3842			3842	0.119			23	36	0.417	35
C1	3	3.40	4	1	10		N	1955	212			212	1.00	1700			1700	0.125	0.125		24	24	0.666	36
C1,C2	3	3.40	4	1	12.5			2095	164		69	233	1.00	1871			1871	0.125			24	24	0.665	40
C2	3	3.40	4	1	10			2095			227	227	1.00	1822			1822	0.125			24	24	0.665	39

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J19
J19 - Sha Tau Kok Road / Luen On Street	J19_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	127 sec
Sum(y)		Y =	0.652
Loss time		L =	10 sec
Total Flow		=	3268 pcu
Co	= (1.5*L+5)/(1-Y)	=	57.5 sec
Cm	= L/(1-Y)	=	28.8 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	26.5 %
Cp	= 0.9*L/(0.9-Y)	=	36.3 sec
Ymax	= 1-L/C	=	0.921
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	27 %



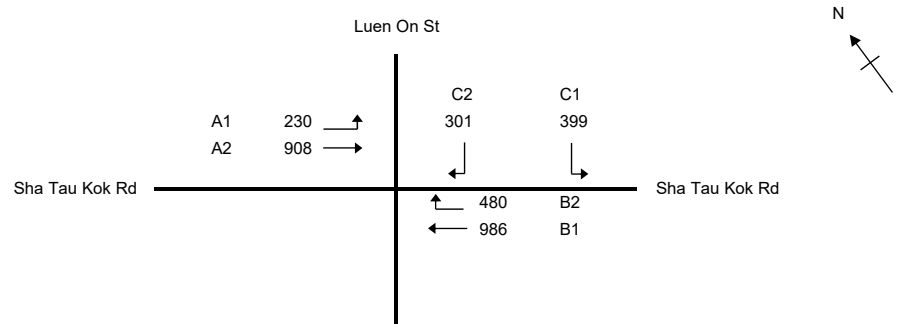
STAGE 1	INT=	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

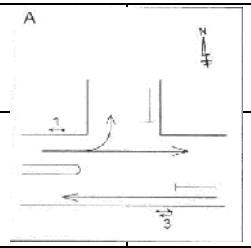
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A1	1,3	3.50	2	1	15		N	1965	258			258	1.00	1786			1786	0.144			26	76	0.242	22
A2	1	3.50	1	2				4210		918		918	0.00	4210			4210	0.218			39	51	0.542	58
B1	1,2	3.10	3	1			N	1925		1023		1023	0.00	1925			1925	0.531	0.531		95	95	0.708	54
B2	2	3.10	5	2	20			4130			418	418	1.00	3842			3842	0.109			20	39	0.352	31
C1	3	3.40	4	1	10		N	1955	205			205	1.00	1700			1700	0.121	0.121		22	22	0.707	36
C1,C2	3	3.40	4	1	12.5			2095	188		38	226	1.00	1871			1871	0.121			22	22	0.708	40
C2	3	3.40	4	1	10			2095			220	220	1.00	1822			1822	0.121			22	22	0.708	39

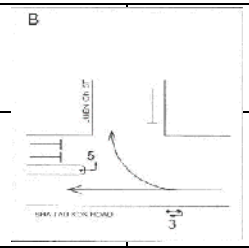
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

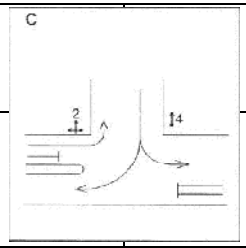
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J19
J19 - Sha Tau Kok Road / Luen On Street	J19_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	127 sec
Sum(y)		Y =	0.642
Loss time		L =	10 sec
Total Flow		=	3304 pcu
Co	= (1.5*L+5)/(1-Y)	=	55.9 sec
Cm	= L/(1-Y)	=	27.9 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	28.5 %
Cp	= 0.9*L/(0.9-Y)	=	34.9 sec
Ymax	= 1-L/C	=	0.921
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	29 %







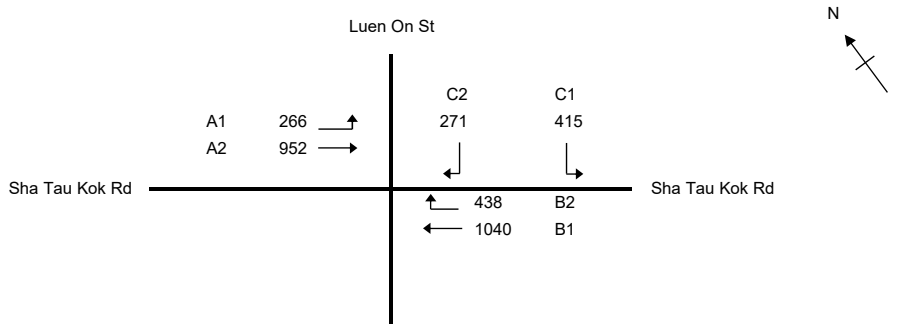
STAGE 1	INT=	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

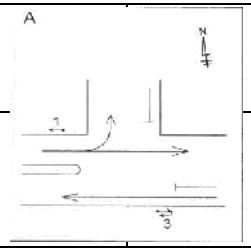
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A1	1,3	3.50	2	1	15		N	1965	230			230	1.00	1786			1786	0.129			23	78	0.210	19
A2	1	3.50	1	2				4210		908		908	0.00	4210			4210	0.216			39	51	0.534	57
B1	1,2	3.10	3	1			N	1925		986		986	0.00	1925			1925	0.512	0.512		93	93	0.697	55
B2	2	3.10	5	2	20			4130			480	480	1.00	3842			3842	0.125			23	37	0.429	36
C1	3	3.40	4	1	10		N	1955	221			221	1.00	1700			1700	0.130	0.130		24	24	0.697	38
C1,C2	3	3.40	4	1	12.5			2095	178		65	243	1.00	1871			1871	0.130			24	24	0.697	42
C2	3	3.40	4	1	10			2095			236	236	1.00	1822			1822	0.130			24	24	0.695	41

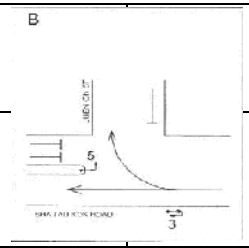
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

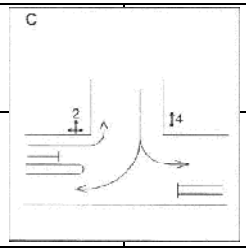
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J19
J19 - Sha Tau Kok Road / Luen On Street	J19_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	127 sec
Sum(y)		Y =	0.668
Loss time		L =	10 sec
Total Flow		=	3382 pcu
Co	= (1.5*L+5)/(1-Y)	=	60.2 sec
Cm	= L/(1-Y)	=	30.1 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	23.6 %
Cp	= 0.9*L/(0.9-Y)	=	38.7 sec
Ymax	= 1-L/C	=	0.921
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	24 %







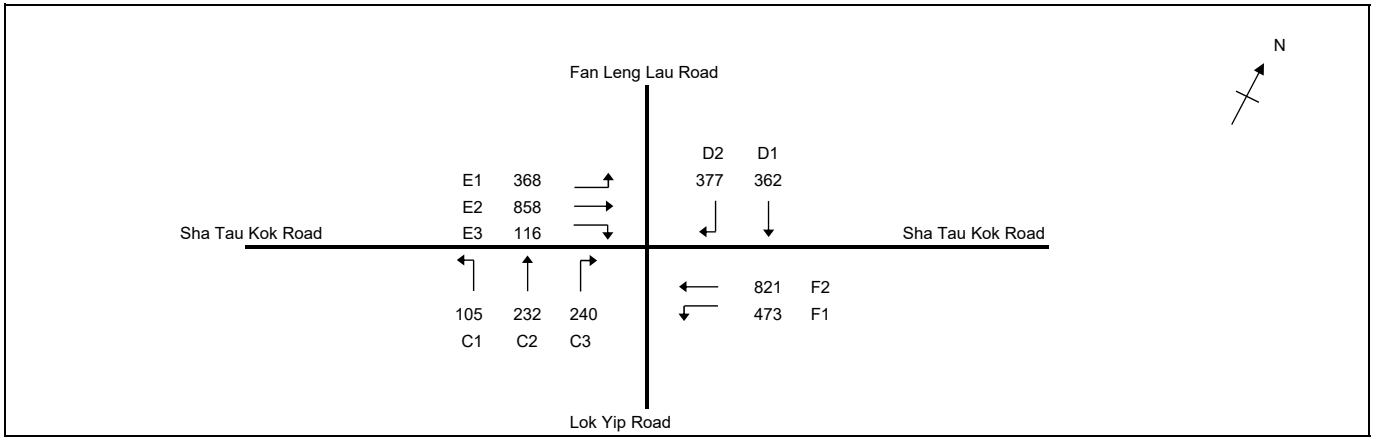
STAGE 1	INT=	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

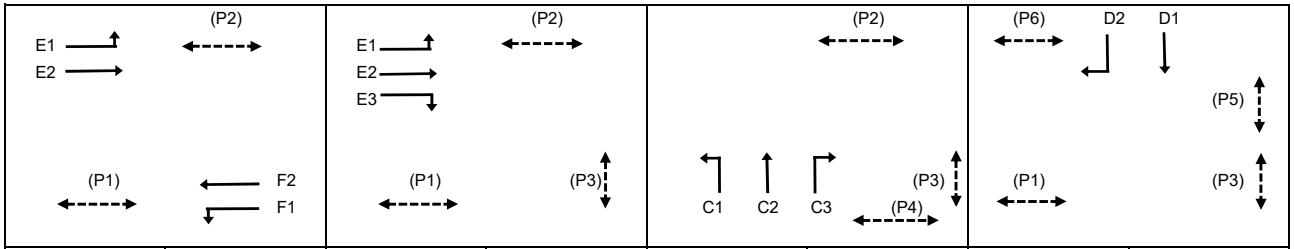
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
A1	1,3	3.50	2	1	15		N	1965	266			266	1.00	1786			1786	0.149			26	77	0.246	22
A2	1	3.50	1	2				4210		952		952	0.00	4210			4210	0.226			40	52	0.556	60
B1	1,2	3.10	3	1			N	1925		1040		1040	0.00	1925			1925	0.540	0.540		95	95	0.725	56
B2	2	3.10	5	2	20			4130			438	438	1.00	3842			3842	0.114			20	38	0.381	32
C1	3	3.40	4	1	10		N	1955	216			216	1.00	1700			1700	0.127	0.127		22	22	0.723	38
C1,C2	3	3.40	4	1	12.5			2095	199		39	238	1.00	1871			1871	0.127			22	22	0.724	42
C2	3	3.40	4	1	10			2095			232	232	1.00	1822			1822	0.127			22	22	0.725	40

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J20
J20 - Sha Tau Kok Road / Fan Leng Lau Road / Lok Yip Road	J20_EXT_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	4	
Cycle time	C =	126	sec
Sum(y)	Y =	0.571	
Loss time	L =	23	sec
Total Flow	=	3952	pcu
Co = (1.5*L+5)/(1-Y)	=	92.0	sec
Cm = L/(1-Y)	=	53.6	sec
Yult	=	0.728	
R.C.ult = (Yult-Y)/Y*100%	=	27.5	%
Cp = 0.9*L/(0.9-Y)	=	62.8	sec
Ymax = 1-L/C	=	0.817	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	29	%



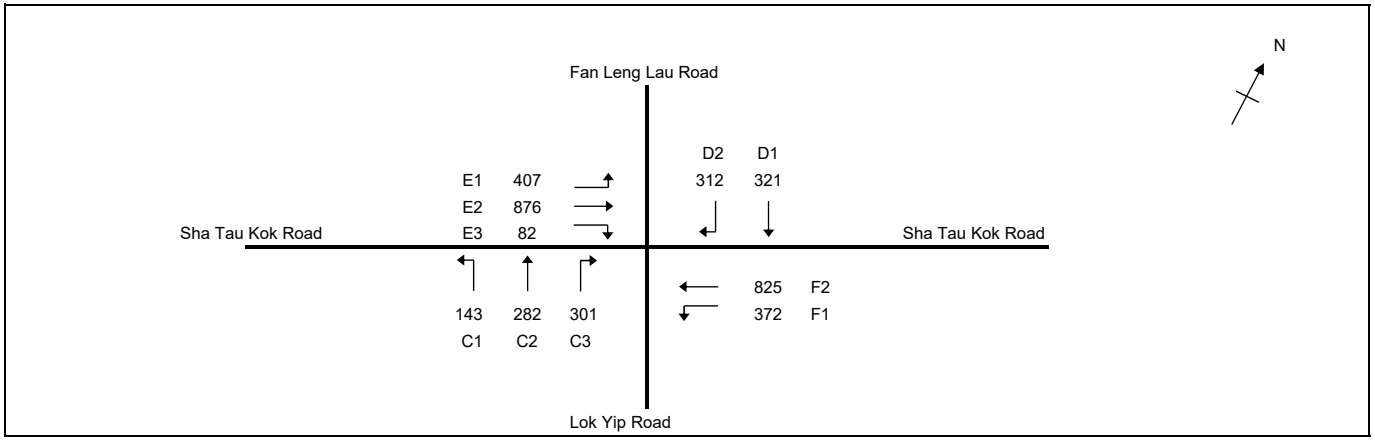
STAGE 1	INT= 7	STAGE 2	INT= 5	STAGE 3	INT= 7	STAGE 4	INT= 8

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	8.5	5	1	9	83	1	9	OK
P2	7	9	2	8	77	2	8	OK
P3	14	7	2	16	71	2	16	OK
P4	8	5	8	9	16	8	9	OK
P5	8.5	5	9	9	21	9	9	OK
P6	9	8	4	10	25	4	10	OK

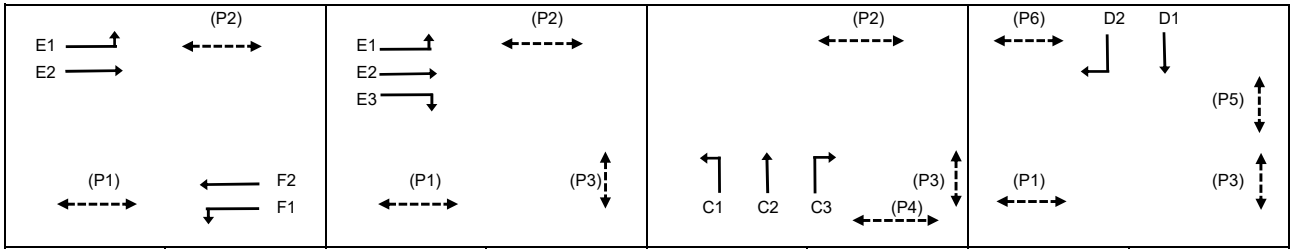
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				23				
F1	1	3.10	4	1	10		N	1925	285			285	1.00	1674			1674	0.170	0.170		31	31	0.697	45
F1,F2	1	3.10	4	1	10			2065	188	135		323	0.58	1899			1899	0.170			31	31	0.696	51
F2	1	3.10	4	1				2065		334		334	0.00	2065			1962	0.170			31	31	0.697	53
F2	1	3.10	4	1				2065		352		352	0.00	2065			2065	0.170			31	31	0.698	56
E1	1,2	3.00	1	1	10		N	1915	354			354	1.00	1665			1665	0.213			38	50	0.539	45
E1,E2	1,2	3.00	1	1	10			2055	14	421		435	0.03	2045			2045	0.213			38	50	0.539	55
E2	1,2	3.00	1	1				2055		437		437	0.00	2055			2055	0.213			38	50	0.539	56
E3	2	3.00	2	1	20			2055			116	116	1.00	1912			1912	0.061	0.061		11	11	0.698	22
C1,C2	3	3.50	3	1	15		N	1965	105	177		282	0.37	1894			1894	0.149	0.149		27	27	0.698	47
C2,C3	3	3.50	3	1	20			2105		55	240	295	0.81	1984			1984	0.149			27	27	0.697	49
D1,D2	4	3.30	5	1	20		N	1945		362	8	370	0.02	1942			1942	0.191	0.191		34	34	0.698	56
D2	4	3.30	5	1	20			2085			369	369	1.00	1940			1940	0.190			34	34	0.697	56

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J20
J20 - Sha Tau Kok Road / Fan Leng Lau Road / Lok Yip Road	J20_EXT_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	4	
Cycle time	C =	122	sec
Sum(y)	Y =	0.554	
Loss time	L =	23	sec
Total Flow	=	3921	pcu
Co = (1.5*L+5)/(1-Y)	=	88.5	sec
Cm = L/(1-Y)	=	51.5	sec
Yult	=	0.728	
R.C.ult = (Yult-Y)/Y*100%	=	31.4	%
Cp = 0.9*L/(0.9-Y)	=	59.8	sec
Ymax = 1-L/C	=	0.811	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	32	%



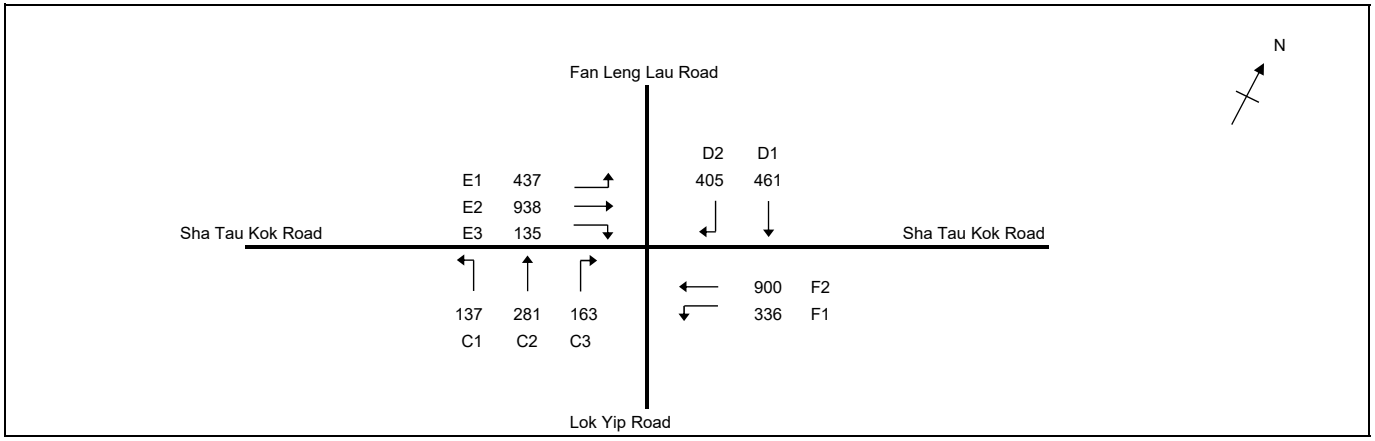
STAGE 1	INT= 7	STAGE 2	INT= 5	STAGE 3	INT= 7	STAGE 4	INT= 8

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	8.5	5	1	9	72	1	9	OK
P2	7	9	2	8	77	2	8	OK
P3	14	7	2	16	70	2	16	OK
P4	8	5	8	9	23	8	9	OK
P5	8.5	5	9	9	17	9	9	OK
P6	9	8	4	10	21	4	10	OK

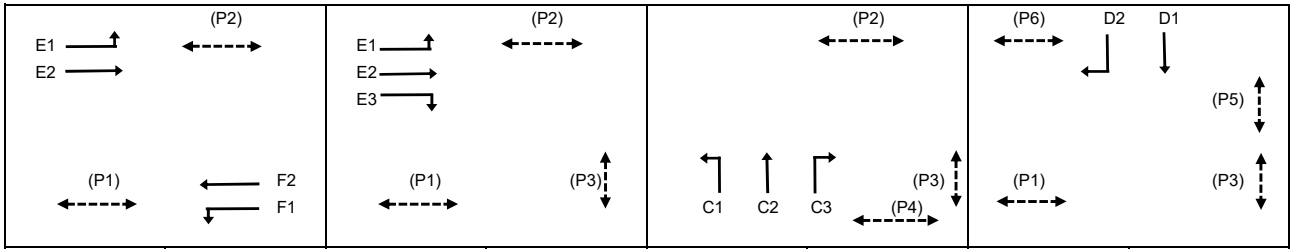
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				23				
F1	1	3.10	F	1	10		N	1925	265			265	1.00	1674			1674	0.158	0.158		28	28	0.682	41
F1,F2	1	3.10	F	1	10			2065	107	204		311	0.34	1964			1964	0.158			28	28	0.682	49
F2	1	3.10	F	1				2065		294		294	0.00	2065			1859	0.158			28	28	0.682	46
F2	1	3.10	F	1				2065		327		327	0.00	2065			2065	0.158			28	28	0.682	51
E1	1,2	3.00	E	1	10		N	1915	371			371	1.00	1665			1665	0.223			40	44	0.618	48
E1,E2	1,2	3.00	E	1	10			2055	36	417		453	0.08	2031			2031	0.223			40	44	0.619	59
E2	1,2	3.00	E	1				2055		459		459	0.00	2055			2055	0.223			40	44	0.620	60
E3	2	3.00	E	1	20			2055			82	82	1.00	1912			1912	0.043	0.043		8	8	0.682	16
C1,C2	3	3.50	C	1	15		N	1965	143	211		354	0.40	1889			1889	0.187	0.187		34	34	0.682	52
C2,C3	3	3.50	C	1	20			2105		71	301	372	0.81	1985			1985	0.187			34	34	0.682	55
D1,D2	4	3.30	D	1	20		N	1945		321	0	321	0.00	1945			1945	0.165	0.165		30	30	0.682	49
D2	4	3.30	D	1	20			2085			312	312	1.00	1940			1940	0.161			29	30	0.665	48

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J20
J20 - Sha Tau Kok Road / Fan Leng Lau Road / Lok Yip Road	J20_REF_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	4	
Cycle time	C =	126	sec
Sum(y)	Y =	0.616	
Loss time	L =	23	sec
Total Flow	=	4193	pcu
Co = (1.5*L+5)/(1-Y)	=	102.8	sec
Cm = L/(1-Y)	=	59.8	sec
Yult	=	0.728	
R.C.ult = (Yult-Y)/Y*100%	=	18.2	%
Cp = 0.9*L/(0.9-Y)	=	72.8	sec
Ymax = 1-L/C	=	0.817	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	20	%



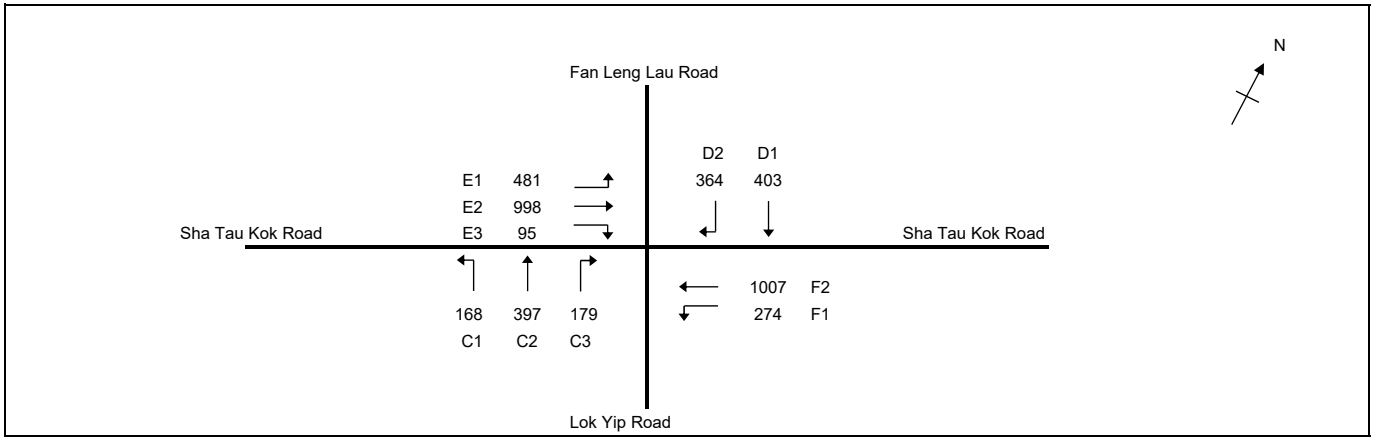
STAGE 1	INT= 7	STAGE 2	INT= 5	STAGE 3	INT= 7	STAGE 4	INT= 8

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	8.5	5	1	9	85	1	9	OK
P2	7	9	2	8	71	2	8	OK
P3	14	7	2	16	75	2	16	OK
P4	8	5	8	9	14	8	9	OK
P5	8.5	5	9	9	27	9	9	OK
P6	9	8	4	10	31	4	10	OK

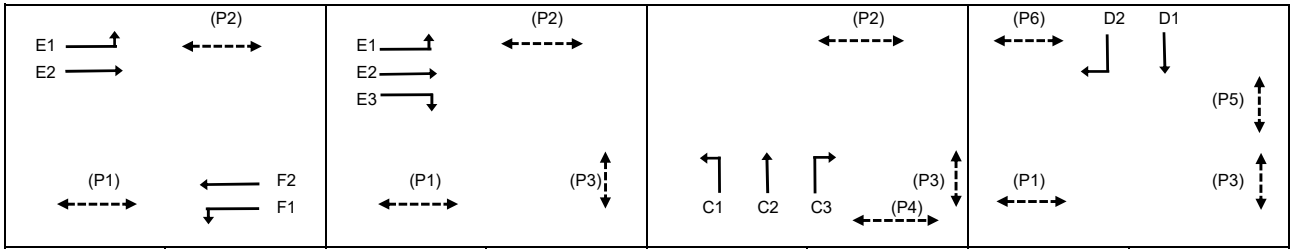
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				23				
F1	1	3.10	F	1	10		N	1925	265			265	1.00	1674			1674	0.158	0.159		26	27	0.751	44
F1,F2	1	3.10	F	1	10			2065	71	246		317	0.22	1998			1998	0.159			27	27	0.753	53
F2	1	3.10	F	1				2065		327		327	0.00	2065			2065	0.158			26	27	0.752	54
F2	1	3.10	F	1				2065		327		327	0.00	2065			2065	0.158			26	27	0.752	54
E1	1,2	3.00	E	1	10		N	1915	398			398	1.00	1665			1665	0.239			40	46	0.650	53
E1,E2	1,2	3.00	E	1	10			2055	39	447		486	0.08	2031			2031	0.239			40	46	0.650	65
E2	1,2	3.00	E	1				2055		491		491	0.00	2055			2055	0.239			40	46	0.649	65
E3	2	3.00	E	1	20			2055			135	135	1.00	1912			1912	0.071	0.071		12	12	0.753	26
C1,C2	3	3.50	C	1	15		N	1965	137	142		279	0.49	1873			1873	0.149	0.149		25	25	0.751	47
C2,C3	3	3.50	C	1	20			2105		139	163	302	0.54	2023			2023	0.149			25	25	0.753	51
D1,D2	4	3.30	D	1	20		N	1945		461	0	461	0.00	1945			1945	0.237	0.237		40	40	0.753	66
D2	4	3.30	D	1	20			2085			405	405	1.00	1940			1940	0.209			35	40	0.663	58

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J20
J20 - Sha Tau Kok Road / Fan Leng Lau Road / Lok Yip Road	J20_REF_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	4	
Cycle time	C =	122	sec
Sum(y)	Y =	0.616	
Loss time	L =	23	sec
Total Flow	=	4366	pcu
Co = (1.5*L+5)/(1-Y)	=	102.7	sec
Cm = L/(1-Y)	=	59.8	sec
Yult	=	0.728	
R.C.ult = (Yult-Y)/Y*100%	=	18.2	%
Cp = 0.9*L/(0.9-Y)	=	72.8	sec
Ymax = 1-L/C	=	0.811	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	19	%



