

## **Appendix 5**

### Traffic Impact Assessment (TIA)

**Proposed Social Welfare Facility (Residential Care Home for  
the Elderly (RCHE)) in “Village Type Development” Zone at  
Lots 669 S.A ss.2 RP and 669 S.B RP**

**Traffic Impact Assessment**

**Report**

**February 2024**



**CTA Consultants Limited**

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**志達顧問有限公司**

## LIST OF CONTENTS

<b>1.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Background .....	1
1.2	Study Objectives .....	1
<b>2.</b>	<b>THE PROPOSED DEVELOPMENT .....</b>	<b>2</b>
2.1	Site Location .....	2
2.2	Development Proposal .....	2
2.3	Provision of Internal Transport Facilities .....	3
2.4	Provision Access Arrangement .....	3
<b>3.</b>	<b>EXISTING TRAFFIC CONDITION .....</b>	<b>4</b>
3.1	Existing Road Network .....	4
3.2	Critical Junctions.....	4
3.3	Public Transport Services in the Vicinity .....	6
<b>4.</b>	<b>FUTURE TRAFFIC CONDITION &amp; TRAFFIC IMPACT ASSESSMENT .....</b>	<b>7</b>
4.1	Design Year .....	7
4.2	Traffic Forecast .....	7
4.3	Reference Traffic Flow in Year 2031 .....	8
4.4	Traffic Trips of the Proposed Development .....	10
4.5	Planned Junction Improvement Works under YLS DA.....	11
4.6	Traffic Forecast for Design Year 2031 .....	12
4.7	Operational Assessment .....	12
<b>5.</b>	<b>SUMMARY AND CONCLUSION .....</b>	<b>14</b>
5.1	Summary .....	14
5.2	Conclusion .....	14

### Appendix 1 – Junction Calculation Sheets

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## LIST OF TABLES

Table 2.1	Parameters of the Proposed Development	2
Table 2.2	Proposed Provisions of Internal Transport Facilities	3
Table 3.1	Identified Critical Junctions	4
Table 3.2	Operational Performances of Critical Junctions in 2023	5
Table 3.3	Public Transport Services in the Vicinity of the Proposed Development	6
Table 4.1	Historical Traffic Data from Annual Traffic Census (ATC)	7
Table 4.2	2019-Based Planning Data from 2019 to 2031	8
Table 4.3	Major Planned/ Committed Development in the Vicinity	9
Table 4.4	Estimated Traffic Trips of the Proposed Development	9
Table 4.5	Trip Rates at Pok Oi Hospital Yeung Chun Pui Care and Attention Home	10
Table 4.6	Trip Rates at Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged	11
Table 4.7	Operational Performance of Critical Junctions in Year 2031 Off-Peaks	13

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## LIST OF FIGURES

- Figure 1.1 Site Location Plan
- Figure 2.1 Ground Floor Plan
- Figure 3.1 Key Junctions and Existing Road Network
- Figure 3.2 Existing Junction Layout of Shap Pat Heung Interchange (A)
- Figure 3.3 Existing Junction Layout of Shap Pat Heung Road / Tai Kei Leung Road (B)
- Figure 3.4 Existing Junction Layout of Shap Pat Heung Road / Fung Ki Road (C)
- Figure 3.5 Existing Junction Layout of Tai Tong Road / Shap Pat Heung Road (D)
- Figure 3.6 Existing Junction Layout of Shap Pat Heung Road/ Tai Shu Ha Road East (E)
- Figure 3.7 Existing Junction Layout of Shap Pat Heung Road / Kung Um Road/ Kiu Hing Road (F)
- Figure 3.8 Existing Junction Layout of Wong Nai Tun Tsuen Road/ Kung Um Road (G)
- Figure 3.9 Existing Junction Layout of Wong Nai Tun Tsuen Road (H)
- Figure 3.10 2023 Existing Off-peak Traffic Flows
- Figure 4.1 Future Adjacent Developments in the Vicinity
- Figure 4.2 2031 Reference Off-peak Traffic Flow
- Figure 4.3 Junction Improvement Layout of Shap Pat Heung Interchange (A)
- Figure 4.4 Junction Improvement Layout of Shap Pat Heung Road / Fung Ki Road (F)
- Figure 4.5 Junction Improvement Layout of Wong Nai Tun Tsuen Road/ Kung Um Road (G)
- Figure 4.6 Junction Improvement Layout of Wong Nai Tun Tsuen Road (H)
- Figure 4.7 2031 Design Off-peak Traffic Flow
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## 1. INTRODUCTION

### 1.1 Background

1.1.1 The application site is located at Lots 669 S.A ss.2 RP and 669 S.B RP and Adjoining Government Land on the Approved Tai Tong Outline Zoning Plan (OZP), New Territories. The site location is shown in **Figure 1.1**.

1.1.2 In support of the aforesaid application, a traffic impact assessment is required to review and appraise any possible traffic impact induced by the proposed development on the adjacent road network.

1.1.3 CTA Consultants Limited (CTA) was therefore commissioned as the traffic consultant to prepare the Traffic Impact Assessment (TIA) and provide technical justifications in supporting the application from traffic engineering point of view.

### 1.2 Study Objectives

1.2.1 Main objectives of this study are listed below:

- To assess the existing and proposed traffic arrangement & provision of internal transport facilities at the subject site;
- To assess the existing traffic condition in the vicinity of the proposed development;
- To estimate traffic trips related to the proposed development;
- To carry out forecasts about traffic demand of the adjacent road network in design year 2031;
- To appraise any possible traffic impact induced by the proposed development on the adjacent road network;
- To recommend traffic improvement measures to alleviate any foreseeable traffic problem to the surrounding road network, if any.



## 2. THE PROPOSED DEVELOPMENT

### 2.1 Site Location

2.1.1 The application site is located at Lots 669 S.A ss.2 RP and 669 S.B RP and Adjoining Government Land on the Approved Tai Tong Outline Zoning Plan (OZP), New Territories. The site location is shown in **Figure 1.1**.

2.1.2 The proposed site is close to the Development Area (DA) of Yuen Long South (YLS). YLS DA is bounded by Kung Um Road and Kiu Hing Road to the east, Yeung Ka Tsuen to the south, Yuen Long Highway to the west and north.

2.1.3 New transport infrastructures and enhancement works of existing roads including sections of existing Kung Um Road, Kiu Hing Road and Wong Nai Tun Tsuen Road are proposed under the YLS DA scheme.

### 2.2 Development Proposal

2.2.1 Parameters of the proposed development are listed in **Table 2.1**.

**Table 2.1 Parameters of the Proposed Development**

<b>Proposed Use</b>	Residential Care Home for the Elderly (RCHE)
<b>Site Area</b>	About 2,244 m <sup>2</sup>
<b>Total GFA</b>	Not exceeding 12,000 m <sup>2</sup>
<b>Nos. of Block</b>	1
<b>No. of Storeys</b>	Not exceeding 8 storeys
<b>No. of Beds</b>	300-360

2.2.2 It is anticipated that the proposed development will be commissioned in year 2028. Therefore, design year 2031 (i.e. 3 years after the planned commencement year of the proposed development) is adopted for the Traffic Impact Assessment.



## 2.3 Provision of Internal Transport Facilities

2.3.1 The internal transport facilities provision is summarized in **Table 2.2** below:

**Table 2.2 Proposed Provisions of Internal Transport Facilities**

Type	Proposed Dimensions	Proposed Number of Spaces
Private Cars	5m(L) x 2.5m(W) x min.2.4m(H)	16
Private Cars for Disabilities	5m(L) x 3.5m(W) x min.2.4m(H)	2
Light Good Vehicles	7m(L) x 3.5m(W) x min.5.0m(H)	1

2.3.2 Our proposed development provided 18 private parking spaces and 1 light good vehicle parking.

2.3.3 The ground floor layout plan of the proposed development showing the proposed internal transport provision is shown in **Figure 2.1**.

## 2.4 Provision Access Arrangement

2.4.1 The XYZ is located as shown in **Figure 2.1** and the width of XYZ is approx. 7.5 m. The XYZ points are directly connected to Wong Ngai Tun Tsuen Road, which is a single-track road with two-way traffic currently.

### 3. EXISTING TRAFFIC CONDITION

#### 3.1 Existing Road Network

3.1.1 Wong Ngai Tun Tsuen Road is a single-track road. It is a local road connecting Kung Um Road and Pak Sha Shan Road to the west and Kiu Hing Road to the east. It is the only access road connecting the proposed development. It serves for the traffic travelling North and South in vicinity.

#### 3.2 Critical Junctions

3.2.1 Eight junctions are identified to be critical for the Traffic Impact Assessment due to the proposed development. Relevant details are listed in **Table 3.1** and shown in **Figure 3.1**. Existing junction layouts are tabulated in **Figures 3.2 to 3.9** respectively.

**Table 3.1 Identified Critical Junctions**

Ref.	Junction	Type	Figure No.
A	Shap Pat Heung Interchange	Roundabout	3.2
B	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	3.3
C	Shap Pat Heung Road / Fung Ki Road	Signalized	3.4
D	Tai Tong Road / Shap Pat Heung Road	Signalized	3.5
E	Shap Pat Heung Road/ Tai Shu Ha Road East	Priority	3.6
F	Shap Pat Heung Road / Kung Um Road/ Kiu Hing Road	Signalized	3.7
G	Wong Nai Tun Tsuen Road/ Kung Um Road	Priority	3.8
H	Wong Nai Tun Tsuen Road	Priority	3.9

3.2.2 It is revealed that people would visit RCHE mainly during off-peak from 10 am to 5 pm rather than at peak hours. The assessment of the impact due to the proposed development will therefore base on the traffic flow determine from off-peak.

3.2.3 In order to study the existing traffic condition of the above critical junctions, traffic survey in the form of manual-classified count was conducted for the eight junctions during the off-peak periods on a typical weekday in December 2023 from 10:00am to 12:00 noon and 15:00pm to 17:00pm respectively. The survey provides most up-to-date details of the traffic condition within the study area under normal operation. Based on the observed traffic flows, it reveals that peak of Off-peak hour occurred from 10:30am to 11:30am, 15:30pm to 16:30pm respectively.

3.2.4 The 2023 existing off-peak traffic flows are presented in **Figure 3.10**. The operational performances of the critical junctions are listed in **Table 3.2** below.

**Table 3.2 Operational Performances of Critical Junctions in 2023**

Ref.	Junction	Method of Control	Year 2023 RC/DFC <sup>(1)</sup>	
			AM Off-Peak	PM Off-Peak
A	Shap Pat Heung Interchange	Roundabout	0.57	0.67
B	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	>100%	>100%
C	Shap Pat Heung Road / Fung Ki Road	Signalized	>100%	>100%
D	Tai Tong Road / Shap Pat Heung Road	Signalized	>100%	>100%
E	Shap Pat Heung Road/ Tai Shu Ha Road East	Priority	0.39	0.42
F	Shap Pat Heung Road / Kung Um Road/ Kiu Hing Road	Signalized	61%	56%
G	Wong Nai Tun Tsuen Road/ Kung Um Road	Priority	0.06	0.04
H	Wong Nai Tun Tsuen Road	Priority	0.13	0.05

Note: (1) RC = Reserve Capacity for Signal Junction;

DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout

3.2.5 The assessment results in **Table 3.2** indicate that all critical junctions are at present operating with ample capacities during the off-peak hours.



### 3.3 Public Transport Services in the Vicinity

3.3.1 Numerous road-based public transport services, for instance, franchised bus and GMB are also provided in vicinity of the proposed development. Details of the current services of franchised bus and GMB routes are listed in **Table 3.3**.

**Table 3.3 Public Transport Services in the Vicinity of the Proposed Development**

Service	Route	Origin - Destination	Frequency (mins)
Franchised Bus	K66	Tai Tong Wong Nai Tun Tsuen– Long Ping	4 - 15
GMB	39	Kung Um - Yuen Long Fung Cheung Road	5 - 8
GMB	39 <sup>(1)</sup>	Kung Um - Yuen Long Station	15 - 20

Note: (1) Special Service.



#### 4. FUTURE TRAFFIC CONDITION & TRAFFIC IMPACT ASSESSMENT

##### 4.1 Design Year

4.1.1 It is anticipated that the proposed development would be completed in 2028 tentatively with full intended operation. In order to assess the possible traffic impacts to the local road network due to the proposed development, year 2031 (i.e. 3 years after completion) has been adopted as the design year for this study.

##### 4.2 Traffic Forecast

4.2.1 To estimate the reference traffic flow in year 2031 (without the proposed development) in the local road network, an appropriate growth factor has to be identified for the area in the first instance. The following approaches have been adopted to derive the growth factor for the Area of Influence.

###### *Historical Trend*

4.2.2 Numerous traffic-count stations are located in the vicinity of the proposed development. The traffic counts reported in the Annual Traffic Census (ATC), which is published by Transport Department, over a period of five years, i.e. 2015 to 2019 are summarized in **Table 4.1**.

**Table 4.1 Historical Traffic Data from Annual Traffic Census (ATC)**

ATC Stn	Road Name	Annual Average Daily Traffic (AADT)					Avg. Annual Growth Rate
		2015	2016	2017	2018	2019	
5711	Shap Pat Heung Rd (From Shap Pat Heung INT to Tai Tong Rd)	23,020	21,960	21,810*	22,500*	23,400*	0.41%

Note: \*AADT estimated by Growth factor





Planning Data

4.2.3 Reference has also been made to the latest 2019-Based Territorial Population Employment Data Matrices (TPEDM) planning data published by the Planning Department for projection of population and employment within the study district. The average annual growth rates in terms of population and employment from 2019 to 2031 are tabulated in **Table 4.2**.

**Table 4.2 2019-Based Planning Data from 2019 to 2031**

Yuen Long District				
Data	Year			Average Annual Growth Rate
	2019	2026	2031	
Population	175,150	172,350	159,850	-0.76%
Employment	68,100	70,700	70,250	0.26%
Total	243,250	243,050	230,100	-0.46%

Adopted Growth Rate

4.2.4 A.A.D.T. of ATC indicates that the traffic flow of the local road network has an average annual growth rate of +0.41% from year 2015 to year 2019.

4.2.5 Whilst, the planning data indicates that the population and employment of the study area are expected to grow with an average annual growth rate of -0.46%.

4.2.6 As a conservative approach, annual growth rate **+0.5% p.a.** is adopted. It is deemed sufficient to allow for any unexpected future growth as a result of some changes in land use or development in the study area.

**4.3 Reference Traffic Flow in Year 2031**

4.3.1 The year 2031 reference traffic flow is estimated by applying the adopted growth rate to the year 2023 adopted traffic flow.

Adjacent New Developments

4.3.2 Additional traffic generation and attraction of major committed/planned developments in the vicinity have been estimated and superimposed onto the road network to derive the year 2031 reference traffic flow. The committed/planned developments in the vicinity are summarized and illustrated in **Table 4.3** and **Figure 4.1**.

**Table 4.3 Major Planned/ Committed Development in the Vicinity**

Site	Proposed Use	Application No.	Proposed Use	Development Parameters
A	Private Housing	A/YL-TT/430	Proposed Filling of Land and Excavation of Land for 47 Permitted Houses	47 Houses <sup>(1)</sup>
B	Public Housing	-	Yuen Long South Development Phase 1	4,800 Units <sup>(2)</sup>
C	Public Housing	-	Yuen Long South Development Phase 2	12,600 Units <sup>(3)</sup>

Notes: (1) Source from:

[https://www.tpb.gov.hk/en/papers/RNTPC/TMYLW/A\\_YL-TT\\_430/A\\_YL TT\\_430\\_MainPaper.pdf](https://www.tpb.gov.hk/en/papers/RNTPC/TMYLW/A_YL-TT_430/A_YL TT_430_MainPaper.pdf)

(2) Source from:

[https://www.districtcouncils.gov.hk/yl/doc/2020\\_2023/en/dc\\_meetings\\_doc/23821/dc\\_paper\\_2023\\_4\\_eng.pdf](https://www.districtcouncils.gov.hk/yl/doc/2020_2023/en/dc_meetings_doc/23821/dc_paper_2023_4_eng.pdf)

(3) Source from:

[Yuen Long South Development Area | Yuen Long South Development | \(yls.hk\)](https://www.districtcouncils.gov.hk/yl/doc/2020_2023/en/dc_meetings_doc/23821/dc_paper_2023_4_eng.pdf)

4.3.3 Based on the vicinity developments, the estimated traffic trip generation and attraction for the major planned/ committed development are summarized in the **Table 4.4**.

**Table 4.4 Estimated Traffic Trips of the Proposed Development**

Site	Traffic Trips			
	AM Off Peak		PM Off Peak	
	Gen.	Att.	Gen.	Att.
A <sup>(1)</sup>	16	11	7	8
B <sup>(2)</sup>	299	205	143	193
C <sup>(2)</sup>	784	537	375	506

Notes: 1) Trip rate of 70m<sup>2</sup> flat size in TPDM is used as conservative approach

2) Trip rate of 50m<sup>2</sup> flat size in TPDM is used as conservative approach



4.3.4 The 2031 reference off-peak traffic flows are presented in **Figure 4.2**.

$$\text{2031 Reference Flows (without proposed development)} = \text{2023 Adopted Flows} \times \text{Adopted Growth Factor i.e. +0.5\% p.a. for 8 years} + \text{Adjacent Developments}$$

#### 4.4 Traffic Trips of the Proposed Development

4.4.1 It is noted that traffic rates of both generation and attraction for proposed development uses are not specified in the latest Transport Planning & Design Manual (TPDM).

4.4.2 In order to study the generation/attraction data from the RCHE, a traffic survey was conducted at Pok Oi Hospital Yeung Chun Pui Care and Attention Home (with 143 nos. of bed) and Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged (with 120 nos. of bed) in December 2023.

4.4.3 The traffic trip rates and estimated traffic trips related to the proposed development are summarized in the **Tables 4.5** and **4.6**.

**Table 4.5 Trip Rates at Pok Oi Hospital Yeung Chun Pui Care and Attention Home**

Use	Units / Parameters	AM Off-Peak		PM Off-Peak	
		Gen.	Att.	Gen.	Att.
Pok Oi Hospital Yeung Chun Pui Care and Attention Home	(pcu/hr)	2	2	3	2
Adopted Traffic Trip Rates (143 beds)	(pcu/hr/bed)	0.01	0.01	0.02	0.01
<b>Estimated Traffic Trips (Approx. 360 beds)</b>	(pcu/hr)	<b>6</b>	<b>6</b>	<b>8</b>	<b>6</b>

**Table 4.6 Trip Rates at Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged**

Use	Units / Parameters	AM Off-Peak		PM Off-Peak	
		Gen.	Att.	Gen.	Att.
Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged	(pcu/hr)	2	0	0	0
Adopted Traffic Trip Rates (120 beds)	(pcu/hr/bed)	0.02	0	0	0
<b>Estimated Traffic Trips (Approx. 360 beds)</b>	(pcu/hr)	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>

4.4.4 Taken into account, traffic trip rate at Pok Oi Hospital Yeung Chun Pui Care and Attention Home is adopted for the proposed development.

#### 4.5 Planned Junction Improvement Works under YLS DA

##### JA- Shap Pat Heung Interchange

- Junction improvement is proposed under YLS DA – Phase 1
- A new slip road is proposed running from Shap Pat Heung Road to Yuen Long Highway
- The proposed junction improvement is illustrated in **Figure 4.3**

##### JF- Shap Pat Heung Road / Kung Um Road/ Kiu Hing Road

- Junction improvement is proposed under YLS DA – Phase 1
- Lane -widening from one lane to two lane in the southern part of Kung Um Road
- Lane -widening from one lane to two lane in the southern part of Kiu Hing Road
- Lane -widening at westbound of Shap Pat Heung Road to the junction
- The proposed junction improvement is illustrated in **Figure 4.4**

JG-Wong Nai Tun Tsuen Road/ Kung Um Road

- Junction improvement is proposed under YLS DA – Phase 2.
- Kung Um Road would be converted to one-way northbound
- Pak Sha Shan Road would be converted one-way southbound
- Kung Um Road and Pak Sha Shan Road would be upgraded into a 2 -lane 6.75m carriage
- The existing priority junction would be changed to signalized junction
- The proposed junction improvement is illustrated in **Figure 4.5**

JH- Wong Nai Tun Tsuen Road

- Junction improvement is proposed under YLS DA – Phase 2.
- Wong Nai Tun Tsuen Road will be converted to one-way northbound with width of 5.2m
- Kiu Hing Road will be converted one-way southbound with width of 5.2m
- The proposed junction improvement is illustrated in **Figure 4.6**

#### 4.6 Traffic Forecast for Design Year 2031

4.6.1 The traffic trips of the proposed development, which is superimposed onto the year 2031 reference traffic flow (without the proposed development) as shown in **Figure 4.2** to derive the year 2031 design traffic flow (with the proposed development).

$$\begin{array}{l} \text{Year 2031 Design Flow} \\ \text{(with the Proposed} \\ \text{Development)} \end{array} = \begin{array}{l} \text{Year 2031 Reference} \\ \text{Flow} \\ \text{(without the Proposed} \\ \text{Development)} \end{array} + \begin{array}{l} \text{Traffic Trips of the} \\ \text{Proposed} \\ \text{Development} \end{array}$$

4.6.2 The traffic flow during Off-peaks derived from AM and PM peak periods in the design year 2031 (with the proposed development) are shown in **Figure 4.7**.

#### 4.7 Operational Assessment

4.7.1 To assess traffic impacts due to the proposed development, operational assessment of the critical junctions identified in Chapter 3 are carried out for both reference (without the proposed development) and design (with the proposed development) scenarios in year 2031. The results are summarized in **Table 4.7**.

**Table 4.7 Operational Performance of Critical Junctions in Year 2031 Off-Peaks**

Ref.	Junction	Method of Control	Year 2031 RC/DFC <sup>(1)</sup>			
			Reference Scenario (Without the Proposed Development)		Design Scenario (With the Proposed Development)	
			AM Off-Peak	PM Off-Peak	AM Off-Peak	PM Off-Peak
A <sup>(2)</sup>	Shap Pat Heung Interchange	Roundabout	0.70	0.83	0.70	0.83
B	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	67%	>100%	66%	>100%
C	Shap Pat Heung Road / Fung Ki Road	Signalized	>100%	>100%	>100%	>100%
D	Tai Tong Road / Shap Pat Heung Road	Signalized	97%	>100%	97%	>100%
E	Shap Pat Heung Road/ Tai Shu Ha Road East	Priority	0.41	0.45	0.42	0.45
F <sup>(2)</sup>	Shap Pat Heung Road / Kung Um Road/ Kiu Hing Road	Signalized	33%	44%	33%	43%
G <sup>(3)</sup>	Wong Nai Tun Tsuen Road/ Kung Um Road	Signalized	>100%	>100%	>100%	>100%
H <sup>(3)</sup>	Wong Nai Tun Tsuen Road	Priority	0.10	0.03	0.10	0.04

Notes: (1) RC = Reserve Capacity for Signal Junction;

DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout

(2) Junction improvement under YLS DA Phase 1

(3) Junction improvement under YLS DA Phase 2

4.7.2 The assessment result in **Table 4.6** reveals that all Junctions operate with ample capacities in both reference and design scenarios in year 2031.

4.7.3 The traffic generated by the proposed development would induce insignificant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.



## **5. SUMMARY AND CONCLUSION**

### **5.1 Summary**

5.1.1 The application site intends to redevelop to Residential Care Home for the Elderly (RCHE).

5.1.2 CTA Consultants Limited (CTA), are therefore commissioned as the traffic consultant to prepare the Traffic Impact Assessment (TIA) and provide technical justifications in supporting the application from traffic engineering point of view.

5.1.3 To appraise the existing traffic condition, a vehicular survey in the form of manual-classified count was conducted at the surrounding road network of the proposed development. Current operational performance of the critical junctions has been assessed with the observed traffic flow. As the people would visit RCHE mainly from 10am to 5pm rather than peak hours, therefore the assessment of the impact due to the proposed development will base on the traffic flow determine from off-peak. The results reveal that all critical junctions are at present operating within its capacities.

5.1.4 Assessment of operational performance of the critical junctions indicates that all critical junctions will still operate within their capacities in both reference and design scenarios in year 2031.

5.1.5 The traffic generated by the proposed development would induce insignificant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.

### **5.2 Conclusion**

5.2.1 In conclusion, this Traffic Impact Assessment (TIA) study demonstrated that the related traffic trips related to the proposed development can be absorbed by the nearby road network and no significant traffic impact will be induced.

5.2.2 Therefore, the proposed redevelop of RCHE is reckoned feasible from traffic engineering point of view.



## Appendix 1

# Junction Calculation Sheets



Junctions 8
ARCADY 8 - Roundabout Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2024
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**Path:** \\CTA\_NAS01\Project\CTA Consultants Limited\CTA - Project\23120HK - Proposed RCHE development in Tai Tong\Calculation\2024-02-14

**Report generation date:** 14/2/2024 11:56:38

- » Shap Pat Heung Interchange - 2023 Existing, AM
- » Shap Pat Heung Interchange - 2023 Existing, PM
- » Shap Pat Heung Interchange - 2031 Reference, AM
- » Shap Pat Heung Interchange - 2031 Reference, PM
- » Shap Pat Heung Interchange - 2031 Design, AM
- » Shap Pat Heung Interchange - 2031 Design, PM

### Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
<b>Shap Pat Heung Interchange - 2023 Existing</b>								
<b>Arm 1</b>	1.14	3.06	0.53	A	2.04	4.48	0.67	A
<b>Arm 2</b>	1.30	3.35	0.57	A	1.03	3.33	0.51	A
<b>Arm 3</b>	1.00	2.68	0.50	A	0.78	2.26	0.44	A
<b>Shap Pat Heung Interchange - 2031 Design</b>								
<b>Arm 1</b>	2.29	4.90	0.70	A	4.79	8.78	0.83	A
<b>Arm 2</b>	1.80	4.44	0.64	A	1.39	4.32	0.58	A
<b>Arm 3</b>	0.28	1.74	0.22	A	0.30	1.66	0.23	A
<b>Shap Pat Heung Interchange - 2031 Reference</b>								
<b>Arm 1</b>	2.29	4.90	0.70	A	4.72	8.66	0.83	A
<b>Arm 2</b>	1.76	4.39	0.64	A	1.36	4.27	0.58	A
<b>Arm 3</b>	0.28	1.74	0.22	A	0.29	1.65	0.23	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

- "D1 - 2023 Existing, AM" model duration: 8:00 - 9:30
- "D2 - 2023 Existing, PM" model duration: 8:00 - 9:30
- "D3 - 2031 Reference, AM" model duration: 8:00 - 9:30
- "D4 - 2031 Reference, PM" model duration: 8:00 - 9:30
- "D5 - 2031 Design, AM" model duration: 8:00 - 9:30
- "D6 - 2031 Design, PM" model duration: 8:00 - 9:30

Run using Junctions 8.0.5.523 at 14/2/2024 11:56:34

## File summary

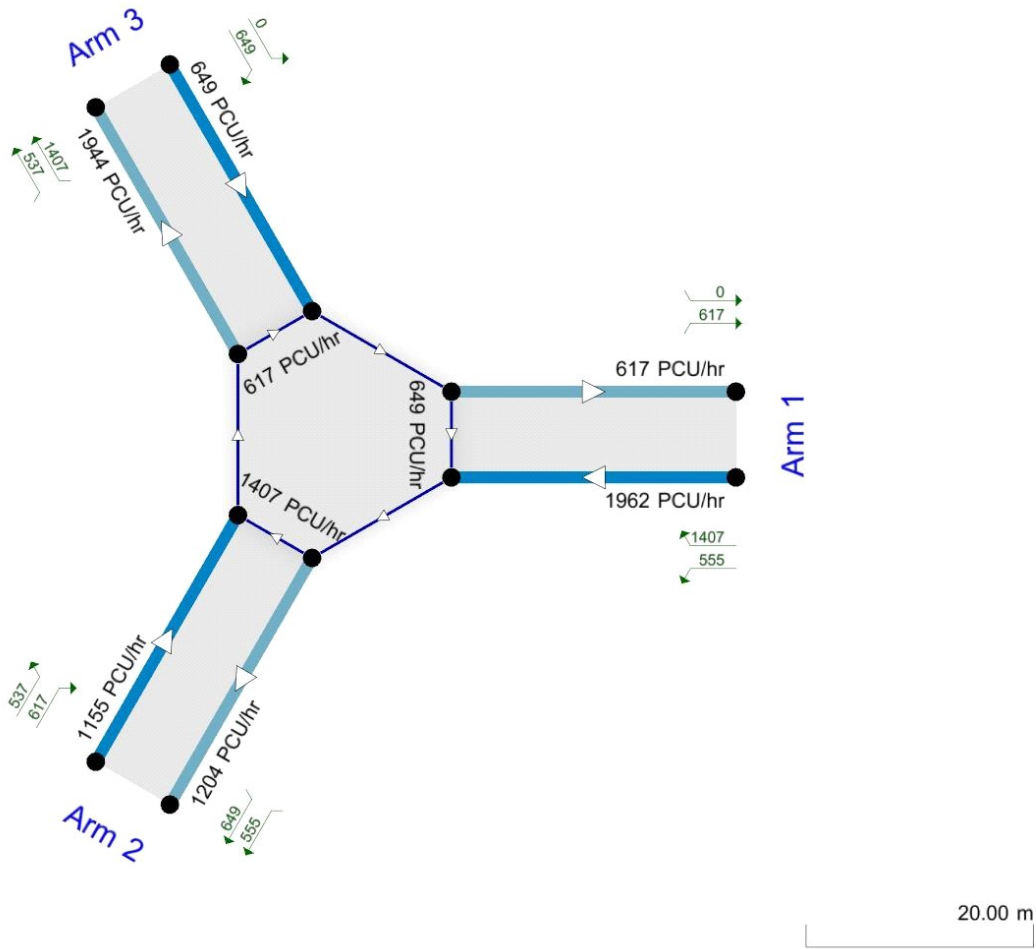
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<b>Location</b>	
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<b>Date</b>	11/10/2018
<b>Version</b>	
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<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	ITADMIN
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).  
 Time Segment: (08:00-08:15)  
 Showing Analysis Set "A1 - Shap Pat Heung Interchange"; Demand Set "D1 - 2023 Existing, AM"

The junction diagram reflects the last run of ARCADY.

## Shap Pat Heung Interchange - 2023 Existing, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			3.04	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.20	9.70	20.00	26.36	100.00	41.00	
2	8.58	9.50	20.00	36.67	100.00	34.00	
3	11.50	12.00	25.00	29.00	100.00	67.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.595	2775.943
2		(calculated)	(calculated)	0.615	2866.468
3		(calculated)	(calculated)	0.638	3216.272

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1340.00	100.000
2	FLAT	✓	1400.00	100.000
3	FLAT	✓	1340.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	700.000	640.000
	2	840.000	0.000	560.000
	3	900.000	440.000	0.000

## Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.52	0.48
	2	0.60	0.00	0.40
	3	0.67	0.33	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

### Heavy Vehicle Percentages - Junction E (for whole period)

		To		
From		1	2	3
	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.53	3.06	1.14	A
2	0.57	3.35	1.30	A
3	0.50	2.68	1.00	A

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1340.00	1335.47	438.70	0.00	2515.12	0.533	1.13	3.041	A
2	1400.00	1394.83	637.84	0.00	2474.48	0.566	1.29	3.318	A
3	1340.00	1336.03	836.90	0.00	2682.56	0.500	0.99	2.666	A

#### Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1340.00	1339.98	439.99	0.00	2514.34	0.533	1.14	3.064	A
2	1400.00	1399.97	639.99	0.00	2473.15	0.566	1.30	3.353	A
3	1340.00	1339.98	839.98	0.00	2680.59	0.500	1.00	2.684	A

#### Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1340.00	1339.99	440.00	0.00	2514.34	0.533	1.14	3.064	A
2	1400.00	1399.99	640.00	0.00	2473.15	0.566	1.30	3.353	A
3	1340.00	1340.00	840.00	0.00	2680.58	0.500	1.00	2.684	A

#### Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1340.00	1340.00	440.00	0.00	2514.34	0.533	1.14	3.064	A
2	1400.00	1400.00	640.00	0.00	2473.15	0.566	1.30	3.353	A
3	1340.00	1340.00	840.00	0.00	2680.58	0.500	1.00	2.684	A

**Main results: (09:00-09:15)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1340.00	1340.00	440.00	0.00	2514.34	0.533	1.14	3.064	A
2	1400.00	1400.00	640.00	0.00	2473.15	0.566	1.30	3.353	A
3	1340.00	1340.00	840.00	0.00	2680.58	0.500	1.00	2.684	A

**Main results: (09:15-09:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1340.00	1340.00	440.00	0.00	2514.34	0.533	1.14	3.064	A
2	1400.00	1400.00	640.00	0.00	2473.15	0.566	1.30	3.353	A
3	1340.00	1340.00	840.00	0.00	2680.58	0.500	1.00	2.684	A

# Shap Pat Heung Interchange - 2023 Existing, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			3.47	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.20	9.70	20.00	26.36	100.00	41.00	
2	8.58	9.50	20.00	36.67	100.00	34.00	
3	11.50	12.00	25.00	29.00	100.00	67.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.595	2775.943
2		(calculated)	(calculated)	0.615	2866.468
3		(calculated)	(calculated)	0.638	3216.272

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1640.00	100.000
2	FLAT	✓	1110.00	100.000
3	FLAT	✓	1240.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	540.000	1100.000
	2	600.000	0.000	510.000
	3	680.000	560.000	0.000



### Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.33	0.67
	2	0.54	0.00	0.46
	3	0.55	0.45	0.00

## Vehicle Mix

### Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

### Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.67	4.48	2.04	A
2	0.51	3.33	1.03	A
3	0.44	2.26	0.78	A

### Main Results for each time segment

#### Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1640.00	1631.96	558.60	0.00	2443.83	0.671	2.01	4.392	A
2	1110.00	1105.93	1094.61	0.00	2193.77	0.506	1.02	3.297	A
3	1240.00	1236.90	597.80	0.00	2835.04	0.437	0.77	2.249	A

**Main results: (08:15-08:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1640.00	1639.93	560.00	0.00	2443.00	0.671	2.03	4.482	A
2	1110.00	1109.98	1099.96	0.00	2190.48	0.507	1.02	3.331	A
3	1240.00	1239.99	599.99	0.00	2833.64	0.438	0.78	2.258	A

**Main results: (08:30-08:45)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1640.00	1639.98	560.00	0.00	2443.00	0.671	2.03	4.482	A
2	1110.00	1109.99	1099.99	0.00	2190.46	0.507	1.02	3.331	A
3	1240.00	1240.00	600.00	0.00	2833.64	0.438	0.78	2.258	A

**Main results: (08:45-09:00)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1640.00	1639.99	560.00	0.00	2443.00	0.671	2.03	4.482	A
2	1110.00	1110.00	1099.99	0.00	2190.46	0.507	1.03	3.331	A
3	1240.00	1240.00	600.00	0.00	2833.64	0.438	0.78	2.258	A

**Main results: (09:00-09:15)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1640.00	1639.99	560.00	0.00	2443.00	0.671	2.04	4.482	A
2	1110.00	1110.00	1100.00	0.00	2190.45	0.507	1.03	3.331	A
3	1240.00	1240.00	600.00	0.00	2833.63	0.438	0.78	2.258	A

**Main results: (09:15-09:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1640.00	1640.00	560.00	0.00	2443.00	0.671	2.04	4.482	A
2	1110.00	1110.00	1100.00	0.00	2190.45	0.507	1.03	3.331	A
3	1240.00	1240.00	600.00	0.00	2833.63	0.438	0.78	2.258	A

# Shap Pat Heung Interchange - 2031 Reference, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Reference, AM	2031 Reference	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			4.20	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

## Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.20	9.70	20.00	26.36	100.00	41.00	
2	8.58	9.50	20.00	36.67	100.00	34.00	
3	11.50	12.00	25.00	29.00	100.00	67.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.595	2775.943
2		(calculated)	(calculated)	0.615	2866.468
3		(calculated)	(calculated)	0.638	3216.272

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1690.00	100.000
2	FLAT	✓	1450.00	100.000
3	FLAT	✓	590.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	720.000	970.000
	2	870.000	0.000	580.000
	3	0.000	590.000	0.000

## Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.43	0.57
	2	0.60	0.00	0.40
	3	0.00	1.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.70	4.90	2.29	A
2	0.64	4.39	1.76	A
3	0.22	1.74	0.28	A

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1680.97	588.86	0.00	2425.83	0.697	2.26	4.777	A
2	1450.00	1443.05	964.82	0.00	2273.53	0.638	1.74	4.301	A
3	590.00	588.86	865.83	0.00	2664.11	0.221	0.28	1.734	A

### Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.92	590.00	0.00	2425.16	0.697	2.28	4.894	A
2	1450.00	1449.93	969.95	0.00	2270.37	0.639	1.75	4.387	A
3	590.00	590.00	869.96	0.00	2661.47	0.222	0.28	1.737	A

### Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.97	590.00	0.00	2425.16	0.697	2.28	4.896	A
2	1450.00	1449.98	969.98	0.00	2270.35	0.639	1.76	4.387	A
3	590.00	590.00	869.99	0.00	2661.45	0.222	0.28	1.737	A

### Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.99	590.00	0.00	2425.16	0.697	2.29	4.896	A
2	1450.00	1449.99	969.99	0.00	2270.35	0.639	1.76	4.388	A
3	590.00	590.00	869.99	0.00	2661.45	0.222	0.28	1.737	A

### Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.99	590.00	0.00	2425.16	0.697	2.29	4.896	A
2	1450.00	1449.99	970.00	0.00	2270.35	0.639	1.76	4.388	A
3	590.00	590.00	870.00	0.00	2661.45	0.222	0.28	1.737	A

**Main results: (09:15-09:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.99	590.00	0.00	2425.16	0.697	2.29	4.896	A
2	1450.00	1450.00	970.00	0.00	2270.35	0.639	1.76	4.388	A
3	590.00	590.00	870.00	0.00	2661.45	0.222	0.28	1.737	A

# Shap Pat Heung Interchange - 2031 Reference, PM

**Data Errors and Warnings**

No errors or warnings

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Reference, PM	2031 Reference	PM		FLAT	08:00	09:30	90	15		

## Junction Network

**Junctions**

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			6.13	A

**Junction Network Options**

Driving Side	Lighting
Left	Normal/unknown

## Arms

**Arms**

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

**Capacity Options**

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.20	9.70	20.00	26.36	100.00	41.00	
2	8.58	9.50	20.00	36.67	100.00	34.00	
3	11.50	12.00	25.00	29.00	100.00	67.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.595	2775.943
2		(calculated)	(calculated)	0.615	2866.468
3		(calculated)	(calculated)	0.638	3216.272

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1980.00	100.000
2	FLAT	✓	1150.00	100.000
3	FLAT	✓	640.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	560.000	1420.000
	2	620.000	0.000	530.000
	3	0.000	640.000	0.000

### Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.28	0.72
	2	0.54	0.00	0.46
	3	0.00	1.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.83	8.66	4.72	A
2	0.58	4.27	1.36	A
3	0.23	1.65	0.29	A

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1961.93	638.83	0.00	2396.13	0.826	4.52	7.988	A
2	1150.00	1144.66	1407.04	0.00	2001.76	0.574	1.34	4.175	A
3	640.00	638.83	617.12	0.00	2822.72	0.227	0.29	1.648	A

### Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.52	640.00	0.00	2395.43	0.827	4.64	8.629	A
2	1150.00	1149.93	1419.66	0.00	1994.00	0.577	1.35	4.265	A
3	640.00	640.00	619.96	0.00	2820.90	0.227	0.29	1.649	A



**Main results: (08:30-08:45)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.83	640.00	0.00	2395.43	0.827	4.68	8.646	A
2	1150.00	1149.98	1419.88	0.00	1993.87	0.577	1.36	4.265	A
3	640.00	640.00	619.99	0.00	2820.89	0.227	0.29	1.649	A

**Main results: (08:45-09:00)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.92	640.00	0.00	2395.43	0.827	4.70	8.653	A
2	1150.00	1149.99	1419.94	0.00	1993.83	0.577	1.36	4.265	A
3	640.00	640.00	620.00	0.00	2820.88	0.227	0.29	1.649	A

**Main results: (09:00-09:15)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.95	640.00	0.00	2395.43	0.827	4.71	8.656	A
2	1150.00	1150.00	1419.96	0.00	1993.81	0.577	1.36	4.266	A
3	640.00	640.00	620.00	0.00	2820.88	0.227	0.29	1.649	A

**Main results: (09:15-09:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.97	640.00	0.00	2395.43	0.827	4.72	8.658	A
2	1150.00	1150.00	1419.98	0.00	1993.81	0.577	1.36	4.266	A
3	640.00	640.00	620.00	0.00	2820.88	0.227	0.29	1.649	A

# Shap Pat Heung Interchange - 2031 Design, AM

## Data Errors and Warnings

*No errors or warnings*

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Design, AM	2031 Design	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			4.22	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

### Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.20	9.70	20.00	26.36	100.00	41.00	
2	8.58	9.50	20.00	36.67	100.00	34.00	
3	11.50	12.00	25.00	29.00	100.00	67.00	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.595	2775.943
2		(calculated)	(calculated)	0.615	2866.468
3		(calculated)	(calculated)	0.638	3216.272

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1690.00	100.000
2	FLAT	✓	1460.00	100.000
3	FLAT	✓	590.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	720.000	970.000
	2	870.000	0.000	590.000
	3	0.000	590.000	0.000

## Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.43	0.57
	2	0.60	0.00	0.40
	3	0.00	1.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.70	4.90	2.29	A
2	0.64	4.44	1.80	A
3	0.22	1.74	0.28	A

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1680.97	588.86	0.00	2425.83	0.697	2.26	4.777	A
2	1460.00	1452.92	964.82	0.00	2273.53	0.642	1.77	4.350	A
3	590.00	588.86	865.78	0.00	2664.14	0.221	0.28	1.734	A

### Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.92	590.00	0.00	2425.16	0.697	2.28	4.894	A
2	1460.00	1459.93	969.95	0.00	2270.37	0.643	1.79	4.442	A
3	590.00	590.00	869.96	0.00	2661.47	0.222	0.28	1.737	A

### Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.97	590.00	0.00	2425.16	0.697	2.28	4.896	A
2	1460.00	1459.98	969.98	0.00	2270.35	0.643	1.79	4.442	A
3	590.00	590.00	869.99	0.00	2661.45	0.222	0.28	1.737	A

### Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.99	590.00	0.00	2425.16	0.697	2.29	4.896	A
2	1460.00	1459.99	969.99	0.00	2270.35	0.643	1.80	4.442	A
3	590.00	590.00	869.99	0.00	2661.45	0.222	0.28	1.737	A

### Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.99	590.00	0.00	2425.16	0.697	2.29	4.896	A
2	1460.00	1459.99	970.00	0.00	2270.35	0.643	1.80	4.442	A
3	590.00	590.00	870.00	0.00	2661.45	0.222	0.28	1.737	A

**Main results: (09:15-09:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1690.00	1689.99	590.00	0.00	2425.16	0.697	2.29	4.896	A
2	1460.00	1460.00	970.00	0.00	2270.35	0.643	1.80	4.442	A
3	590.00	590.00	870.00	0.00	2661.45	0.222	0.28	1.737	A

# Shap Pat Heung Interchange - 2031 Design, PM

**Data Errors and Warnings**

*No errors or warnings*

**Analysis Set Details**

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

**Demand Set Details**

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Design, PM	2031 Design	PM		FLAT	08:00	09:30	90	15		

## Junction Network

**Junctions**

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			6.19	A

**Junction Network Options**

Driving Side	Lighting
Left	Normal/unknown

## Arms

**Arms**

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

**Capacity Options**

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

## Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	8.20	9.70	20.00	26.36	100.00	41.00	
2	8.58	9.50	20.00	36.67	100.00	34.00	
3	11.50	12.00	25.00	29.00	100.00	67.00	

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.595	2775.943
2		(calculated)	(calculated)	0.615	2866.468
3		(calculated)	(calculated)	0.638	3216.272

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1980.00	100.000
2	FLAT	✓	1160.00	100.000
3	FLAT	✓	650.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	560.000	1420.000
	2	620.000	0.000	540.000
	3	0.000	650.000	0.000

### Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.28	0.72
	2	0.53	0.00	0.47
	3	0.00	1.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.83	8.78	4.79	A
2	0.58	4.32	1.39	A
3	0.23	1.66	0.30	A

## Main Results for each time segment

### Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1961.69	648.81	0.00	2390.20	0.828	4.58	8.086	A
2	1160.00	1154.55	1406.87	0.00	2001.86	0.579	1.36	4.222	A
3	650.00	648.81	617.09	0.00	2822.74	0.230	0.30	1.656	A

### Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.50	650.00	0.00	2389.49	0.829	4.70	8.751	A
2	1160.00	1159.93	1419.64	0.00	1994.01	0.582	1.38	4.316	A
3	650.00	650.00	619.96	0.00	2820.90	0.230	0.30	1.657	A

**Main results: (08:30-08:45)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.83	650.00	0.00	2389.49	0.829	4.75	8.772	A
2	1160.00	1159.98	1419.88	0.00	1993.87	0.582	1.38	4.316	A
3	650.00	650.00	619.99	0.00	2820.89	0.230	0.30	1.657	A