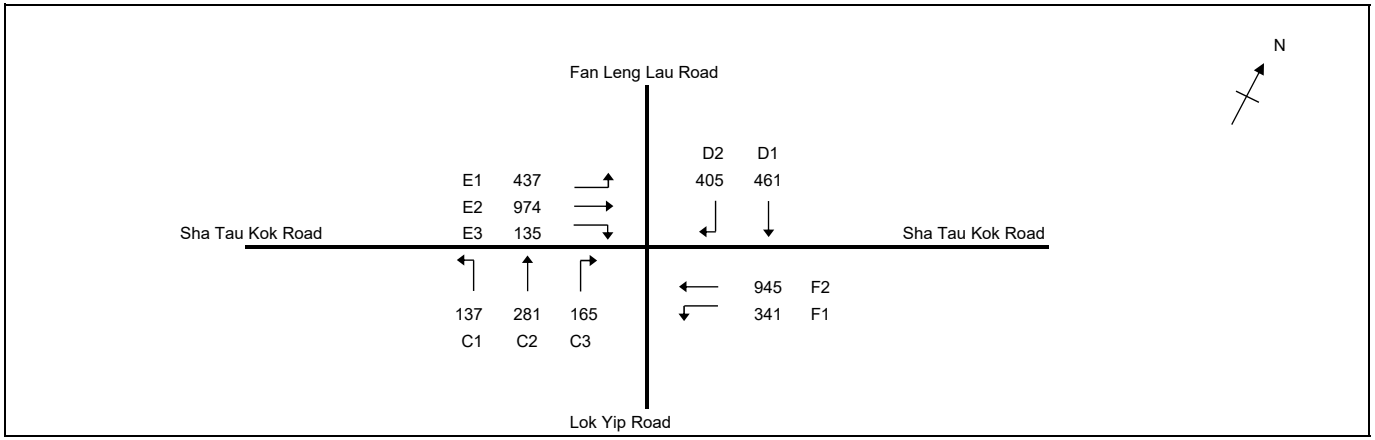
STAGE 1	INT= 7	STAGE 2	INT= 5	STAGE 3	INT= 7	STAGE 4	INT= 8

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	8.5	5	1	9	75	1	9	OK
P2	7	9	2	8	74	2	8	OK
P3	14	7	2	16	71	2	16	OK
P4	8	5	8	9	20	8	9	OK
P5	8.5	5	9	9	20	9	9	OK
P6	9	8	4	10	24	4	10	OK

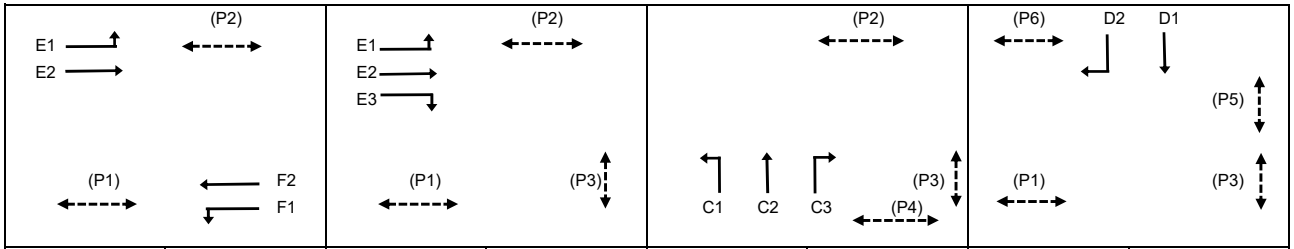
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				23				
F1	1	3.10	F	1	10		N	1925	274			274	1.00	1674			1674	0.164	0.168		26	27	0.737	43
F1,F2	1	3.10	F	1	10			2065	0	347		347	0.00	2065			2065	0.168			27	27	0.757	55
F2	1	3.10	F	1				2065		313		313	0.00	2065			1859	0.168			27	27	0.759	50
F2	1	3.10	F	1				2065		347		347	0.00	2065			2065	0.168			27	27	0.757	55
E1	1,2	3.00	E	1	10		N	1915	436			436	1.00	1665			1665	0.262			42	43	0.741	57
E1,E2	1,2	3.00	E	1	10			2055	45	487		532	0.08	2029			2029	0.262			42	43	0.742	70
E2	1,2	3.00	E	1				2055		511		511	0.00	2055			1952	0.262			42	43	0.741	67
E3	2	3.00	E	1	20			2055			95	95	1.00	1912			1912	0.050	0.050		8	8	0.759	18
C1,C2	3	3.50	C	1	15		N	1965	168	189		357	0.47	1877			1877	0.190	0.190		31	31	0.759	54
C2,C3	3	3.50	C	1	20			2105		208	179	387	0.46	2034			2034	0.190			31	31	0.759	59
D1,D2	4	3.30	D	1	20		N	1945		403	0	403	0.00	1945			1945	0.207	0.207		33	33	0.759	60
D2	4	3.30	D	1	20			2085			364	364	1.00	1940			1940	0.188			30	33	0.687	54

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J20
J20 - Sha Tau Kok Road / Fan Leng Lau Road / Lok Yip Road	J20_DES_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	4	
Cycle time	C =	126	sec
Sum(y)	Y =	0.625	
Loss time	L =	23	sec
Total Flow	=	4281	pcu
Co = (1.5*L+5)/(1-Y)	=	105.2	sec
Cm = L/(1-Y)	=	61.3	sec
Yult	=	0.728	
R.C.ult = (Yult-Y)/Y*100%	=	16.5	%
Cp = 0.9*L/(0.9-Y)	=	75.1	sec
Ymax = 1-L/C	=	0.817	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	18	%



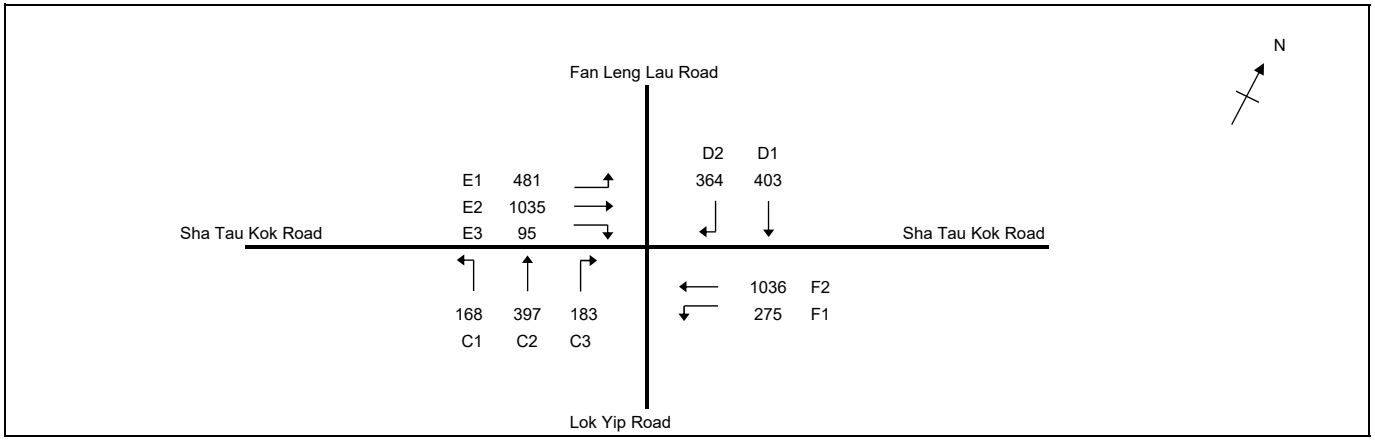
STAGE 1	INT= 7	STAGE 2	INT= 5	STAGE 3	INT= 7	STAGE 4	INT= 8

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	8.5	5	1	9	85	1	9	OK
P2	7	9	2	8	72	2	8	OK
P3	14	7	2	16	74	2	16	OK
P4	8	5	8	9	14	8	9	OK
P5	8.5	5	9	9	26	9	9	OK
P6	9	8	4	10	30	4	10	OK

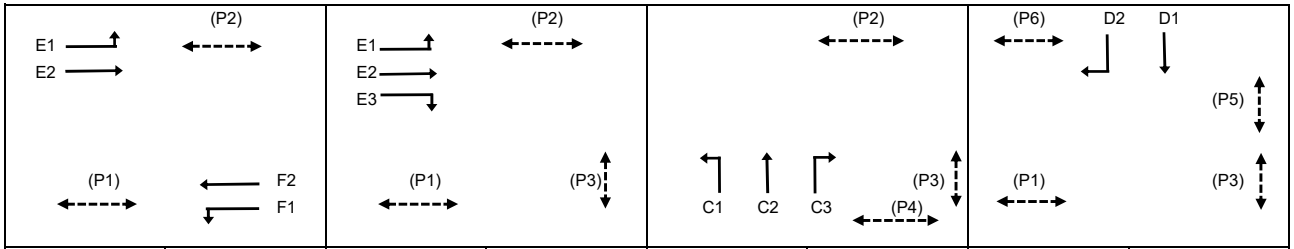
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				23				
F1	1	3.10	F	1	10		N	1925	279			279	1.00	1674			1674	0.167	0.167		27	28	0.762	46
F1,F2	1	3.10	F	1	10			2065	62	273		335	0.19	2009			2009	0.167			27	28	0.762	55
F2	1	3.10	F	1				2065		327		327	0.00	2065			1962	0.167			27	28	0.762	54
F2	1	3.10	F	1				2065		345		345	0.00	2065			2065	0.167			28	28	0.764	57
E1	1,2	3.00	E	1	10		N	1915	408			408	1.00	1665			1665	0.245			40	47	0.654	54
E1,E2	1,2	3.00	E	1	10			2055	29	470		499	0.06	2037			2037	0.245			40	47	0.654	66
E2	1,2	3.00	E	1				2055		504		504	0.00	2055			2055	0.245			40	47	0.655	66
E3	2	3.00	E	1	20			2055			135	135	1.00	1912			1912	0.071	0.071		12	12	0.764	26
C1,C2	3	3.50	C	1	15		N	1965	137	143		280	0.49	1873			1873	0.149	0.150		25	25	0.762	47
C2,C3	3	3.50	C	1	20			2105		138	165	303	0.54	2022			2022	0.150			25	25	0.764	51
D1,D2	4	3.30	D	1	20		N	1945		461	0	461	0.00	1945			1945	0.237	0.237		39	39	0.764	67
D2	4	3.30	D	1	20			2085			405	405	1.00	1940			1940	0.209			34	39	0.673	59

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J20
J20 - Sha Tau Kok Road / Fan Leng Lau Road / Lok Yip Road	J20_DES_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	4	
Cycle time	C =	122	sec
Sum(y)	Y =	0.624	
Loss time	L =	23	sec
Total Flow	=	4437	pcu
Co = (1.5*L+5)/(1-Y)	=	105.2	sec
Cm = L/(1-Y)	=	61.2	sec
Yult	=	0.728	
R.C.ult = (Yult-Y)/Y*100%	=	16.5	%
Cp = 0.9*L/(0.9-Y)	=	75.1	sec
Ymax = 1-L/C	=	0.811	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	17	%



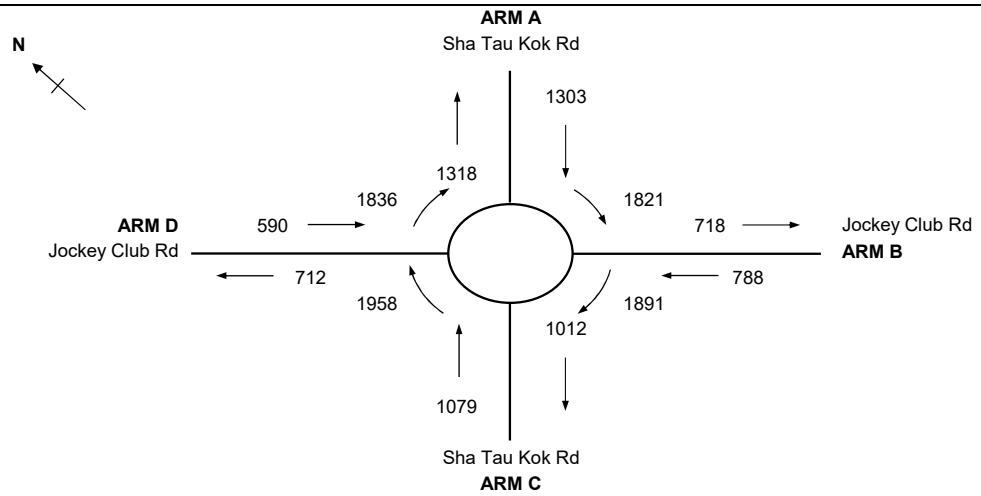
STAGE 1	INT= 7	STAGE 2	INT= 5	STAGE 3	INT= 7	STAGE 4	INT= 8

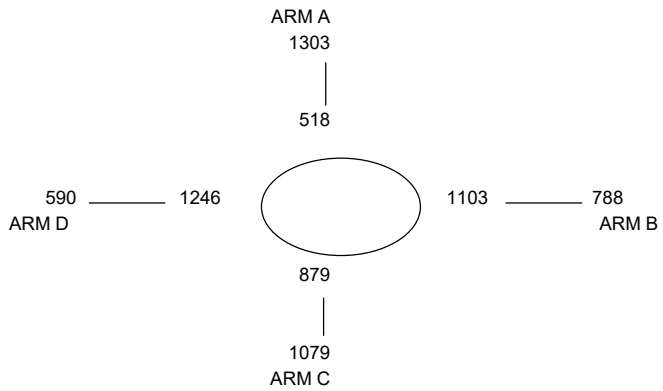
Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	8.5	5	1	9	76	1	9	OK
P2	7	9	2	8	74	2	8	OK
P3	14	7	2	16	70	2	16	OK
P4	8	5	8	9	19	8	9	OK
P5	8.5	5	9	9	20	9	9	OK
P6	9	8	4	10	24	4	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				23				
F1	1	3.10	F	1	10		N	1925	275			275	1.00	1674			1674	0.164	0.176		26	28	0.717	43
F1,F2	1	3.10	F	1	10			2065	0	364		364	0.00	2065			2065	0.176			28	28	0.770	57
F2	1	3.10	F	1				2065		308		308	0.00	2065			1755	0.175			28	28	0.766	48
F2	1	3.10	F	1				2065		364		364	0.00	2065			2065	0.176			28	28	0.770	57
E1	1,2	3.00	E	1	10		N	1915	454			454	1.00	1665			1665	0.273			43	44	0.759	59
E1,E2	1,2	3.00	E	1	10			2055	27	530		557	0.05	2040			2040	0.273			43	44	0.760	73
E2	1,2	3.00	E	1				2055		505		505	0.00	2055			1850	0.273			43	44	0.760	66
E3	2	3.00	E	1	20			2055			95	95	1.00	1912			1912	0.050	0.050		8	8	0.770	18
C1,C2	3	3.50	C	1	15		N	1965	168	191		359	0.47	1877			1877	0.191	0.191		30	30	0.769	55
C2,C3	3	3.50	C	1	20			2105		206	183	389	0.47	2033			2033	0.191			30	30	0.770	59
D1,D2	4	3.30	D	1	20		N	1945		403	0	403	0.00	1945			1945	0.207	0.207		33	33	0.770	60
D2	4	3.30	D	1	20			2085			364	364	1.00	1940			1940	0.188			30	33	0.697	54

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J21 - Sha Tau Kok Road / Jockey Club Road	J21_EXT_AM	DATE 8/7/2026	



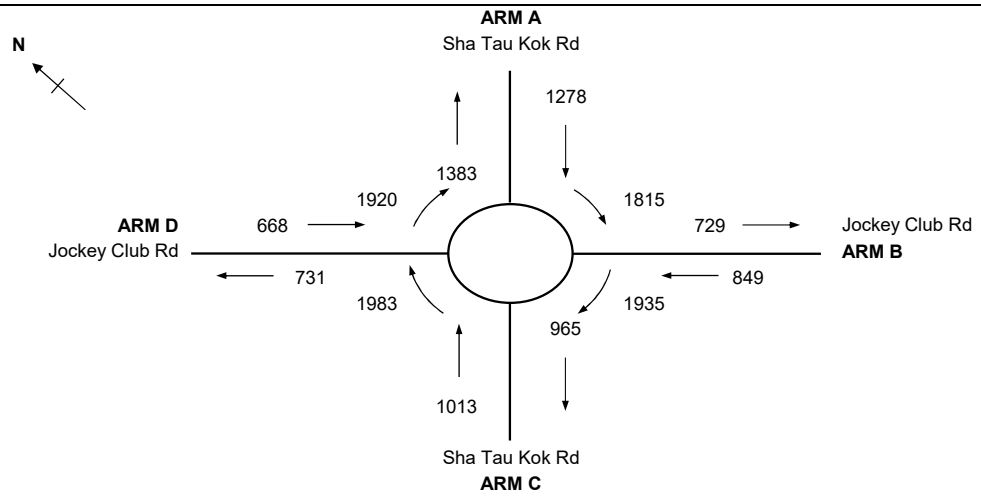


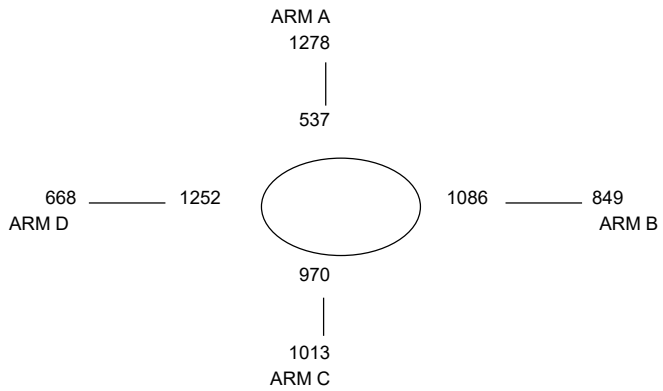
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30	7.30	7.30
E	=	Entry width (m)	9.00	8.00	9.00	8.00
L	=	Effective length of flare (m)	10	10	15	10
R	=	Entry radius (m)	30	35	50	30
D	=	Inscribed circle diameter (m)	65	65	65	65
A	=	Entry angle (degree)	20	10	15	25
Q	=	Entry flow (pcu/h)	1303	788	1079	590
Qc	=	Circulating flow across entry (pcu/h)	518	1103	879	1246
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.27	0.11	0.18	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.09	1.08	1.03
X2	=	V + ((E-V)/(1+2S))	8.40	7.87	8.55	7.87
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2546	2385	2590	2385
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.67	0.64	0.68	0.64
Qe	=	K(F-Fc*Qc)	2311	1828	2158	1638
DFC	=	Design flow/Capacity = Q/Qe	0.56	0.43	0.50	0.36

Total In Sum = 3760 PCU

DFC of Critical Approach = 0.56

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J21 - Sha Tau Kok Road / Jockey Club Road	J21_EXT_PM	DATE 8/7/2026	



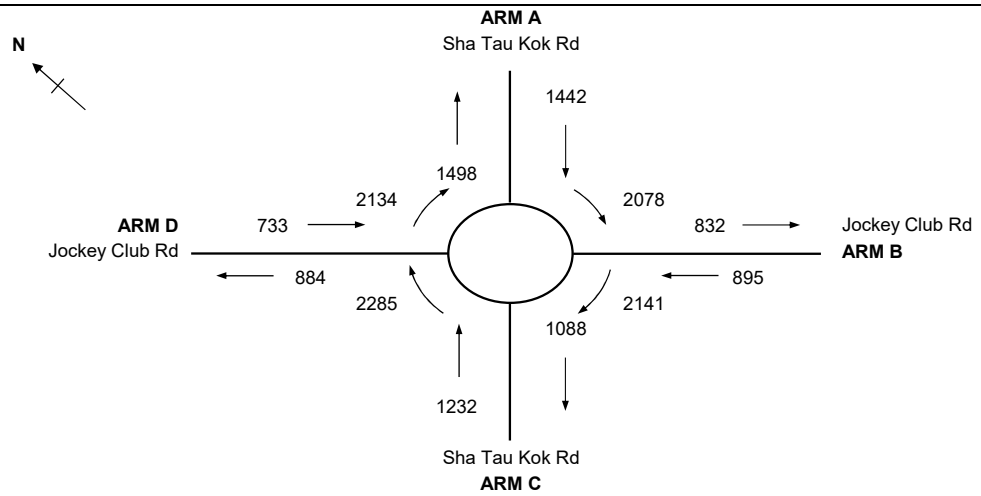


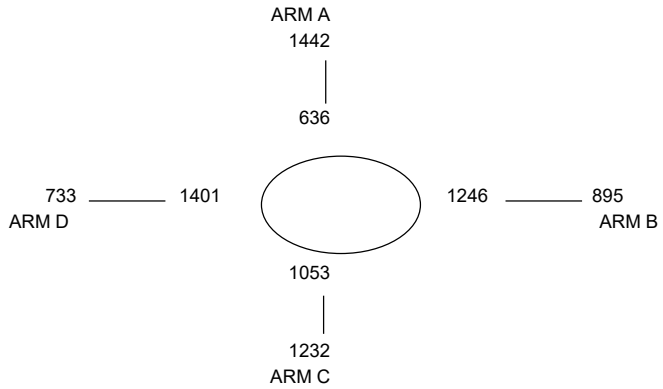
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30	7.30	7.30
E	=	Entry width (m)	9.00	8.00	9.00	8.00
L	=	Effective length of flare (m)	10	10	15	10
R	=	Entry radius (m)	30	35	50	30
D	=	Inscribed circle diameter (m)	65	65	65	65
A	=	Entry angle (degree)	20	10	15	25
Q	=	Entry flow (pcu/h)	1278	849	1013	668
Qc	=	Circulating flow across entry (pcu/h)	537	1086	970	1252
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.27	0.11	0.18	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.09	1.08	1.03
X2	=	V + ((E-V)/(1+2S))	8.40	7.87	8.55	7.87
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2546	2385	2590	2385
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.67	0.64	0.68	0.64
Qe	=	K(F-Fc*Qc)	2298	1840	2091	1634
DFC	=	Design flow/Capacity = Q/Qe	0.56	0.46	0.48	0.41

Total In Sum = 3808 PCU

DFC of Critical Approach = 0.56

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J21 - Sha Tau Kok Road / Jockey Club Road	J21_REF_AM	DATE 8/7/2026	



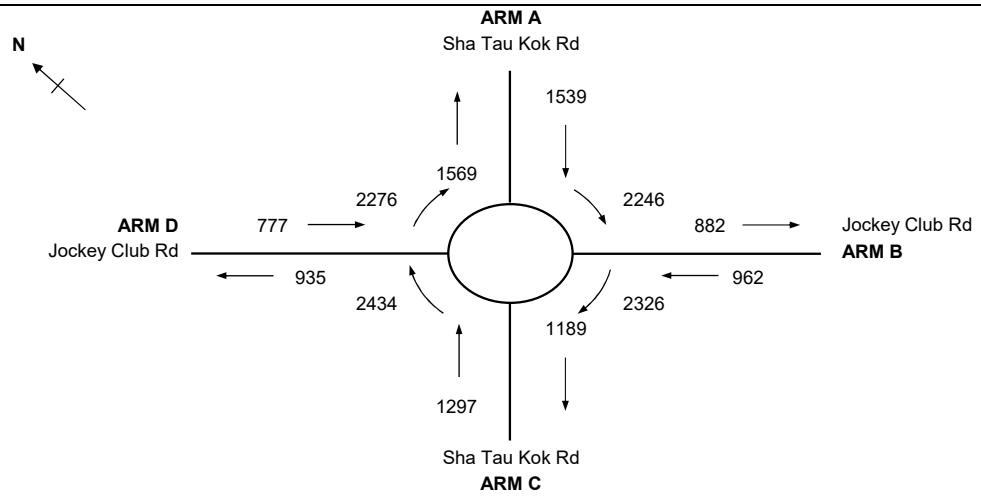


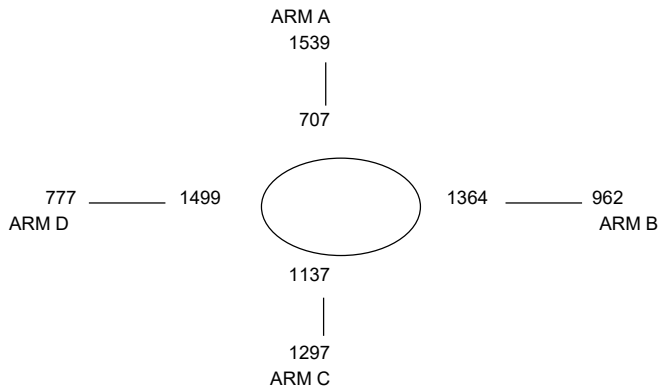
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30	7.30	7.30
E	=	Entry width (m)	9.00	8.00	9.00	8.00
L	=	Effective length of flare (m)	10	10	15	10
R	=	Entry radius (m)	30	35	50	30
D	=	Inscribed circle diameter (m)	65	65	65	65
A	=	Entry angle (degree)	20	10	15	25
Q	=	Entry flow (pcu/h)	1442	895	1232	733
Qc	=	Circulating flow across entry (pcu/h)	636	1246	1053	1401
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.27	0.11	0.18	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.09	1.08	1.03
X2	=	V + ((E-V)/(1+2S))	8.40	7.87	8.55	7.87
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2546	2385	2590	2385
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.67	0.64	0.68	0.64
Qe	=	K(F-Fc*Qc)	2228	1728	2030	1535
DFC	=	Design flow/Capacity = Q/Qe	0.65	0.52	0.61	0.48

Total In Sum = 4302 PCU

DFC of Critical Approach = 0.65

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J21 - Sha Tau Kok Road / Jockey Club Road	J21_REF_PM	DATE 8/7/2026	



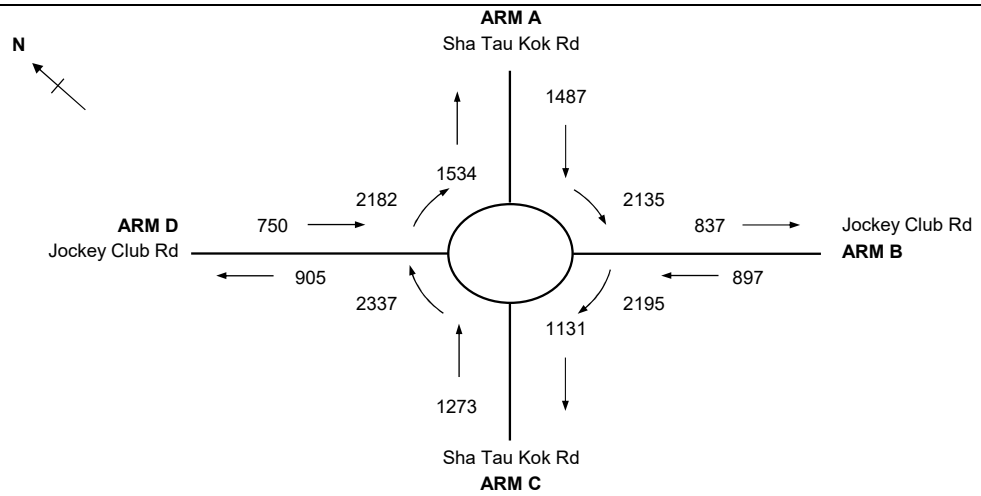


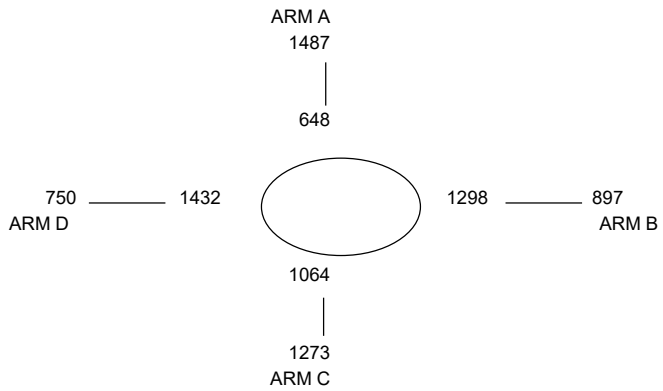
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30	7.30	7.30
E	=	Entry width (m)	9.00	8.00	9.00	8.00
L	=	Effective length of flare (m)	10	10	15	10
R	=	Entry radius (m)	30	35	50	30
D	=	Inscribed circle diameter (m)	65	65	65	65
A	=	Entry angle (degree)	20	10	15	25
Q	=	Entry flow (pcu/h)	1539	962	1297	777
Qc	=	Circulating flow across entry (pcu/h)	707	1364	1137	1499
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.27	0.11	0.18	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.09	1.08	1.03
X2	=	V + ((E-V)/(1+2S))	8.40	7.87	8.55	7.87
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2546	2385	2590	2385
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.67	0.64	0.68	0.64
Qe	=	K(F-Fc*Qc)	2178	1645	1969	1470
DFC	=	Design flow/Capacity = Q/Qe	0.71	0.59	0.66	0.53

Total In Sum = 4575 PCU

DFC of Critical Approach = 0.71

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J21 - Sha Tau Kok Road / Jockey Club Road	J21_DES_AM	DATE 8/7/2026	



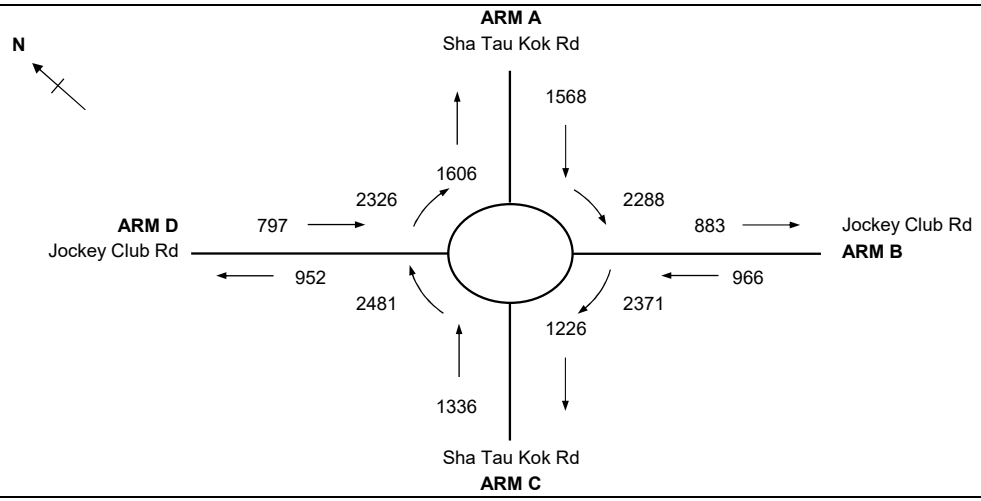


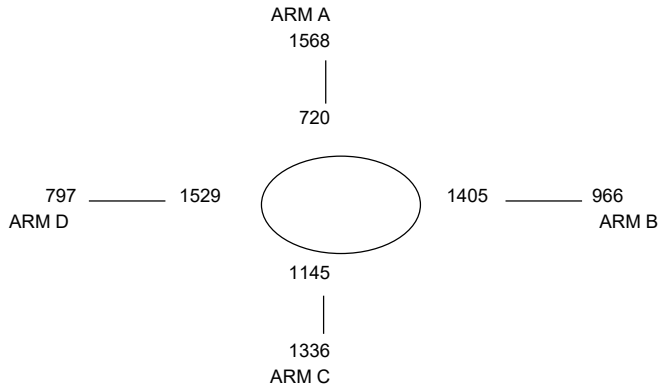
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30	7.30	7.30
E	=	Entry width (m)	9.00	8.00	9.00	8.00
L	=	Effective length of flare (m)	10	10	15	10
R	=	Entry radius (m)	30	35	50	30
D	=	Inscribed circle diameter (m)	65	65	65	65
A	=	Entry angle (degree)	20	10	15	25
Q	=	Entry flow (pcu/h)	1487	897	1273	750
Qc	=	Circulating flow across entry (pcu/h)	648	1298	1064	1432
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.27	0.11	0.18	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.09	1.08	1.03
X2	=	V + ((E-V)/(1+2S))	8.40	7.87	8.55	7.87
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2546	2385	2590	2385
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.67	0.64	0.68	0.64
Qe	=	K(F-Fc*Qc)	2220	1691	2022	1514
DFC	=	Design flow/Capacity = Q/Qe	0.67	0.54	0.63	0.50

Total In Sum = 4407 PCU

DFC of Critical Approach = 0.67

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J21 - Sha Tau Kok Road / Jockey Club Road	J21_DES_PM	DATE 8/7/2026	



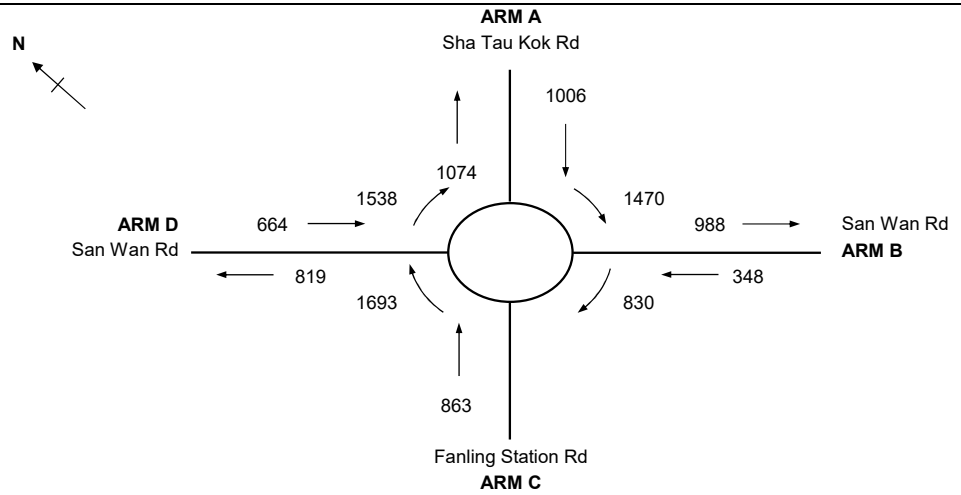


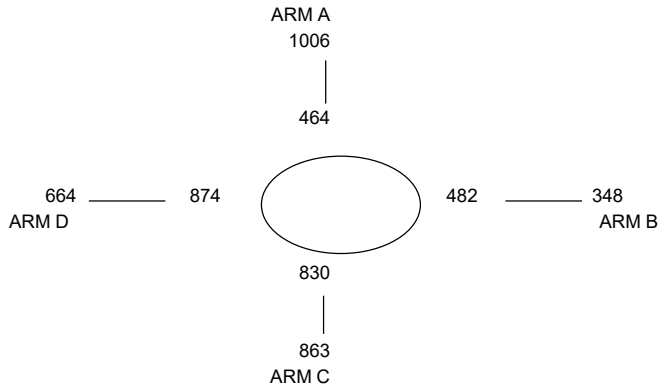
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30	7.30	7.30
E	=	Entry width (m)	9.00	8.00	9.00	8.00
L	=	Effective length of flare (m)	10	10	15	10
R	=	Entry radius (m)	30	35	50	30
D	=	Inscribed circle diameter (m)	65	65	65	65
A	=	Entry angle (degree)	20	10	15	25
Q	=	Entry flow (pcu/h)	1568	966	1336	797
Qc	=	Circulating flow across entry (pcu/h)	720	1405	1145	1529
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.27	0.11	0.18	0.11
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.09	1.08	1.03
X2	=	V + ((E-V)/(1+2S))	8.40	7.87	8.55	7.87
M	=	EXP((D-60)/10)	1.65	1.65	1.65	1.65
F	=	303*X2	2546	2385	2590	2385
Td	=	1+(0.5/(1+M))	1.19	1.19	1.19	1.19
Fc	=	0.21*Td(1+0.2*X2)	0.67	0.64	0.68	0.64
Qe	=	K(F-Fc*Qc)	2169	1616	1963	1450
DFC	=	Design flow/Capacity = Q/Qe	0.73	0.60	0.69	0.55

Total In Sum = 4667 PCU

DFC of Critical Approach = 0.73

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J22 - Sha Tau Kok Road-Lung Yeuk Tau / San Wan Road	J22_EXT_AM	DATE 8/7/2026	



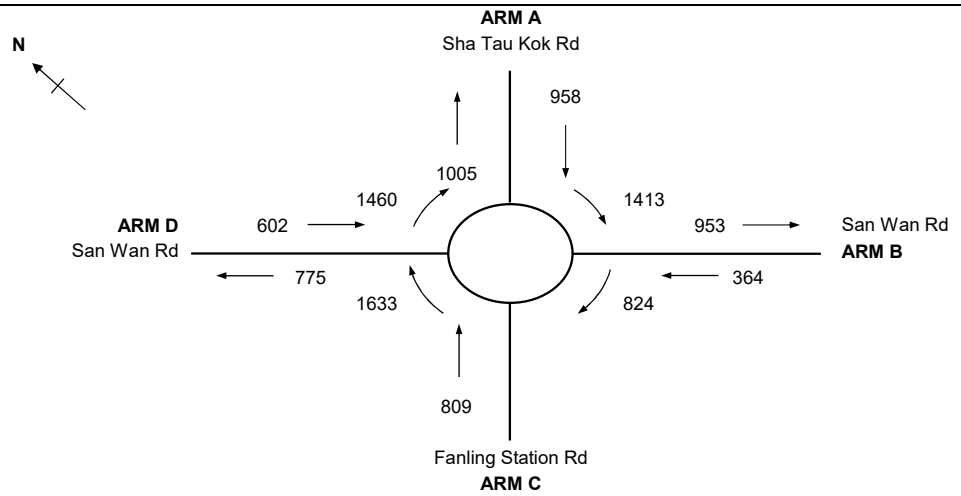


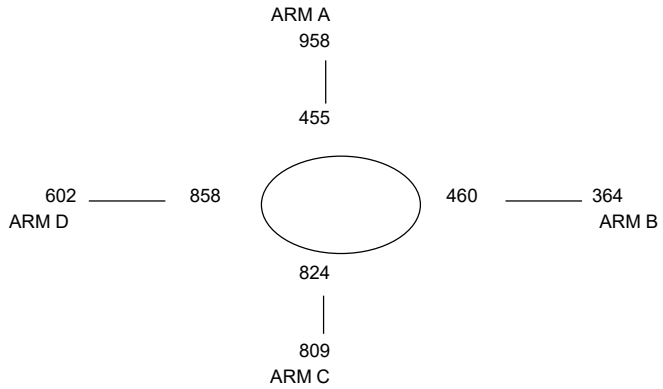
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	5.50	7.30	7.30	6.00
E	=	Entry width (m)	10.00	10.50	10.00	7.50
L	=	Effective length of flare (m)	30	50	15	50
R	=	Entry radius (m)	100	100	25	50
D	=	Inscribed circle diameter (m)	55	55	55	55
A	=	Entry angle (degree)	10	30	30	15
Q	=	Entry flow (pcu/h)	1006	348	863	664
Qc	=	Circulating flow across entry (pcu/h)	464	482	830	874
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.24	0.10	0.29	0.05
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.04	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	8.54	9.96	9.01	7.37
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2588	3017	2731	2233
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.82	0.77	0.68
Qe	=	K(F-Fc*Qc)	2485	2722	2111	1771
DFC	=	Design flow/Capacity = Q/Qe	0.40	0.13	0.41	0.38

Total In Sum = 2881 PCU

DFC of Critical Approach = 0.41

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J22 - Sha Tau Kok Road-Lung Yeuk Tau / San Wan Road	J22_EXT_PM	DATE 8/7/2026	



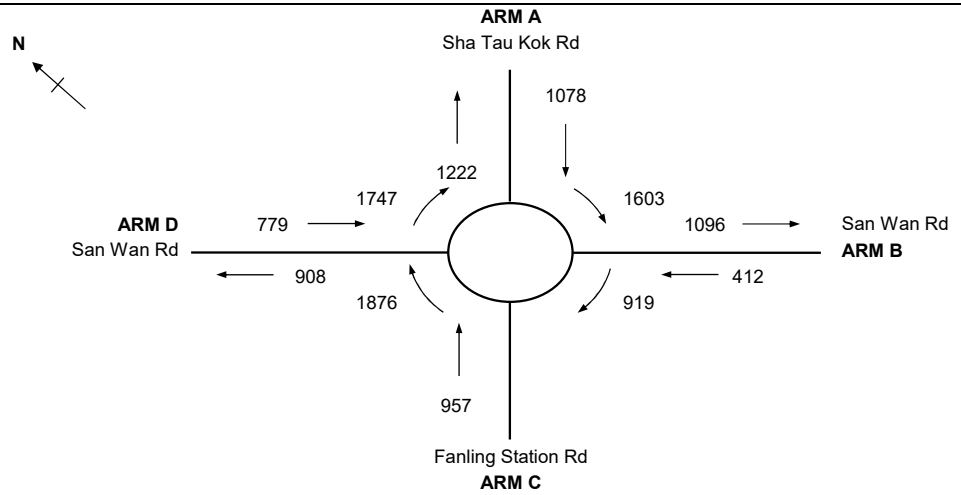


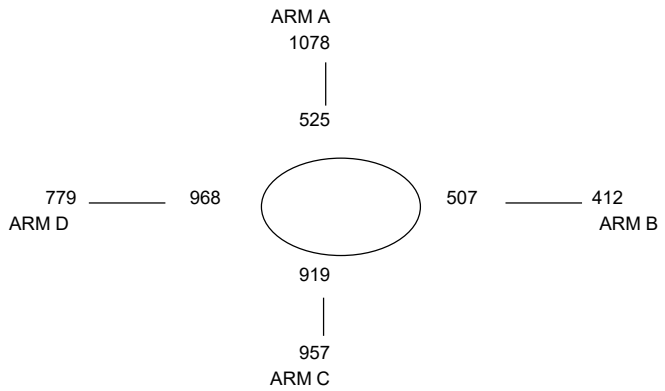
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	5.50	7.30	7.30	6.00
E	=	Entry width (m)	10.00	10.50	10.00	7.50
L	=	Effective length of flare (m)	30	50	15	50
R	=	Entry radius (m)	100	100	25	50
D	=	Inscribed circle diameter (m)	55	55	55	55
A	=	Entry angle (degree)	10	30	30	15
Q	=	Entry flow (pcu/h)	958	364	809	602
Qc	=	Circulating flow across entry (pcu/h)	455	460	824	858
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.24	0.10	0.29	0.05
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.04	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	8.54	9.96	9.01	7.37
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2588	3017	2731	2233
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.82	0.77	0.68
Qe	=	K(F-Fc*Qc)	2492	2741	2116	1782
DFC	=	Design flow/Capacity = Q/Qe	0.38	0.13	0.38	0.34

Total In Sum = 2733 PCU

DFC of Critical Approach = 0.38

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J22 - Sha Tau Kok Road-Lung Yeuk Tau / San Wan Road	J22_REF_AM	DATE 8/7/2026	



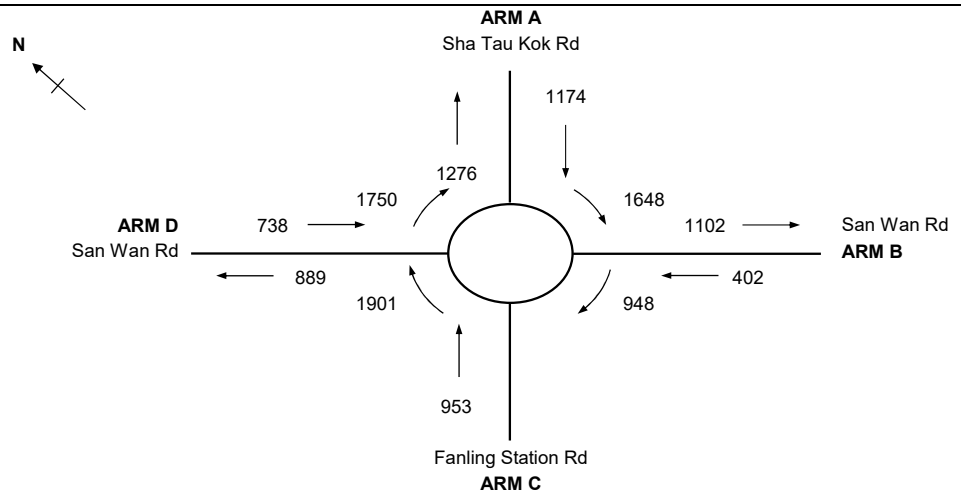


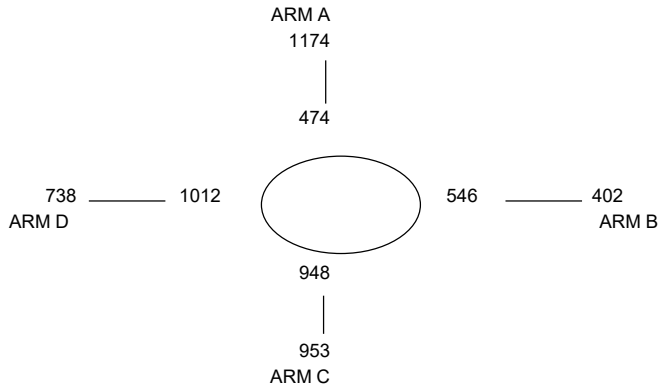
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	5.50	7.30	7.30	6.00
E	=	Entry width (m)	10.00	10.50	10.00	7.50
L	=	Effective length of flare (m)	30	50	15	50
R	=	Entry radius (m)	100	100	25	50
D	=	Inscribed circle diameter (m)	55	55	55	55
A	=	Entry angle (degree)	10	30	30	15
Q	=	Entry flow (pcu/h)	1078	412	957	779
Qc	=	Circulating flow across entry (pcu/h)	525	507	919	968
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.24	0.10	0.29	0.05
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.04	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	8.54	9.96	9.01	7.37
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2588	3017	2731	2233
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.82	0.77	0.68
Qe	=	K(F-Fc*Qc)	2435	2701	2042	1701
DFC	=	Design flow/Capacity = Q/Qe	0.45	0.16	0.47	0.46

Total In Sum = 3226 PCU

DFC of Critical Approach = 0.47

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J22 - Sha Tau Kok Road-Lung Yeuk Tau / San Wan Road	J22_REF_PM	DATE 8/7/2026	



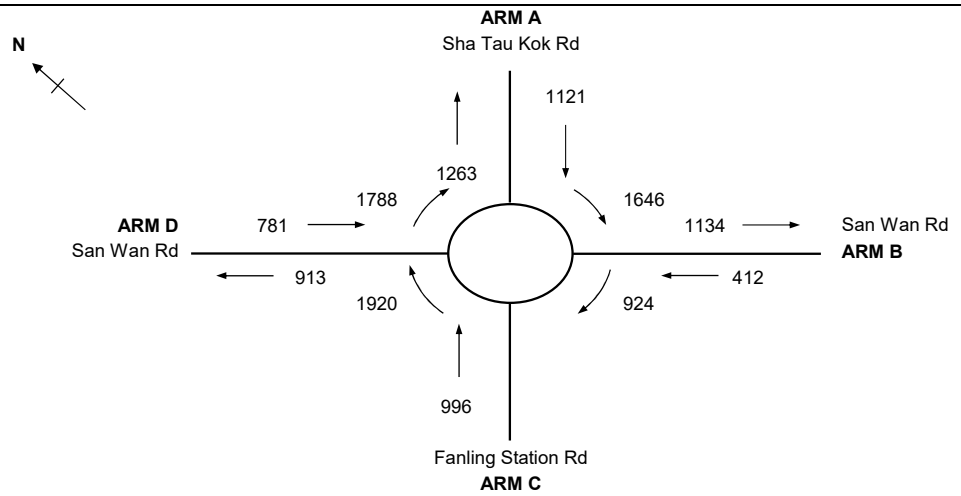


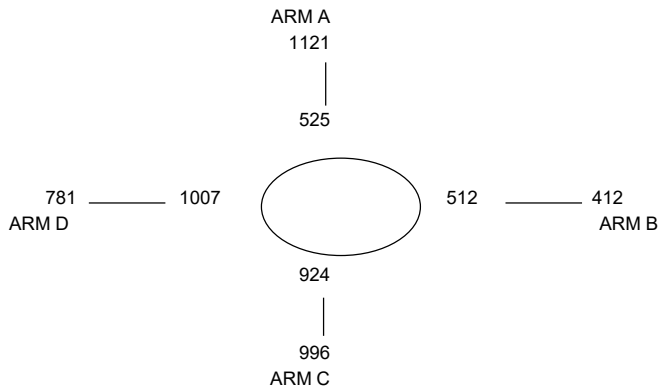
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	5.50	7.30	7.30	6.00
E	=	Entry width (m)	10.00	10.50	10.00	7.50
L	=	Effective length of flare (m)	30	50	15	50
R	=	Entry radius (m)	100	100	25	50
D	=	Inscribed circle diameter (m)	55	55	55	55
A	=	Entry angle (degree)	10	30	30	15
Q	=	Entry flow (pcu/h)	1174	402	953	738
Qc	=	Circulating flow across entry (pcu/h)	474	546	948	1012
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.24	0.10	0.29	0.05
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.04	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	8.54	9.96	9.01	7.37
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2588	3017	2731	2233
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.82	0.77	0.68
Qe	=	K(F-Fc*Qc)	2477	2667	2019	1669
DFC	=	Design flow/Capacity = Q/Qe	0.48	0.16	0.48	0.45

Total In Sum = 3267 PCU

DFC of Critical Approach = 0.48

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J22 - Sha Tau Kok Road-Lung Yeuk Tau / San Wan Road	J22_DES_AM	DATE 8/7/2026	



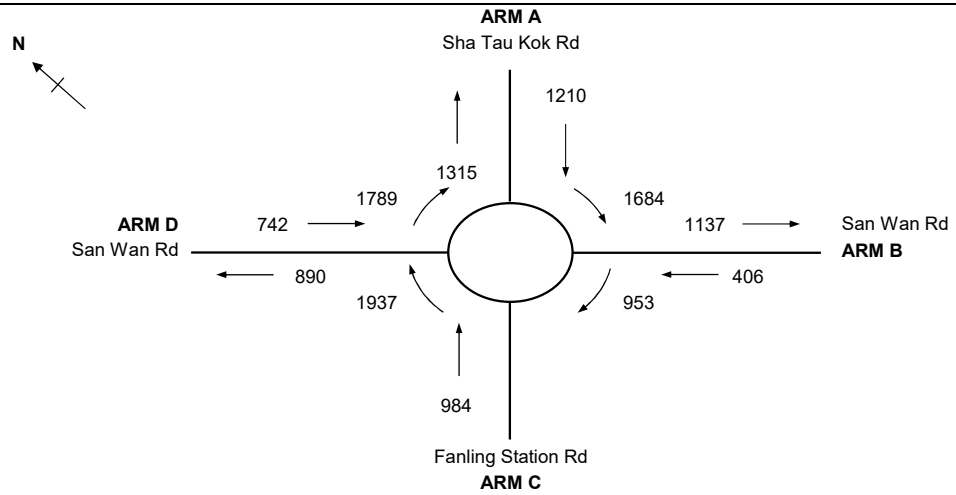


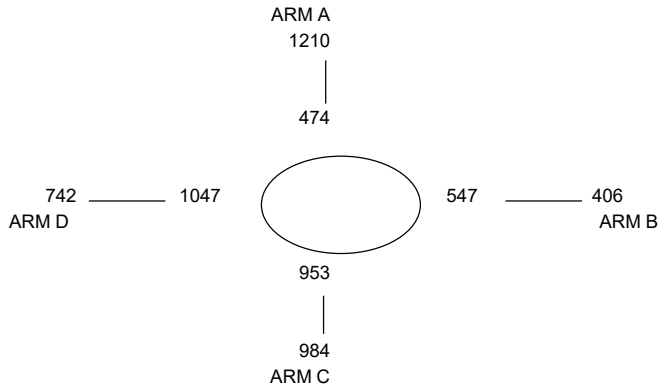
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	5.50	7.30	7.30	6.00
E	=	Entry width (m)	10.00	10.50	10.00	7.50
L	=	Effective length of flare (m)	30	50	15	50
R	=	Entry radius (m)	100	100	25	50
D	=	Inscribed circle diameter (m)	55	55	55	55
A	=	Entry angle (degree)	10	30	30	15
Q	=	Entry flow (pcu/h)	1121	412	996	781
Qc	=	Circulating flow across entry (pcu/h)	525	512	924	1007
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.24	0.10	0.29	0.05
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.04	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	8.54	9.96	9.01	7.37
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2588	3017	2731	2233
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.82	0.77	0.68
Qe	=	K(F-Fc*Qc)	2435	2696	2038	1673
DFC	=	Design flow/Capacity = Q/Qe	0.47	0.16	0.49	0.47

Total In Sum = 3310 PCU

DFC of Critical Approach = 0.49

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
			PROJECT I287082
J22 - Sha Tau Kok Road-Lung Yeuk Tau / San Wan Road	J22_DES_PM	DATE 8/7/2026	



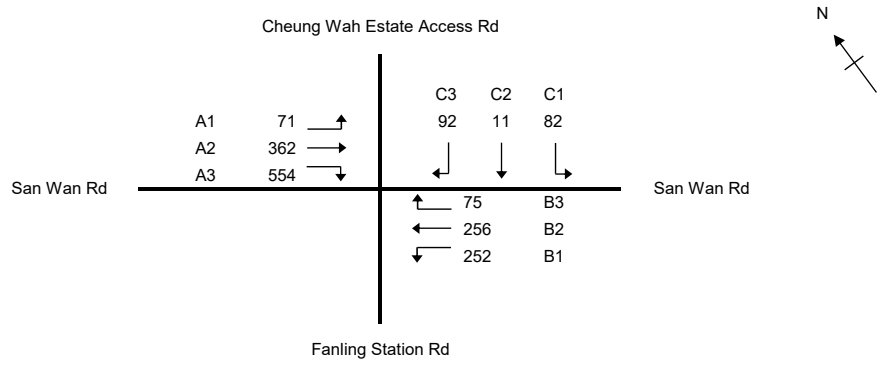


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	5.50	7.30	7.30	6.00
E	=	Entry width (m)	10.00	10.50	10.00	7.50
L	=	Effective length of flare (m)	30	50	15	50
R	=	Entry radius (m)	100	100	25	50
D	=	Inscribed circle diameter (m)	55	55	55	55
A	=	Entry angle (degree)	10	30	30	15
Q	=	Entry flow (pcu/h)	1210	406	984	742
Qc	=	Circulating flow across entry (pcu/h)	474	547	953	1047
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.24	0.10	0.29	0.05
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.11	1.04	1.01	1.08
X2	=	V + ((E-V)/(1+2S))	8.54	9.96	9.01	7.37
M	=	EXP((D-60)/10)	0.61	0.61	0.61	0.61
F	=	303*X2	2588	3017	2731	2233
Td	=	1+(0.5/(1+M))	1.31	1.31	1.31	1.31
Fc	=	0.21*Td(1+0.2*X2)	0.75	0.82	0.77	0.68
Qe	=	K(F-Fc*Qc)	2477	2667	2015	1643
DFC	=	Design flow/Capacity = Q/Qe	0.49	0.16	0.49	0.46