**Main results: (08:45-09:00)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.91	650.00	0.00	2389.49	0.829	4.77	8.777	A
2	1160.00	1159.99	1419.94	0.00	1993.83	0.582	1.39	4.317	A
3	650.00	650.00	620.00	0.00	2820.88	0.230	0.30	1.657	A

**Main results: (09:00-09:15)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.95	650.00	0.00	2389.49	0.829	4.78	8.780	A
2	1160.00	1160.00	1419.96	0.00	1993.82	0.582	1.39	4.317	A
3	650.00	650.00	620.00	0.00	2820.88	0.230	0.30	1.657	A

**Main results: (09:15-09:30)**

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1980.00	1979.96	650.00	0.00	2389.49	0.829	4.79	8.784	A
2	1160.00	1160.00	1419.97	0.00	1993.81	0.582	1.39	4.317	A
3	650.00	650.00	620.00	0.00	2820.88	0.230	0.30	1.657	A



TRAFFIC SIGNALS CALCULATION

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(B)Shap Pat Heung Road / Tai Kei Leung Road**  
 Description: **2023 Existing Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (SB)	S	↓	A	1	3.5	0	0	1	0%	0%	1965	1965	396	0.201	0.201	377	0.192	0.192
	S	↓	A	1	3.5	0	0	0	0%	0%	2105	2105	424	0.201		403	0.192	
Shap Pat Heung Road (NB)	N	↑	A	1	3.5	0	0	1	0%	0%	1965	1965	309	0.157		357	0.182	
	N	↑	A	1	3.5	0	0	0	0%	0%	2105	2105	331	0.157		383	0.182	
Tai Kei Leng Road (EB)	E	↘	B	2	3.5	0	12	1	100%	100%	1745	1745	254	0.146	0.146	173	0.099	0.099
	E	↙	B	2	3.5	0	13.5	0	100%	100%	1895	1895	276	0.146		187	0.099	

Notes:	Traffic Flow (pcu / hr) AM(PM) 	Check Phase Eγ 0.347 L (sec) 10 C (sec) 90 y pract. 0.800 R.C. (%) 130%	Check Phase Eγ 0.291 L (sec) 10 C (sec) 90 y pract. 0.800 R.C. (%) 175%

Stage / Phase Diagrams			
1 	2 	3 	
L/G = 5	L/G = 7	L/G =	

**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(C)Shap Pat Heung Road / Fung Ki Road**  
 Description: **2023 Existing Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)		Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
					Left	Right	Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (WB)	W	↖	B	2	3.5	0	21	0	100%	100%	1965	1965	280	0.142	0.142	430	0.219	0.219	
	W	↔	B	2	3.5	0	0	0	0%	0%	2105	2105	199	0.094		220	0.104		
	W	↗	B	2	3.5	15	0	1	22%	25%	1925	1915	181	0.094		200	0.105		
The Access Road of The Reach	N	↖	E	4	3.5	15	0	1	100%	100%	1785	1785	10	0.006		10	0.006		
	N	↔	E	4	3.5	0	35	0	29%	2%	2080	2105	56	0.027		31	0.015		
	N	↗	E	4	3.5	0	30	0	100%	100%	2005	2005	54	0.027		29	0.015		
Shap Pat Heung Road (EB)	E	↔	A	1	3.5	15	0	1	100%	100%	1785	1785	170	0.095		120	0.067		
	E	↗	A	1	3.5	0	0	0	0%	0%	2105	2105	215	0.102	0.102	155	0.074	0.074	
	E	↖	A	1	3.5	0	0	0	0%	0%	2105	2105	215	0.102		155	0.074		
Fung Ki Road (SB)	S	↖	C	2,3	3.5	18	0	1	100%	100%	1815	1815	330	0.182		450	0.248		
	S	↔	D	3	3.5	0	23	0	35%	35%	2060	2060	46	0.022		61	0.030		
	S	↗	D	3	3.5	0	21	0	100%	100%	1965	1965	44	0.022		59	0.030		
Pedestrian crossing			Fp	Min. Crossing Time = 9Gm + 8FGm = 17s															
			Gp	Min. Crossing Time = 10Gm + 10FGm = 20s															
			Hp	Min. Crossing Time = 7Gm + 7FGm = 14s															
			Ip	Min. Crossing Time = 7Gm + 7FGm = 14s															
			Jp	Min. Crossing Time = 10Gm + 6FGm = 16s															

Notes:	<p>Traffic Flow (pcu / hr) [AM (PM)]</p>	<p>Check Phase</p> <p>εy 0.245                  L (sec) 28                  C (sec) 130                  y pract. 0.706                  R.C. (%) 189%</p>	<p>Check Phase</p> <p>εy 0.292                  L (sec) 28                  C (sec) 130                  y pract. 0.706                  R.C. (%) 141%</p>
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Stage / Phase Diagrams				
<p>1</p> <p>I/G = 6</p>	<p>2</p> <p>I/G = 6</p>	<p>3</p> <p>I/G = 5+5</p>	<p>4</p> <p>I/G = 5+5</p>	

**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(D) Tai Tong Road / Shap Pat Heung Road**  
 Description: **2023 Existing Traffic Flows**

Approach	Direction / Movement	Phase	Stage	Width (m)	Radius (m)		Nearside	Site Factor	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak			
					Left	Right			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Shap Pat Heung Road (WB)	W ↗	C	3	3.5	0	0	0	1	0%	0%	2105	2105	148	0.070	0.070	178	0.085	0.085	
	W ↖	C	3	3.5	0	30	0	1	70%	70%	2035	2035	143	0.070		172	0.085		
	W ↙	C	3	3.5	15	0	1	1	100%	100%	1785	1785	90	0.050		100	0.056		
Tai Tong Road (NB)	N ↗	B	2	3.5	15	0	1	1	0%	7%	1965	1950	206	0.105	0.105	153	0.078	0.078	
	N ↖	B	2	3.5	0	15	0	1	78%	51%	1950	2005	204	0.105		157	0.078		
Shap Pat Heung Road (EB)	E →	A	1	3.5	15	0	1	1	100%	100%	1785	1785	190	0.106	0.106	70	0.039		
	E →	A	1	3.5	0	0	0	1	0%	0%	2105	2105	185	0.088		130	0.062	0.062	
	E →	A	1	3.5	0	0	0	1	0%	0%	2105	2105	185	0.088		130	0.062		
Tai Tong Road (SB)	S ↖	D	4	3.5	15	0	1	1	41%	36%	1890	1895	148	0.078	0.078	197	0.104	0.104	
	S ↗	D	4	3.5	0	15	0	1	12%	23%	2080	2055	162	0.078		213	0.104		
Pedestrian crossing																			
			Ep	3,4	Min. Crossing Time = 6Gm + 6FGm = 12s														
			Fp	1,3,4	Min. Crossing Time = 7Gm + 7FGm = 14s														
			Gp	1,2	Min. Crossing Time = 8Gm + 8FGm = 16s														
			Hp	1,2,4	Min. Crossing Time = 10Gm + 10FGm = 20s														
			Ip	3,4	Min. Crossing Time = 8Gm + 8FGm = 16s														
			Jp	1,2,3	Min. Crossing Time = 6Gm + 8FGm = 14s														
			Kp	1,2,4	Min. Crossing Time = 6Gm + 6FGm = 12s														
			Lp	4	Min. Crossing Time = 9Gm + 6FGm = 15s														
			Mp	2,3,4	Min. Crossing Time = 10Gm + 6FGm = 16s														
			Np	1,2	Min. Crossing Time = 6Gm + 6FGm = 12s														

Notes:	Traffic Flow (pcu / hr) [AM (PM)] 	Check Phase Ey 0.359 L (sec) 21 C (sec) 120 y pract. 0.743 R.C. (%) 107%	Check Phase Ey 0.329 L (sec) 21 C (sec) 120 y pract. 0.743 R.C. (%) 126%

Stage / Phase Diagrams			
1  I/G = 7	2  I/G = 5	3  I/G = 7	4  I/G = 6

# Junctions 8

## PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]  
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**Filename:** 23120HK Jn E.arc8

**Path:** \\CTA\_NAS01\Project\CTA Consultants Limited\CTA - Project\23120HK - Proposed RCHE development in Tai Tong\Calculation\2024-02-14

**Report generation date:** 14/2/2024 12:32:34

- 
- » (Default Analysis Set) - 2023 Existing, AM
  - » (Default Analysis Set) - 2023 Existing, PM
  - » (Default Analysis Set) - 2031 Reference, AM
  - » (Default Analysis Set) - 2031 Reference, PM
  - » (Default Analysis Set) - 2031 Design, AM
  - » (Default Analysis Set) - 2031 Design, PM

## Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
<b>A1 - 2023 Existing</b>								
Stream B-ACD	0.64	10.44	0.39	B	0.17	6.89	0.15	A
Stream A-BCD	0.00	0.00	0.00	A	0.03	5.29	0.02	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Stream D-ABC	0.46	10.38	0.32	B	0.73	12.59	0.42	B
Stream C-ABD	0.12	4.64	0.07	A	0.19	5.43	0.11	A
Stream C-D	-	-	-	-	-	-	-	-
Stream C-A	-	-	-	-	-	-	-	-
<b>A1 - 2031 Design</b>								
Stream B-ACD	0.71	11.11	0.42	B	0.17	6.97	0.15	A
Stream A-BCD	0.00	0.00	0.00	A	0.03	5.20	0.02	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Stream D-ABC	0.51	10.73	0.34	B	0.81	13.33	0.45	B
Stream C-ABD	0.18	4.70	0.09	A	0.20	5.42	0.11	A
Stream C-D	-	-	-	-	-	-	-	-
Stream C-A	-	-	-	-	-	-	-	-
<b>A1 - 2031 Reference</b>								
Stream B-ACD	0.70	10.98	0.41	B	0.17	6.94	0.15	A
Stream A-BCD	0.00	0.00	0.00	A	0.03	5.25	0.02	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
Stream D-ABC	0.50	10.62	0.33	B	0.81	13.27	0.45	B
Stream C-ABD	0.18	4.73	0.09	A	0.20	5.40	0.11	A
Stream C-D	-	-	-	-	-	-	-	-
Stream C-A	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM" model duration: 8:00 - 9:30

"D2 - 2023 Existing, PM" model duration: 17:00 - 18:30

"D3 - 2031 Reference, AM" model duration: 8:00 - 9:30

"D4 - 2031 Reference, PM" model duration: 17:00 - 18:30

"D5 - 2031 Design, AM" model duration: 8:00 - 9:30

"D6 - 2031 Design, PM" model duration: 17:00 - 18:30

Run using Junctions 8.0.5.523 at 14/2/2024 12:32:28

## File summary

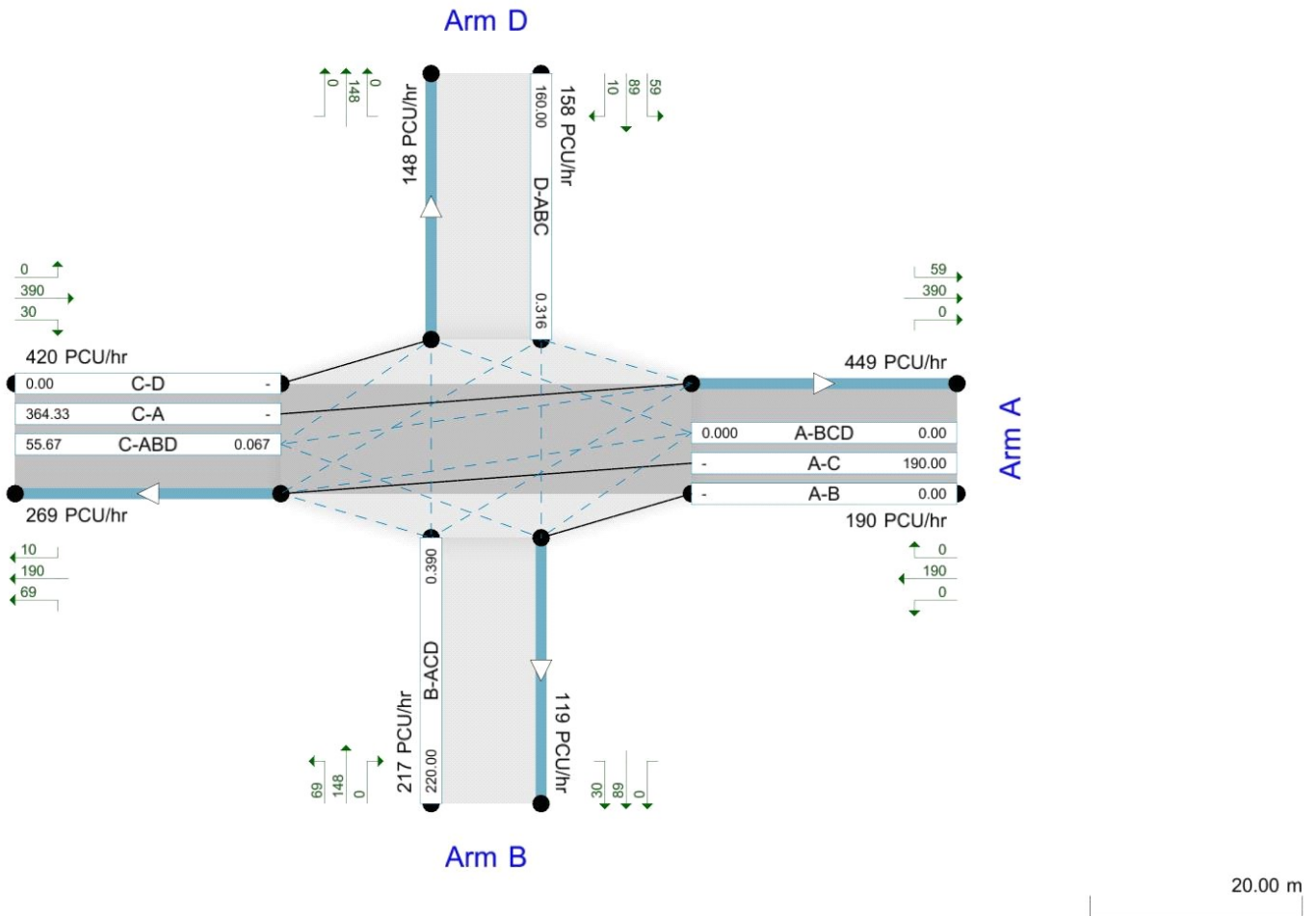
<b>Title</b>	(untitled)
<b>Location</b>	
<b>Site Number</b>	
<b>Date</b>	13/12/2019
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	user
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).  
 Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()  
 Time Segment: (08:00-08:15)  
 Showing Analysis Set "A1"; Demand Set "D1 - 2023 Existing, AM"

The junction diagram reflects the last run of ARCADY.

## (Default Analysis Set) - 2023 Existing, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
A	Shap Pat Heung Road / Tai Shu Ha Road	Crossroads	Two-way	A,B,C,D	9.68	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Shap Pat Heung Road WB		Major
B	B	Tai Shu Ha Road NB		Minor
C	C	Shap Pat Heung Road EB		Major
D	D	Tai Shu Ha Road SB		Minor

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	9.95		0.00		2.20	50.00	✓	0.00
C	9.95		0.00		2.20	50.00	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										50	50
D	One lane	4.10										50	50



## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A	A-D	602.919	-	-	-	-	-	-	0.193	0.276	0.193	-	-	-
A	B-A	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	-	0.237	0.237	0.119
A	B-C	786.649	0.100	0.252	-	-	-	-	-	-	-	-	-	-
A	B-D, nearside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	B-D, offside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	C-B	602.919	0.193	0.193	0.276	-	-	-	-	-	-	-	-	-
A	D-A	727.593	-	-	-	-	-	-	0.233	-	0.092	-	-	-
A	D-B, nearside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-B, offside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-C	575.609	-	0.138	0.314	0.110	0.219	0.219	0.219	0.219	0.087	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	190.00	100.000
B	FLAT	✓	220.00	100.000
C	FLAT	✓	420.00	100.000
D	FLAT	✓	160.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	190.000	0.000
	B	0.000	0.000	70.000	150.000
	C	390.000	30.000	0.000	0.000
	D	60.000	90.000	10.000	0.000

**Turning Proportions (PCU) - Junction A (for whole period)**

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.00	0.00	0.32	0.68
	C	0.93	0.07	0.00	0.00
	D	0.38	0.56	0.06	0.00

## Vehicle Mix

**Average PCU Per Vehicle - Junction A (for whole period)**

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

**Heavy Vehicle Percentages - Junction A (for whole period)**

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

## Results

**Results Summary for whole modelled period**

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.39	10.44	0.64	B
A-BCD	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.32	10.38	0.46	B
C-ABD	0.07	4.64	0.12	A
C-D	-	-	-	-
C-A	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	220.00	217.49	0.00	564.77	0.390	0.63	10.287	B
A-BCD	0.00	0.00	0.00	519.18	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	160.00	158.19	0.00	507.03	0.316	0.45	10.267	B
C-ABD	55.67	55.21	0.00	831.36	0.067	0.11	4.638	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.33	364.33	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	220.00	219.98	0.00	564.68	0.390	0.63	10.441	B
A-BCD	0.00	0.00	0.00	519.07	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	160.00	159.98	0.00	506.89	0.316	0.46	10.377	B
C-ABD	55.88	55.87	0.00	831.50	0.067	0.11	4.644	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.12	364.12	0.00	-	-	-	-	-

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	220.00	219.99	0.00	564.68	0.390	0.63	10.444	B
A-BCD	0.00	0.00	0.00	519.07	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	160.00	159.99	0.00	506.89	0.316	0.46	10.377	B
C-ABD	55.88	55.88	0.00	831.50	0.067	0.12	4.643	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.12	364.12	0.00	-	-	-	-	-

### Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	220.00	220.00	0.00	564.68	0.390	0.64	10.444	B
A-BCD	0.00	0.00	0.00	519.07	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	160.00	160.00	0.00	506.89	0.316	0.46	10.377	B
C-ABD	55.88	55.88	0.00	831.50	0.067	0.12	4.644	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.12	364.12	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	220.00	220.00	0.00	564.68	0.390	0.64	10.444	B
A-BCD	0.00	0.00	0.00	519.07	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	160.00	160.00	0.00	506.89	0.316	0.46	10.377	B
C-ABD	55.88	55.88	0.00	831.50	0.067	0.12	4.643	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.12	364.12	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	220.00	220.00	0.00	564.68	0.390	0.64	10.444	B
A-BCD	0.00	0.00	0.00	519.07	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	160.00	160.00	0.00	506.89	0.316	0.46	10.377	B
C-ABD	55.88	55.88	0.00	831.50	0.067	0.12	4.644	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.12	364.12	0.00	-	-	-	-	-

## (Default Analysis Set) - 2023 Existing, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:30	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
A	Shap Pat Heung Road / Tai Shu Ha Road	Crossroads	Two-way	A,B,C,D	9.58	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Shap Pat Heung Road WB		Major
B	B	Tai Shu Ha Road NB		Minor
C	C	Shap Pat Heung Road EB		Major
D	D	Tai Shu Ha Road SB		Minor

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	9.95		0.00		2.20	50.00	✓	0.00
C	9.95		0.00		2.20	50.00	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										50	50
D	One lane	4.10										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A	A-D	602.919	-	-	-	-	-	-	0.193	0.276	0.193	-	-	-
A	B-A	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	-	0.237	0.237	0.119
A	B-C	786.649	0.100	0.252	-	-	-	-	-	-	-	-	-	-
A	B-D, nearside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	B-D, offside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	C-B	602.919	0.193	0.193	0.276	-	-	-	-	-	-	-	-	-
A	D-A	727.593	-	-	-	-	-	-	0.233	-	0.092	-	-	-
A	D-B, nearside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-B, offside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-C	575.609	-	0.138	0.314	0.110	0.219	0.219	0.219	0.219	0.087	-	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	240.00	100.000
B	FLAT	✓	90.00	100.000
C	FLAT	✓	320.00	100.000
D	FLAT	✓	210.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.000	10.000	220.000	10.000
	B	0.000	0.000	50.000	40.000
	C	270.000	50.000	0.000	0.000
	D	40.000	150.000	20.000	0.000

## Turning Proportions (PCU) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.04	0.92	0.04
	B	0.00	0.00	0.56	0.44
	C	0.84	0.16	0.00	0.00
	D	0.19	0.71	0.10	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction A (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

### Heavy Vehicle Percentages - Junction A (for whole period)

		To			
From		A	B	C	D
	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.15	6.89	0.17	A
A-BCD	0.02	5.29	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.42	12.59	0.73	B
C-ABD	0.11	5.43	0.19	A
C-D	-	-	-	-
C-A	-	-	-	-

### Main Results for each time segment

#### Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	89.32	0.00	612.33	0.147	0.17	6.875	A
A-BCD	14.62	14.52	0.00	695.96	0.021	0.03	5.283	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	215.58	215.58	0.00	-	-	-	-	-
D-ABC	210.00	207.13	0.00	496.17	0.423	0.72	12.338	B
C-ABD	78.26	77.51	0.00	741.77	0.106	0.19	5.418	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	241.74	241.74	0.00	-	-	-	-	-

#### Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	612.18	0.147	0.17	6.893	A
A-BCD	14.65	14.65	0.00	695.82	0.021	0.03	5.284	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	215.55	215.55	0.00	-	-	-	-	-
D-ABC	210.00	209.96	0.00	495.97	0.423	0.73	12.582	B
C-ABD	78.54	78.53	0.00	741.94	0.106	0.19	5.430	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	241.46	241.46	0.00	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	612.18	0.147	0.17	6.893	A
A-BCD	14.65	14.65	0.00	695.82	0.021	0.03	5.284	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	215.55	215.55	0.00	-	-	-	-	-
D-ABC	210.00	209.99	0.00	495.97	0.423	0.73	12.585	B
C-ABD	78.54	78.54	0.00	741.94	0.106	0.19	5.430	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	241.46	241.46	0.00	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	612.18	0.147	0.17	6.893	A
A-BCD	14.65	14.65	0.00	695.82	0.021	0.03	5.284	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	215.55	215.55	0.00	-	-	-	-	-
D-ABC	210.00	209.99	0.00	495.97	0.423	0.73	12.587	B
C-ABD	78.54	78.54	0.00	741.94	0.106	0.19	5.432	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	241.46	241.46	0.00	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	612.18	0.147	0.17	6.893	A
A-BCD	14.65	14.65	0.00	695.82	0.021	0.03	5.284	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	215.55	215.55	0.00	-	-	-	-	-
D-ABC	210.00	210.00	0.00	495.97	0.423	0.73	12.587	B
C-ABD	78.54	78.54	0.00	741.94	0.106	0.19	5.430	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	241.46	241.46	0.00	-	-	-	-	-

**Main results: (18:15-18:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	612.18	0.147	0.17	6.893	A
A-BCD	14.65	14.65	0.00	695.82	0.021	0.03	5.286	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	215.55	215.55	0.00	-	-	-	-	-
D-ABC	210.00	210.00	0.00	495.97	0.423	0.73	12.587	B
C-ABD	78.54	78.54	0.00	741.94	0.106	0.19	5.432	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	241.46	241.46	0.00	-	-	-	-	-



# (Default Analysis Set) - 2031 Reference, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Reference, AM	2031 Reference	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
A	Shap Pat Heung Road / Tai Shu Ha Road	Crossroads	Two-way	A,B,C,D	9.86	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Shap Pat Heung Road WB		Major
B	B	Tai Shu Ha Road NB		Minor
C	C	Shap Pat Heung Road EB		Major
D	D	Tai Shu Ha Road SB		Minor

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	9.95		0.00		2.20	50.00	✓	0.00
C	9.95		0.00		2.20	50.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										50	50
D	One lane	4.10										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A	A-D	602.919	-	-	-	-	-	-	0.193	0.276	0.193	-	-	-
A	B-A	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	-	0.237	0.237	0.119
A	B-C	786.649	0.100	0.252	-	-	-	-	-	-	-	-	-	-
A	B-D, nearside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	B-D, offside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	C-B	602.919	0.193	0.193	0.276	-	-	-	-	-	-	-	-	-
A	D-A	727.593	-	-	-	-	-	-	0.233	-	0.092	-	-	-
A	D-B, nearside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-B, offside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-C	575.609	-	0.138	0.314	0.110	0.219	0.219	0.219	0.219	0.087	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	190.00	100.000
B	FLAT	✓	230.00	100.000
C	FLAT	✓	440.00	100.000
D	FLAT	✓	170.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	190.000	0.000
	B	0.000	0.000	70.000	160.000
	C	400.000	40.000	0.000	0.000
	D	70.000	90.000	10.000	0.000

## Turning Proportions (PCU) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.00	0.00	0.30	0.70
	C	0.91	0.09	0.00	0.00
	D	0.41	0.53	0.06	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction A (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.41	10.98	0.70	B
A-BCD	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.33	10.62	0.50	B
C-ABD	0.09	4.73	0.18	A
C-D	-	-	-	-
C-A	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	227.25	0.00	557.94	0.412	0.69	10.801	B
A-BCD	0.00	0.00	0.00	514.48	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	170.00	168.03	0.00	509.01	0.334	0.49	10.500	B
C-ABD	75.29	74.58	0.00	838.00	0.090	0.18	4.715	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.71	364.71	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	229.97	0.00	557.79	0.412	0.69	10.980	B
A-BCD	0.00	0.00	0.00	514.31	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	170.00	169.98	0.00	508.81	0.334	0.50	10.622	B
C-ABD	75.62	75.61	0.00	838.22	0.090	0.18	4.724	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.38	364.38	0.00	-	-	-	-	-

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	229.99	0.00	557.78	0.412	0.70	10.982	B
A-BCD	0.00	0.00	0.00	514.31	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	170.00	169.99	0.00	508.81	0.334	0.50	10.624	B
C-ABD	75.63	75.62	0.00	838.22	0.090	0.18	4.724	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.37	364.37	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	230.00	0.00	557.78	0.412	0.70	10.982	B
A-BCD	0.00	0.00	0.00	514.31	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	170.00	170.00	0.00	508.81	0.334	0.50	10.624	B
C-ABD	75.63	75.63	0.00	838.23	0.090	0.18	4.724	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.37	364.37	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	230.00	0.00	557.78	0.412	0.70	10.982	B
A-BCD	0.00	0.00	0.00	514.31	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	170.00	170.00	0.00	508.81	0.334	0.50	10.624	B
C-ABD	75.63	75.63	0.00	838.23	0.090	0.18	4.726	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.37	364.37	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	230.00	0.00	557.78	0.412	0.70	10.982	B
A-BCD	0.00	0.00	0.00	514.31	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	190.00	190.00	0.00	-	-	-	-	-
D-ABC	170.00	170.00	0.00	508.81	0.334	0.50	10.624	B
C-ABD	75.63	75.63	0.00	838.23	0.090	0.18	4.726	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	364.37	364.37	0.00	-	-	-	-	-

## (Default Analysis Set) - 2031 Reference, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Reference, PM	2031 Reference	PM		FLAT	17:00	18:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
A	Shap Pat Heung Road / Tai Shu Ha Road	Crossroads	Two-way	A,B,C,D	10.02	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Shap Pat Heung Road WB		Major
B	B	Tai Shu Ha Road NB		Minor
C	C	Shap Pat Heung Road EB		Major
D	D	Tai Shu Ha Road SB		Minor

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	9.95		0.00		2.20	50.00	✓	0.00
C	9.95		0.00		2.20	50.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										50	50
D	One lane	4.10										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A	A-D	602.919	-	-	-	-	-	-	0.193	0.276	0.193	-	-	-
A	B-A	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	-	0.237	0.237	0.119
A	B-C	786.649	0.100	0.252	-	-	-	-	-	-	-	-	-	-
A	B-D, nearside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	B-D, offside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	C-B	602.919	0.193	0.193	0.276	-	-	-	-	-	-	-	-	-
A	D-A	727.593	-	-	-	-	-	-	0.233	-	0.092	-	-	-
A	D-B, nearside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-B, offside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-C	575.609	-	0.138	0.314	0.110	0.219	0.219	0.219	0.219	0.087	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.  
 Streams may be combined, in which case capacity will be adjusted.  
 Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	250.00	100.000
B	FLAT	✓	90.00	100.000
C	FLAT	✓	330.00	100.000
D	FLAT	✓	220.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.000	10.000	230.000	10.000
	B	0.000	0.000	50.000	40.000
	C	280.000	50.000	0.000	0.000
	D	40.000	160.000	20.000	0.000

## Turning Proportions (PCU) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.04	0.92	0.04
	B	0.00	0.00	0.56	0.44
	C	0.85	0.15	0.00	0.00
	D	0.18	0.73	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction A (for whole period)

		To			
From		A	B	C	D
	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction A (for whole period)

		To			
From		A	B	C	D
	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.15	6.94	0.17	A
A-BCD	0.02	5.25	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.45	13.27	0.81	B
C-ABD	0.11	5.40	0.20	A
C-D	-	-	-	-
C-A	-	-	-	-

## Main Results for each time segment

### Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	89.31	0.00	608.86	0.148	0.17	6.921	A
A-BCD	14.85	14.75	0.00	701.00	0.021	0.03	5.246	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	225.35	225.35	0.00	-	-	-	-	-
D-ABC	220.00	216.84	0.00	491.44	0.448	0.79	12.969	B
C-ABD	79.57	78.80	0.00	746.97	0.107	0.19	5.387	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.43	250.43	0.00	-	-	-	-	-



**Main results: (17:15-17:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	608.71	0.148	0.17	6.939	A
A-BCD	14.89	14.89	0.00	700.86	0.021	0.03	5.247	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	225.32	225.32	0.00	-	-	-	-	-
D-ABC	220.00	219.96	0.00	491.24	0.448	0.80	13.263	B
C-ABD	79.87	79.86	0.00	747.15	0.107	0.19	5.399	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.13	250.13	0.00	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	608.71	0.148	0.17	6.939	A
A-BCD	14.89	14.89	0.00	700.86	0.021	0.03	5.247	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	225.32	225.32	0.00	-	-	-	-	-
D-ABC	220.00	219.99	0.00	491.24	0.448	0.80	13.269	B
C-ABD	79.87	79.87	0.00	747.15	0.107	0.20	5.399	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.13	250.13	0.00	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	608.71	0.148	0.17	6.939	A
A-BCD	14.89	14.89	0.00	700.86	0.021	0.03	5.247	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	225.32	225.32	0.00	-	-	-	-	-
D-ABC	220.00	219.99	0.00	491.24	0.448	0.81	13.269	B
C-ABD	79.87	79.87	0.00	747.15	0.107	0.20	5.401	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.13	250.13	0.00	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	608.71	0.148	0.17	6.939	A
A-BCD	14.89	14.89	0.00	700.86	0.021	0.03	5.247	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	225.32	225.32	0.00	-	-	-	-	-
D-ABC	220.00	220.00	0.00	491.24	0.448	0.81	13.271	B
C-ABD	79.87	79.87	0.00	747.15	0.107	0.20	5.399	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.13	250.13	0.00	-	-	-	-	-

### Main results: (18:15-18:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	608.71	0.148	0.17	6.939	A
A-BCD	14.89	14.89	0.00	700.86	0.021	0.03	5.247	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	225.32	225.32	0.00	-	-	-	-	-
D-ABC	220.00	220.00	0.00	491.24	0.448	0.81	13.271	B
C-ABD	79.87	79.87	0.00	747.15	0.107	0.20	5.399	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.13	250.13	0.00	-	-	-	-	-

## (Default Analysis Set) - 2031 Design, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Design, AM	2031 Design	AM		FLAT	08:00	09:30	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
A	Shap Pat Heung Road / Tai Shu Ha Road	Crossroads	Two-way	A,B,C,D	9.94	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Arm	Name	Description	Arm Type
A	A	Shap Pat Heung Road WB		Major
B	B	Tai Shu Ha Road NB		Minor
C	C	Shap Pat Heung Road EB		Major
D	D	Tai Shu Ha Road SB		Minor

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	9.95		0.00		2.20	50.00	✓	0.00
C	9.95		0.00		2.20	50.00	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										50	50
D	One lane	4.10										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A	A-D	602.919	-	-	-	-	-	-	0.193	0.276	0.193	-	-	-
A	B-A	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	-	0.237	0.237	0.119
A	B-C	786.649	0.100	0.252	-	-	-	-	-	-	-	-	-	-
A	B-D, nearside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	B-D, offside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	C-B	602.919	0.193	0.193	0.276	-	-	-	-	-	-	-	-	-
A	D-A	727.593	-	-	-	-	-	-	0.233	-	0.092	-	-	-
A	D-B, nearside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-B, offside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-C	575.609	-	0.138	0.314	0.110	0.219	0.219	0.219	0.219	0.087	-	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	200.00	100.000
B	FLAT	✓	230.00	100.000
C	FLAT	✓	450.00	100.000
D	FLAT	✓	170.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	200.000	0.000
	B	0.000	0.000	70.000	160.000
	C	410.000	40.000	0.000	0.000
	D	70.000	90.000	10.000	0.000

## Turning Proportions (PCU) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.00	1.00	0.00
	B	0.00	0.00	0.30	0.70
	C	0.91	0.09	0.00	0.00
	D	0.41	0.53	0.06	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction A (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.42	11.11	0.71	B
A-BCD	0.00	0.00	0.00	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.34	10.73	0.51	B
C-ABD	0.09	4.70	0.18	A
C-D	-	-	-	-
C-A	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	227.22	0.00	554.20	0.415	0.69	10.921	B
A-BCD	0.00	0.00	0.00	512.55	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-
D-ABC	170.00	168.01	0.00	505.66	0.336	0.50	10.603	B
C-ABD	76.49	75.77	0.00	843.13	0.091	0.18	4.691	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	373.51	373.51	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	229.97	0.00	554.05	0.415	0.70	11.106	B
A-BCD	0.00	0.00	0.00	512.38	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-
D-ABC	170.00	169.98	0.00	505.46	0.336	0.50	10.728	B
C-ABD	76.84	76.83	0.00	843.36	0.091	0.18	4.701	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	373.16	373.16	0.00	-	-	-	-	-

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	229.99	0.00	554.05	0.415	0.70	11.108	B
A-BCD	0.00	0.00	0.00	512.37	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-
D-ABC	170.00	169.99	0.00	505.46	0.336	0.50	10.731	B
C-ABD	76.84	76.84	0.00	843.36	0.091	0.18	4.701	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	373.16	373.16	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	230.00	0.00	554.05	0.415	0.71	11.108	B
A-BCD	0.00	0.00	0.00	512.37	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-
D-ABC	170.00	170.00	0.00	505.45	0.336	0.50	10.731	B
C-ABD	76.84	76.84	0.00	843.36	0.091	0.18	4.701	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	373.16	373.16	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	230.00	0.00	554.05	0.415	0.71	11.108	B
A-BCD	0.00	0.00	0.00	512.37	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-
D-ABC	170.00	170.00	0.00	505.45	0.336	0.50	10.731	B
C-ABD	76.84	76.84	0.00	843.36	0.091	0.18	4.701	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	373.16	373.16	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	230.00	230.00	0.00	554.05	0.415	0.71	11.108	B
A-BCD	0.00	0.00	0.00	512.37	0.000	0.00	0.000	A
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-
D-ABC	170.00	170.00	0.00	505.45	0.336	0.51	10.731	B
C-ABD	76.84	76.84	0.00	843.36	0.091	0.18	4.700	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	373.16	373.16	0.00	-	-	-	-	-

## (Default Analysis Set) - 2031 Design, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2031 Design, PM	2031 Design	PM		FLAT	17:00	18:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
A	Shap Pat Heung Road / Tai Shu Ha Road	Crossroads	Two-way	A,B,C,D	10.05	B

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Shap Pat Heung Road WB		Major
B	B	Tai Shu Ha Road NB		Minor
C	C	Shap Pat Heung Road EB		Major
D	D	Tai Shu Ha Road SB		Minor

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	9.95		0.00		2.20	50.00	✓	0.00
C	9.95		0.00		2.20	50.00	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										50	50
D	One lane	4.10										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A	A-D	602.919	-	-	-	-	-	-	0.193	0.276	0.193	-	-	-
A	B-A	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	-	0.237	0.237	0.119
A	B-C	786.649	0.100	0.252	-	-	-	-	-	-	-	-	-	-
A	B-D, nearside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	B-D, offside lane	622.329	0.094	0.237	0.237	-	-	-	0.149	0.339	0.149	-	-	-
A	C-B	602.919	0.193	0.193	0.276	-	-	-	-	-	-	-	-	-
A	D-A	727.593	-	-	-	-	-	-	0.233	-	0.092	-	-	-
A	D-B, nearside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-B, offside lane	575.609	0.138	0.138	0.314	-	-	-	0.219	0.219	0.087	-	-	-
A	D-C	575.609	-	0.138	0.314	0.110	0.219	0.219	0.219	0.219	0.087	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.  
 Streams may be combined, in which case capacity will be adjusted.  
 Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	260.00	100.000
B	FLAT	✓	90.00	100.000
C	FLAT	✓	330.00	100.000
D	FLAT	✓	220.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.000	10.000	240.000	10.000
	B	0.000	0.000	50.000	40.000
	C	280.000	50.000	0.000	0.000
	D	40.000	160.000	20.000	0.000

## Turning Proportions (PCU) - Junction A (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.04	0.92	0.04
	B	0.00	0.00	0.56	0.44
	C	0.85	0.15	0.00	0.00
	D	0.18	0.73	0.09	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction A (for whole period)

		To			
From		A	B	C	D
	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction A (for whole period)

		To			
From		A	B	C	D
	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.15	6.97	0.17	A
A-BCD	0.02	5.20	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-
D-ABC	0.45	13.33	0.81	B
C-ABD	0.11	5.42	0.20	A
C-D	-	-	-	-
C-A	-	-	-	-

## Main Results for each time segment

### Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	89.31	0.00	606.35	0.148	0.17	6.954	A
A-BCD	15.07	14.96	0.00	707.71	0.021	0.03	5.196	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	235.14	235.14	0.00	-	-	-	-	-
D-ABC	220.00	216.83	0.00	490.18	0.449	0.79	13.027	B
C-ABD	79.68	78.90	0.00	745.34	0.107	0.19	5.401	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.32	250.32	0.00	-	-	-	-	-

**Main results: (17:15-17:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	606.20	0.148	0.17	6.973	A
A-BCD	15.10	15.10	0.00	707.57	0.021	0.03	5.200	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	235.10	235.10	0.00	-	-	-	-	-
D-ABC	220.00	219.96	0.00	489.97	0.449	0.80	13.325	B
C-ABD	79.97	79.97	0.00	745.52	0.107	0.20	5.413	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.03	250.03	0.00	-	-	-	-	-

**Main results: (17:30-17:45)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	606.20	0.148	0.17	6.973	A
A-BCD	15.10	15.10	0.00	707.57	0.021	0.03	5.198	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	235.10	235.10	0.00	-	-	-	-	-
D-ABC	220.00	219.99	0.00	489.97	0.449	0.81	13.331	B
C-ABD	79.98	79.97	0.00	745.52	0.107	0.20	5.413	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.02	250.02	0.00	-	-	-	-	-

**Main results: (17:45-18:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	606.19	0.148	0.17	6.973	A
A-BCD	15.10	15.10	0.00	707.57	0.021	0.03	5.200	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	235.10	235.10	0.00	-	-	-	-	-
D-ABC	220.00	219.99	0.00	489.97	0.449	0.81	13.331	B
C-ABD	79.98	79.98	0.00	745.52	0.107	0.20	5.415	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.02	250.02	0.00	-	-	-	-	-

**Main results: (18:00-18:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-ACD	90.00	90.00	0.00	606.19	0.148	0.17	6.973	A
A-BCD	15.10	15.10	0.00	707.57	0.021	0.03	5.200	A
A-B	9.80	9.80	0.00	-	-	-	-	-
A-C	235.10	235.10	0.00	-	-	-	-	-
D-ABC	220.00	220.00	0.00	489.97	0.449	0.81	13.333	B
C-ABD	79.98	79.98	0.00	745.52	0.107	0.20	5.415	A
C-D	0.00	0.00	0.00	-	-	-	-	-
C-A	250.02	250.02	0.00	-	-	-	-	-

**Main results: (18:15-18:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
<b>B-ACD</b>	90.00	90.00	0.00	606.19	0.148	0.17	6.973	A
<b>A-BCD</b>	15.10	15.10	0.00	707.57	0.021	0.03	5.200	A
<b>A-B</b>	9.80	9.80	0.00	-	-	-	-	-
<b>A-C</b>	235.10	235.10	0.00	-	-	-	-	-
<b>D-ABC</b>	220.00	220.00	0.00	489.97	0.449	0.81	13.333	B
<b>C-ABD</b>	79.98	79.98	0.00	745.52	0.107	0.20	5.413	A
<b>C-D</b>	0.00	0.00	0.00	-	-	-	-	-
<b>C-A</b>	250.02	250.02	0.00	-	-	-	-	-

**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

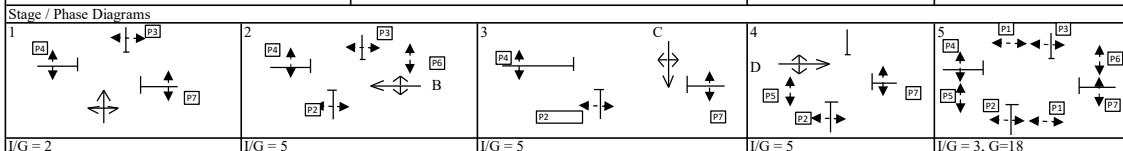
Junction: **(F) Shap Pat Heung Road / Kung Um Road / Kiu Hing Road**  
 Description: **2023 Existing Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Kung Um Road	N	↕	A	1	5.5	30	25	1	41% / 56%	41% / 57%	2055	2055	410	0.200	0.200	370	0.180	0.180
Shap Pat Heung Road	W	↔	B	2	5.1	30	25	1	48% / 0%	61% / 3%	2075	2060	230	0.111	0.111	310	0.150	0.150
Kiu Hing Road	S	↔	C	3	5.2	30	25	1	11% / 11%	0% / 10%	2110	2120	90	0.043	0.043	100	0.047	0.047
Shap Pat Heung Road	E	↔	D	4	5.1	30	25	1	23% / 5%	45% / 5%	2095	2070	220	0.105	0.105	200	0.097	0.097

Pedestrian crossing

P1 Crossing Time = 11Gm + 7FGm = 18s  
 P2 Crossing Time = 160Gm + 7FGm = 167s  
 P3 Crossing Time = 160Gm + 8FGm = 168s  
 P4 Crossing Time = 160Gm + 5FGm = 165s  
 P5 Crossing Time = 37Gm + 5FGm = 42s  
 P6 Crossing Time = 160Gm + 5FGm = 165s  
 P7 Crossing Time = 11Gm + 5FGm = 16s

Notes:	Traffic Flow (pcu / hr)	[AM (PM)]	Check Phase	Check Phase
		<p>AM (PM)</p> <p>10(10) 70(90) 10(0)</p> <p>50(90) 160(100) 10(10)</p> <p>170(150) 10(10) 230(210)</p>	<p>εy 0.458</p> <p>L (sec) 34</p> <p>C (sec) 190</p> <p>y pract. 0.739</p> <p>R.C. (%) 61%</p>	<p>εy 0.474</p> <p>L (sec) 34</p> <p>C (sec) 190</p> <p>y pract. 0.739</p> <p>R.C. (%) 56%</p>



Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2024
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**Filename:** 23120HK Jn G (Existing).arc8  
**Path:** \\CTA\_NAS01\Project\CTA Consultants Limited\CTA - Project\23120HK - Proposed RCHE development in Tai Tong\Calculation\2024-02-14  
**Report generation date:** 14/2/2024 15:03:36

- » Jn G - Existing 2023, AM
- » Jn G - Existing 2023, PM

### Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
Jn G - Existing 2023								
Stream B-AC	0.07	8.27	0.06	A	0.04	6.91	0.04	A
Stream C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

*Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.*

"D1 - Existing 2023, AM" model duration: 8:00 - 9:30  
 "D2 - Existing 2023, PM" model duration: 8:00 - 9:30

Run using Junctions 8.0.5.523 at 14/2/2024 15:03:34

### File summary

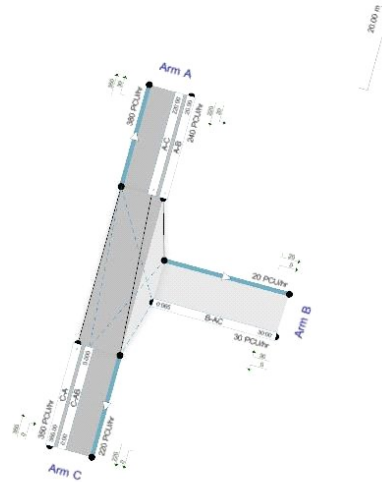
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<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	user
<b>Description</b>	

### Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()  
Time Segment: (08:00-08:15)  
Showing Analysis Set "A1 - Jn G "; Demand Set "D1 - Existing 2023, AM "

*The junction diagram reflects the last run of ARCADY.*

# Jn G - Existing 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn G	N/A			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2023, AM	Existing 2023	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Kung Um Road	T-Junction	Two-way	A,B,C	8.27	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Kung Um Road (SB)		Major
B	B	Wong Nai Tun Tsuen Road		Minor
C	C	Kung Um Road (NB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	70.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.30										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	585.991	0.107	0.270	0.170	0.385
1	B-C	740.717	0.114	0.287	-	-
1	C-B	614.501	0.238	0.238	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	240.00	100.000
B	FLAT	✓	30.00	100.000
C	FLAT	✓	350.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	20.000	220.000
	B	30.000	0.000	0.000
	C	350.000	0.000	0.000

### Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.08	0.92
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00



# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	8.27	0.07	A
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	29.73	0.00	465.11	0.065	0.07	8.263	A
C-AB	0.00	0.00	0.00	851.16	0.000	0.00	0.000	A
C-A	350.00	350.00	0.00	-	-	-	-	-
A-B	20.00	20.00	0.00	-	-	-	-	-
A-C	220.00	220.00	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	465.11	0.065	0.07	8.273	A
C-AB	0.00	0.00	0.00	851.16	0.000	0.00	0.000	A
C-A	350.00	350.00	0.00	-	-	-	-	-
A-B	20.00	20.00	0.00	-	-	-	-	-
A-C	220.00	220.00	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	465.11	0.065	0.07	8.273	A
C-AB	0.00	0.00	0.00	851.16	0.000	0.00	0.000	A
C-A	350.00	350.00	0.00	-	-	-	-	-
A-B	20.00	20.00	0.00	-	-	-	-	-
A-C	220.00	220.00	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	465.11	0.065	0.07	8.273	A
C-AB	0.00	0.00	0.00	851.16	0.000	0.00	0.000	A
C-A	350.00	350.00	0.00	-	-	-	-	-
A-B	20.00	20.00	0.00	-	-	-	-	-
A-C	220.00	220.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	465.11	0.065	0.07	8.273	A
C-AB	0.00	0.00	0.00	851.16	0.000	0.00	0.000	A
C-A	350.00	350.00	0.00	-	-	-	-	-
A-B	20.00	20.00	0.00	-	-	-	-	-
A-C	220.00	220.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	465.11	0.065	0.07	8.273	A
C-AB	0.00	0.00	0.00	851.16	0.000	0.00	0.000	A
C-A	350.00	350.00	0.00	-	-	-	-	-
A-B	20.00	20.00	0.00	-	-	-	-	-
A-C	220.00	220.00	0.00	-	-	-	-	-

## Jn G - Existing 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn G	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2023, PM	Existing 2023	PM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Kung Um Road	T-Junction	Two-way	A,B,C	6.91	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Kung Um Road (SB)		Major
B	B	Wong Nai Tun Tsuen Road		Minor
C	C	Kung Um Road (NB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	70.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.30										50	50

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	585.991	0.107	0.270	0.170	0.385
1	B-C	740.717	0.114	0.287	-	-
1	C-B	614.501	0.238	0.238	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	310.00	100.000
B	FLAT	✓	20.00	100.000
C	FLAT	✓	280.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	30.000	280.000
	B	10.000	0.000	10.000
	C	280.000	0.000	0.000

## Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.10	0.90
	B	0.50	0.00	0.50
	C	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

### Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	6.91	0.04	A
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

### Main Results for each time segment

#### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	19.85	0.00	540.93	0.037	0.04	6.907	A
C-AB	0.00	0.00	0.00	831.59	0.000	0.00	0.000	A
C-A	280.00	280.00	0.00	-	-	-	-	-
A-B	30.00	30.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

#### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	540.93	0.037	0.04	6.909	A
C-AB	0.00	0.00	0.00	831.59	0.000	0.00	0.000	A
C-A	280.00	280.00	0.00	-	-	-	-	-
A-B	30.00	30.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

#### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	540.93	0.037	0.04	6.909	A
C-AB	0.00	0.00	0.00	831.59	0.000	0.00	0.000	A
C-A	280.00	280.00	0.00	-	-	-	-	-
A-B	30.00	30.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	540.93	0.037	0.04	6.909	A
C-AB	0.00	0.00	0.00	831.59	0.000	0.00	0.000	A
C-A	280.00	280.00	0.00	-	-	-	-	-
A-B	30.00	30.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	540.93	0.037	0.04	6.909	A
C-AB	0.00	0.00	0.00	831.59	0.000	0.00	0.000	A
C-A	280.00	280.00	0.00	-	-	-	-	-
A-B	30.00	30.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	540.93	0.037	0.04	6.909	A
C-AB	0.00	0.00	0.00	831.59	0.000	0.00	0.000	A
C-A	280.00	280.00	0.00	-	-	-	-	-
A-B	30.00	30.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2024
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**Filename:** 23120HK Jn H(Existing).arc8  
**Path:** \\CTA\_NAS01\Project\CTA Consultants Limited\CTA - Project\23120HK - Proposed RCHE development in Tai Tong\Calculation\2024-02-14  
**Report generation date:** 14/2/2024 12:42:39

- » Jn H - Existing 2023, AM
- » Jn H - Existing 2023, PM

### Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
<b>Jn H - Existing 2023</b>								
Stream B-AC	0.15	7.59	0.13	A	0.04	7.15	0.04	A
Stream C-AB	0.02	6.15	0.02	A	0.05	6.21	0.05	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

*Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.*

"D1 - Existing 2023, AM" model duration: 8:00 - 9:30  
 "D2 - Existing 2023, PM" model duration: 8:00 - 9:30

Run using Junctions 8.0.5.523 at 14/2/2024 12:42:37

### File summary

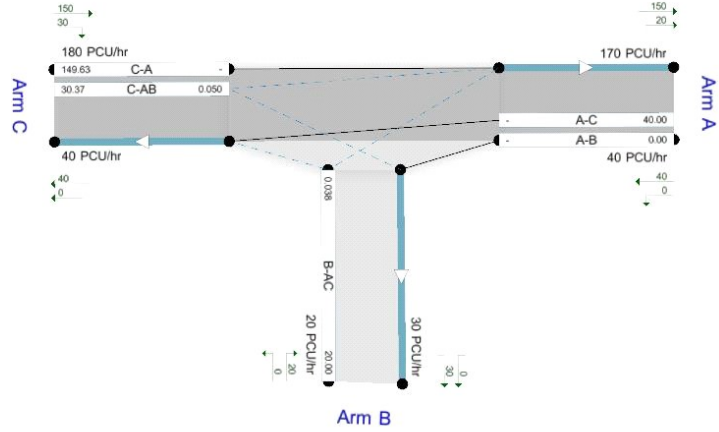
<b>Title</b>	(untitled)
<b>Location</b>	
<b>Site Number</b>	
<b>Date</b>	7/6/2021
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	user
<b>Description</b>	

### Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

### Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()  
Time Segment: (08:00-08:15)  
Showing Analysis Set "A1 - Jn H"; Demand Set "D1 - Existing 2023, AM"

*The junction diagram reflects the last run of ARCADY.*



# Jn H - Existing 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn H	N/A			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2023, AM	Existing 2023	AM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	7.41	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Wong Nai Tun Tsuen Road (WB)		Major
B	B	Wong Nai Tun Tsuen Road (NB/SB)		Minor
C	C	Wong Nai Tun Tsuen Road (EB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00		2.20	70.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.60										70	70

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	567.364	0.098	0.248	0.156	0.354
1	B-C	708.131	0.103	0.260	-	-
1	C-B	614.501	0.226	0.226	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	90.00	100.000
B	FLAT	✓	70.00	100.000
C	FLAT	✓	110.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	90.000
	B	60.000	0.000	10.000
	C	100.000	10.000	0.000

### Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.86	0.00	0.14
	C	0.91	0.09	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.13	7.59	0.15	A
C-AB	0.02	6.15	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	69.41	0.00	543.99	0.129	0.15	7.576	A
C-AB	10.03	9.96	0.00	595.32	0.017	0.02	6.150	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	543.97	0.129	0.15	7.594	A
C-AB	10.03	10.03	0.00	595.32	0.017	0.02	6.150	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	543.97	0.129	0.15	7.594	A
C-AB	10.03	10.03	0.00	595.32	0.017	0.02	6.150	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	543.97	0.129	0.15	7.594	A
C-AB	10.03	10.03	0.00	595.32	0.017	0.02	6.150	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	543.97	0.129	0.15	7.594	A
C-AB	10.03	10.03	0.00	595.32	0.017	0.02	6.152	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	543.97	0.129	0.15	7.594	A
C-AB	10.03	10.03	0.00	595.32	0.017	0.02	6.152	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

## Jn H - Existing 2023, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn H	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2023, PM	Existing 2023	PM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	6.58	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Wong Nai Tun Tsuen Road (WB)		Major
B	B	Wong Nai Tun Tsuen Road (NB/SB)		Minor
C	C	Wong Nai Tun Tsuen Road (EB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.20		0.00		2.20	70.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.60										70	70

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	567.364	0.098	0.248	0.156	0.354
1	B-C	708.131	0.103	0.260	-	-
1	C-B	614.501	0.226	0.226	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	40.00	100.000
B	FLAT	✓	20.00	100.000
C	FLAT	✓	180.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	40.000
	B	20.000	0.000	0.000
	C	150.000	30.000	0.000

## Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	1.00	0.00	0.00
	C	0.83	0.17	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

### Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	7.15	0.04	A
C-AB	0.05	6.21	0.05	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

### Main Results for each time segment

#### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	19.84	0.00	523.49	0.038	0.04	7.146	A
C-AB	30.37	30.16	0.00	610.39	0.050	0.05	6.203	A
C-A	149.63	149.63	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

#### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	523.42	0.038	0.04	7.150	A
C-AB	30.37	30.37	0.00	610.39	0.050	0.05	6.208	A
C-A	149.63	149.63	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

#### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	523.42	0.038	0.04	7.150	A
C-AB	30.37	30.37	0.00	610.39	0.050	0.05	6.206	A
C-A	149.63	149.63	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	523.42	0.038	0.04	7.150	A
C-AB	30.37	30.37	0.00	610.39	0.050	0.05	6.206	A
C-A	149.63	149.63	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	523.42	0.038	0.04	7.150	A
C-AB	30.37	30.37	0.00	610.39	0.050	0.05	6.206	A
C-A	149.63	149.63	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	523.42	0.038	0.04	7.150	A
C-AB	30.37	30.37	0.00	610.39	0.050	0.05	6.206	A
C-A	149.63	149.63	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-



TRAFFIC SIGNALS CALCULATION

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(B)Shap Pat Heung Road / Tai Kei Leung Road**  
 Description: **2031 Reference Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (SB)	S	↓	A	1	3.5	0	0	1	0%	0%	1965	1965	410	0.209	0.209	391	0.199	0.199
	S	↓	A	1	3.5	0	0	0	0%	0%	2105	2105	440	0.209		419	0.199	
Shap Pat Heung Road (NB)	N	↑	A	1	3.5	0	0	1	0%	0%	1965	1965	319	0.162		372	0.189	
	N	↑	A	1	3.5	0	0	0	0%	0%	2105	2105	341	0.162		398	0.189	
Tai Kei Leng Road (EB)	E	↘	B	2	3.5	0	12	1	100%	100%	1745	1745	470	0.269	0.269	278	0.159	0.159
	E	↙	B	2	3.5	0	13.5	0	100%	100%	1895	1895	510	0.269		302	0.159	

Notes:	Traffic Flow (pcu / hr) AM(PM) 	N Eγ L (sec) 10 C (sec) 90 y pract. 0.800 R.C. (%) 67%	Check Phase Eγ 0.478 L (sec) 10 C (sec) 90 y pract. 0.800 R.C. (%) 123%

Stage / Phase Diagrams			
1 	2 	3 	
L/G = 5	L/G = 7	L/G =	

**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(C)Shap Pat Heung Road / Fung Ki Road**  
 Description: **2031 Reference Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)		Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
					Left	Right	Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (WB)	W	↖	B	2	3.5	0	21	0	100%	100%	1965	1965	290	0.148	0.148	450	0.229	0.229	
	W	↔	B	2	3.5	0	0	0	0%	0%	2105	2105	204	0.097		225	0.107		
	W	↗	B	2	3.5	15	0	1	21%	24%	1925	1920	186	0.097		205	0.107		
The Access Road of The Reach	N	↖	E	4	3.5	15	0	1	100%	100%	1785	1785	10	0.006		10	0.006		
	N	↔	E	4	3.5	0	35	0	29%	0%	2080	2105	56	0.027		40	0.019		
	N	↗	E	4	3.5	0	30	0	100%	100%	2005	2005	54	0.027		30	0.015		
Shap Pat Heung Road (EB)	E	↔	A	1	3.5	15	0	1	100%	100%	1785	1785	170	0.095		120	0.067		
	E	↗	A	1	3.5	0	0	0	0%	0%	2105	2105	225	0.107	0.107	165	0.078	0.078	
	E	↖	A	1	3.5	0	0	0	0%	0%	2105	2105	225	0.107		165	0.078		
Fung Ki Road (SB)	S	↖	C	2,3	3.5	18	0	1	100%	100%	1815	1815	350	0.193		470	0.259		
	S	↔	D	3	3.5	0	23	0	41%	35%	2050	2060	51	0.025		61	0.030		
	S	↗	D	3	3.5	0	21	0	100%	100%	1965	1965	49	0.025		59	0.030		
Pedestrian crossing		Fp	Min. Crossing Time = 9Gm + 8FGm = 17s																
		Gp	Min. Crossing Time = 10Gm + 10FGm = 20s																
		Hp	Min. Crossing Time = 7Gm + 7FGm = 14s																
		Ip	Min. Crossing Time = 7Gm + 7FGm = 14s																
		Jp	Min. Crossing Time = 10Gm + 6FGm = 16s																

Notes:	<p>Traffic Flow (pcu / hr) [AM (PM)]</p>	<p>Check Phase</p> <p>εy 0.254                  L (sec) 28                  C (sec) 130                  y pract. 0.706                  R.C. (%) 177%</p>	<p>Check Phase</p> <p>εy 0.307                  L (sec) 28                  C (sec) 130                  y pract. 0.706                  R.C. (%) 130%</p>
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Stage / Phase Diagrams				
<p>1</p> <p>I/G = 6</p>	<p>2</p> <p>I/G = 6</p>	<p>3</p> <p>I/G = 5+5</p>	<p>4</p> <p>I/G = 5+5</p>	

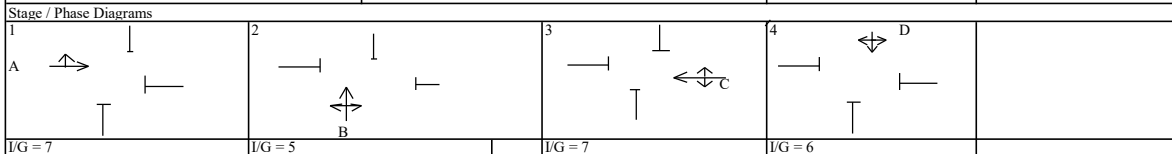
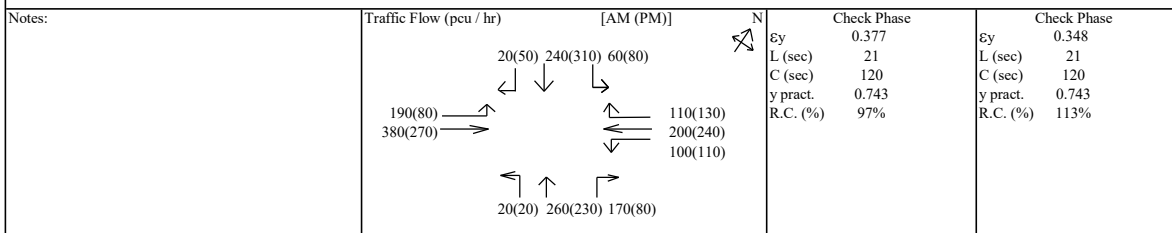
**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(D) Tai Tong Road / Shap Pat Heung Road**  
 Description: **2031 Reference Traffic Flows**

Approach	Direction Movement	Phase	Stage	Width (m)	Radius (m)		Nearside e/0/1	Site Factor	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
					Left	Right			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (WB)	W	←	C	3	3.5	0	0	1	0%	0%	2105	2105	158	0.075	0.075	188	0.089	0.090
	W	←	C	3	3.5	0	30	0	72%	72%	2030	2030	152	0.075		182	0.090	
	W	←	C	3	3.5	15	0	1	100%	100%	1785	1785	100	0.056		110	0.062	
Tai Tong Road (NB)	N	↑	B	2	3.5	15	0	1	9%	12%	1950	1940	224	0.115	0.115	162	0.084	0.084
	N	↑	B	2	3.5	0	15	0	75%	48%	1955	2010	226	0.115		168	0.084	
Shap Pat Heung Road (EB)	E	→	A	1	3.5	15	0	1	100%	100%	1785	1785	190	0.106	0.106	80	0.045	
	E	→	A	1	3.5	0	0	0	0%	0%	2105	2105	190	0.090		135	0.064	0.064
	E	→	A	1	3.5	0	0	0	0%	0%	2105	2105	190	0.090		135	0.064	
Tai Tong Road (SB)	S	↓	D	4	3.5	15	0	1	39%	38%	1890	1895	152	0.081	0.081	211	0.111	0.111
	S	↓	D	4	3.5	0	15	0	12%	22%	2080	2060	168	0.081		229	0.111	
Pedestrian crossing	Ep 3,4 Min. Crossing Time = 6Gm + 6FGm =12s Fp 1,3,4 Min. Crossing Time = 7Gm + 7FGm =14s Gp 1,2 Min. Crossing Time = 8Gm + 8FGm =16s Hp 1,2,4 Min. Crossing Time = 10Gm + 10FGm =20s Ip 3,4 Min. Crossing Time = 8Gm + 8FGm =16s Jp 1,2,3 Min. Crossing Time = 6Gm + 8FGm =14s Kp 1,2,4 Min. Crossing Time = 6Gm + 6FGm =12s Lp 4 Min. Crossing Time = 9Gm + 6FGm =15s Mp 2,3,4 Min. Crossing Time = 10Gm + 6FGm =16s Np 1,2 Min. Crossing Time = 6Gm + 6FGm =12s																	



**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(F) Shap Pat Heung Road / Kung Um Road / Kiu Hing Road**  
 Description: **2031 Reference Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)			Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right	None	A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Kung Um Road	N	↕	A	1	3.4	8	0	1	44%	58%	1805	1765	410	0.227	0.227	260	0.147	0.147
	N	↕	A	1	3.4	0	21	0	100%	100%	1955	1955	240	0.123		220	0.113	
Shap Pat Heung Road	W	↔	B	2	5.1	30	25	1	48% / 0%	59% / 3%	2075	2060	230	0.111	0.111	320	0.155	0.155
Kiu Hing Road	S	↕	C	3	5.2	30	25	1	4% / 4%	0% / 4%	2125	2130	240	0.113	0.113	240	0.113	0.113
Shap Pat Heung Road	E	↔	D	4	5.1	30	25	1	23% / 5%	45% / 5%	2095	2070	220	0.105	0.105	200	0.097	0.097

Pedestrian crossing

- P1 Crossing Time = 11Gm + 7FGm = 18s
- P2 Crossing Time = 160Gm + 7FGm = 167s
- P3 Crossing Time = 160Gm + 8FGm = 168s
- P4 Crossing Time = 160Gm + 5FGm = 165s
- P5 Crossing Time = 37Gm + 5FGm = 42s
- P6 Crossing Time = 160Gm + 5FGm = 165s
- P7 Crossing Time = 11Gm + 5FGm = 16s

Notes:	<p>Traffic Flow (pcu / hr) [AM (PM)]</p>	<p>Check Phase</p> <p>εy 0.556                  L (sec) 34                  C (sec) 190                  y pract. 0.739                  R.C. (%) 33%</p>	<p>Check Phase</p> <p>εy 0.512                  L (sec) 34                  C (sec) 190                  y pract. 0.739                  R.C. (%) 44%</p>
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Stage / Phase Diagrams				
<p>1</p> <p>L/G = 2</p>	<p>2</p> <p>L/G = 5</p>	<p>3</p> <p>L/G = 5</p>	<p>4</p> <p>L/G = 5</p>	<p>5</p> <p>L/G = 3, G=18</p>

TRAFFIC SIGNALS CALCULATION

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(G) Kung Um Road / Pak Sha Shan Road / Wong Ngai Tun Tsuen Road**  
 Description: **2031 Reference Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)			Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right	Nearside	A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Kung Um Road	N	↑	A	1	3.7	0	0	1	0%	0%	1985	1985	59	0.030	0.030	69	0.035	0.035
	N	↗	A	1	3.7	0	20	0	49%	56%	2050	2040	61	0.030		71	0.035	
Wong Ngai Tun Tsuen Road	S	↘	B	2	4.0	15	0	1	98%	100%	1835	1830	92	0.050	0.050	190	0.104	0.104
	S	↓	B	2	4.0	0	0	0	0%	0%	2155	2155	108	0.050		100	0.046	
Pak Sha Shan Road	W	↑	C	3	4.2	0	21	0	100%	100%	2030	2030	110	0.054	0.054	50	0.025	0.025
	W	↖	C	3	4.2	15	0	1	100%	100%	1850	1850	40	0.022		30	0.016	

Pedestrian crossing  
 P1 Crossing Time = 5Gm + 6FGm = 11s  
 P2 Crossing Time = 5Gm + 8FGm = 13s  
 P3 Crossing Time = 5Gm + 7FGm = 12s  
 P4 Crossing Time = 5Gm + 10FGm = 15s  
 P5 Crossing Time = 5Gm + 6FGm = 11s  
 P6 Crossing Time = 5Gm + 6FGm = 11s

Notes:	Traffic Flow (pcu / hr)	[AM (PM)]	Check Phase	Check Phase
	110(100) ↓ 90(190) ↘ 110(50) ↗ 40(30) ↖ 90(100) ↑ 30(40) ↙		E <sub>y</sub> 0.134 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 482%	E <sub>y</sub> 0.163 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 378%

Stage / Phase Diagrams				
I/G = 5	I/G = 5	I/G = 5		

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.5.523 [19102,19/06/2015] © Copyright TRL Limited, 2024
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**Filename:** 23120HK Jn H(Ref & Des) .arc8

**Path:** \\CTA\_NAS01\Project\CTA Consultants Limited\CTA - Project\23120HK - Proposed RCHE development in Tai Tong\Calculation\2024-02-14

**Report generation date:** 15/2/2024 11:09:51

- » **Jn H - Reference 2031, AM**
- » **Jn H - Reference 2031, PM**
- » **Jn H - Design 2031, AM**
- » **Jn H - Design 2031, PM**

### Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
<b>Jn H - Design 2031</b>								
Stream B-AC	0.11	5.77	0.10	A	0.05	5.56	0.04	A
Stream C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
<b>Jn H - Reference 2031</b>								
Stream B-AC	0.11	5.76	0.10	A	0.03	5.46	0.03	A
Stream C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

*Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.*

"D3 - Reference 2031, AM " model duration: 8:00 - 9:30

"D4 - Reference 2031, PM" model duration: 8:00 - 9:30

"D5 - Design 2031, AM" model duration: 8:00 - 9:30

"D6 - Design 2031, PM" model duration: 8:00 - 9:30

Run using Junctions 8.0.5.523 at 15/2/2024 11:09:48

## File summary

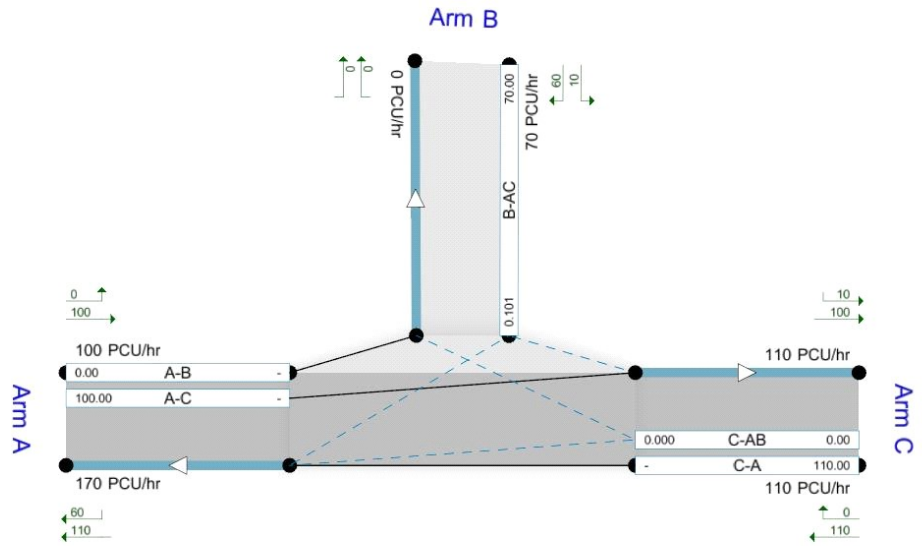
<b>Title</b>	(untitled)
<b>Location</b>	
<b>Site Number</b>	
<b>Date</b>	7/6/2021
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	user
<b>Description</b>	

## Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

## Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()  
Time Segment: (08:00-08:15)  
Showing Analysis Set "A1 - Jn H"; Demand Set "D3 - Reference 2031, AM"

The junction diagram reflects the last run of ARCADY.