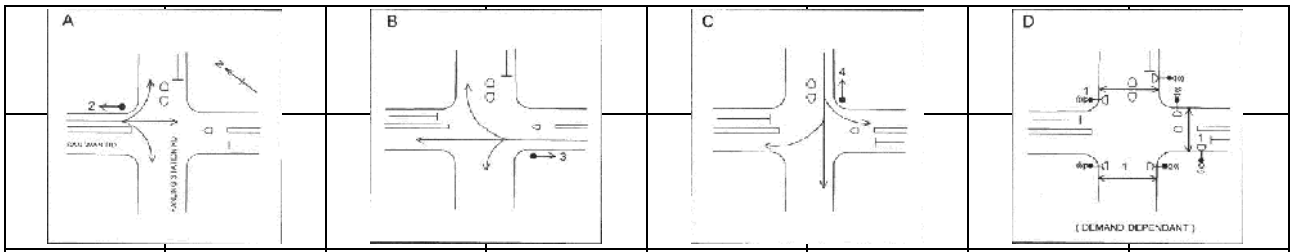
Total In Sum = 3342 PCU

DFC of Critical Approach = 0.49

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_EXT_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	112 sec
Sum(y)		Y =	0.479
Loss time		L =	43 sec
Total Flow		=	1755 pcu
Co	= (1.5*L+5)/(1-Y)	=	133.4 sec
Cm	= L/(1-Y)	=	82.5 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	20.6 %
Cp	= 0.9*L/(0.9-Y)	=	91.9 sec
Ymax	= 1-L/C	=	0.616
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	16 %



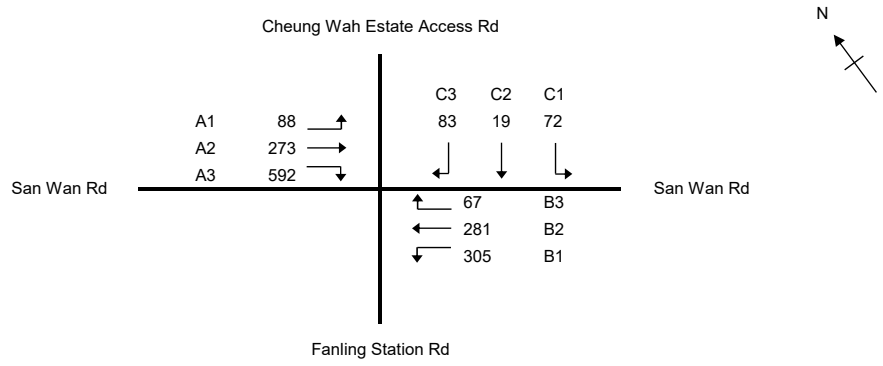
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

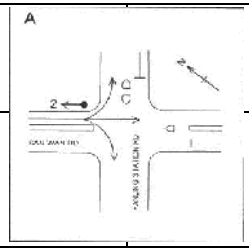
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	71			71	1.00	1691			1691	0.042	0.235		6	34	0.139	9
A2,A3	1	3.30	2	1	15			2085		362	116	478	0.24	2036			2036	0.235			34	34	0.776	62
A3	1	3.30	2	1	12.5			2085			438	438	1.00	1862			1862	0.235			34	34	0.777	57
B1,B2	2	3.60	3	1	17.5		N	1975	252	23		275	0.92	1831			1831	0.150	0.150		22	22	0.777	41
B2,B3	2	3.60	3	1	12.5			2115		233	75	308	0.24	2055			2055	0.150			22	22	0.776	46
C1,C2,C3	3	5.50	4	1	15		N	2165	82	11	92	185	0.94	1979			1979	0.093	0.093		13	13	0.777	30
PED	4		1																	27				

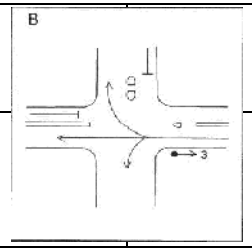
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

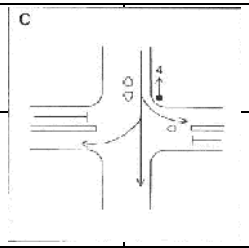
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_EXT_PM	DATE : 8/7/2026	FILENAME :

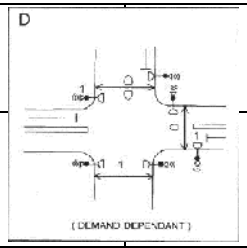


No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	115 sec
Sum(y)		Y =	0.479
Loss time		L =	43 sec
Total Flow		=	1780 pcu
Co	= (1.5*L+5)/(1-Y)	=	133.5 sec
Cm	= L/(1-Y)	=	82.6 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	20.4 %
Cp	= 0.9*L/(0.9-Y)	=	92.0 sec
Ymax	= 1-L/C	=	0.626
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18 %









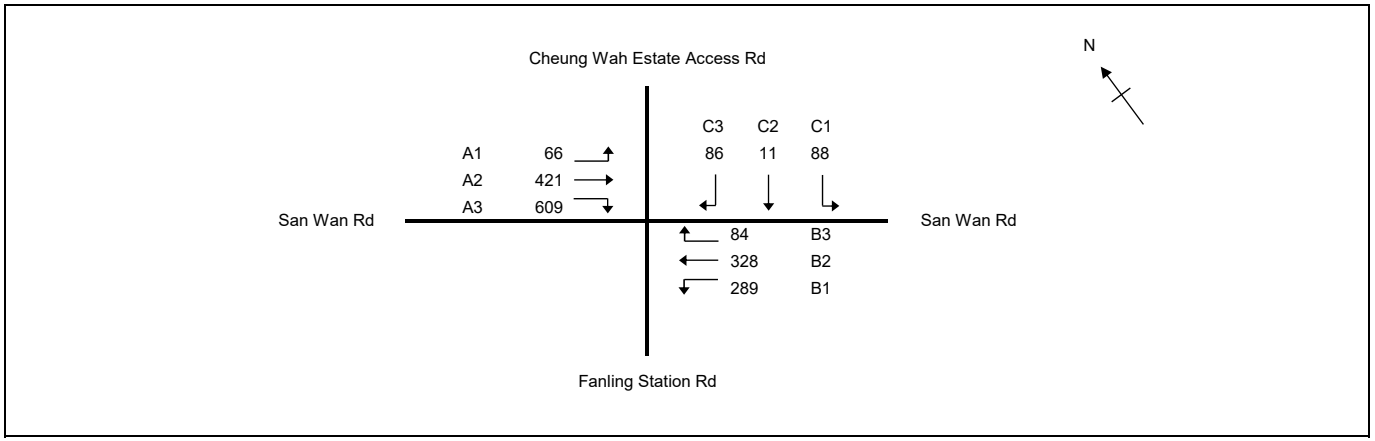
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

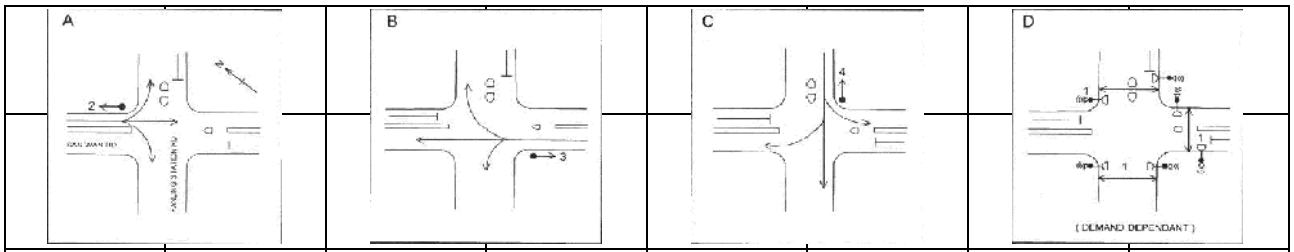
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	88			88	1.00	1691			1691	0.052	0.224		8	34	0.178	12
A2,A3	1	3.30	2	1	15			2085		273	176	449	0.39	2006			2006	0.224			34	34	0.766	61
A3	1	3.30	2	1	12.5			2085			416	416	1.00	1862			1862	0.223			34	34	0.765	56
B1,B2	2	3.60	3	1	17.5		N	1975	305	1		306	1.00	1820			1820	0.168	0.168		25	25	0.766	46
B2,B3	2	3.60	3	1	12.5			2115		280	67	347	0.19	2067			2067	0.168			25	25	0.764	52
C1,C2,C3	3	5.50	4	1	15		N	2165	72	19	83	174	0.89	1988			1988	0.088	0.088		13	13	0.766	30
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_REF_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	112 sec
Sum(y)		Y =	0.538
Loss time		L =	43 sec
Total Flow		=	1982 pcu
Co	= (1.5*L+5)/(1-Y)	=	150.4 sec
Cm	= L/(1-Y)	=	93.0 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	7.4 %
Cp	= 0.9*L/(0.9-Y)	=	106.8 sec
Ymax	= 1-L/C	=	0.616
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3 %



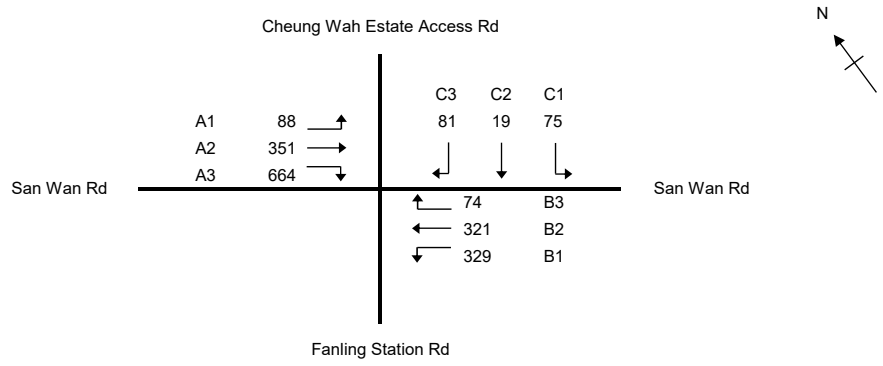
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

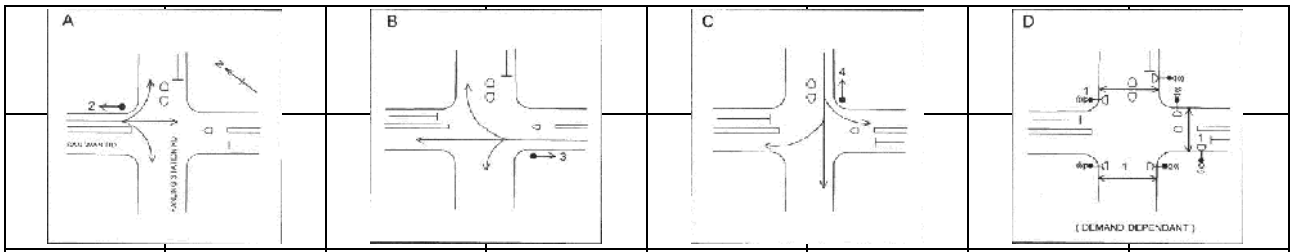
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	66			66	1.00	1691			1691	0.039	0.264		5	34	0.129	9
A2,A3	1	3.30	2	1	15			2085		421	118	539	0.22	2040			2040	0.264			34	34	0.873	70
A3	1	3.30	2	1	12.5			2085			491	491	1.00	1862			1862	0.264			34	34	0.872	64
B1,B2	2	3.60	3	1	17.5		N	1975	289	42		331	0.87	1837			1837	0.180	0.180		23	23	0.873	49
B2,B3	2	3.60	3	1	12.5			2115		286	84	370	0.23	2059			2059	0.180			23	23	0.871	55
C1,C2,C3	3	5.50	4	1	15		N	2165	88	11	86	185	0.94	1979			1979	0.093	0.093		12	12	0.873	31
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_REF_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	115 sec
Sum(y)		Y =	0.536
Loss time		L =	43 sec
Total Flow		=	2002 pcu
Co	= (1.5*L+5)/(1-Y)	=	149.8 sec
Cm	= L/(1-Y)	=	92.7 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	7.7 %
Cp	= 0.9*L/(0.9-Y)	=	106.3 sec
Ymax	= 1-L/C	=	0.626
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	5 %



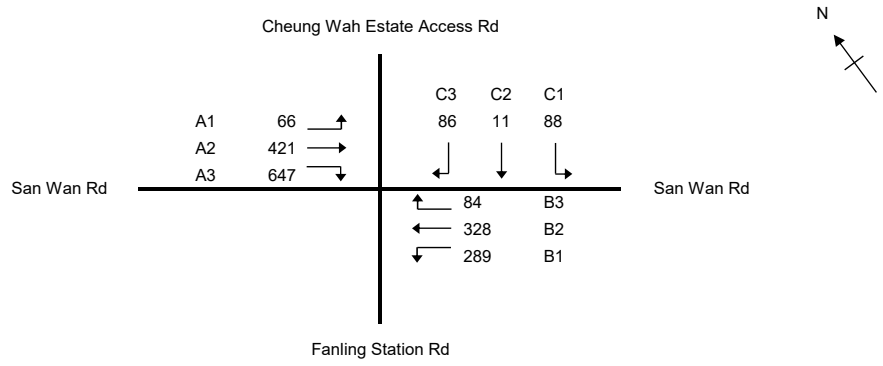
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

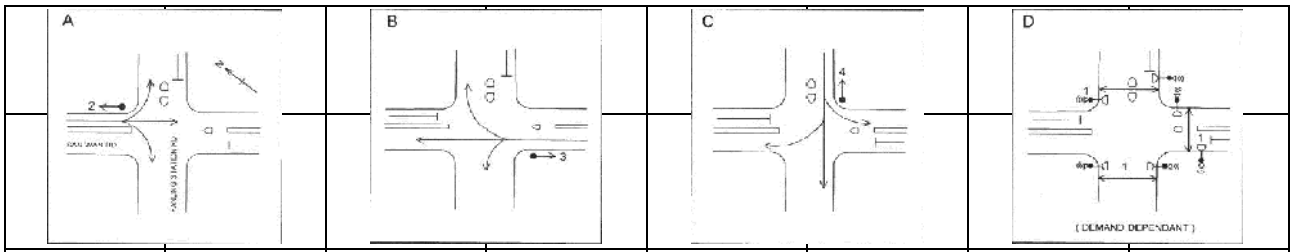
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	88			88	1.00	1691			1691	0.052	0.262		7	35	0.170	12
A2,A3	1	3.30	2	1	15			2085		351	177	528	0.34	2017			2017	0.262			35	35	0.856	70
A3	1	3.30	2	1	12.5			2085			487	487	1.00	1862			1862	0.262			35	35	0.856	65
B1,B2	2	3.60	3	1	17.5		N	1975	329	10		339	0.97	1823			1823	0.186	0.186		25	25	0.855	51
B2,B3	2	3.60	3	1	12.5			2115		311	74	385	0.19	2067			2067	0.186			25	25	0.856	58
C1,C2,C3	3	5.50	4	1	15		N	2165	75	19	81	175	0.89	1988			1988	0.088	0.088		12	12	0.856	30
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	112 sec
Sum(y)		Y =	0.548
Loss time		L =	43 sec
Total Flow		=	2020 pcu
Co	= (1.5*L+5)/(1-Y)	=	153.7 sec
Cm	= L/(1-Y)	=	95.1 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	5.4 %
Cp	= 0.9*L/(0.9-Y)	=	109.9 sec
Ymax	= 1-L/C	=	0.616
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	1 %



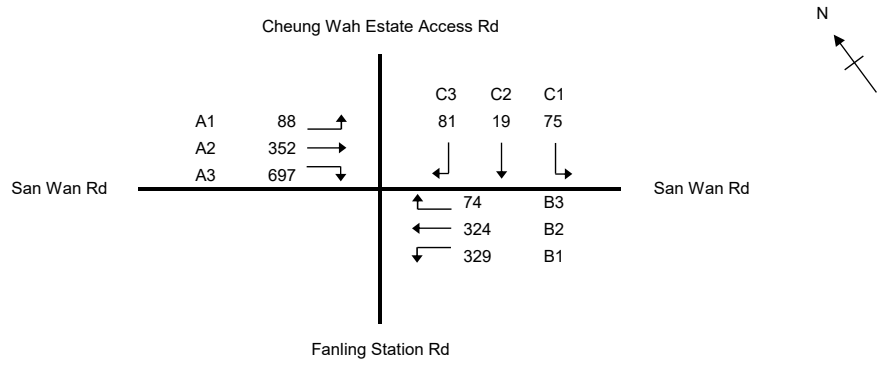
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

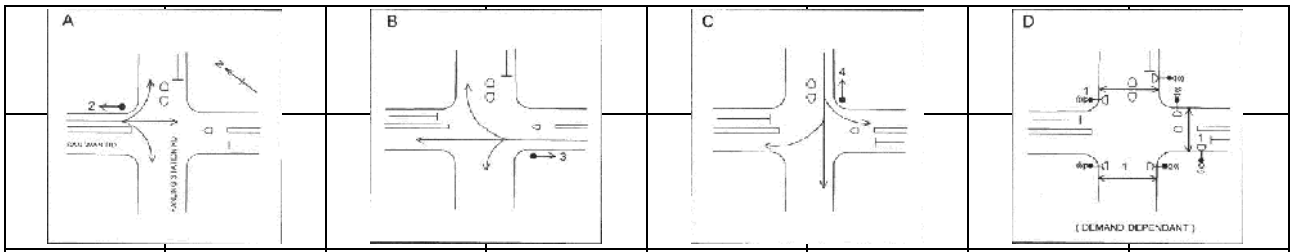
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	66			66	1.00	1691			1691	0.039	0.274		5	35	0.127	9
A2,A3	1	3.30	2	1	15			2085		421	137	558	0.25	2035			2035	0.274			35	35	0.889	72
A3	1	3.30	2	1	12.5			2085			510	510	1.00	1862			1862	0.274			35	35	0.888	66
B1,B2	2	3.60	3	1	17.5		N	1975	289	42		331	0.87	1837			1837	0.180	0.180		23	23	0.889	49
B2,B3	2	3.60	3	1	12.5			2115		286	84	370	0.23	2059			2059	0.180			23	23	0.887	55
C1,C2,C3	3	5.50	4	1	15		N	2165	88	11	86	185	0.94	1979			1979	0.093	0.093		12	12	0.889	34
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	115 sec
Sum(y)		Y =	0.546
Loss time		L =	43 sec
Total Flow		=	2039 pcu
Co	= (1.5*L+5)/(1-Y)	=	153.0 sec
Cm	= L/(1-Y)	=	94.7 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	5.8 %
Cp	= 0.9*L/(0.9-Y)	=	109.2 sec
Ymax	= 1-L/C	=	0.626
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3 %



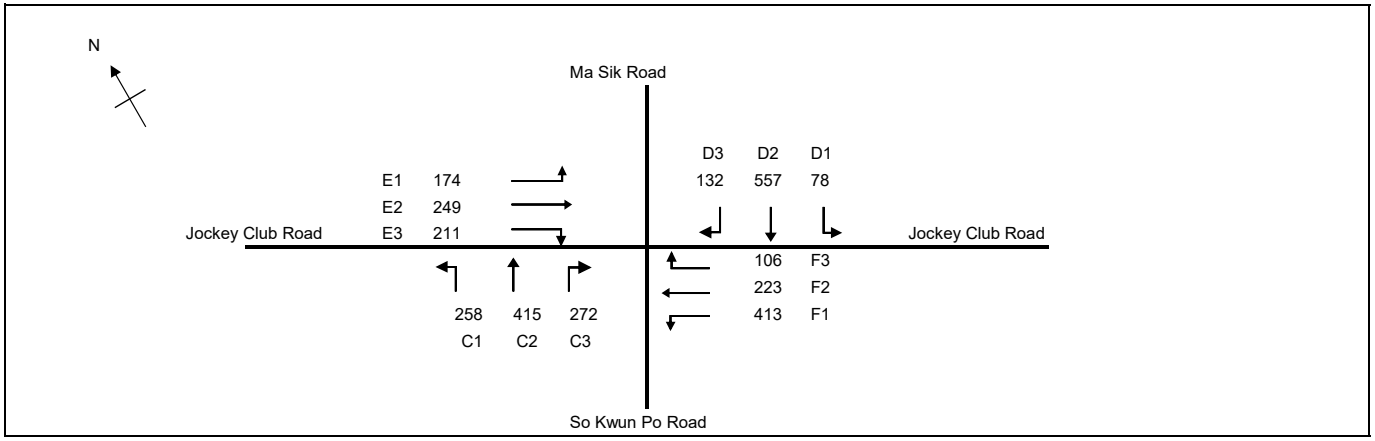
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

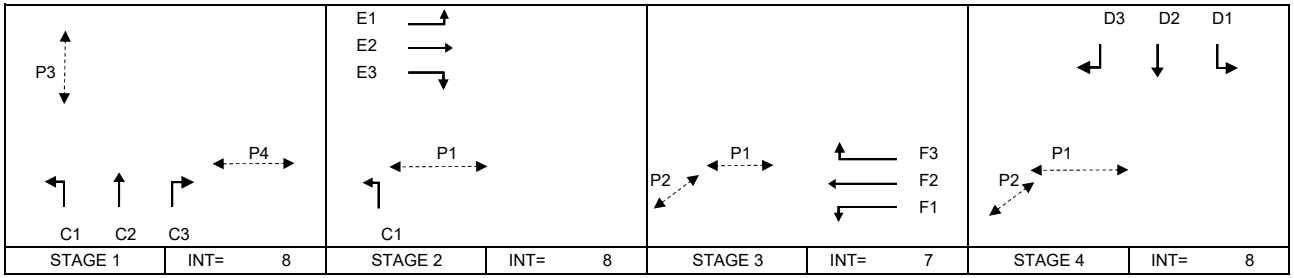
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	88			88	1.00	1691			1691	0.052	0.271		7	36	0.168	12
A2,A3	1	3.30	2	1	15			2085		352	193	545	0.35	2014			2014	0.271			36	36	0.871	72
A3	1	3.30	2	1	12.5			2085			504	504	1.00	1862			1862	0.271			36	36	0.872	67
B1,B2	2	3.60	3	1	17.5		N	1975	329	12		341	0.96	1824			1824	0.187	0.187		25	25	0.872	51
B2,B3	2	3.60	3	1	12.5			2115		312	74	386	0.19	2067			2067	0.187			25	25	0.871	58
C1,C2,C3	3	5.50	4	1	15		N	2165	75	19	81	175	0.89	1988			1988	0.088	0.088		12	12	0.872	30
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J24
J24 - So Kwun Po Road / Jockey Club Road	J24_EXT_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	3	
Cycle time	C =	116	sec
Sum(y)	Y =	0.306	
Loss time	L =	55	sec
Total Flow	=	3088	pcu
Co = (1.5*L+5)/(1-Y)	=	126.1	sec
Cm = L/(1-Y)	=	79.3	sec
Yult	=	0.488	
R.C.ult = (Yult-Y)/Y*100%	=	59.3	%
Cp = 0.9*L/(0.9-Y)	=	83.3	sec
Ymax = 1-L/C	=	0.526	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	55	%

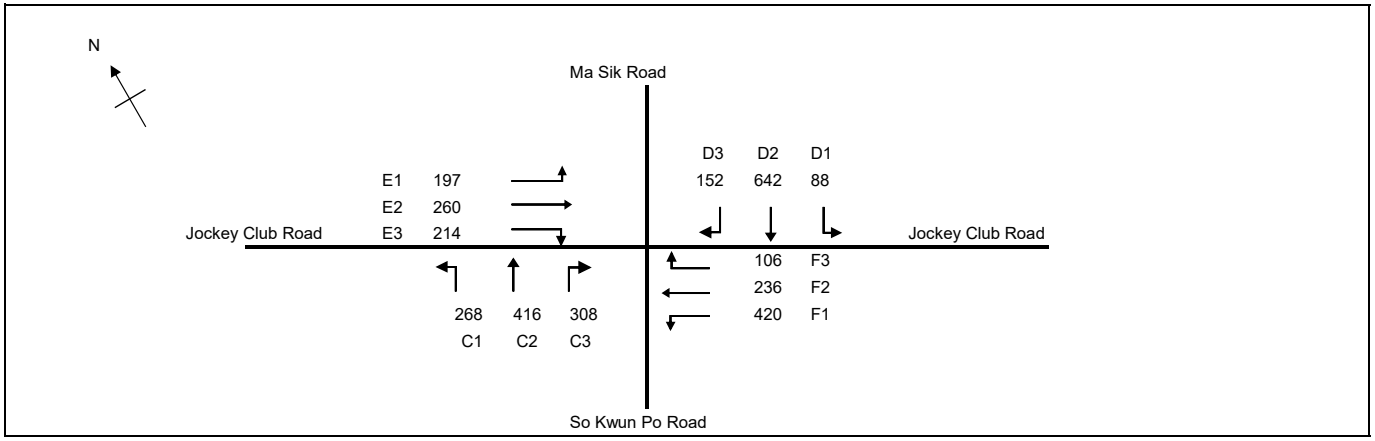


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	10.5	7	2	12	67	2	12	OK
P2	5	5	2	6	51	2	6	OK
P3	16	13	6	16	13	6	16	OK
P4	11.5	5	4	13	18	4	13	OK

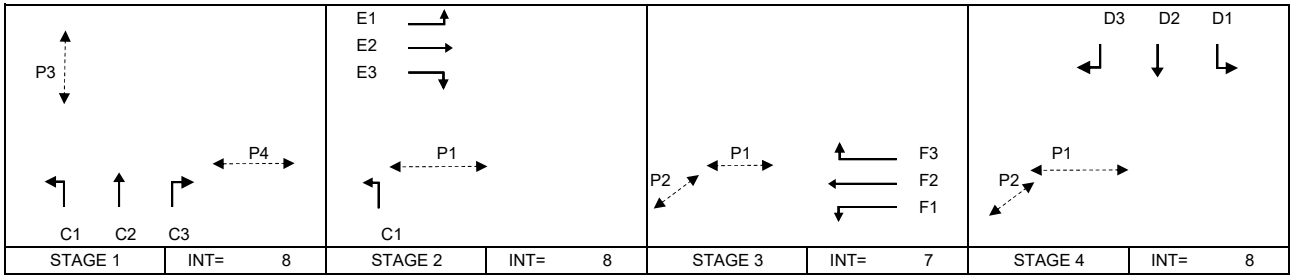
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
C1	1,2	5.00	C	1	40		N	2115	258			258	1.00	2039			2039	0.127			25	50	0.294	28
C2	1	3.30	C	2				4170		355		355	0.00	4170			4170	0.085			17	28	0.353	26
C2,C3	1	3.30	C	1	15			2085		60	107	167	0.64	1959			1959	0.085			17	28	0.353	24
C3	1	3.30	C	1	20			2085			165	165	1.00	1940			1940	0.085			17	28	0.352	24
E1	2	3.20	E	1	7.5		N	1935	121			121	1.00	1613			1613	0.075	0.075		15	15	0.582	20
E1,E2	2	3.20	E	1	10			2075	53	94		147	0.36	1969			1969	0.075			15	15	0.579	25
E2	2	3.20	E	1				2075		155		155	0.00	2075			2075	0.075			15	15	0.579	26
E3	2	3.20	E	2	15			4150			211	211	1.00	3773			3773	0.056			11	15	0.434	18
F1	3	3.30	F	1	7.5		N	1945	195			195	1.00	1621			1621	0.120	0.120		24	24	0.582	30
F1	3	3.30	F	1	10			2085	218			218	1.00	1813			1813	0.120			24	24	0.582	33
F2	3	3.30	F	1				2085		170		170	0.00	2085			2085	0.082			16	24	0.394	26
F2.F3	3	3.30	F	1	15			2085		53	106	159	0.67	1955			1955	0.081			16	24	0.394	24
D1	4	3.60	D	1	7.5		N	1975	78			78	1.00	1646			1646	0.047	0.111		9	22	0.249	12
D2	4	3.60	D	2				4230		468		468	0.00	4230			4230	0.111			22	22	0.582	37
D2,D3	4	3.60	D	1	15			2115		89	132	221	0.60	1996			1996	0.111			22	22	0.582	35
PED	1		P3																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J24
J24 - So Kwun Po Road / Jockey Club Road	J24_EXT_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	3	
Cycle time	C =	116	sec
Sum(y)	Y =	0.331	
Loss time	L =	55	sec
Total Flow	=	3307	pcu
Co = (1.5*L+5)/(1-Y)	=	130.9	sec
Cm = L/(1-Y)	=	82.3	sec
Yult	=	0.488	
R.C.ult = (Yult-Y)/Y*100%	=	47.1	%
Cp = 0.9*L/(0.9-Y)	=	87.1	sec
Ymax = 1-L/C	=	0.526	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	43	%