## Jn H - Reference 2031, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn H	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Reference 2031, AM	Reference 2031	AM		FLAT	08:00	09:30	90	15		



# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.76	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (EB)		Major
B	B	Ting Kok Village Road		Minor
C	C	Ting Kok Road (WB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.10		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.114	0.289	0.182	0.413
1	B-C	862.208	0.114	0.289	-	-
1	C-B	660.830	0.222	0.222	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	100.00	100.000
B	FLAT	✓	70.00	100.000
C	FLAT	✓	110.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	100.000
	B	60.000	0.000	10.000
	C	110.000	0.000	0.000

## Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.86	0.00	0.14
	C	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

### Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	5.76	0.11	A
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

### Main Results for each time segment

#### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	69.56	0.00	695.41	0.101	0.11	5.748	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	110.00	110.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

#### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	695.41	0.101	0.11	5.755	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	110.00	110.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

#### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	695.41	0.101	0.11	5.755	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	110.00	110.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	695.41	0.101	0.11	5.755	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	110.00	110.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	695.41	0.101	0.11	5.755	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	110.00	110.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	695.41	0.101	0.11	5.755	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	110.00	110.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

## Jn H - Reference 2031, PM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn H	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Reference 2031, PM	Reference 2031	PM		FLAT	08:00	09:30	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.46	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (EB)		Major
B	B	Ting Kok Village Road		Minor
C	C	Ting Kok Road (WB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.10		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.114	0.289	0.182	0.413
1	B-C	862.208	0.114	0.289	-	-
1	C-B	660.830	0.222	0.222	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	40.00	100.000
B	FLAT	✓	20.00	100.000
C	FLAT	✓	190.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	40.000
	B	20.000	0.000	0.000
	C	190.000	0.000	0.000

## Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	5.46	0.03	A
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	19.88	0.00	679.54	0.029	0.03	5.457	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	190.00	190.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	679.54	0.029	0.03	5.457	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	190.00	190.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	679.54	0.029	0.03	5.457	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	190.00	190.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

### Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	679.54	0.029	0.03	5.457	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	190.00	190.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	679.54	0.029	0.03	5.457	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	190.00	190.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	679.54	0.029	0.03	5.457	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	190.00	190.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

## Jn H - Design 2031, AM

### Data Errors and Warnings

*No errors or warnings*

### Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn H	N/A			100.000	

### Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design 2031, AM	Design 2031	AM		FLAT	08:00	09:30	90	15		

## Junction Network

### Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.77	A

### Junction Network Options

Driving Side	Lighting
Left	Normal/unknown



# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (EB)		Major
B	B	Ting Kok Village Road		Minor
C	C	Ting Kok Road (WB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.10		0.00		2.20	150.00	✓	1.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.114	0.289	0.182	0.413
1	B-C	862.208	0.114	0.289	-	-
1	C-B	660.830	0.222	0.222	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Traffic Flows

## Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

# Entry Flows

## General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	100.00	100.000
B	FLAT	✓	70.00	100.000
C	FLAT	✓	120.00	100.000

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	100.000
	B	60.000	0.000	10.000
	C	120.000	0.000	0.000

## Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.86	0.00	0.14
	C	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	5.77	0.11	A
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	69.55	0.00	693.76	0.101	0.11	5.764	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	120.00	120.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	693.76	0.101	0.11	5.770	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	120.00	120.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	693.76	0.101	0.11	5.770	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	120.00	120.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

### Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	693.76	0.101	0.11	5.770	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	120.00	120.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

### Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	693.76	0.101	0.11	5.770	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	120.00	120.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

### Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	70.00	70.00	0.00	693.76	0.101	0.11	5.770	A
C-AB	0.00	0.00	0.00	942.82	0.000	0.00	0.000	A
C-A	120.00	120.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

# Jn H - Design 2031, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn H	N/A			100.000	

## Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design 2031, PM	Design 2031	PM		FLAT	08:00	09:30	90	15		

# Junction Network

## Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.56	A

## Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (EB)		Major
B	B	Ting Kok Village Road		Minor
C	C	Ting Kok Road (WB)		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	9.10		0.00		2.20	150.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.114	0.289	0.182	0.413
1	B-C	862.208	0.114	0.289	-	-
1	C-B	660.830	0.222	0.222	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

## Entry Flows

### General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	40.00	100.000
B	FLAT	✓	30.00	100.000
C	FLAT	✓	200.00	100.000

## Turning Proportions

### Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	40.000
	B	30.000	0.000	0.000
	C	200.000	0.000	0.000

### Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

## Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	5.56	0.05	A
C-AB	0.00	0.00	0.00	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

## Main Results for each time segment

### Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	29.82	0.00	677.72	0.044	0.05	5.555	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	200.00	200.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

### Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	677.72	0.044	0.05	5.557	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	200.00	200.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (08:30-08:45)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	677.72	0.044	0.05	5.557	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	200.00	200.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (08:45-09:00)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	677.72	0.044	0.05	5.557	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	200.00	200.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (09:00-09:15)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	677.72	0.044	0.05	5.559	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	200.00	200.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

**Main results: (09:15-09:30)**

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	677.72	0.044	0.05	5.559	A
C-AB	0.00	0.00	0.00	957.23	0.000	0.00	0.000	A
C-A	200.00	200.00	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	40.00	40.00	0.00	-	-	-	-	-

TRAFFIC SIGNALS CALCULATION

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(B)Shap Pat Heung Road / Tai Kei Leung Road**  
 Description: **2031 Design Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (SB)	S	↓	A	1	3.5	0	0	1	0%	0%	1965	1965	415	0.211	0.211	396	0.201	0.201
	S	↓	A	1	3.5	0	0	0	0%	0%	2105	2105	445	0.211		424	0.201	
Shap Pat Heung Road (NB)	N	↑	A	1	3.5	0	0	1	0%	0%	1965	1965	323	0.165		372	0.189	
	N	↑	A	1	3.5	0	0	0	0%	0%	2105	2105	347	0.165		398	0.189	
Tai Kei Leng Road (EB)	E	↘	B	2	3.5	0	12	1	100%	100%	1745	1745	470	0.269	0.269	278	0.159	0.159
	E	↘	B	2	3.5	0	13.5	0	100%	100%	1895	1895	510	0.269		302	0.159	

Notes:	Traffic Flow (pcu / hr) AM(PM) 	N Eγ L (sec) 10 C (sec) 90 y pract. 0.800 R.C. (%) 66%	Check Phase Eγ 0.481 L (sec) 10 C (sec) 90 y pract. 0.800 R.C. (%) 122%

Stage / Phase Diagrams			
1 	2 	3 	
L/G = 5	L/G = 7	L/G =	



**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(C)Shap Pat Heung Road / Fung Ki Road**  
 Description: **2031 Design Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)		Radius (m)		Nearside offset	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
					Left	Right	Left	Right		A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Shap Pat Heung Road (WB)	W	↖	B	2	3.5	0	21	0	100%	100%	1965	1965	290	0.148	0.148	450	0.229		
	W	↔	B	2	3.5	0	0	0	0%	0%	2105	2105	209	0.099		230	0.109		
	W	↗	B	2	3.5	15	0	1	21%	24%	1925	1920	191	0.099		210	0.109		
The Access Road of The Reach	N	↖	E	4	3.5	15	0	1	100%	100%	1785	1785	10	0.006		10	0.006		
	N	↔	E	4	3.5	0	35	0	29%	0%	2080	2105	56	0.027		40	0.019		
	N	↗	E	4	3.5	0	30	0	100%	100%	2005	2005	54	0.027		30	0.015		
Shap Pat Heung Road (EB)	E	↔	A	1	3.5	15	0	1	100%	100%	1785	1785	170	0.095		120	0.067		
	E	↗	A	1	3.5	0	0	0	0%	0%	2105	2105	225	0.107	0.107	165	0.078	0.078	
	E	↖	A	1	3.5	0	0	0	0%	0%	2105	2105	225	0.107		165	0.078		
Fung Ki Road (SB)	S	↖	C	2,3	3.5	18	0	1	100%	100%	1815	1815	350	0.193		470	0.259	0.259	
	S	↔	D	3	3.5	0	23	0	41%	35%	2050	2060	51	0.025		61	0.030		
	S	↗	D	3	3.5	0	21	0	100%	100%	1965	1965	49	0.025		59	0.030		
Pedestrian crossing			Fp	Min. Crossing Time = 9Gm + 8FGm = 17s															
			Gp	Min. Crossing Time = 10Gm + 10FGm = 20s															
			Hp	Min. Crossing Time = 7Gm + 7FGm = 14s															
			Ip	Min. Crossing Time = 7Gm + 7FGm = 14s															
			Jp	Min. Crossing Time = 10Gm + 6FGm = 16s															

Notes:	Traffic Flow (pcu / hr) [AM (PM)]	Check Phase εy 0.254 L (sec) 28 C (sec) 130 y pract. 0.706 R.C. (%) 177%	Check Phase εy 0.337 L (sec) 19 C (sec) 130 y pract. 0.768 R.C. (%) 128%
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Stage / Phase Diagrams				
1 	2 	3 	4 	
AM: I/G = 6	I/G = 6+5	I/G = 5	I/G = 5+5	
PM: I/G = 6		I/G = 5	I/G = 5+5	

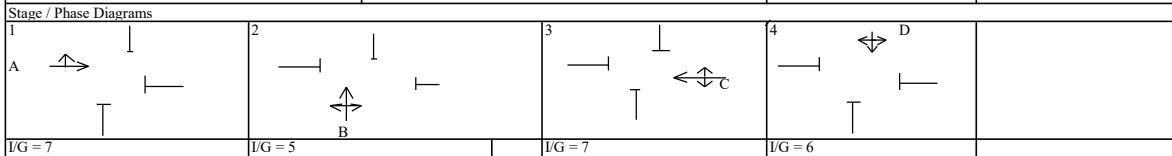
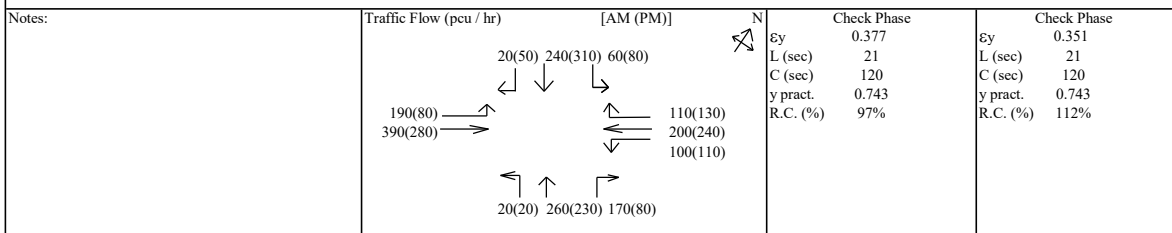
**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(D) Tai Tong Road / Shap Pat Heung Road**  
 Description: **2031 Design Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)		Radius (m)		Nearside	Site	Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
					Left	Right	Left	Right			Factor	A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Shap Pat Heung Road (WB)	W	↖	C	3	3.5	0	0	0	1	0%	0%	2105	2105	158	0.075	0.075	188	0.089	0.090	
	W	↔	C	3	3.5	0	30	0	1	72%	72%	2030	2030	152	0.075		182	0.090		
	W	↗	C	3	3.5	15	0	1	1	100%	100%	1785	1785	100	0.056		110	0.062		
Tai Tong Road (NB)	N	↖	B	2	3.5	15	0	1	1	9%	12%	1950	1940	224	0.115	0.115	162	0.084	0.084	
	N	↗	B	2	3.5	0	15	0	1	75%	48%	1955	2010	226	0.115		168	0.084		
Shap Pat Heung Road (EB)	E	↔	A	1	3.5	15	0	1	1	100%	100%	1785	1785	190	0.106	0.106	80	0.045		
	E	↖	A	1	3.5	0	0	0	1	0%	0%	2105	2105	195	0.093		140	0.067	0.067	
	E	↗	A	1	3.5	0	0	0	1	0%	0%	2105	2105	195	0.093		140	0.067		
Tai Tong Road (SB)	S	↖	D	4	3.5	15	0	1	1	39%	38%	1890	1895	152	0.081	0.081	211	0.111	0.111	
	S	↗	D	4	3.5	0	15	0	1	12%	22%	2080	2060	168	0.081		229	0.111		
Pedestrian crossing	Ep 3,4 Min. Crossing Time = 6Gm + 6FGm = 12s Fp 1,3,4 Min. Crossing Time = 7Gm + 7FGm = 14s Gp 1,2 Min. Crossing Time = 8Gm + 8FGm = 16s Hp 1,2,4 Min. Crossing Time = 10Gm + 10FGm = 20s Ip 3,4 Min. Crossing Time = 8Gm + 8FGm = 16s Jp 1,2,3 Min. Crossing Time = 6Gm + 8FGm = 14s Kp 1,2,4 Min. Crossing Time = 6Gm + 6FGm = 12s Lp 4 Min. Crossing Time = 9Gm + 6FGm = 15s Mp 2,3,4 Min. Crossing Time = 10Gm + 6FGm = 16s Np 1,2 Min. Crossing Time = 6Gm + 6FGm = 12s																			



**TRAFFIC SIGNALS CALCULATION**

Job No: 23120HK

**CTA Consultants Ltd.**

Junction: **(F) Shap Pat Heung Road / Kung Um Road / Kiu Hing Road**  
 Description: **2031 Design Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)			Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right	None	A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Kung Um Road	N	↕	A	1	3.4	8	0	1	44%	58%	1805	1765	410	0.227	0.227	260	0.147	0.147
	N	↕	A	1	3.4	0	21	0	100%	100%	1955	1955	240	0.123		230	0.118	
Shap Pat Heung Road	W	↔	B	2	5.1	30	25	1	48% / 0%	61% / 3%	2075	2060	230	0.111	0.111	330	0.160	0.160
Kiu Hing Road	S	↕	C	3	5.2	30	25	1	4% / 4%	0% / 4%	2125	2130	240	0.113	0.113	240	0.113	0.113
Shap Pat Heung Road	E	↔	D	4	5.1	30	25	1	23% / 5%	45% / 5%	2095	2070	220	0.105	0.105	200	0.097	0.097

Pedestrian crossing

- P1 Crossing Time = 11Gm + 7FGm = 18s
- P2 Crossing Time = 160Gm + 7FGm = 167s
- P3 Crossing Time = 160Gm + 8FGm = 168s
- P4 Crossing Time = 160Gm + 5FGm = 165s
- P5 Crossing Time = 37Gm + 5FGm = 42s
- P6 Crossing Time = 160Gm + 5FGm = 165s
- P7 Crossing Time = 11Gm + 5FGm = 16s

Notes:	Traffic Flow (pcu / hr) [AM (PM)]	Check Phase	Check Phase
		ey 0.556 L (sec) 34 C (sec) 190 y pract. 0.739 R.C. (%) 33%	ey 0.517 L (sec) 34 C (sec) 190 y pract. 0.739 R.C. (%) 43%

Stage / Phase Diagrams				
I/G = 2	I/G = 5	I/G = 5	I/G = 5	I/G = 3, G=18

TRAFFIC SIGNALS CALCULATION

Job No: 23120HK

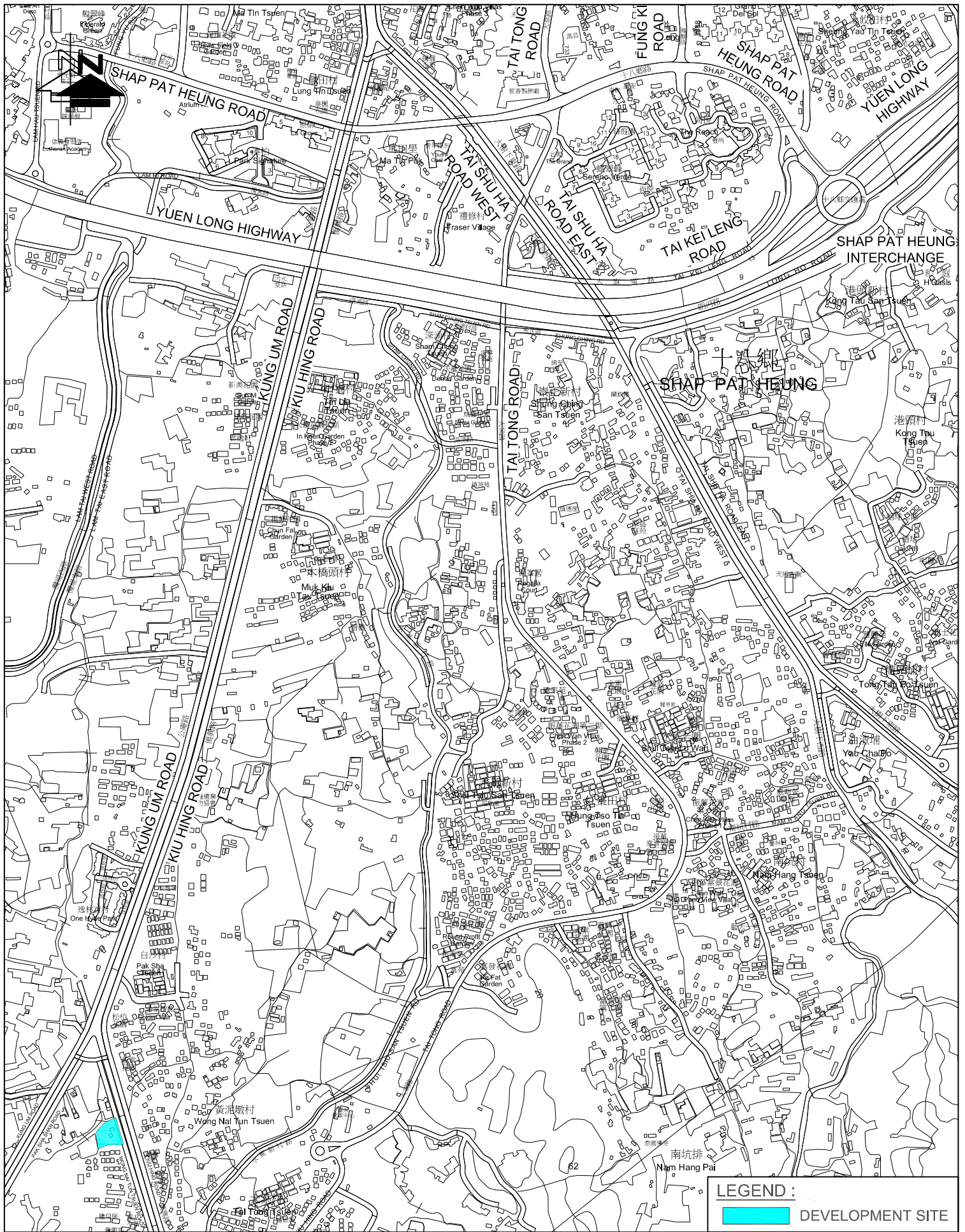
**CTA Consultants Ltd.**

Junction: **(G) Kung Um Road / Pak Sha Shan Road / Wong Ngai Tun Tsuen Road**  
 Description: **2031 Design Traffic Flows**

Approach	Direction	Movement	Phase	Stage	Width (m)	Radius (m)			Pro. Turning (%)		Revised		A.M. Peak			P.M. Peak		
						Left	Right	Nearside	A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Kung Um Road	N	↑	A	1	3.7	0	0	1	0%	0%	1985	1985	59	0.030	0.030	69	0.035	0.035
	N	↗	A	1	3.7	0	20	0	49%	56%	2050	2040	61	0.030		71	0.035	
Wong Ngai Tun Tsuen Road	S	↘	B	2	4.0	15	0	1	98%	100%	1835	1830	92	0.050	0.050	200	0.109	0.109
	S	↓	B	2	4.0	0	0	0	0%	0%	2155	2155	108	0.050		100	0.046	
Pak Sha Shan Road	W	↖	C	3	4.2	0	21	0	100%	100%	2030	2030	110	0.054	0.054	50	0.025	0.025
	W	↓	C	3	4.2	15	0	1	100%	100%	1850	1850	40	0.022		30	0.016	
Pedestrian crossing			P1	Crossing Time = 5Gm + 6FGm = 11s														
			P2	Crossing Time = 5Gm + 8FGm = 13s														
			P3	Crossing Time = 5Gm + 7FGm = 12s														
			P4	Crossing Time = 5Gm + 10FGm = 15s														
			P5	Crossing Time = 5Gm + 6FGm = 11s														
			P6	Crossing Time = 5Gm + 6FGm = 11s														

Notes:	Traffic Flow (pcu / hr)	[AM (PM)]	Check Phase	Check Phase
			Ey 0.134 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 482%	Ey 0.169 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 362%

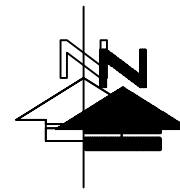
Stage / Phase Diagrams				
L/G = 5	L/G = 5	L/G = 5		



**LEGEND :**  
 DEVELOPMENT SITE

FIGURE NO.:	<b>1.1</b>	PROJECT TITLE:	Proposed RCHE development in Tai Tong
PROJECT NO.:	23120HK	DRAWING TITLE:	<b>SITE LOCATION PLAN</b>
SCALE:	1 : 10000 @A4	DATE:	





<b>LEGEND :</b>	
	DEVELOPMENT SITE

FIGURE NO.:	2.1	PROJECT TITLE:	Proposed RCHE development in Tai Tong
PROJECT NO.:	23120HK	DRAWING TITLE:	G/F LAYOUT PLAN
SCALE:	DATE:		
1 : 400 @A4	21 FEB 2024		





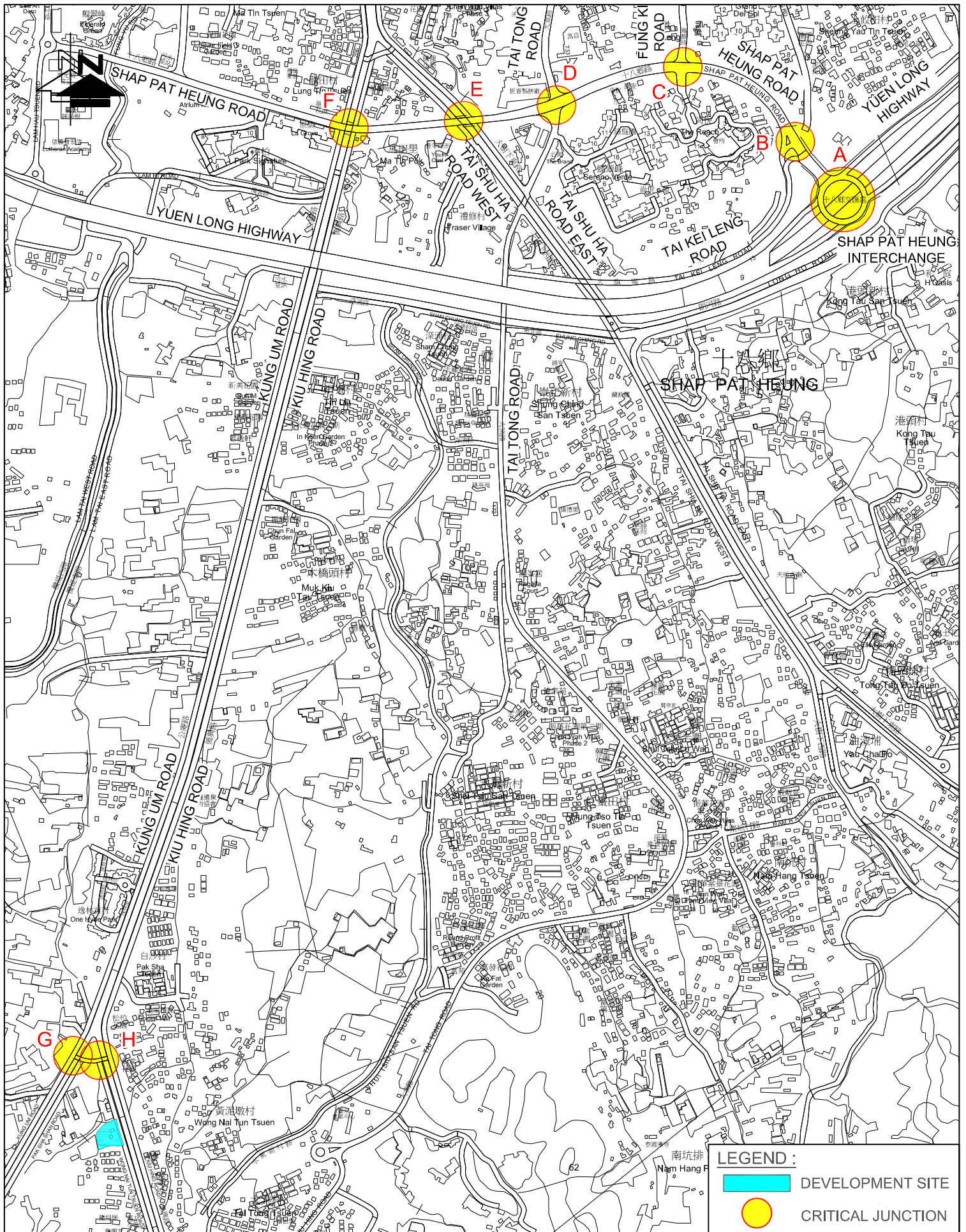


FIGURE NO.:	<b>3.1</b>	PROJECT TITLE:	Proposed RCHE development in Tai Tong
PROJECT NO.:	23120HK	DRAWING TITLE:	IDENTIFIED CRITICAL JUNCTIONS
SCALE:	1 : 10000 @A4	DATE:	04 DEC 2023



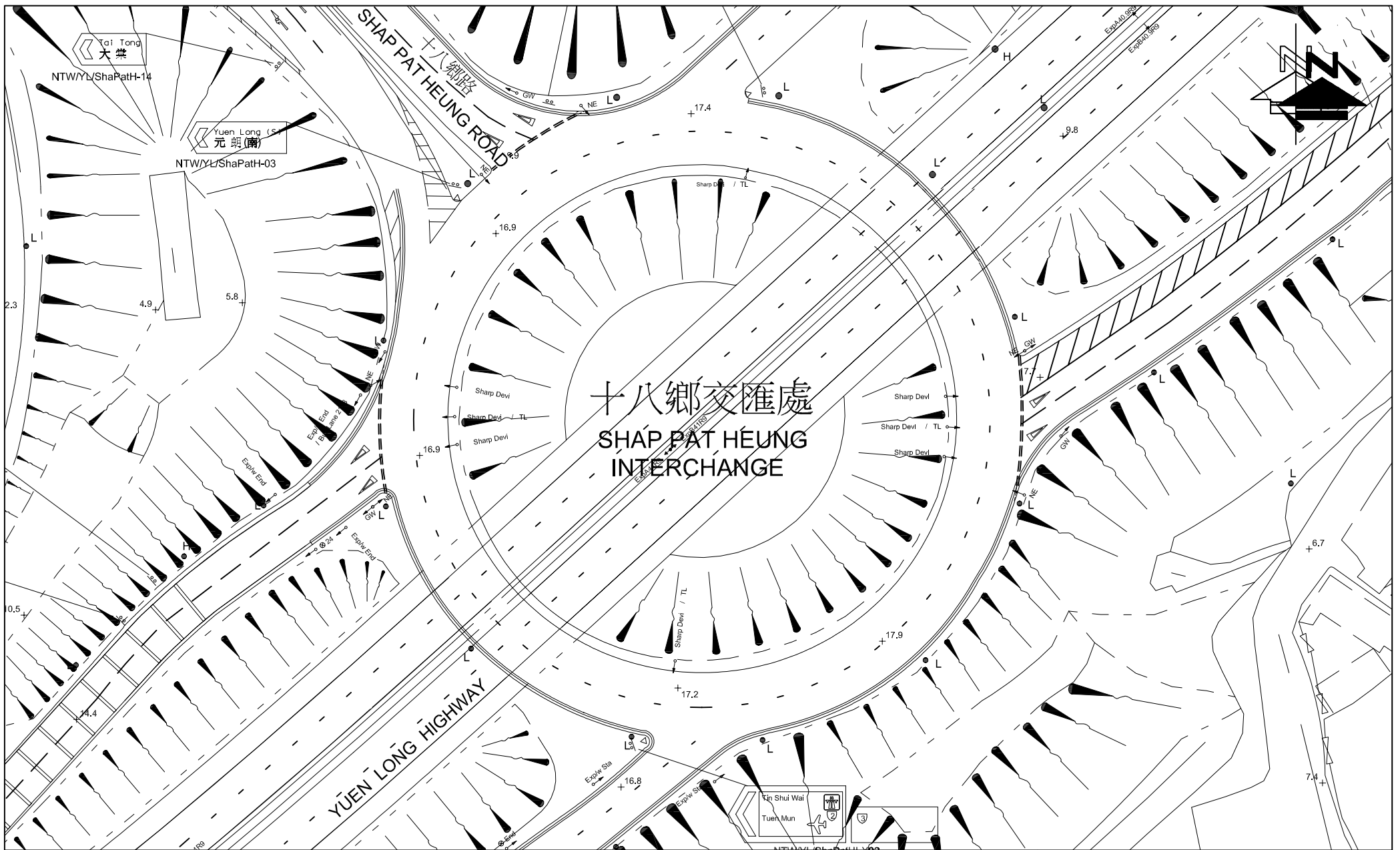



FIGURE NO.:		PROJECT TITLE:		 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
3.2		Proposed RCHE development in Tai Tong		
PROJECT NO.:		DRAWING TITLE:		
23120HK		EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG INTERCHANGE (A)		
SCALE:	DATE:			
1 : 800 @A4	05 DEC 2023			



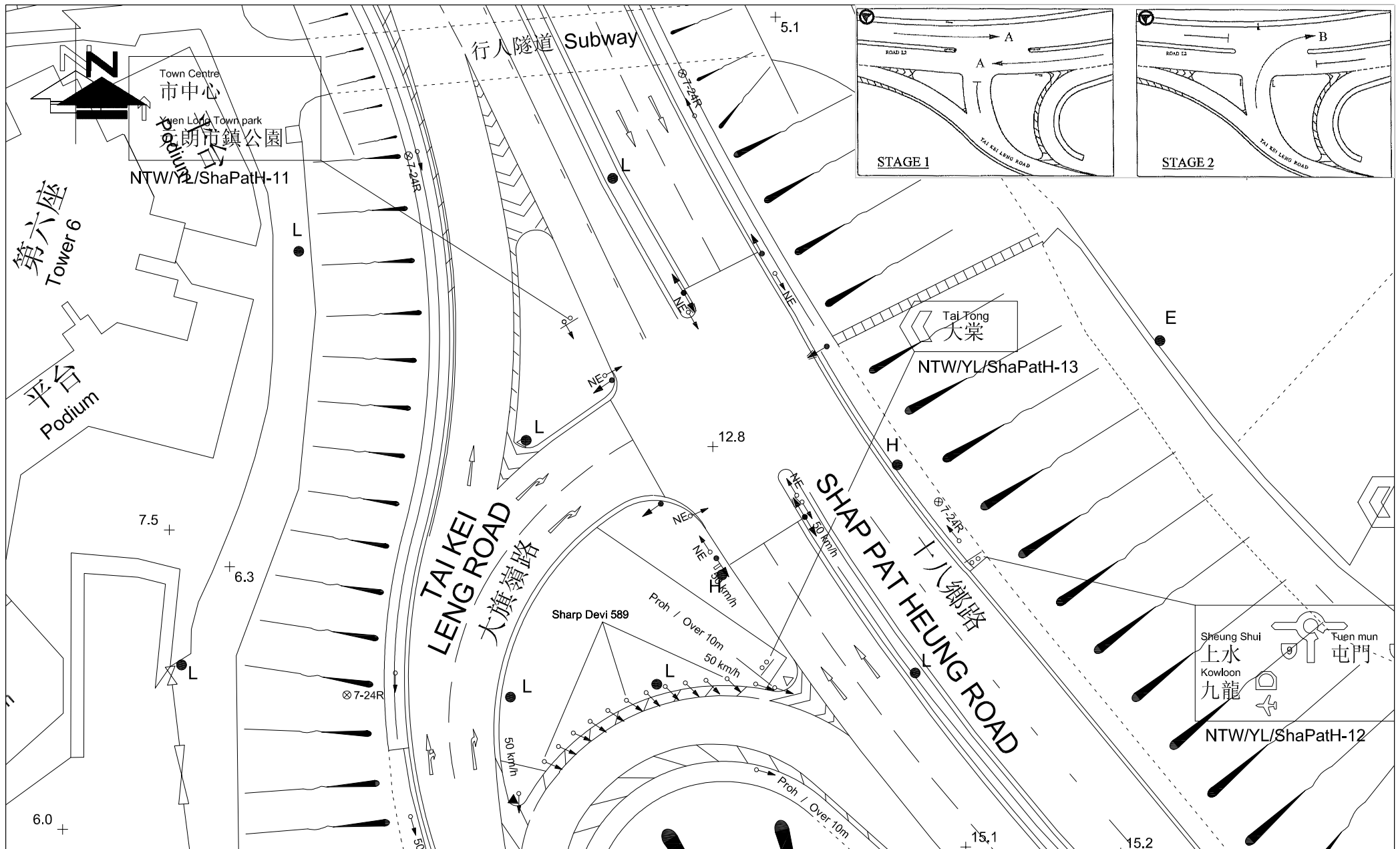



FIGURE NO.: <b>3.3</b>		PROJECT TITLE: Proposed RCHE development in Tai Tong	 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
PROJECT NO.: 23120HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / TAI KEI LEUNG ROAD (B)	
SCALE: 1 : 500 @A4	DATE: 05 DEC 2023		

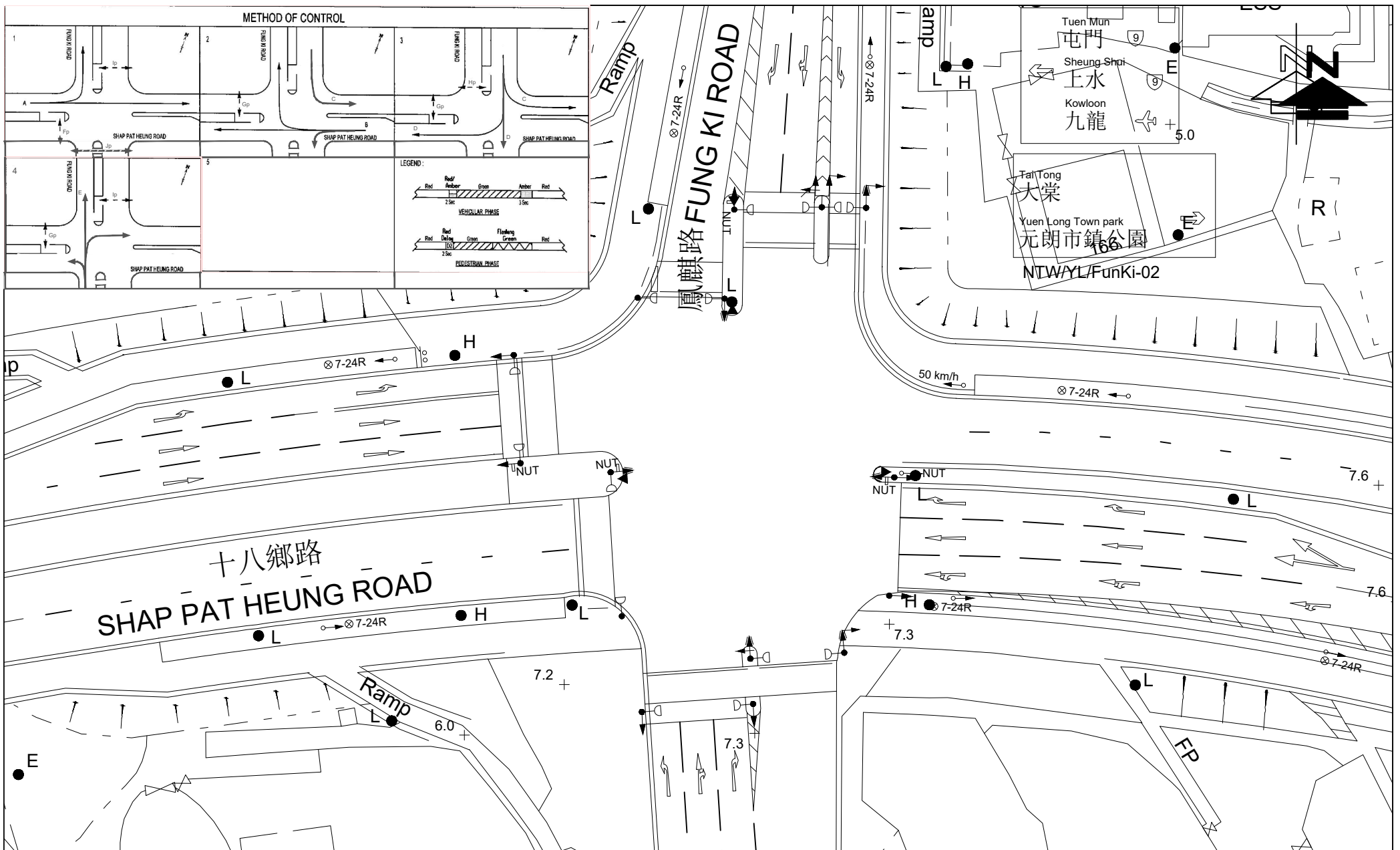


FIGURE NO.:		PROJECT TITLE:	
3.4		Proposed RCHE development in Tai Tong	
PROJECT NO.:		DRAWING TITLE:	
23120HK		EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / FUNG KI ROAD (C)	
SCALE:	DATE:		
1 : 500 @A4	05 DEC 2023		

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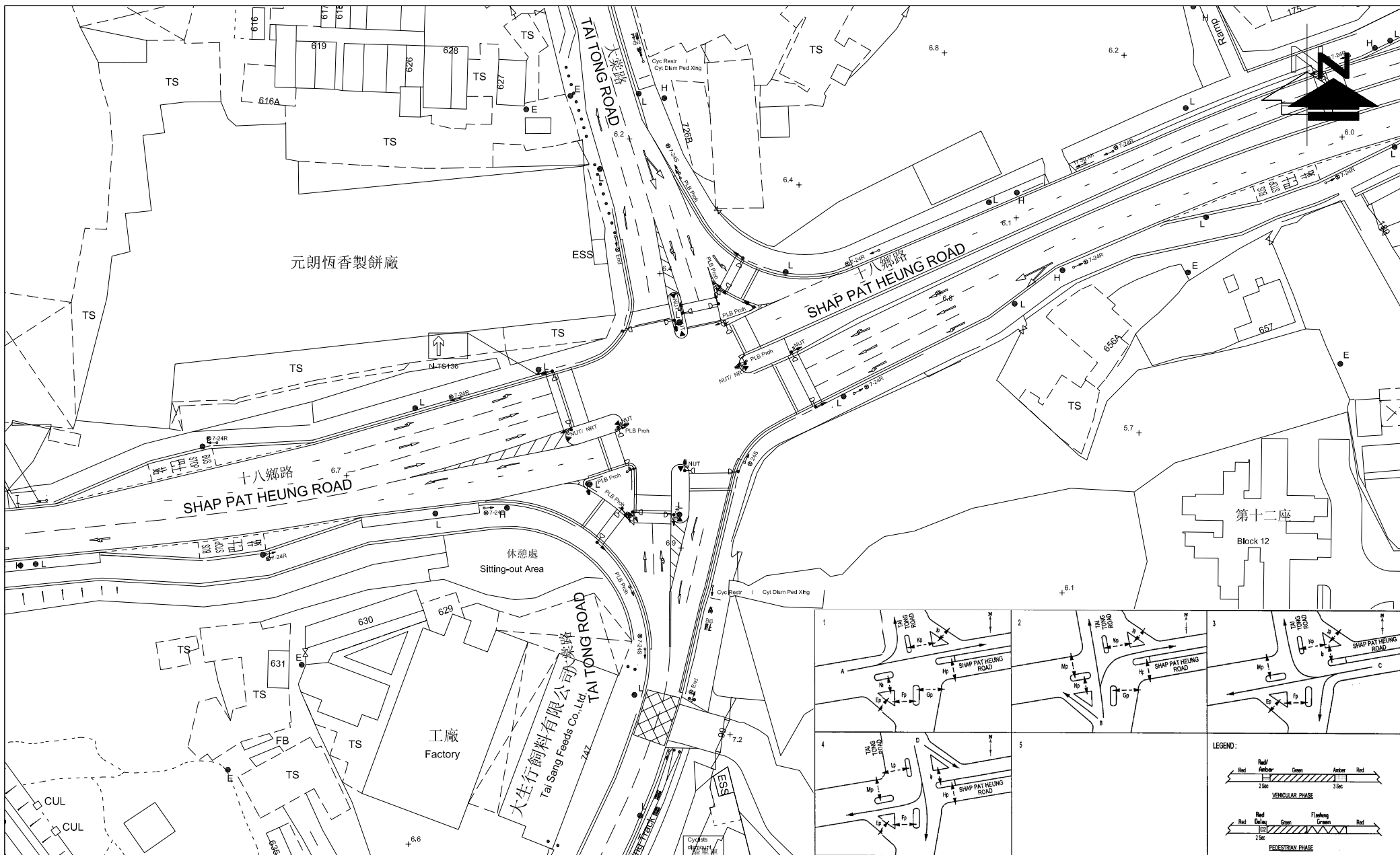



FIGURE NO.: <b>3.5</b>		PROJECT TITLE: Proposed RCHE development in Tai Tong	 <b>CTA Consultants Limited</b> 志達顧問有限公司
PROJECT NO.: 23120HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TAI TONG ROAD / SHAP PAT HEUNG ROAD (D)	
SCALE: 1 : 1000 @A4	DATE: 05 DEC 2023		