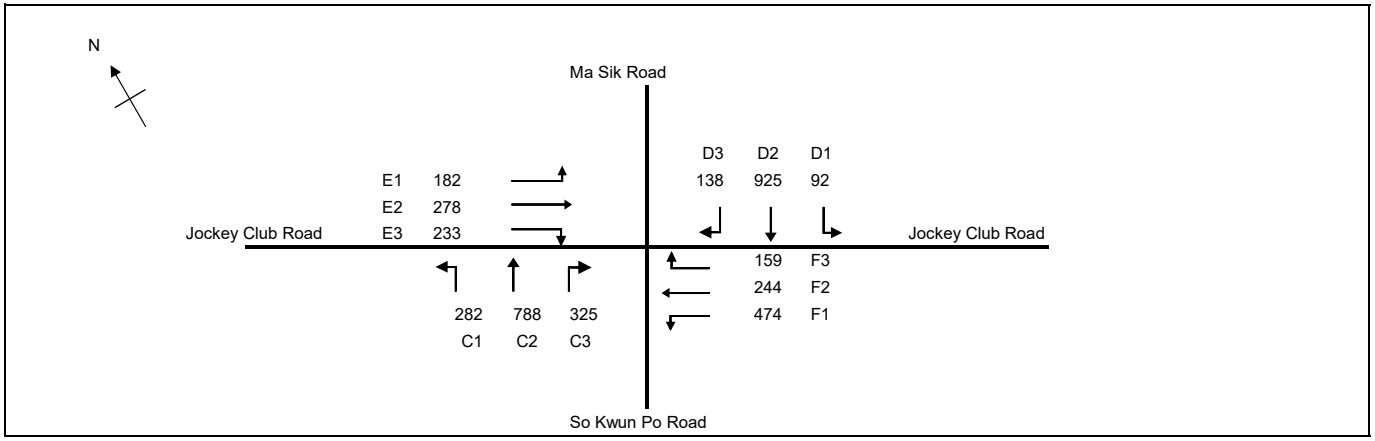


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	10.5	7	2	12	67	2	12	OK
P2	5	5	2	6	51	2	6	OK
P3	16	13	6	16	13	6	16	OK
P4	11.5	5	4	13	18	4	13	OK

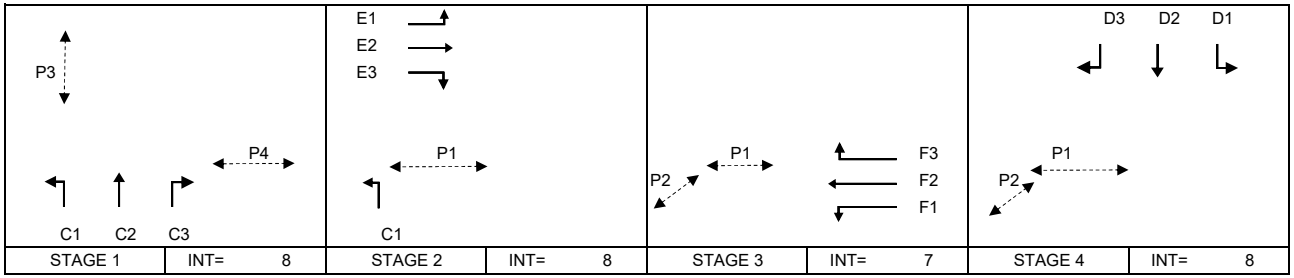
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
C1	1,2	5.00	C	1	40		N	2115	268			268	1.00	2039			2039	0.131			24	50	0.305	30
C2	1	3.30	C	2				4170		375		375	0.00	4170			4170	0.090			17	28	0.373	28
C2,C3	1	3.30	C	1	15			2085		41	134	175	0.77	1937			1937	0.090			17	28	0.374	26
C3	1	3.30	C	1	20			2085			174	174	1.00	1940			1940	0.090			17	28	0.372	26
E1	2	3.20	E	1	7.5		N	1935	131			131	1.00	1613			1613	0.081	0.081		15	15	0.630	22
E1,E2	2	3.20	E	1	10			2075	66	92		158	0.42	1953			1953	0.081			15	15	0.628	27
E2	2	3.20	E	1				2075		168		168	0.00	2075			2075	0.081			15	15	0.628	28
E3	2	3.20	E	2	15			4150			214	214	1.00	3773			3773	0.057			10	15	0.440	18
F1	3	3.30	F	1	7.5		N	1945	198			198	1.00	1621			1621	0.122	0.122		22	23	0.629	31
F1	3	3.30	F	1	10			2085	222			222	1.00	1813			1813	0.122			23	23	0.630	35
F2	3	3.30	F	1				2085		176		176	0.00	2085			2085	0.084			16	23	0.435	27
F2.F3	3	3.30	F	1	15			2085		60	106	166	0.64	1960			1960	0.085			16	23	0.436	26
D1	4	3.60	D	1	7.5		N	1975	88			88	1.00	1646			1646	0.053	0.128		10	24	0.264	14
D2	4	3.60	D	2				4230		539		539	0.00	4230			4230	0.127			23	24	0.629	42
D2,D3	4	3.60	D	1	15			2115		103	152	255	0.60	1996			1996	0.128			24	24	0.630	39
PED	1		P3																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J24
J24 - So Kwun Po Road / Jockey Club Road	J24_REF_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	3	
Cycle time	C =	116	sec
Sum(y)	Y =	0.389	
Loss time	L =	55	sec
Total Flow	=	4120	pcu
Co = (1.5*L+5)/(1-Y)	=	143.3	sec
Cm = L/(1-Y)	=	90.1	sec
Yult	=	0.488	
R.C.ult = (Yult-Y)/Y*100%	=	25.2	%
Cp = 0.9*L/(0.9-Y)	=	97.0	sec
Ymax = 1-L/C	=	0.526	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	22	%

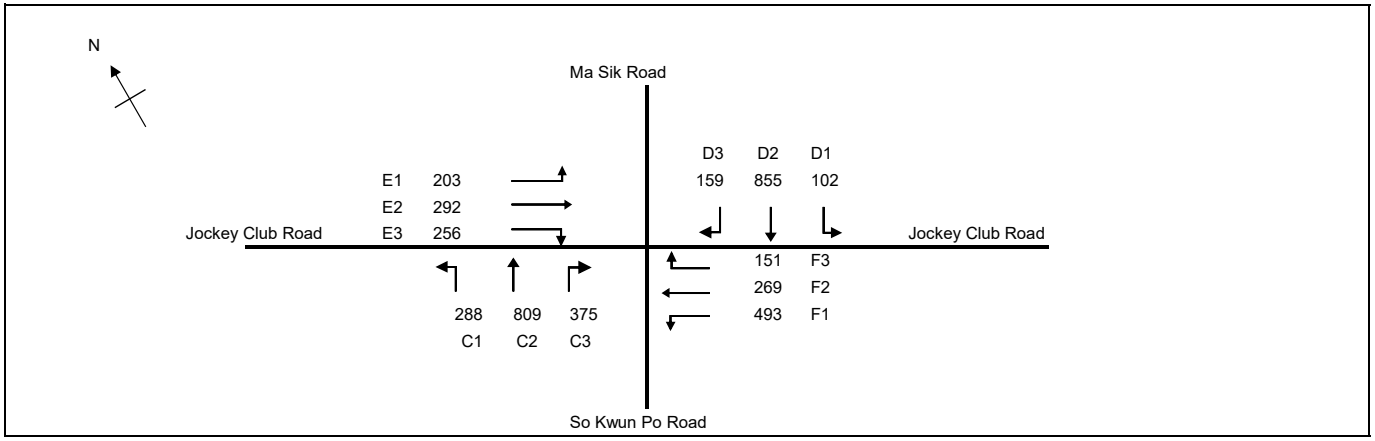


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	10.5	7	2	12	67	2	12	OK
P2	5	5	2	6	53	2	6	OK
P3	16	13	6	16	13	6	16	OK
P4	11.5	5	4	13	18	4	13	OK

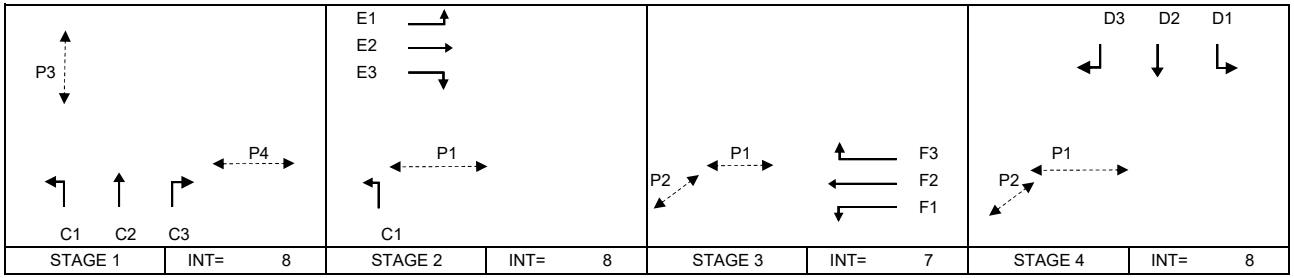
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
C1	1,2	5.00	C	1	40		N	2115	282			282	1.00	2039			2039	0.138			22	48	0.336	32
C2	1	3.30	C	2				4170		570		570	0.00	4170			4170	0.137			21	28	0.566	42
C2,C3	1	3.30	C	1	15			2085		218	60	278	0.22	2041			2041	0.136			21	28	0.564	41
C3	1	3.30	C	1	20			2085			265	265	1.00	1940			1940	0.137			21	28	0.566	39
E1	2	3.20	E	1	7.5		N	1935	131			131	1.00	1613			1613	0.081	0.081		13	13	0.740	23
E1,E2	2	3.20	E	1	10			2075	51	110		161	0.32	1981			1981	0.081			13	13	0.741	28
E2	2	3.20	E	1				2075		168		168	0.00	2075			2075	0.081			13	13	0.738	29
E3	2	3.20	E	2	15			4150			233	233	1.00	3773			3773	0.062			10	13	0.563	20
F1	3	3.30	F	1	7.5		N	1945	223			223	1.00	1621			1621	0.138	0.138		22	22	0.736	35
F1	3	3.30	F	1	10			2085	251			251	1.00	1813			1813	0.138			22	22	0.741	39
F2	3	3.30	F	1				2085		209		209	0.00	2085			2085	0.100			16	22	0.536	33
F2.F3	3	3.30	F	1	15			2085		35	159	194	0.82	1927			1927	0.101			16	22	0.539	30
D1	4	3.60	D	1	7.5		N	1975	92			92	1.00	1646			1646	0.056	0.170		9	27	0.244	14
D2	4	3.60	D	2				4230		718		718	0.00	4230			4230	0.170			27	27	0.741	53
D2,D3	4	3.60	D	1	15			2115		207	138	345	0.40	2034			2034	0.170			27	27	0.740	51
PED	1		P3																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J24
J24 - So Kwun Po Road / Jockey Club Road	J24_REF_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	3	
Cycle time	C =	116	sec
Sum(y)	Y =	0.394	
Loss time	L =	55	sec
Total Flow	=	4252	pcu
Co = (1.5*L+5)/(1-Y)	=	144.4	sec
Cm = L/(1-Y)	=	90.7	sec
Yult	=	0.488	
R.C.ult = (Yult-Y)/Y*100%	=	23.8	%
Cp = 0.9*L/(0.9-Y)	=	97.8	sec
Ymax = 1-L/C	=	0.526	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	20	%

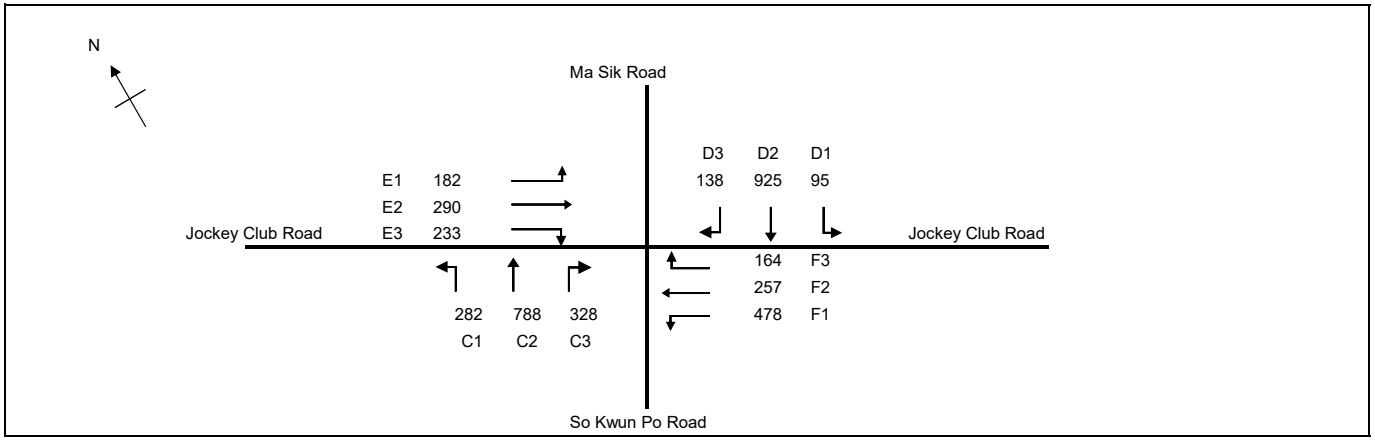


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	10.5	7	2	12	67	2	12	OK
P2	5	5	2	6	52	2	6	OK
P3	16	13	6	16	13	6	16	OK
P4	11.5	5	4	13	18	4	13	OK

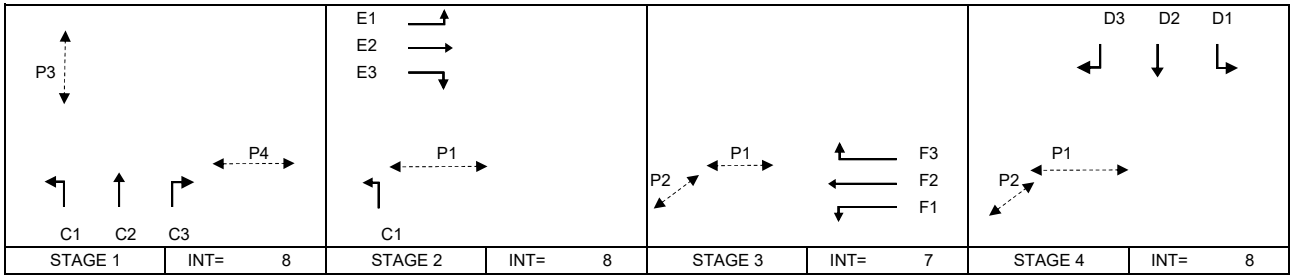
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
C1	1,2	5.00	C	1	40		N	2115	288			288	1.00	2039			2039	0.141			22	49	0.337	32
C2	1	3.30	C	2				4170		608		608	0.00	4170			4170	0.146			23	28	0.604	45
C2,C3	1	3.30	C	1	15			2085		201	93	294	0.32	2021			2021	0.145			23	28	0.603	43
C3	1	3.30	C	1	20			2085			282	282	1.00	1940			1940	0.145			23	28	0.602	41
E1	2	3.20	E	1	7.5		N	1935	141			141	1.00	1613			1613	0.087	0.088		14	14	0.747	24
E1,E2	2	3.20	E	1	10			2075	62	110		172	0.36	1969			1969	0.087			14	14	0.746	29
E2	2	3.20	E	1				2075		182		182	0.00	2075			2075	0.088			14	14	0.749	31
E3	2	3.20	E	2	15			4150			256	256	1.00	3773			3773	0.068			11	14	0.579	22
F1	3	3.30	F	1	7.5		N	1945	233			233	1.00	1621			1621	0.144	0.144		22	22	0.749	36
F1	3	3.30	F	1	10			2085	260			260	1.00	1813			1813	0.143			22	22	0.747	41
F2	3	3.30	F	1				2085		217		217	0.00	2085			2085	0.104			16	22	0.542	34
F2.F3	3	3.30	F	1	15			2085		52	151	203	0.74	1941			1941	0.105			16	22	0.545	32
D1	4	3.60	D	1	7.5		N	1975	102			102	1.00	1646			1646	0.062	0.162		10	25	0.286	15
D2	4	3.60	D	2				4230		687		687	0.00	4230			4230	0.162			25	25	0.749	52
D2,D3	4	3.60	D	1	15			2115		168	159	327	0.49	2017			2017	0.162			25	25	0.748	50
PED	1		P3																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J24
J24 - So Kwun Po Road / Jockey Club Road	J24_DES_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	3	
Cycle time	C =	116	sec
Sum(y)	Y =	0.393	
Loss time	L =	55	sec
Total Flow	=	4160	pcu
Co = (1.5*L+5)/(1-Y)	=	144.0	sec
Cm = L/(1-Y)	=	90.5	sec
Yult	=	0.488	
R.C.ult = (Yult-Y)/Y*100%	=	24.2	%
Cp = 0.9*L/(0.9-Y)	=	97.5	sec
Ymax = 1-L/C	=	0.526	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	21	%

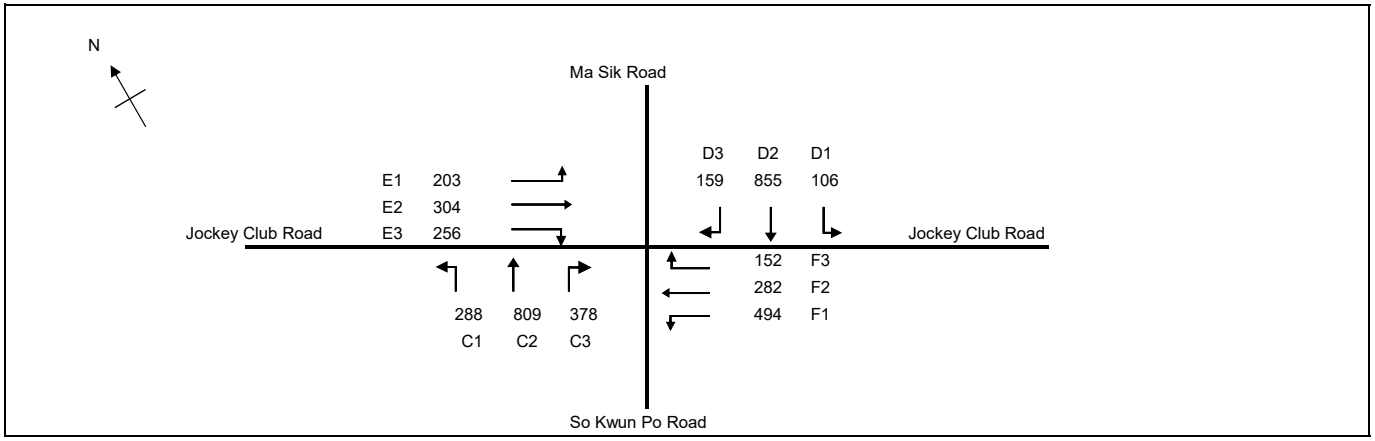


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	10.5	7	2	12	67	2	12	OK
P2	5	5	2	6	53	2	6	OK
P3	16	13	6	16	13	6	16	OK
P4	11.5	5	4	13	18	4	13	OK

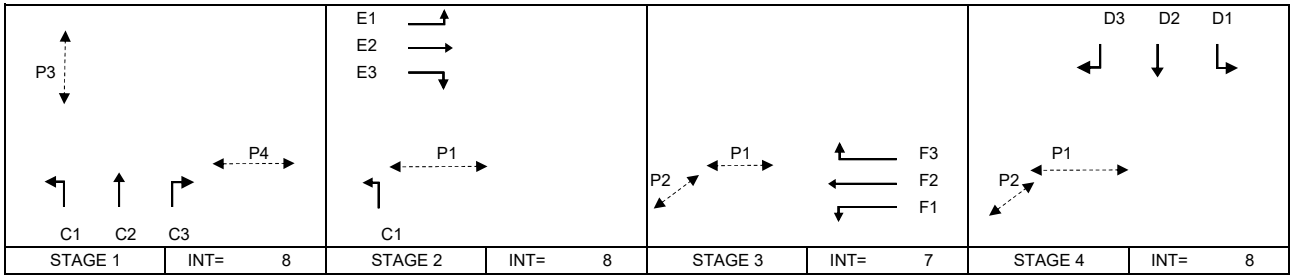
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
C1	1,2	5.00	C	1	40		N	2115	282			282	1.00	2039			2039	0.138			21	48	0.335	32
C2	1	3.30	C	2				4170		571		571	0.00	4170			4170	0.137			21	28	0.567	42
C2,C3	1	3.30	C	1	15			2085		217	62	279	0.22	2040			2040	0.137			21	28	0.567	41
C3	1	3.30	C	1	20			2085			266	266	1.00	1940			1940	0.137			21	28	0.568	39
E1	2	3.20	E	1	7.5		N	1935	134			134	1.00	1613			1613	0.083	0.083		13	13	0.744	23
E1,E2	2	3.20	E	1	10			2075	48	117		165	0.29	1988			1988	0.083			13	13	0.743	28
E2	2	3.20	E	1				2075		173		173	0.00	2075			2075	0.083			13	13	0.746	30
E3	2	3.20	E	2	15			4150			233	233	1.00	3773			3773	0.062			10	13	0.553	20
F1	3	3.30	F	1	7.5		N	1945	226			226	1.00	1621			1621	0.139	0.139		22	22	0.746	36
F1	3	3.30	F	1	10			2085	252			252	1.00	1813			1813	0.139			22	22	0.744	40
F2	3	3.30	F	1				2085		219		219	0.00	2085			2085	0.105			16	22	0.562	34
F2.F3	3	3.30	F	1	15			2085		38	164	202	0.81	1928			1928	0.105			16	22	0.561	32
D1	4	3.60	D	1	7.5		N	1975	95			95	1.00	1646			1646	0.058	0.170		9	26	0.254	14
D2	4	3.60	D	2				4230		718		718	0.00	4230			4230	0.170			26	26	0.746	54
D2,D3	4	3.60	D	1	15			2115		207	138	345	0.40	2034			2034	0.170			26	26	0.746	52
PED	1		P3																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J24
J24 - So Kwun Po Road / Jockey Club Road	J24_DES_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	116 sec
Sum(y)		Y =	0.396
Loss time		L =	55 sec
Total Flow		=	4286 pcu
Co	= (1.5*L+5)/(1-Y)	=	144.9 sec
Cm	= L/(1-Y)	=	91.1 sec
Yult		=	0.488
R.C.ult	= (Yult-Y)/Y*100%	=	23.1 %
Cp	= 0.9*L/(0.9-Y)	=	98.2 sec
Ymax	= 1-L/C	=	0.526
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	19 %

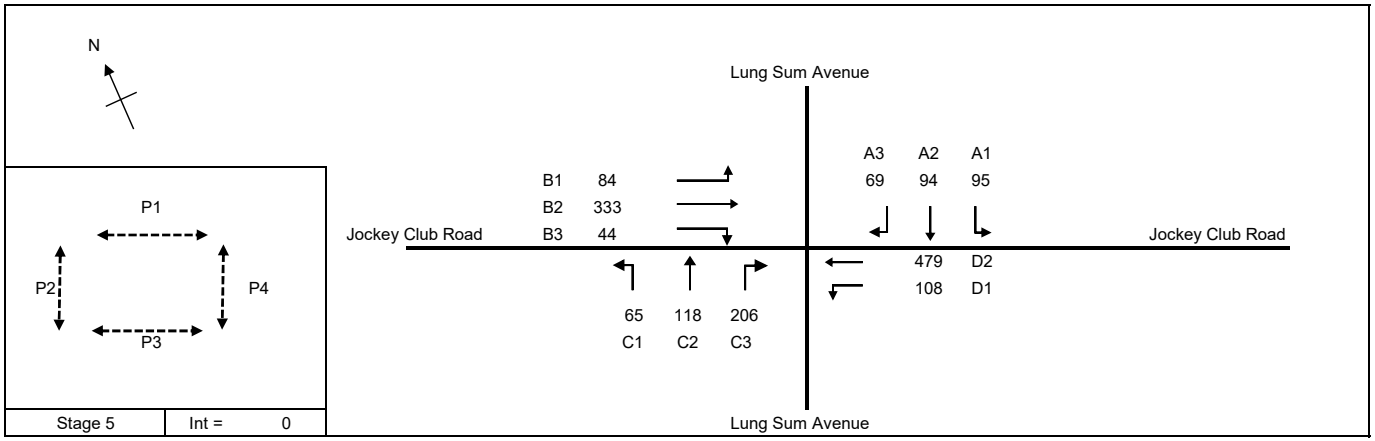


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	10.5	7	2	12	67	2	12	OK
P2	5	5	2	6	52	2	6	OK
P3	16	13	6	16	13	6	16	OK
P4	11.5	5	4	13	18	4	13	OK

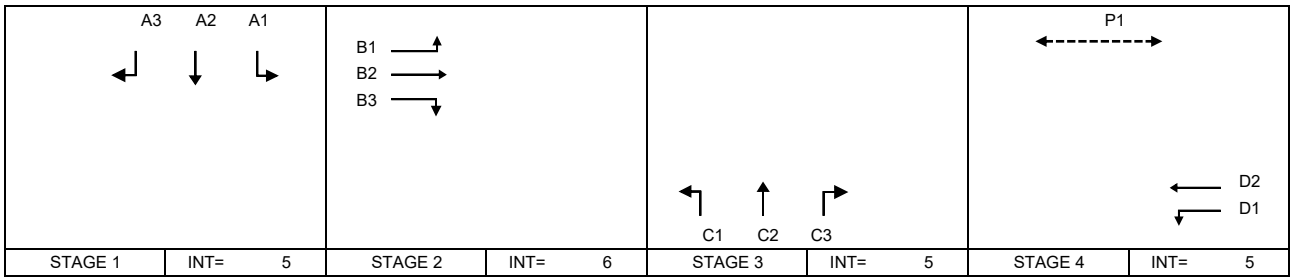
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
C1	1,2	5.00	C	1	40		N	2115	288			288	1.00	2039			2039	0.141			22	49	0.336	32
C2	1	3.30	C	2				4170		609		609	0.00	4170			4170	0.146			22	28	0.605	45
C2,C3	1	3.30	C	1	15			2085		200	95	295	0.32	2020			2020	0.146			22	28	0.605	43
C3	1	3.30	C	1	20			2085			283	283	1.00	1940			1940	0.146			22	28	0.604	42
E1	2	3.20	E	1	7.5		N	1935	144			144	1.00	1613			1613	0.089	0.090		14	14	0.750	25
E1,E2	2	3.20	E	1	10			2075	59	118		177	0.33	1976			1976	0.090			14	14	0.752	30
E2	2	3.20	E	1				2075		186		186	0.00	2075			2075	0.090			14	14	0.753	32
E3	2	3.20	E	2	15			4150			256	256	1.00	3773			3773	0.068			10	14	0.570	22
F1	3	3.30	F	1	7.5		N	1945	233			233	1.00	1621			1621	0.144	0.144		22	22	0.752	36
F1	3	3.30	F	1	10			2085	261			261	1.00	1813			1813	0.144			22	22	0.753	41
F2	3	3.30	F	1				2085		225		225	0.00	2085			2085	0.108			17	22	0.565	35
F2.F3	3	3.30	F	1	15			2085		57	152	209	0.73	1944			1944	0.108			17	22	0.563	33
D1	4	3.60	D	1	7.5		N	1975	106			106	1.00	1646			1646	0.064	0.162		10	25	0.299	16
D2	4	3.60	D	2				4230		687		687	0.00	4230			4230	0.162			25	25	0.753	52
D2,D3	4	3.60	D	1	15			2115		168	159	327	0.49	2017			2017	0.162			25	25	0.752	50
PED	1		P3																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J25
J25 - Jockey Club Road / Lung Sum Road	J25_EXT_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.381
Loss time		L =	43 sec
Total Flow		=	1695 pcu
Co	= (1.5*L+5)/(1-Y)	=	112.4 sec
Cm	= L/(1-Y)	=	69.5 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	51.4 %
Cp	= 0.9*L/(0.9-Y)	=	74.6 sec
Ymax	= 1-L/C	=	0.642
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51 %

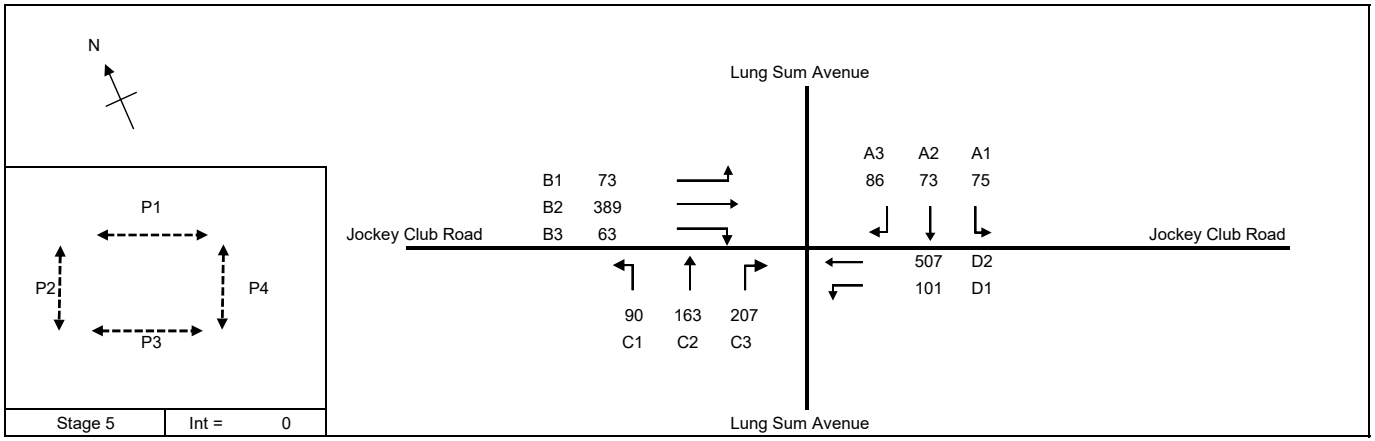


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	7.5	6	8	7	20	8	7	OK
P2	10.5	9	7	10	9	7	10	OK
P3	10.5	9	5	10	11	5	10	OK
P4	9	8	2	8	16	2	8	OK

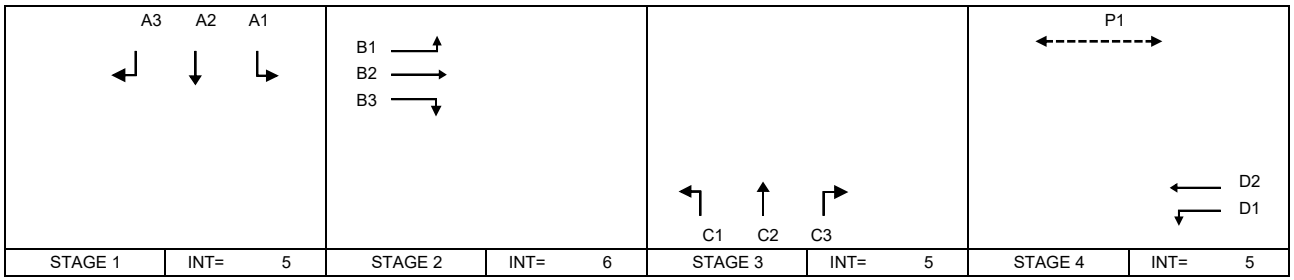
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
A1,A2	1	3.50	A	1	7.5		N	1965	95	23		118	0.81	1692			1692	0.070	0.070		14	14	0.594	21
A2,A3	1	3.50	A	1	15			2105		71	69	140	0.49	2006			2006	0.070			14	14	0.595	25
B1	2	3.90	B	1	7.5		N	2005	84			84	1.00	1671			1671	0.050	0.089		10	18	0.336	14
B2	2	3.90	B	1				2145		191		191	0.00	2145			2145	0.089			18	18	0.595	32
B2,B3	2	3.90	B	1	15			2145		142	44	186	0.24	2095			2095	0.089			18	18	0.593	32
C1,C2	3	3.40	C	1	7.5		N	1955	65	58		123	0.53	1768			1768	0.070	0.070		14	14	0.590	22
C2,C3	3	3.40	C	1	15			2095		60	79	139	0.57	1982			1982	0.070			14	14	0.595	25
C3	3	3.40	C	1	10			2095			127	127	1.00	1822			1822	0.070			14	14	0.591	22
D1,D2	4	3.10	D	1	7.5		N	1925	108	164		272	0.40	1783			1783	0.153	0.153		31	31	0.594	40
D2	4	3.10	D	1				2065		315		315	0.00	2065			2065	0.153			31	31	0.595	47
PED	5																			26				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J25
J25 - Jockey Club Road / Lung Sum Road	J25_EXT_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.410
Loss time		L =	43 sec
Total Flow		=	1827 pcu
Co	= (1.5*L+5)/(1-Y)	=	117.9 sec
Cm	= L/(1-Y)	=	72.9 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	40.7 %
Cp	= 0.9*L/(0.9-Y)	=	79.0 sec
Ymax	= 1-L/C	=	0.642
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	41 %

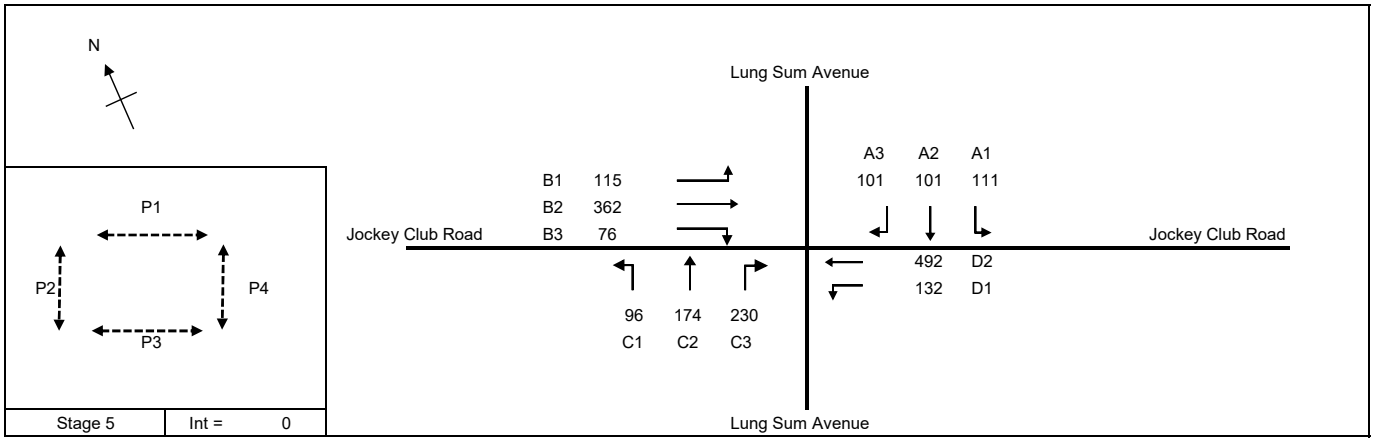


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	7.5	6	8	7	19	8	7	OK
P2	10.5	9	7	10	9	7	10	OK
P3	10.5	9	5	10	11	5	10	OK
P4	9	8	2	8	16	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
A1,A2	1	3.50	A	1	7.5		N	1965	75	34		109	0.69	1727			1727	0.063	0.063		12	12	0.636	20
A2,A3	1	3.50	A	1	15			2105		39	86	125	0.69	1969			1969	0.063			12	12	0.639	23
B1	2	3.90	B	1	7.5		N	2005	73			73	1.00	1671			1671	0.044	0.107		8	20	0.261	12
B2	2	3.90	B	1				2145		229		229	0.00	2145			2145	0.107			20	20	0.639	38
B2,B3	2	3.90	B	1	15			2145		160	63	223	0.28	2086			2086	0.107			20	20	0.639	37
C1,C2	3	3.40	C	1	7.5		N	1955	90	53		143	0.63	1736			1736	0.082	0.082		15	15	0.639	25
C2,C3	3	3.40	C	1	15			2095		110	57	167	0.34	2026			2026	0.082			15	15	0.639	29
C3	3	3.40	C	1	10			2095			150	150	1.00	1822			1822	0.082			15	15	0.639	26
D1,D2	4	3.10	D	1	7.5		N	1925	101	182		283	0.36	1797			1797	0.158	0.158		30	30	0.639	43
D2	4	3.10	D	1				2065		325		325	0.00	2065			2065	0.157			30	30	0.639	49
PED	5																			26				

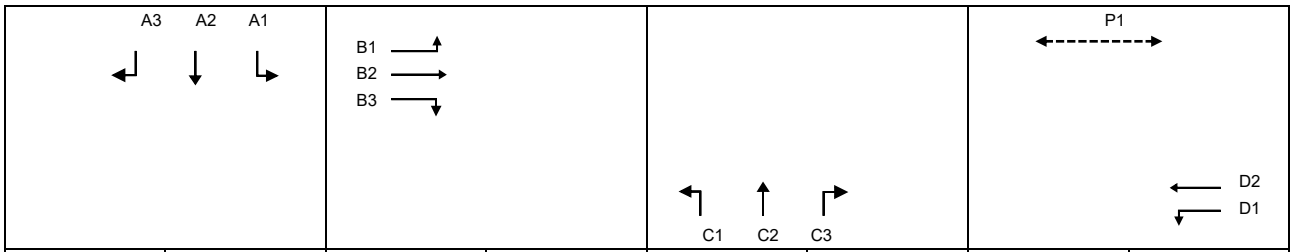
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J25
J25 - Jockey Club Road / Lung Sum Road	J25_REF_AM	DATE : 8-Jul-26	FILENAME :



Stage 5	Int =	0

No. of stages per cycle		N =	5	
No. of stage using for calculation		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.442	
Loss time		L =	43	sec
Total Flow		=	1990	pcu
Co	= (1.5*L+5)/(1-Y)	=	124.5	sec
Cm	= L/(1-Y)	=	77.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	30.7	%
Cp	= 0.9*L/(0.9-Y)	=	84.5	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	31	%



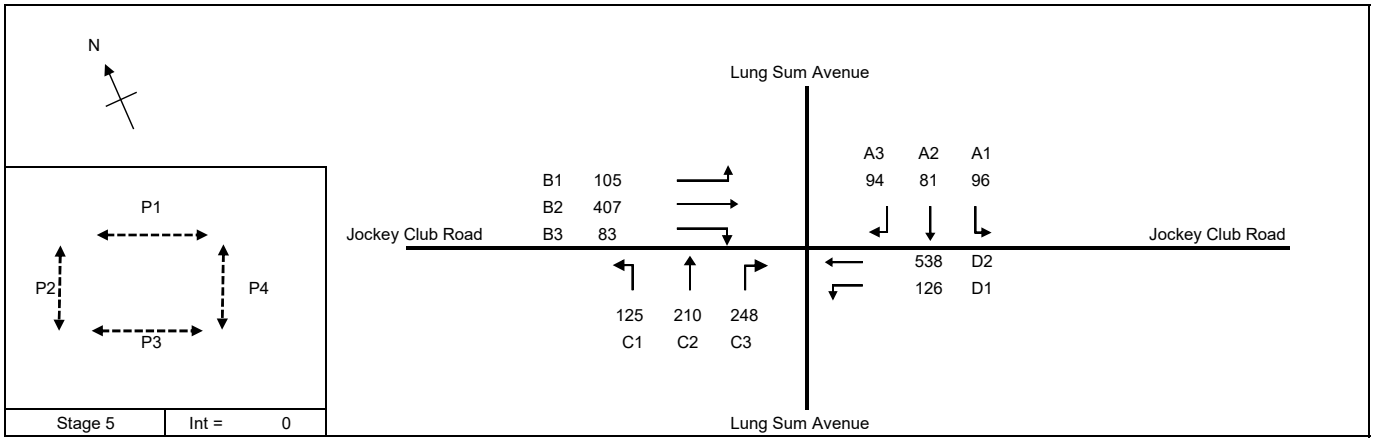
STAGE 1	INT=	5	STAGE 2	INT=	6	STAGE 3	INT=	5	STAGE 4	INT=	5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	7.5	6	8	7	17	8	7	OK
P2	10.5	9	7	10	9	7	10	OK
P3	10.5	9	5	10	11	5	10	OK
P4	9	8	2	8	16	2	8	OK

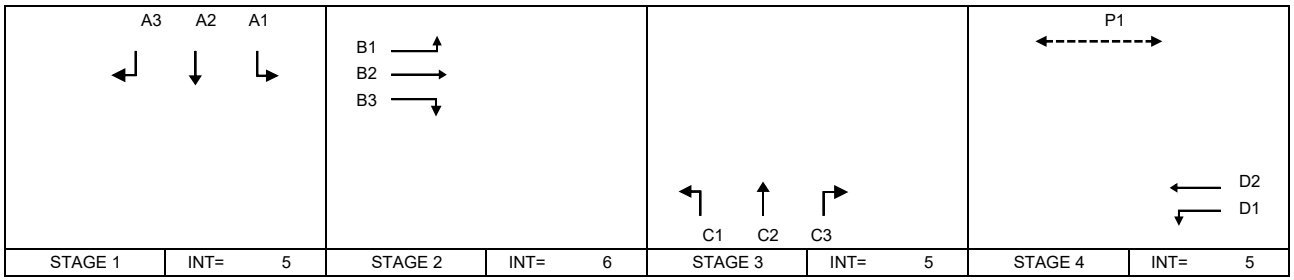
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
A1,A2	1	3.50	A	1	7.5		N	1965	111	33		144	0.77	1703			1703	0.085	0.085		15	15	0.685	25
A2,A3	1	3.50	A	1	15			2105		68	101	169	0.60	1986			1986	0.085			15	15	0.689	30
B1	2	3.90	B	1	7.5		N	2005	115			115	1.00	1671			1671	0.069	0.104		12	18	0.456	20
B2	2	3.90	B	1				2145		223		223	0.00	2145			2145	0.104			18	18	0.689	38
B2,B3	2	3.90	B	1	15			2145		139	76	215	0.35	2072			2072	0.104			18	18	0.688	37
C1,C2	3	3.40	C	1	7.5		N	1955	96	60		156	0.62	1741			1741	0.090	0.090		16	16	0.689	27
C2,C3	3	3.40	C	1	15			2095		114	67	181	0.37	2020			2020	0.090			16	16	0.689	31
C3	3	3.40	C	1	10			2095			163	163	1.00	1822			1822	0.089			16	16	0.688	28
D1,D2	4	3.10	D	1	7.5		N	1925	132	156		288	0.46	1763			1763	0.163	0.163		28	28	0.689	44
D2	4	3.10	D	1				2065		336		336	0.00	2065			2065	0.163			28	28	0.686	51
PED	5																			26				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J25
J25 - Jockey Club Road / Lung Sum Road	J25_REF_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.468
Loss time		L =	43 sec
Total Flow		=	2113 pcu
Co	= (1.5*L+5)/(1-Y)	=	130.7 sec
Cm	= L/(1-Y)	=	80.8 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	23.4 %
Cp	= 0.9*L/(0.9-Y)	=	89.6 sec
Ymax	= 1-L/C	=	0.642
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	23 %

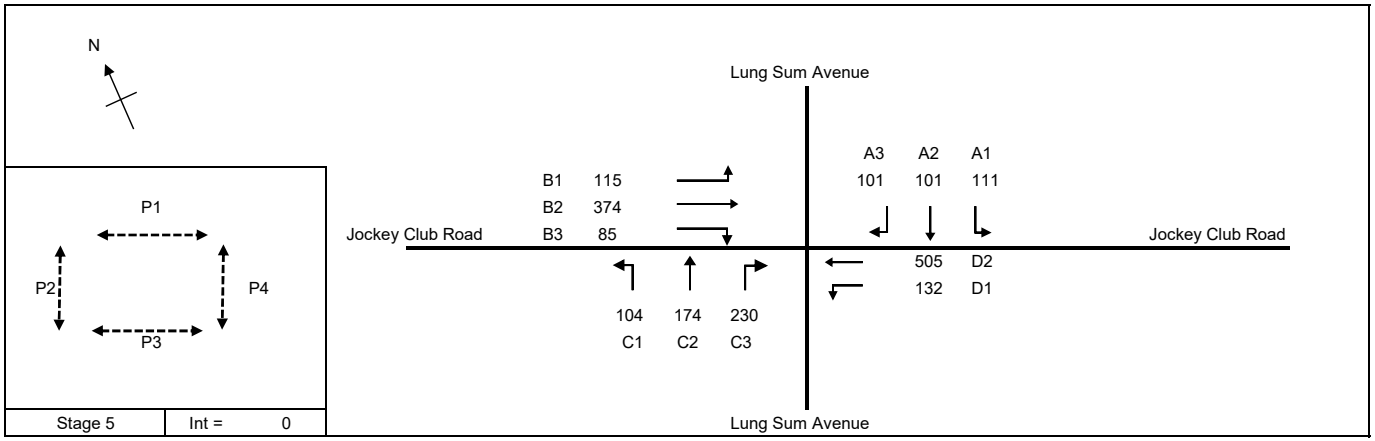


Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	7.5	6	8	7	17	8	7	OK
P2	10.5	9	7	10	9	7	10	OK
P3	10.5	9	5	10	11	5	10	OK
P4	9	8	2	8	16	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
A1,A2	1	3.50	A	1	7.5		N	1965	96	30		126	0.76	1705			1705	0.074	0.074		12	12	0.729	23
A2,A3	1	3.50	A	1	15			2105		51	94	145	0.65	1977			1977	0.073			12	12	0.724	26
B1	2	3.90	B	1	7.5		N	2005	105			105	1.00	1671			1671	0.063	0.116		10	19	0.394	18
B2	2	3.90	B	1				2145		249		249	0.00	2145			2145	0.116			19	19	0.729	42
B2,B3	2	3.90	B	1	15			2145		158	83	241	0.34	2074			2074	0.116			19	19	0.729	41
C1,C2	3	3.40	C	1	7.5		N	1955	125	55		180	0.69	1717			1717	0.105	0.105		17	17	0.729	31
C2,C3	3	3.40	C	1	15			2095		155	58	213	0.27	2039			2039	0.104			17	17	0.727	36
C3	3	3.40	C	1	10			2095			190	190	1.00	1822			1822	0.104			17	17	0.726	33
D1,D2	4	3.10	D	1	7.5		N	1925	126	182		308	0.41	1779			1779	0.173	0.173		28	28	0.729	47
D2	4	3.10	D	1				2065		356		356	0.00	2065			2065	0.172			28	28	0.727	54
PED	5																			26				

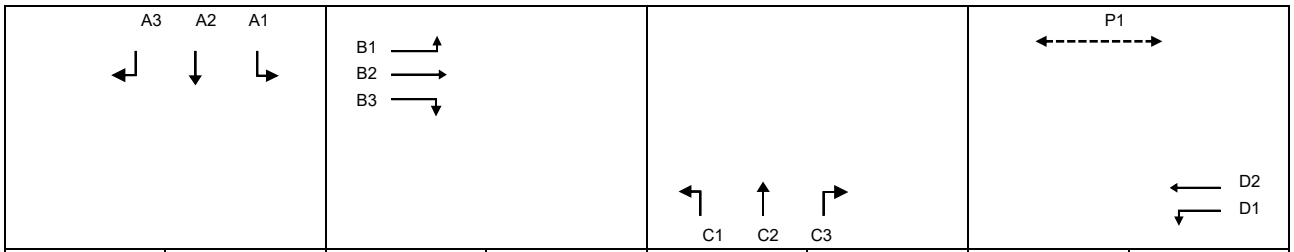
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J25
J25 - Jockey Club Road / Lung Sum Road	J25_DES_AM	DATE : 8-Jul-26	FILENAME :



Stage 5	Int = 0

No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.452
Loss time		L =	43 sec
Total Flow		=	2032 pcu
Co	= (1.5*L+5)/(1-Y)	=	126.8 sec
Cm	= L/(1-Y)	=	78.5 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	27.8 %
Cp	= 0.9*L/(0.9-Y)	=	86.4 sec
Ymax	= 1-L/C	=	0.642
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28 %



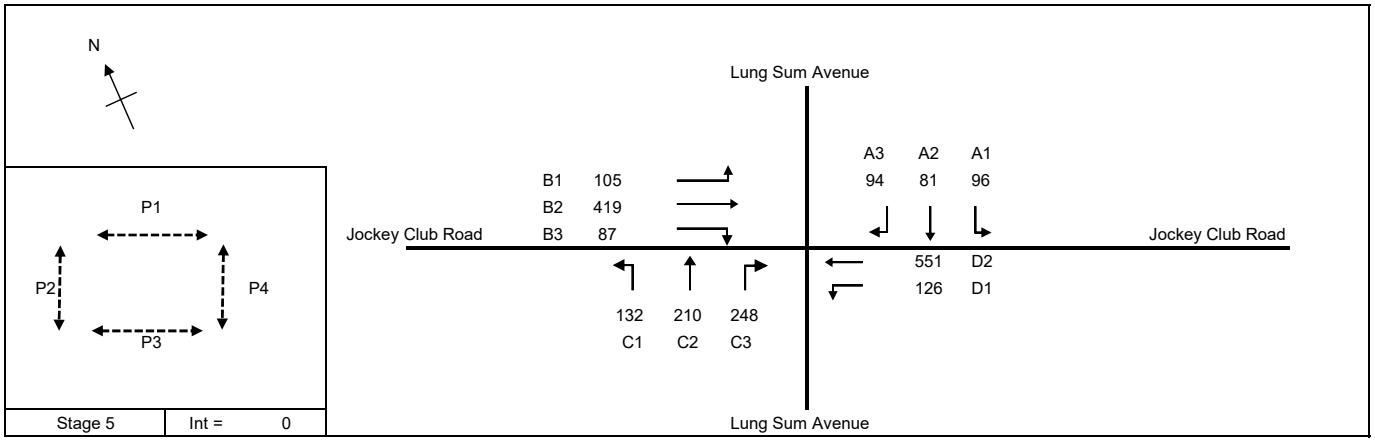
STAGE 1	INT= 5	STAGE 2	INT= 6	STAGE 3	INT= 5	STAGE 4	INT= 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	7.5	6	8	7	17	8	7	OK
P2	10.5	9	7	10	9	7	10	OK
P3	10.5	9	5	10	11	5	10	OK
P4	9	8	2	8	16	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
A1,A2	3	3.50	A	1	7.5		N	1965	111	34		145	0.77	1704			1704	0.085	0.085		14	14	0.704	25
A2,A3	3	3.50	A	1	15			2105		67	101	168	0.60	1986			1986	0.085			14	14	0.700	30
B1	1	3.90	B	1	7.5		N	2005	115			115	1.00	1671			1671	0.069	0.109		12	19	0.444	19
B2	1	3.90	B	1				2145		234		234	0.00	2145			2145	0.109			19	19	0.704	40
B2,B3	1	3.90	B	1	15			2145		140	85	225	0.38	2067			2067	0.109			19	19	0.703	38
C1,C2	2	3.40	C	1	7.5		N	1955	104	53		157	0.66	1726			1726	0.091	0.091		15	16	0.701	27
C2,C3	2	3.40	C	1	15			2095		121	64	185	0.35	2025			2025	0.091			16	16	0.704	32
C3	2	3.40	C	1	10			2095			166	166	1.00	1822			1822	0.091			16	16	0.703	29
D1,D2	4	3.10	D	1	7.5		N	1925	132	162		294	0.45	1766			1766	0.166	0.166		28	28	0.704	45
D2	4	3.10	D	1				2065		343		343	0.00	2065			2065	0.166			28	28	0.703	52
PED	5																			26				

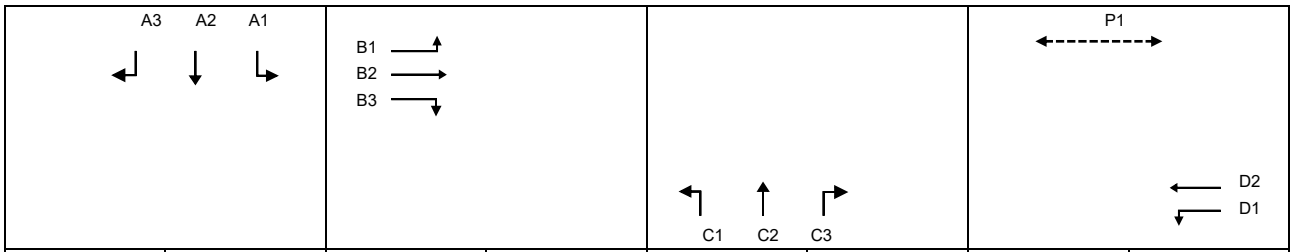
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J25
J25 - Jockey Club Road / Lung Sum Road	J25_DES_PM	DATE : 8-Jul-26	FILENAME :



Stage 5	Int = 0

No. of stages per cycle		N =	5
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.476
Loss time		L =	43 sec
Total Flow		=	2149 pcu
Co	= (1.5*L+5)/(1-Y)	=	132.7 sec
Cm	= L/(1-Y)	=	82.1 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	21.3 %
Cp	= 0.9*L/(0.9-Y)	=	91.3 sec
Ymax	= 1-L/C	=	0.642
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	21 %



STAGE 1	INT= 5	STAGE 2	INT= 6	STAGE 3	INT= 5	STAGE 4	INT= 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P1	7.5	6	8	7	17	8	7	OK
P2	10.5	9	7	10	9	7	10	OK
P3	10.5	9	5	10	11	5	10	OK
P4	9	8	2	8	16	2	8	OK

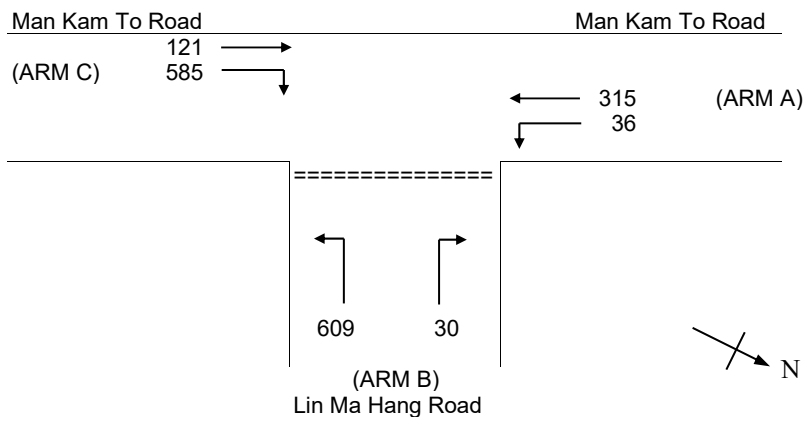
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
A1,A2	1	3.50	A	1	7.5		N	1965	96	29		125	0.77	1703			1703	0.073	0.074		12	12	0.738	23
A2,A3	1	3.50	A	1	15			2105		52	94	146	0.64	1978			1978	0.074			12	12	0.742	26
B1	2	3.90	B	1	7.5		N	2005	105			105	1.00	1671			1671	0.063	0.120		10	19	0.388	18
B2	2	3.90	B	1				2145		257		257	0.00	2145			2145	0.120			19	19	0.740	43
B2,B3	2	3.90	B	1	15			2145		162	87	249	0.35	2073			2073	0.120			19	19	0.742	42
C1,C2	3	3.40	C	1	7.5		N	1955	132	49		181	0.73	1706			1706	0.106	0.106		17	17	0.742	31
C2,C3	3	3.40	C	1	15			2095		161	55	216	0.25	2043			2043	0.106			17	17	0.740	37
C3	3	3.40	C	1	10			2095			193	193	1.00	1822			1822	0.106			17	17	0.741	33
D1,D2	4	3.10	D	1	7.5		N	1925	126	188		314	0.40	1782			1782	0.176	0.176		28	28	0.742	48
D2	4	3.10	D	1				2065		363		363	0.00	2065			2065	0.176			28	28	0.740	55
PED	5																			26				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

Appendix B

Junction Calculation Sheets for Proposed Junction Improvement

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_DES_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	36	(pcu/hr)
q a-c	=	315	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	121	(pcu/hr)
q c-b	=	585	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	609	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	385
Q b-c	=	734
Q c-b	=	744
Q b-ac	=	704

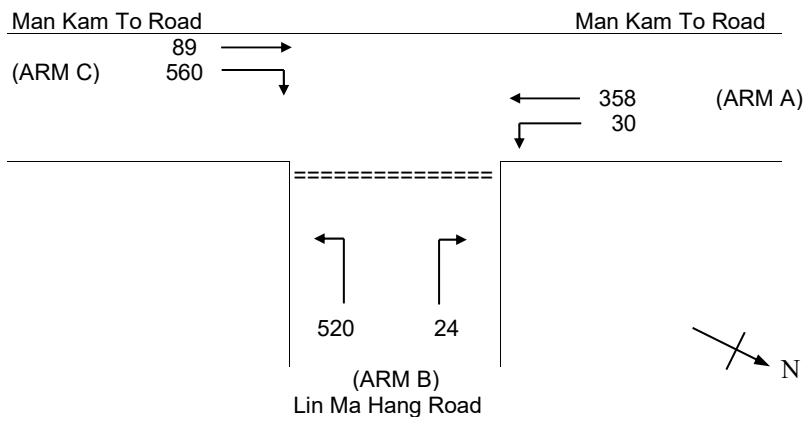
TOTAL FLOW = 1696 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.08
DFC b-c	=	0.83
DFC c-b	=	0.79
DFC b-ac	=	0.91

CRITICAL DFC = 0.91

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_DES_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	358	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	89	(pcu/hr)
q c-b	=	560	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	24	(pcu/hr)
q b-c	=	520	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	388
Q b-c	=	725
Q c-b	=	736
Q b-ac	=	698

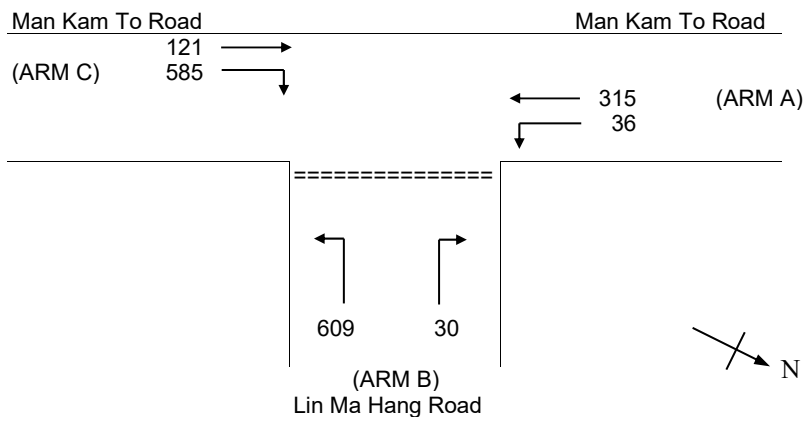
TOTAL FLOW = 1581 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.06
DFC b-c	=	0.72
DFC c-b	=	0.76
DFC b-ac	=	0.78

CRITICAL DFC = 0.78

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_DES_AM_IMP	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	36	(pcu/hr)
q a-c	=	315	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	121	(pcu/hr)
q c-b	=	585	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	609	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	385
Q b-c	=	734
Q c-b	=	744
Q b-ac	=	704

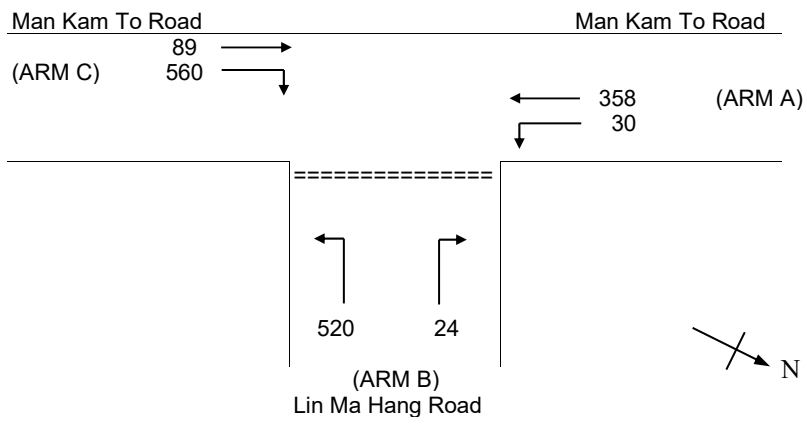
TOTAL FLOW = 1696 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.08
DFC b-c	=	0.83
DFC c-b	=	0.79

CRITICAL DFC = 0.83

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J1 - Lin Ma Hang Road / Man Kam To Road	J1_DES_PM_IMP	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.50	(metres)
W cr	=	0.00	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	358	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	89	(pcu/hr)
q c-b	=	560	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	80	(metres)
Vr b-a	=	125	(metres)
Vr b-c	=	125	(metres)
q b-a	=	24	(pcu/hr)
q b-c	=	520	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.04
E	=	1.08
F	=	1.11
Y	=	0.57

THE CAPACITY OF MOVEMENT :

Q b-a	=	388
Q b-c	=	725
Q c-b	=	736
Q b-ac	=	698

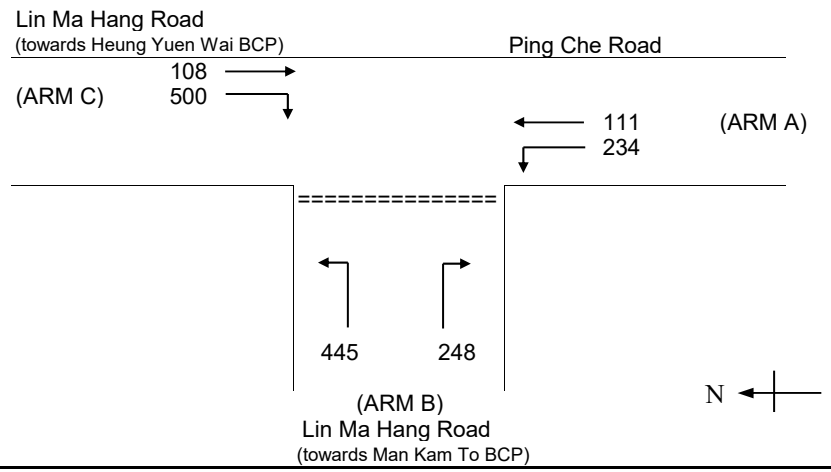
TOTAL FLOW = 1581 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.06
DFC b-c	=	0.72
DFC c-b	=	0.76

CRITICAL DFC = 0.76

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_DES_AM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	234	(pcu/hr)
q a-c	=	111	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	108	(pcu/hr)
q c-b	=	500	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	248	(pcu/hr)
q b-c	=	445	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	356
Q b-c	=	798
Q c-b	=	592
Q b-ac	=	553

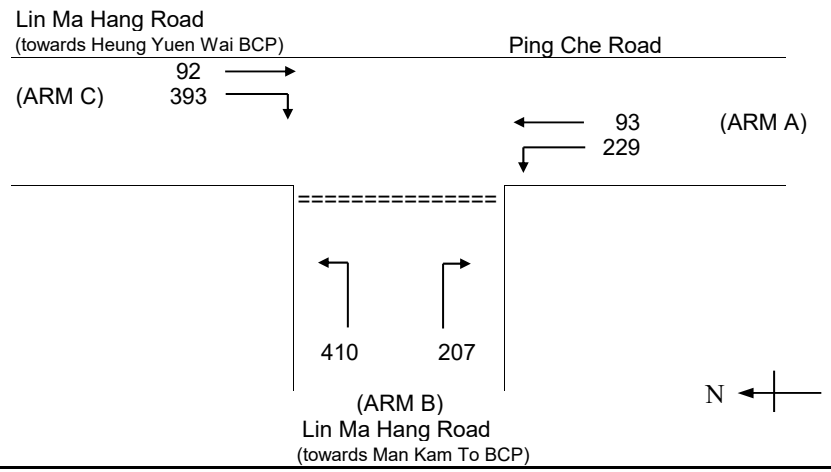
TOTAL FLOW = 1646 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.70
DFC b-c	=	0.56
DFC c-b	=	0.84
DFC b-ac	=	1.25

CRITICAL DFC = 1.25

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_DES_PM	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	229	(pcu/hr)
q a-c	=	93	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.34	(metres)
Vr c-b	=	50	(metres)
q c-a	=	92	(pcu/hr)
q c-b	=	393	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.50	(metres)
W b-c	=	4.50	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	200	(metres)
q b-a	=	207	(pcu/hr)
q b-c	=	410	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.99
E	=	1.16
F	=	0.91
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	406
Q b-c	=	805
Q c-b	=	598
Q b-ac	=	605

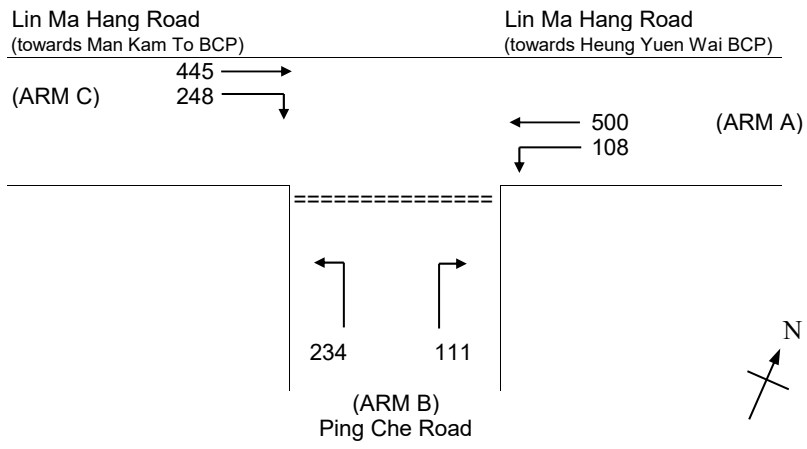
TOTAL FLOW = 1424 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.51
DFC b-c	=	0.51
DFC c-b	=	0.66
DFC b-ac	=	1.02

CRITICAL DFC = 1.02

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_DES_AM_IMP	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	108	(pcu/hr)
q a-c	=	500	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	445	(pcu/hr)
q c-b	=	248	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.00	(metres)
W b-c	=	3.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	111	(pcu/hr)
q b-c	=	234	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.89
E	=	0.92
F	=	1.01
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	274
Q b-c	=	551
Q c-b	=	588
Q b-ac	=	416

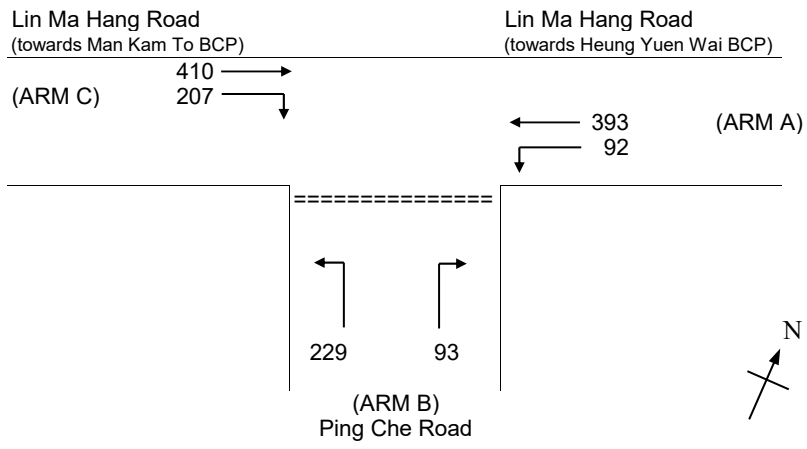
TOTAL FLOW = 1646 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.41
DFC b-c	=	0.42
DFC c-b	=	0.42
DFC b-ac	=	0.83

CRITICAL DFC = 0.83

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
		PROJECT NO: 287082	DESIGNED BY:
J2 - Lin Ma Hang Road / Ping Che Road	J2_DES_PM_IMP	DATE : 8/7/2026	FILENAME



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.30	(metres)
W cr	=	0.00	(metres)
q a-b	=	92	(pcu/hr)
q a-c	=	393	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	100	(metres)
q c-a	=	410	(pcu/hr)
q c-b	=	207	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.00	(metres)
W b-c	=	3.00	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	100	(metres)
Vr b-c	=	100	(metres)
q b-a	=	93	(pcu/hr)
q b-c	=	229	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.89
E	=	0.92
F	=	1.01
Y	=	0.75

THE CAPACITY OF MOVEMENT :

Q b-a	=	321
Q b-c	=	579
Q c-b	=	622
Q b-ac	=	470

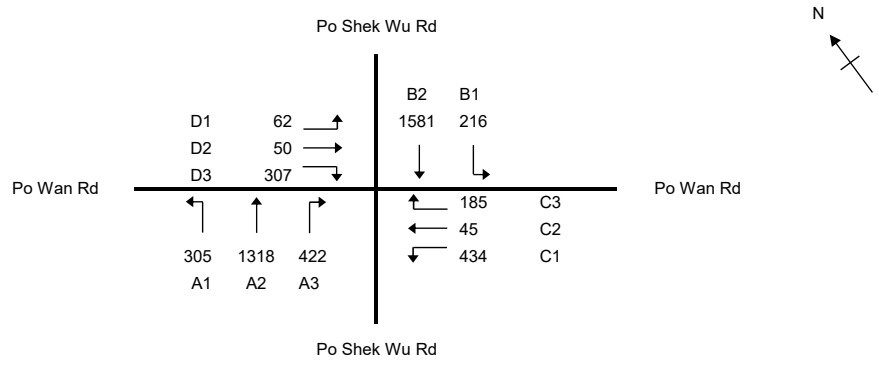
TOTAL FLOW = 1424 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.29
DFC b-c	=	0.40
DFC c-b	=	0.33
DFC b-ac	=	0.69

CRITICAL DFC = 0.69

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.544
Loss time		L =	40 sec
Total Flow		=	4925 pcu
Co	= (1.5*L+5)/(1-Y)	=	142.6 sec
Cm	= L/(1-Y)	=	87.7 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	10.3 %
Cp	= 0.9*L/(0.9-Y)	=	101.2 sec
Ymax	= 1-L/C	=	0.688
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13 %

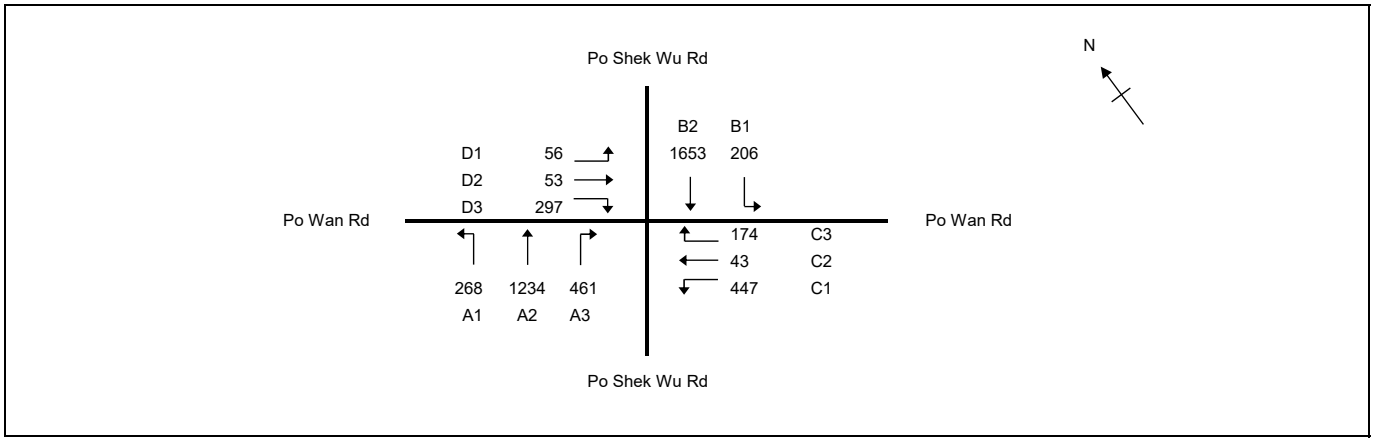
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	63	5	11	OK
F	12	5	6	13	5	6	13	OK
G	12	5	6	13	5	6	13	OK
H	7.5	5	10	8	7	10	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	1	1	15		N	1945	305			305	1.00	1768			1768	0.172	0.316		28	51	0.432	39
A1,A2	1	3.30	1	1	20			2085	0	659		659	0.00	2085			2085	0.316			51	51	0.791	84
A2	1	3.30	1	1				2085		659		659	0.00	2085			2085	0.316			51	51	0.791	84
B1,B2	1	3.70	1	1	15		N	1985	216	342		558	0.39	1911			1911	0.292			47	51	0.731	72
B2	1	3.70	1	2				4250		1239		1239	0.00	4250			4250	0.292			47	51	0.730	79
A3	2	3.30	2	2	20			4170			422	422	1.00	3879			3879	0.109			18	19	0.733	38
C1	2,3	3.30	3,4	1	15		N	1945	434			434	1.00	1768			1768	0.245			40	41	0.768	63
C2,C3	3	3.30	4	1	20			2085		45	185	230	0.80	1966			1966	0.117	0.117		19	19	0.791	42
D1,D2,D3	4	3.30	5	1	15		N	1945	62	50	89	201	0.75	1809			1809	0.111	0.111		18	18	0.791	37
D3	4	3.30	5	1	25			2085			218	218	1.00	1967			1967	0.111			18	18	0.790	40
PED	2		F,G																	24				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.662
Loss time		L =	18 sec
Total Flow		=	4892 pcu
Co	= (1.5*L+5)/(1-Y)	=	94.7 sec
Cm	= L/(1-Y)	=	53.2 sec
Yult		=	0.765
R.C.ult	= (Yult-Y)/Y*100%	=	15.6 %
Cp	= 0.9*L/(0.9-Y)	=	68.0 sec
Ymax	= 1-L/C	=	0.859
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17 %

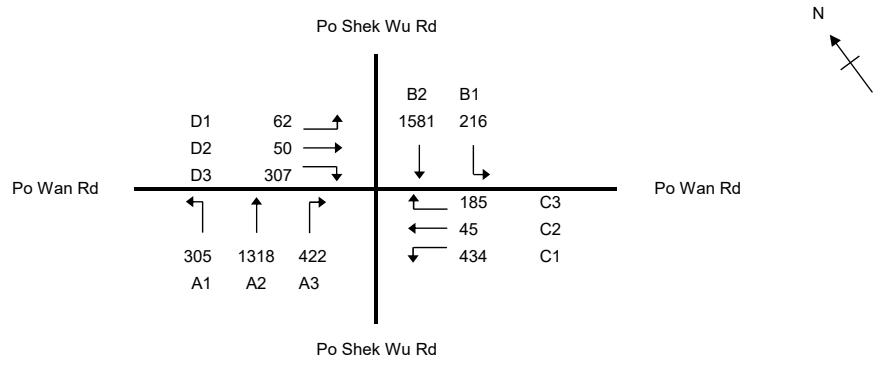
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 7	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	62	5	11	OK
F	12	5	6	13	6	6	13	OK
G	12	5	6	13	6	6	13	OK
H	7.5	5	10	8	7	10	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1	1	3.30	1	1	15		N	1945	268			268	1.00	1768			1768	0.152	0.302		25	50	0.387	35
A1,A2	1	3.30	1	1	20			2085	0	617		617	0.00	2085			2085	0.296			49	50	0.756	80
A2	1	3.30	1	1				2085		617		617	0.00	2085			2085	0.296			49	50	0.756	80
B1,B2	1	3.70	1	1	15		N	1985	206	372		578	0.36	1917			1917	0.302			50	50	0.770	75
B2	1	3.70	1	2				4250		1281		1281	0.00	4250			4250	0.301			50	50	0.770	83
A3	2	3.30	2	2	20			4170			461	461	1.00	3879			3879	0.119			20	20	0.751	41
C1	2,3	3.30	3,4	1	15		N	1945	447			447	1.00	1768			1768	0.253	0.253		42	42	0.770	64
C2,C3	3	3.30	4	1	20			2085		43	174	217	0.80	1967			1967	0.110			18	19	0.753	40
D1,D2,D3	4	3.30	5	1	15		N	1945	56	53	86	195	0.73	1813			1813	0.108	0.108		18	18	0.770	36
D3	4	3.30	5	1	25			2085			211	211	1.00	1967			1967	0.107			18	18	0.768	39

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_DES_AM_IMP	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.499
Loss time		L =	40 sec
Total Flow		=	4925 pcu
Co	= (1.5*L+5)/(1-Y)	=	129.6 sec
Cm	= L/(1-Y)	=	79.8 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	20.3 %
Cp	= 0.9*L/(0.9-Y)	=	89.7 sec
Ymax	= 1-L/C	=	0.688
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	24 %

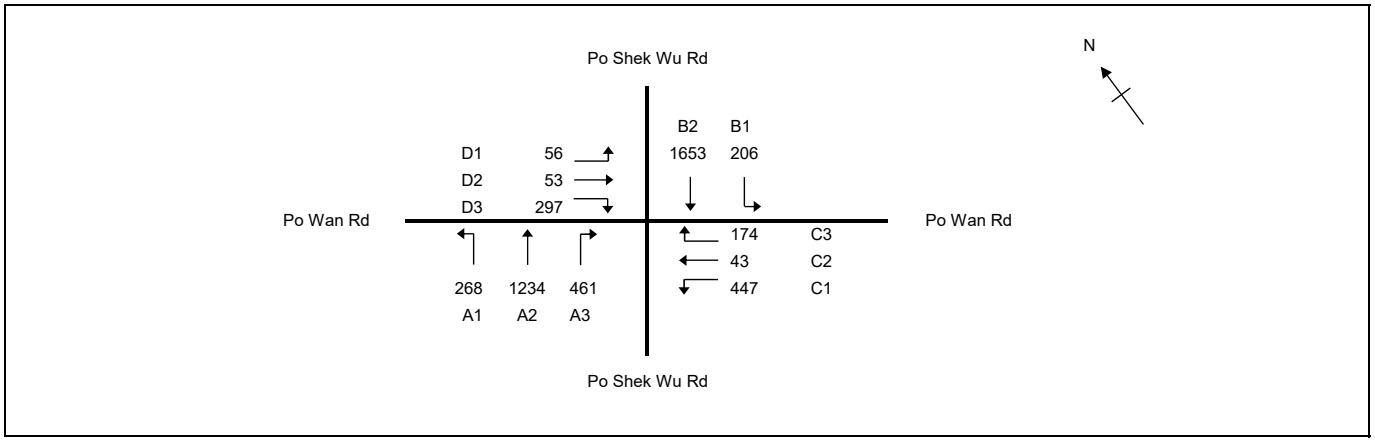
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	61	5	11	OK
F	12	5	6	13	5	6	13	OK
G	12	5	6	13	5	6	13	OK
H	7.5	5	10	8	9	10	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1,A2	1	3.30	1	1	15		N	1945	305	190		495	0.62	1832			1832	0.270	0.271		48	48	0.724	66
A2	1	3.30	1	2				4170		1128		1128	0.00	4170			4170	0.271			48	48	0.725	75
B1	1	3.30	1	1	15			2085	216			216	1.00	1895			1895	0.114			20	48	0.306	29
B2	1	3.30	1	3			N	6115		1581		1581	0.00	6115			6115	0.259			46	48	0.693	70
A3	2	3.30	2	2	20			4170			422	422	1.00	3879			3879	0.109			19	19	0.733	38
C1	2,3	3.30	3,4	1	15		N	1945	434			434	1.00	1768			1768	0.245			43	43	0.737	62
C2,C3	3	3.30	4	1	20			2085		45	185	230	0.80	1966			1966	0.117	0.117		21	21	0.725	41
D1,D2,D3	4	3.30	5	1	15		N	1945	62	50	89	201	0.75	1809			1809	0.111	0.111		20	20	0.725	36
D3	4	3.30	5	1	25			2085			218	218	1.00	1967			1967	0.111			20	20	0.723	39
PED	2		F,G																	24				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. J13
J13 - Po Shek Wu Road / Po Wan Road	J13_DES_PM_IMP	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	128 sec
Sum(y)		Y =	0.631
Loss time		L =	18 sec
Total Flow		=	4892 pcu
Co	= (1.5*L+5)/(1-Y)	=	86.6 sec
Cm	= L/(1-Y)	=	48.7 sec
Yult		=	0.765
R.C.ult	= (Yult-Y)/Y*100%	=	21.3 %
Cp	= 0.9*L/(0.9-Y)	=	60.2 sec
Ymax	= 1-L/C	=	0.859
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	23 %

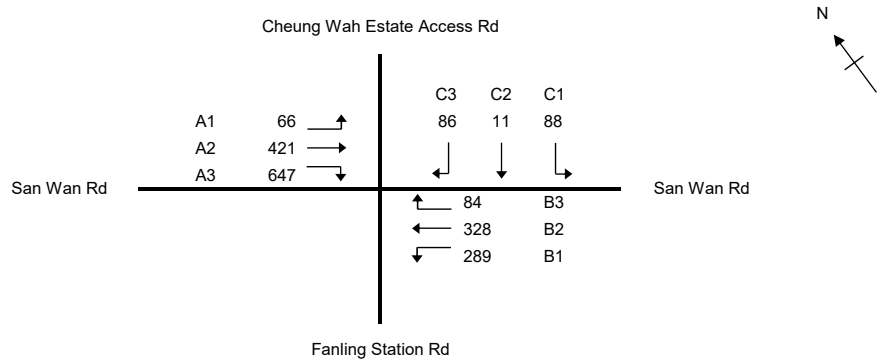
	B1,B2		G		H	D1,D2,D3	
A1,A2	E	F A3	C1		C1,C2,C3		E
STAGE 1	INT= 7	STAGE 2	INT=	STAGE 3	INT= 7	STAGE 4	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
E	8	5	5	11	60	5	11	OK
F	12	5	6	13	7	6	13	OK
G	12	5	6	13	7	6	13	OK
H	7.5	5	10	8	8	10	8	OK

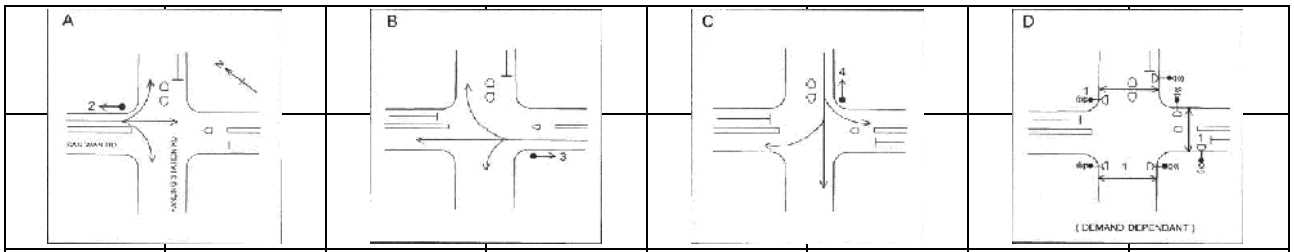
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
A1,A2	1	3.30	1	1	15		N	1945	268	192		460	0.58	1838			1838	0.250	0.270		44	47	0.679	62
A2	1	3.30	1	2				4170		1042		1042	0.00	4170			4170	0.250			44	47	0.678	70
B1	1	3.30	1	1	15			2085	206			206	1.00	1895			1895	0.109			19	47	0.295	28
B2	1	3.30	1	3			N	6115		1653		1653	0.00	6115			6115	0.270			47	47	0.734	74
A3	2	3.30	2	2	20			4170			461	461	1.00	3879			3879	0.119			21	21	0.717	41
C1	2,3	3.30	3,4	1	15		N	1945	447			447	1.00	1768			1768	0.253	0.253		44	44	0.734	63
C2,C3	3	3.30	4	1	20			2085		43	174	217	0.80	1967			1967	0.110			19	20	0.711	39
D1,D2,D3	4	3.30	5	1	15		N	1945	56	53	86	195	0.73	1813			1813	0.108	0.108		19	19	0.734	36
D3	4	3.30	5	1	25			2085			211	211	1.00	1967			1967	0.107			19	19	0.732	38

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_DES_AM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	112 sec
Sum(y)		Y =	0.548
Loss time		L =	43 sec
Total Flow		=	2020 pcu
Co	= (1.5*L+5)/(1-Y)	=	153.7 sec
Cm	= L/(1-Y)	=	95.1 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	5.4 %
Cp	= 0.9*L/(0.9-Y)	=	109.9 sec
Ymax	= 1-L/C	=	0.616
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	1 %



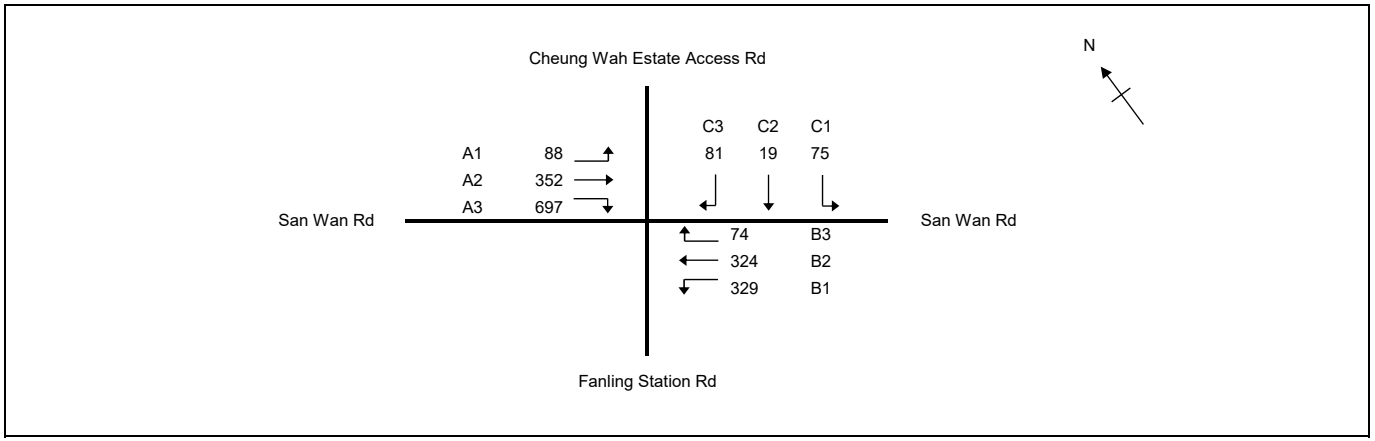
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

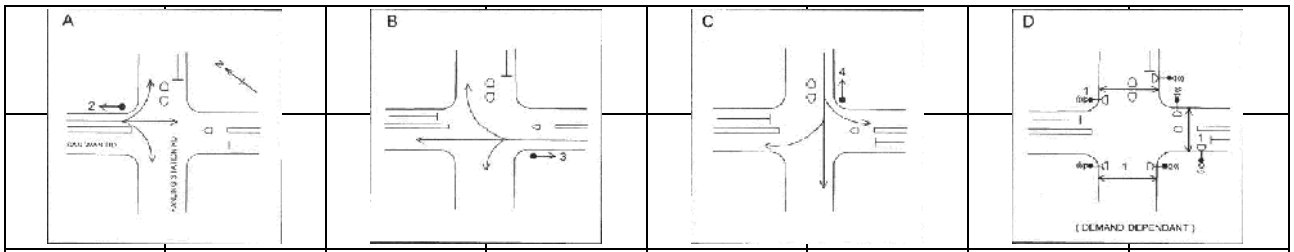
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	66			66	1.00	1691			1691	0.039	0.274		5	35	0.127	9
A2,A3	1	3.30	2	1	15			2085		421	137	558	0.25	2035			2035	0.274			35	35	0.889	72
A3	1	3.30	2	1	12.5			2085			510	510	1.00	1862			1862	0.274			35	35	0.888	66
B1,B2	2	3.60	3	1	17.5		N	1975	289	42		331	0.87	1837			1837	0.180	0.180		23	23	0.889	49
B2,B3	2	3.60	3	1	12.5			2115		286	84	370	0.23	2059			2059	0.180			23	23	0.887	55
C1,C2,C3	3	5.50	4	1	15		N	2165	88	11	86	185	0.94	1979			1979	0.093	0.093		12	12	0.889	34
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_DES_PM	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	115 sec
Sum(y)		Y =	0.546
Loss time		L =	43 sec
Total Flow		=	2039 pcu
Co	= (1.5*L+5)/(1-Y)	=	153.0 sec
Cm	= L/(1-Y)	=	94.7 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	5.8 %
Cp	= 0.9*L/(0.9-Y)	=	109.2 sec
Ymax	= 1-L/C	=	0.626
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3 %



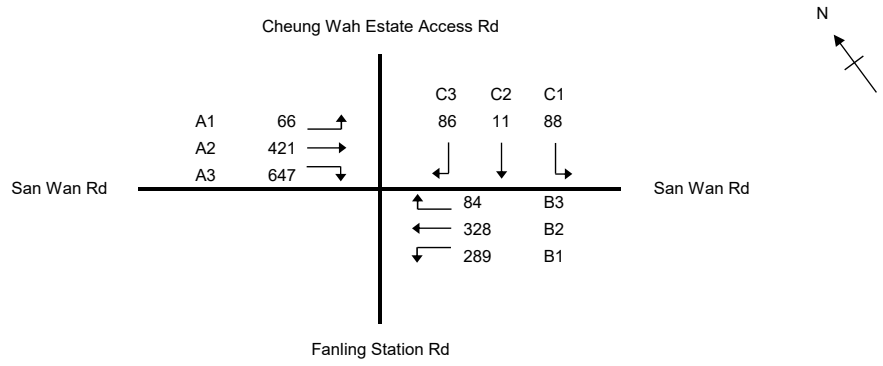
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

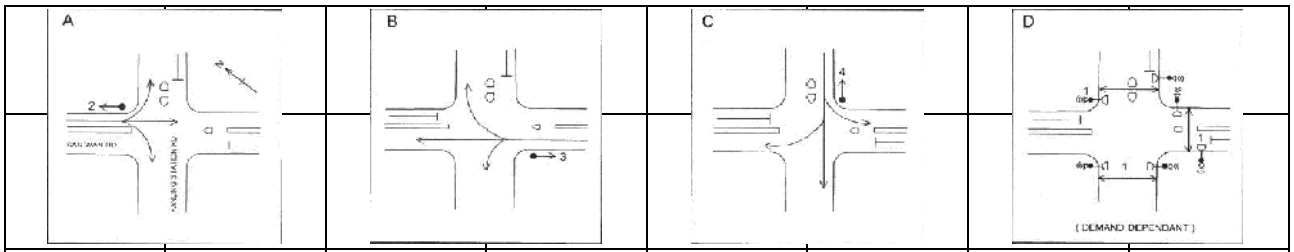
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1	1	3.30	2	1	10		N	1945	88			88	1.00	1691			1691	0.052	0.271		7	36	0.168	12
A2,A3	1	3.30	2	1	15			2085		352	193	545	0.35	2014			2014	0.271			36	36	0.871	72
A3	1	3.30	2	1	12.5			2085			504	504	1.00	1862			1862	0.271			36	36	0.872	67
B1,B2	2	3.60	3	1	17.5		N	1975	329	12		341	0.96	1824			1824	0.187	0.187		25	25	0.872	51
B2,B3	2	3.60	3	1	12.5			2115		312	74	386	0.19	2067			2067	0.187			25	25	0.871	58
C1,C2,C3	3	5.50	4	1	15		N	2165	75	19	81	175	0.89	1988			1988	0.088	0.088		12	12	0.872	30
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_DES_AM_IMP	DATE : 8/7/2026	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	112 sec
Sum(y)		Y =	0.473
Loss time		L =	43 sec
Total Flow		=	2020 pcu
Co	= (1.5*L+5)/(1-Y)	=	131.8 sec
Cm	= L/(1-Y)	=	81.5 sec
Yult		=	0.578
R.C.ult	= (Yult-Y)/Y*100%	=	22.2 %
Cp	= 0.9*L/(0.9-Y)	=	90.5 sec
Ymax	= 1-L/C	=	0.616
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17 %



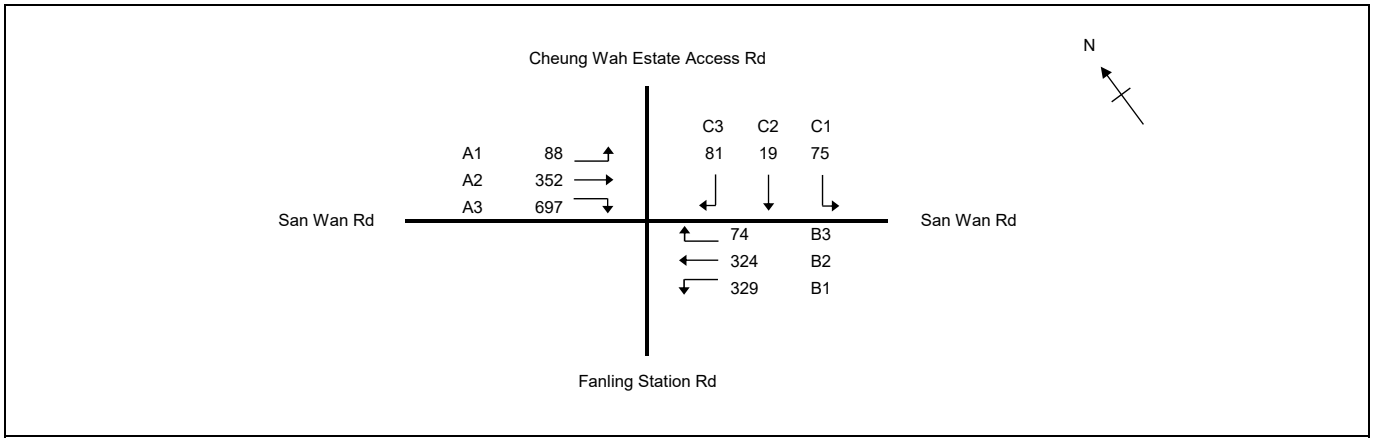
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

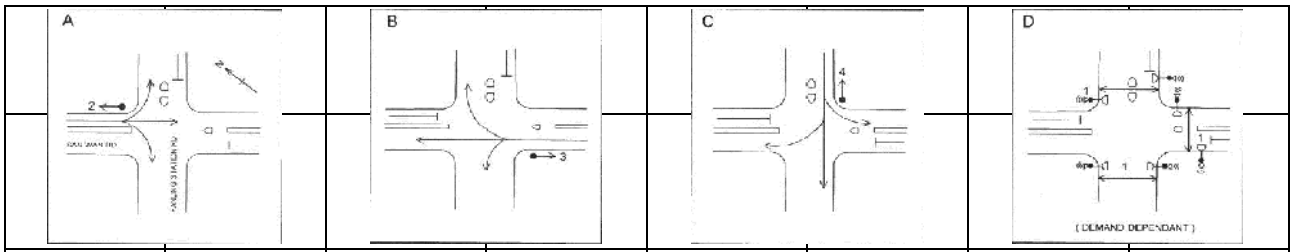
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1,A2	1	3.30	2	1	10		N	1945	66	311		377	0.18	1895			1895	0.199	0.199		29	29	0.767	52
A2,A3	1	3.30	2	1	15			2085		110	277	387	0.72	1946			1946	0.199			29	29	0.767	54
A3	1	3.30	2	1	12.5			2085			370	370	1.00	1862			1862	0.199			29	29	0.766	51
B1,B2	2	3.60	3	1	17.5		N	1975	289	42		331	0.87	1837			1837	0.180	0.180		26	26	0.767	47
B2,B3	2	3.60	3	1	12.5			2115		286	84	370	0.23	2059			2059	0.180			26	26	0.765	53
C1,C2,C3	3	5.50	4	1	15		N	2165	88	11	86	185	0.94	1979			1979	0.093	0.093		14	14	0.767	30
PED	4		1																	27				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO: 287082	Junction No. J23
J23 - San Wan Road / Fanling Station Road	J23_DES_PM_IMP	DATE : 8/7/2026	FILENAME :



No. of stages per cycle	N =	4	
No. of stage using for calculation	N =	3	
Cycle time	C =	115	sec
Sum(y)	Y =	0.476	
Loss time	L =	43	sec
Total Flow	=	2039	pcu
Co = (1.5*L+5)/(1-Y)	=	132.7	sec
Cm = L/(1-Y)	=	82.1	sec
Yult	=	0.578	
R.C.ult = (Yult-Y)/Y*100%	=	21.3	%
Cp = 0.9*L/(0.9-Y)	=	91.3	sec
Ymax = 1-L/C	=	0.626	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	18	%



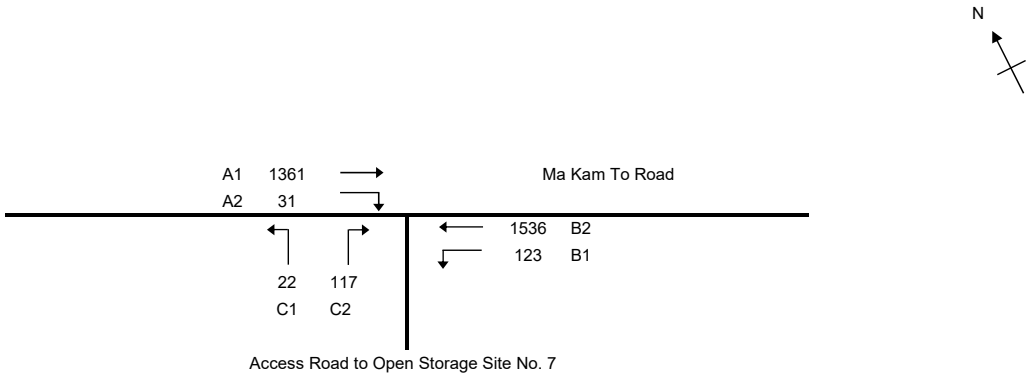
STAGE 1	INT= 7	STAGE 2	INT= 6	STAGE 3	INT= 6	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	13.5	6	6	15	6	6	15	OK

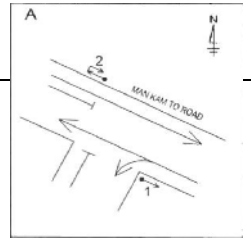
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				16				
A1,A2	1	3.30	2	1	10		N	1945	88	290		378	0.23	1879			1879	0.201	0.201		30	30	0.760	53
A2,A3	1	3.30	2	1	15			2085		62	324	386	0.84	1924			1924	0.201			30	30	0.759	54
A3	1	3.30	2	1	12.5			2085			373	373	1.00	1862			1862	0.200			30	30	0.758	53
B1,B2	2	3.60	3	1	17.5		N	1975	329	12		341	0.96	1824			1824	0.187	0.187		28	28	0.760	49
B2,B3	2	3.60	3	1	12.5			2115		312	74	386	0.19	2067			2067	0.187			28	28	0.760	56
C1,C2,C3	3	5.50	4	1	15		N	2165	75	19	81	175	0.89	1988			1988	0.088	0.088		13	13	0.760	30
PED	4		1																	27				

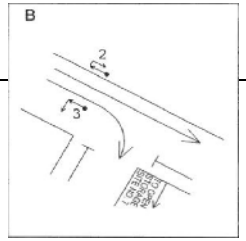
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

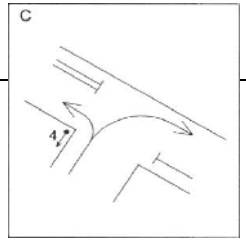
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. JA
JA - Ma Kam To Rd / Access Rd to Open Storage Site No. 7	JA_DES_AM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	88	sec
Sum(y)	Y =	0.767	
Loss time	L =	12	sec
Total Flow	=	3190	pcu
Co = (1.5*L+5)/(1-Y)	=	98.6	sec
Cm = L/(1-Y)	=	51.4	sec
Yult	=	0.810	
R.C.ult = (Yult-Y)/Y*100%	=	5.7	%
Cp = 0.9*L/(0.9-Y)	=	81.0	sec
Ymax = 1-L/C	=	0.864	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	1	%







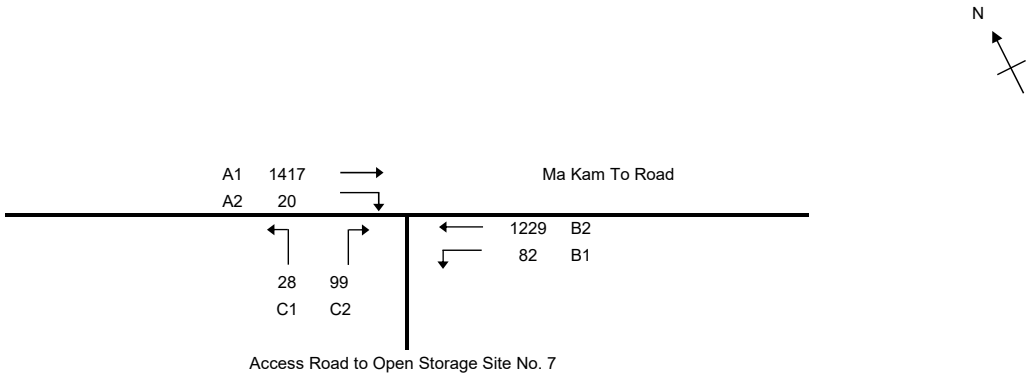
STAGE 1	INT=	STAGE 2	INT= 7	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

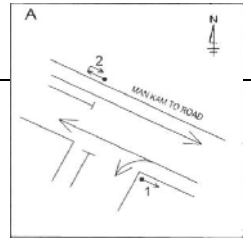
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
B1	1	3.40	1	1	12.5		N	1955	123			123	1.00	1746			1746	0.070			7	51	0.121	8
B2	1	3.40	1	2				4190		1536		1536	0.00	4190			4190	0.367			36	51	0.628	47
A1	1,2	3.50	2	1			N	1965		1361		1361	0.00	1965			1965	0.693	0.693		69	69	0.888	44
A2	2	3.50	3	1	20			2105			31	31	1.00	1958			1958	0.016			2	11	0.123	4
C1,C2	3	4.50	4	1	15		N	2065	22		117	139	1.00	1877			1877	0.074	0.074		7	7	0.888	25

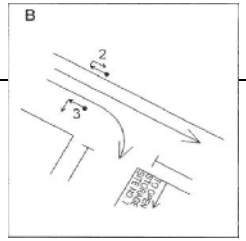
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

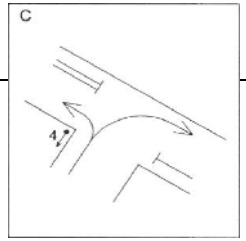
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. JA
JA - Ma Kam To Rd / Access Rd to Open Storage Site No. 7	JA_DES_PM	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	88	sec
Sum(y)	Y =	0.789	
Loss time	L =	12	sec
Total Flow	=	2875	pcu
Co = (1.5*L+5)/(1-Y)	=	108.9	sec
Cm = L/(1-Y)	=	56.8	sec
Yult	=	0.810	
R.C.ult = (Yult-Y)/Y*100%	=	2.7	%
Cp = 0.9*L/(0.9-Y)	=	97.1	sec
Ymax = 1-L/C	=	0.864	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	-1	%







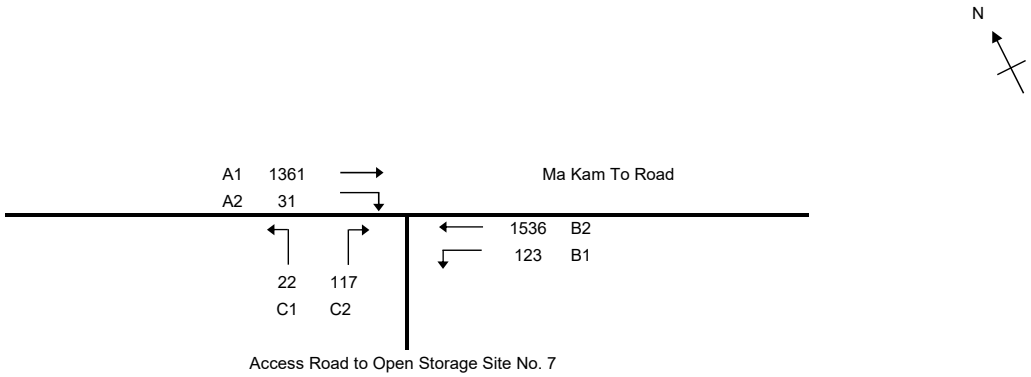
STAGE 1	INT=	STAGE 2	INT= 7	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

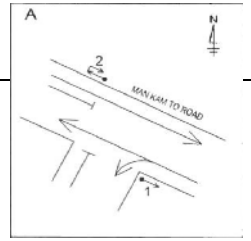
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
B1	1	3.40	1	1	12.5		N	1955	82			82	1.00	1746			1746	0.047			5	51	0.081	5
B2	1	3.40	1	2				4190		1229		1229	0.00	4190			4190	0.293			28	51	0.504	38
A1	1,2	3.50	2	1			N	1965		1417		1417	0.00	1965			1965	0.721	0.721		69	69	0.913	44
A2	2	3.50	3	1	20			2105			20	20	1.00	1958			1958	0.010			1	12	0.074	3
C1,C2	3	4.50	4	1	15		N	2065	28		99	127	1.00	1877			1877	0.068	0.068		7	7	0.913	33

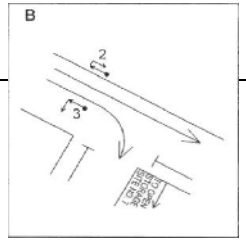
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

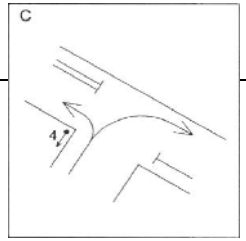
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. JA
JA - Ma Kam To Rd / Access Rd to Open Storage Site No. 7	JA_DES_AM_IMP	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	3	
Cycle time	C =	88	sec
Sum(y)	Y =	0.503	
Loss time	L =	22	sec
Total Flow	=	3190	pcu
Co = (1.5*L+5)/(1-Y)	=	76.5	sec
Cm = L/(1-Y)	=	44.3	sec
Yult	=	0.735	
R.C.ult = (Yult-Y)/Y*100%	=	46.0	%
Cp = 0.9*L/(0.9-Y)	=	49.9	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	34	%







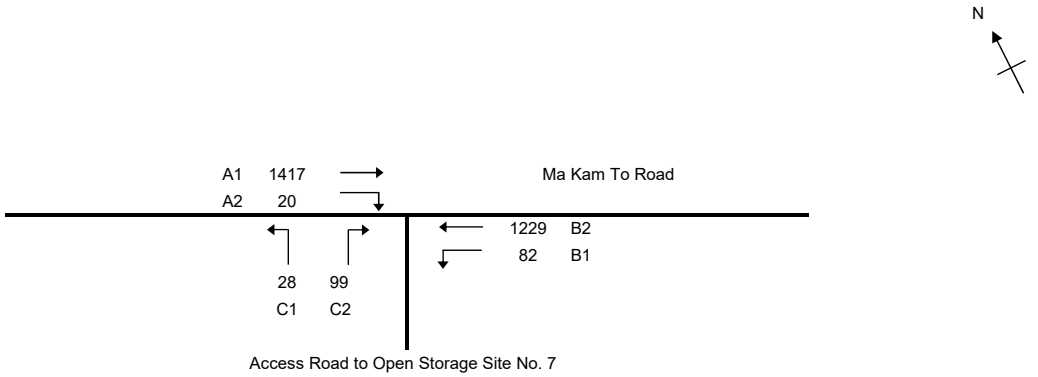
STAGE 1	INT= 7	STAGE 2	INT= 7	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

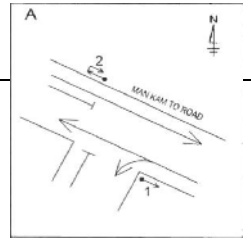
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
B1,B2	1	3.40	1	1	12.5		N	1955	123	670		793	0.16	1919			1919	0.413	0.413		54	54	0.671	45
B2	1	3.40	1	1				2095		866		866	0.00	2095			2095	0.413			54	54	0.671	49
A1	1,2	3.40	2	1			N	1955		657		657	0.00	1955			1955	0.336			44	66	0.446	24
A1	1,2	3.40	2	1				2095		704		704	0.00	2095			2095	0.336			44	66	0.446	25
A2	2	3.40	3	1	20			2095			31	31	1.00	1949			1949	0.016	0.016	4	2	6	0.230	4
C1,C2	3	4.50	4	1	15		N	2065	22		117	139	1.00	1877			1877	0.074	0.074		10	10	0.671	18

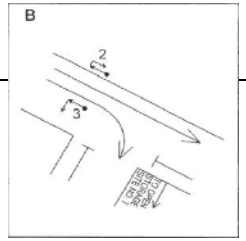
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

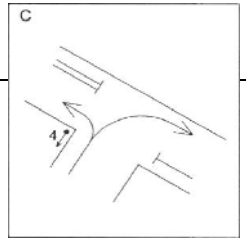
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
		PROJECT NO:	Junction No. JA
JA - Ma Kam To Rd / Access Rd to Open Storage Site No. 7	JA_DES_PM_IMP	DATE : 8-Jul-26	FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	3	
Cycle time	C =	88	sec
Sum(y)	Y =	0.404	
Loss time	L =	22	sec
Total Flow	=	2875	pcu
Co = (1.5*L+5)/(1-Y)	=	63.8	sec
Cm = L/(1-Y)	=	36.9	sec
Yult	=	0.735	
R.C.ult = (Yult-Y)/Y*100%	=	81.9	%
Cp = 0.9*L/(0.9-Y)	=	39.9	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	67	%







STAGE 1	INT= 7	STAGE 2	INT= 7	STAGE 3	INT= 7	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				18				
B1,B2	1	3.40	1	1	12.5		N	1955	82	546		628	0.13	1925			1925	0.326	0.326		53	53	0.539	36
B2	1	3.40	1	1				2095		683		683	0.00	2095			2095	0.326			53	53	0.538	40
A1	1,2	3.40	2	1			N	1955		684		684	0.00	1955			1955	0.350			57	65	0.474	26
A1	1,2	3.40	2	1				2095		733		733	0.00	2095			2095	0.350			57	65	0.474	28
A2	2	3.40	3	1	20			2095			20	20	1.00	1949			1949	0.010	0.010	4	2	6	0.159	3
C1,C2	3	4.50	4	1	15		N	2065	28		99	127	1.00	1877			1877	0.068	0.068		11	11	0.539	16

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED OF SG(FG) = 1.2(0.9)m/s QUEUING LENGTH = AVERAGE QUEUE * 6m