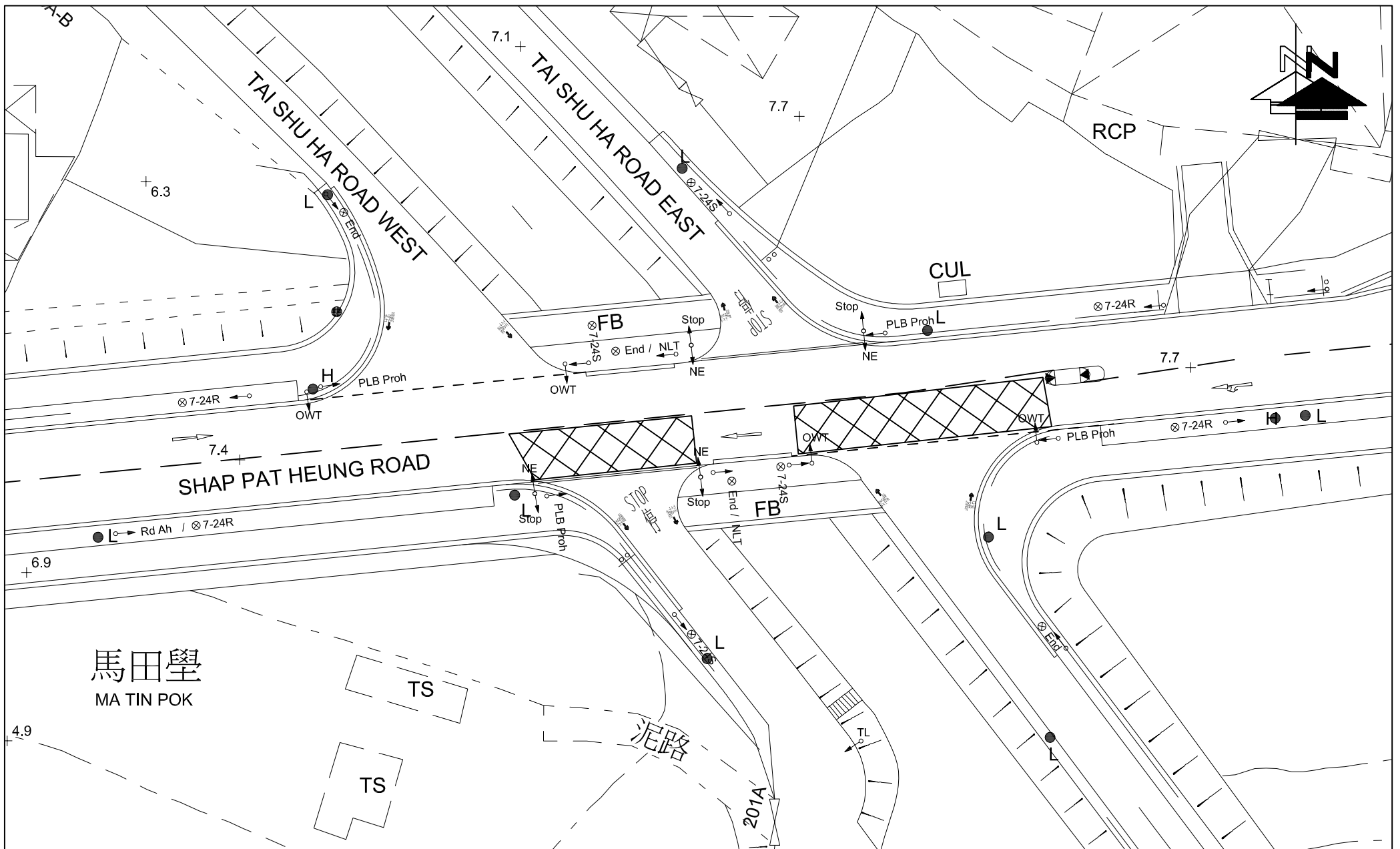



FIGURE NO.:		PROJECT TITLE:		 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
3.6		Proposed RCHE development in Tai Tong		
PROJECT NO.:		DRAWING TITLE:		
23120HK		EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / TAI SHU HA ROAD EAST (E)		
SCALE:	DATE:			
1 : 500 @A4	05 DEC 2023			

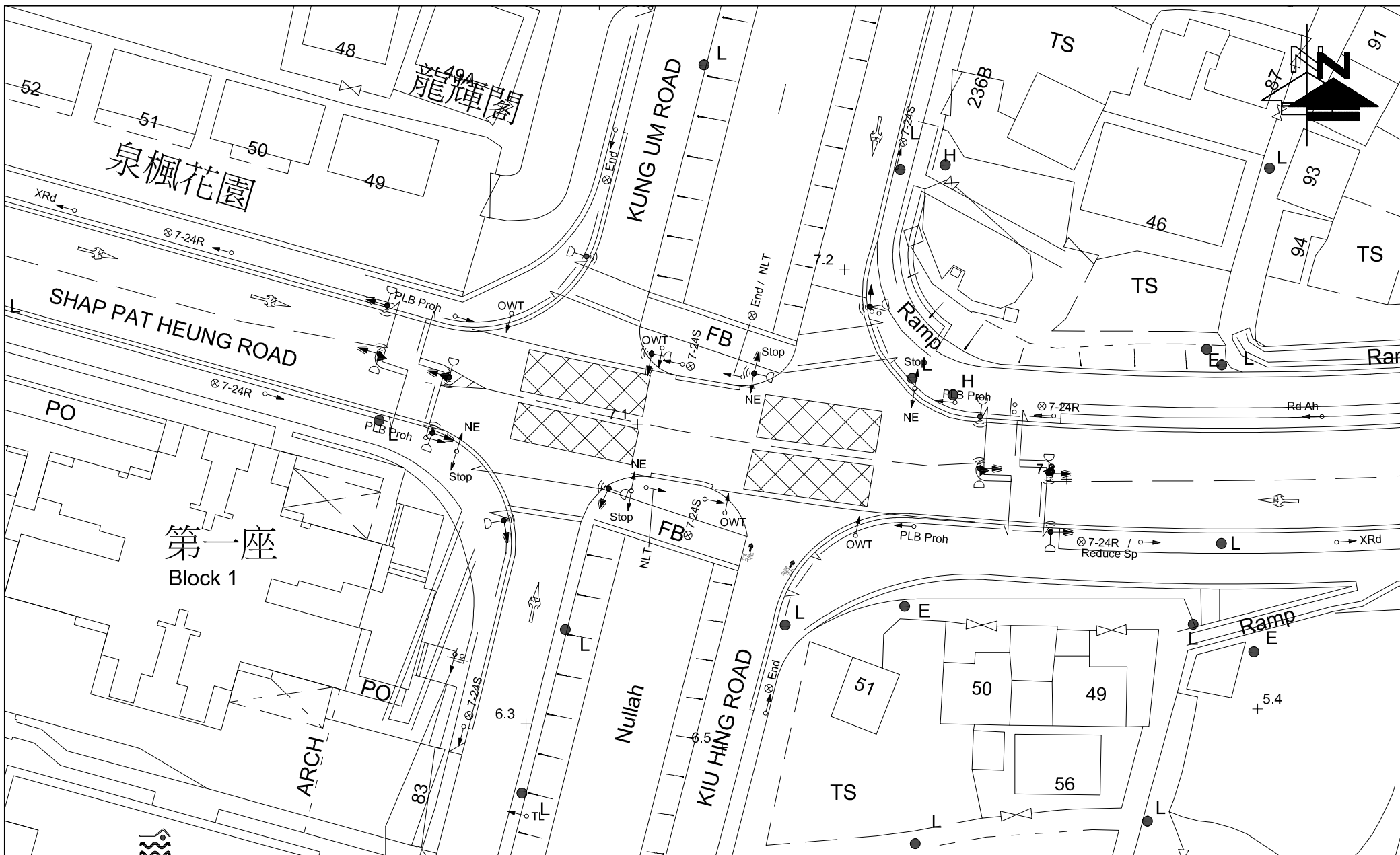



FIGURE NO.: <b>3.7</b>		PROJECT TITLE: Proposed RCHE development in Tai Tong	 <b>CTA Consultants Limited</b> 志達顧問有限公司
PROJECT NO.: 23120HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / KUNG UM ROAD / KIU HING ROAD (F)	
SCALE: 1 : 500 @A4	DATE: 05 DEC 2023		



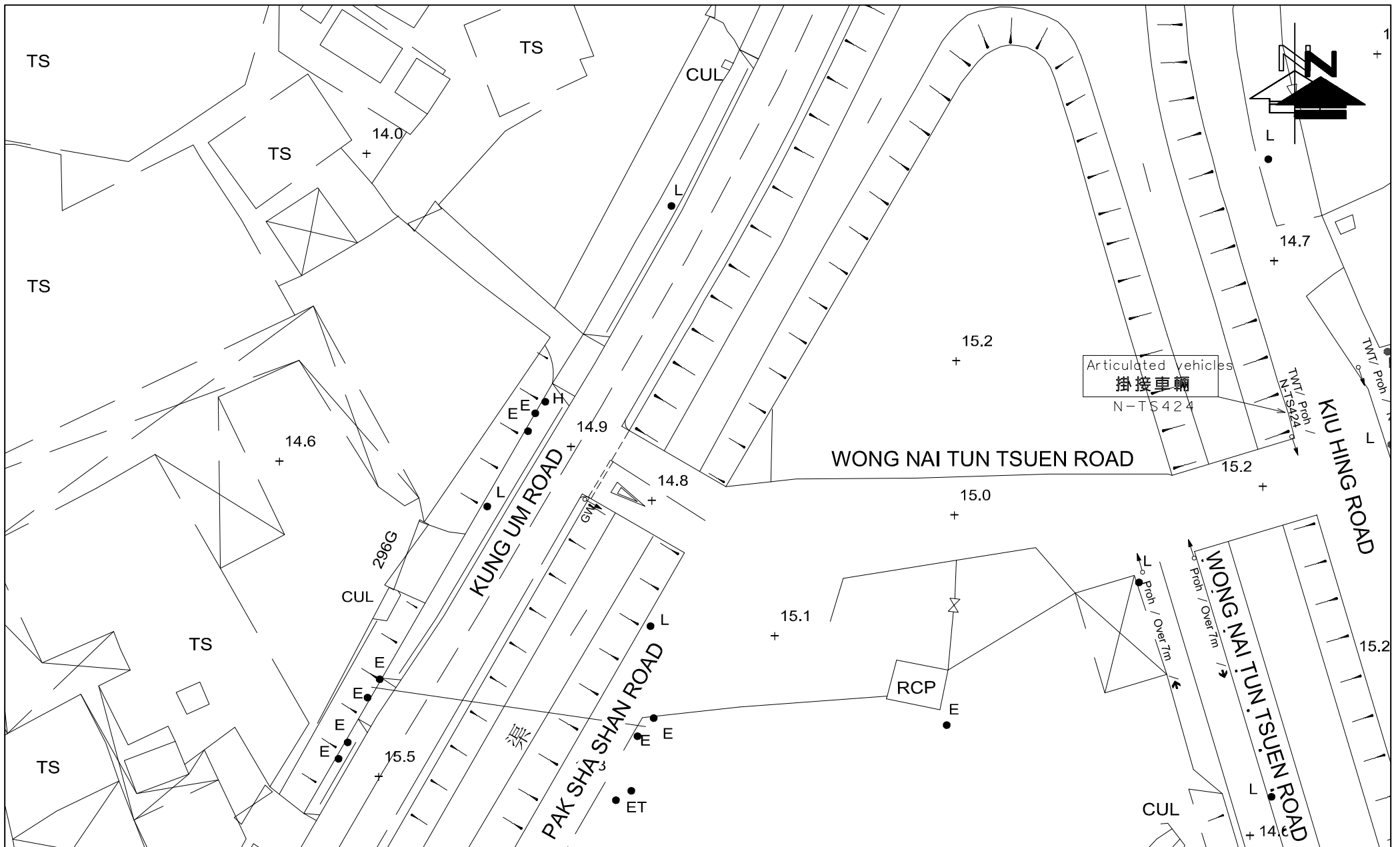


FIGURE NO.:		3.8		PROJECT TITLE:		Proposed RCHE development in Tai Tong	
PROJECT NO.:		23120HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF WONG NAI TUN TSUEN ROAD / KUNG UM ROAD (G)	
SCALE:	DATE:						
1 : 500 @A4	05 DEC 2023						



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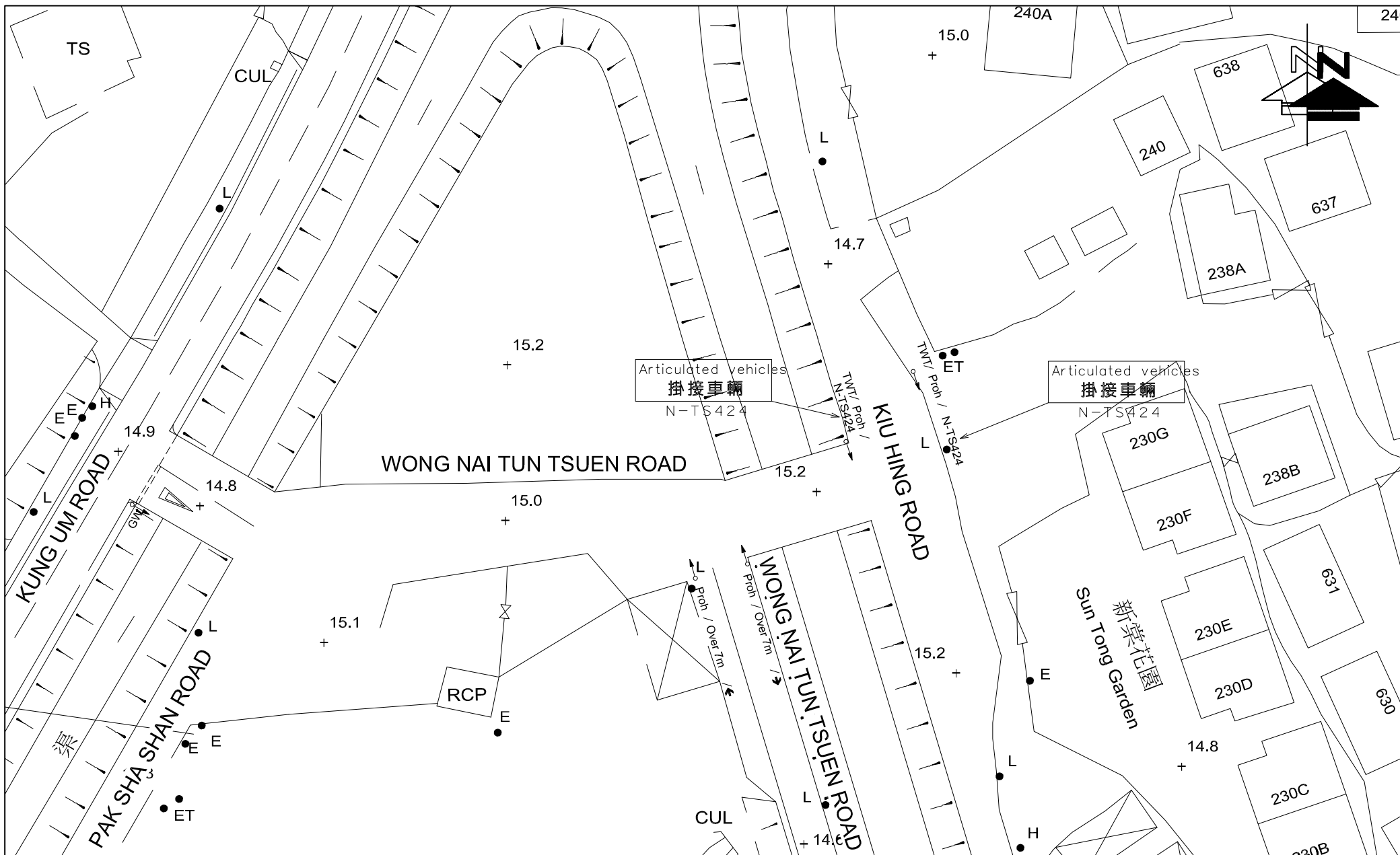



FIGURE NO.:		PROJECT TITLE:	
3.9		Proposed RCHE development in Tai Tong	
PROJECT NO.:		DRAWING TITLE:	
23120HK		EXISTING JUNCTION LAYOUT OF WONG NAI TUN TSUEN ROAD (H)	
SCALE:	DATE:	 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>	
1 : 500 @A4	05 DEC 2023		

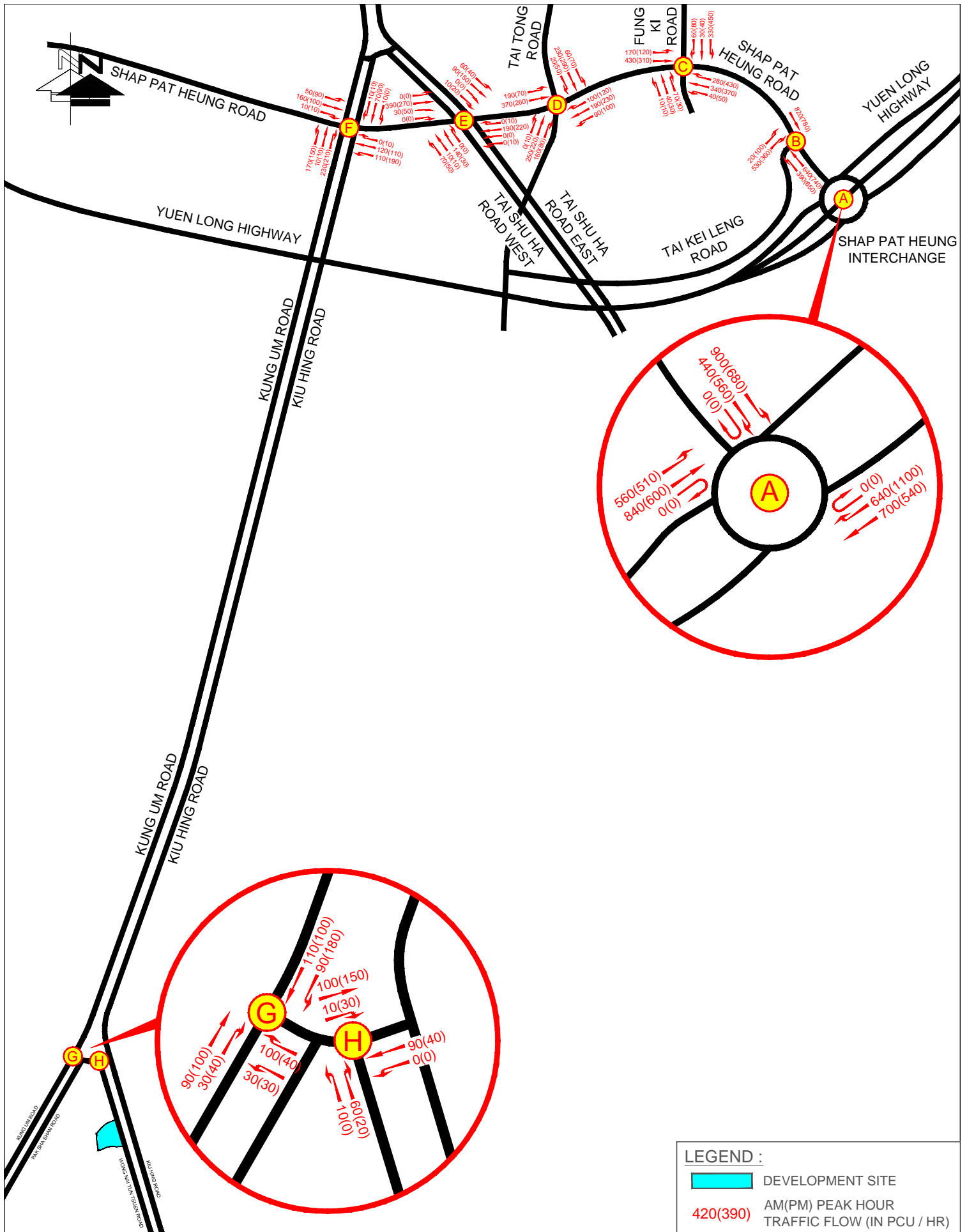
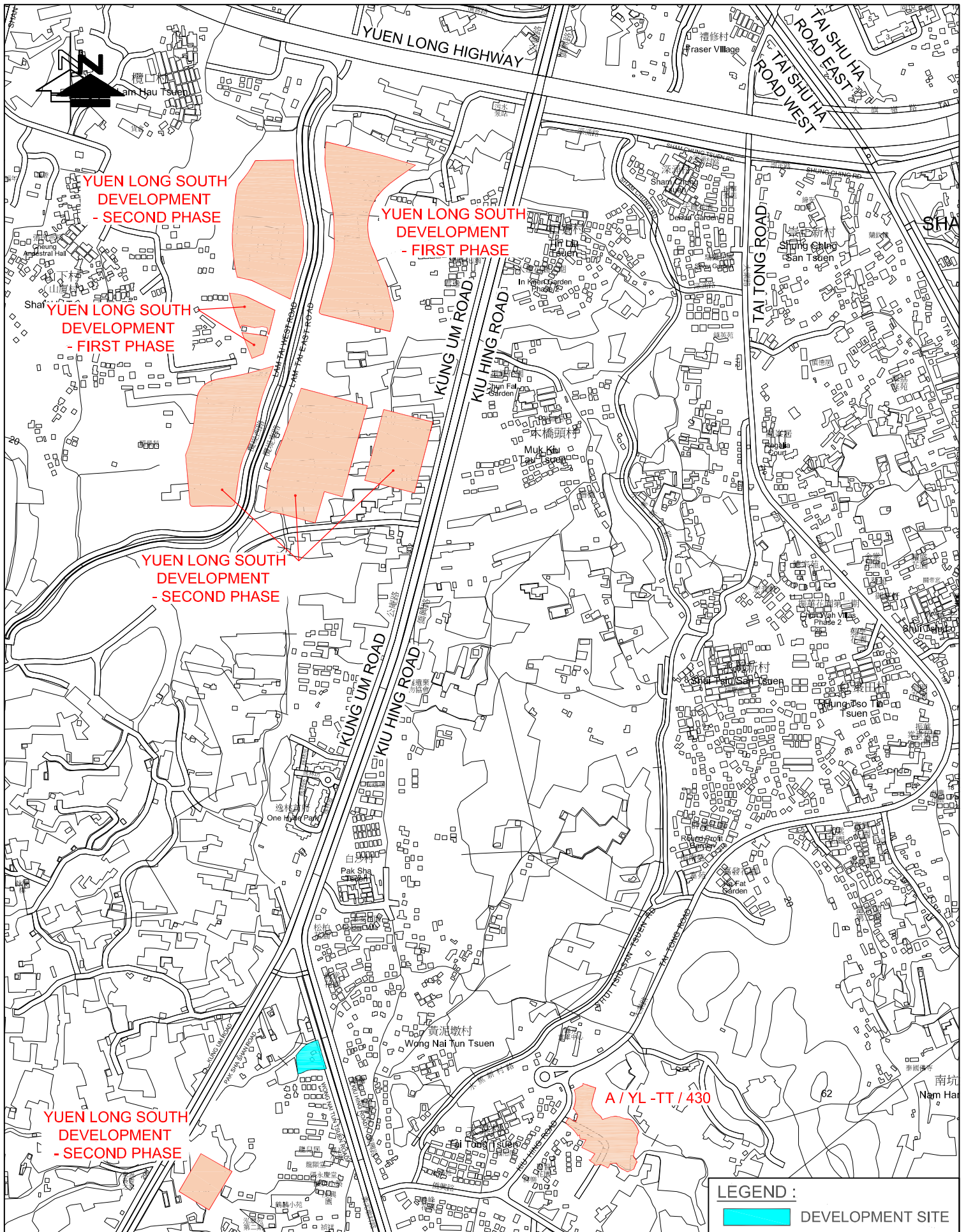


FIGURE NO.:	3.10
PROJECT NO.:	23120HK
SCALE:	N.T.S. @A4
DATE:	13 DEC 2023

PROJECT TITLE:	Proposed RCHE development in Tai Tong
DRAWING TITLE:	2023 EXISTING OFF-PEAK TRAFFIC FLOWS





**LEGEND :**  
 DEVELOPMENT SITE

FIGURE NO.:	4.1	PROJECT TITLE:	Proposed RCHE development in Tai Tong
PROJECT NO.:	23120HK	DRAWING TITLE:	ADJACENT DEVELOPMENT IN THE VICINITY
SCALE:	1 : 9000 @A4	DATE:	15 FEB 2024



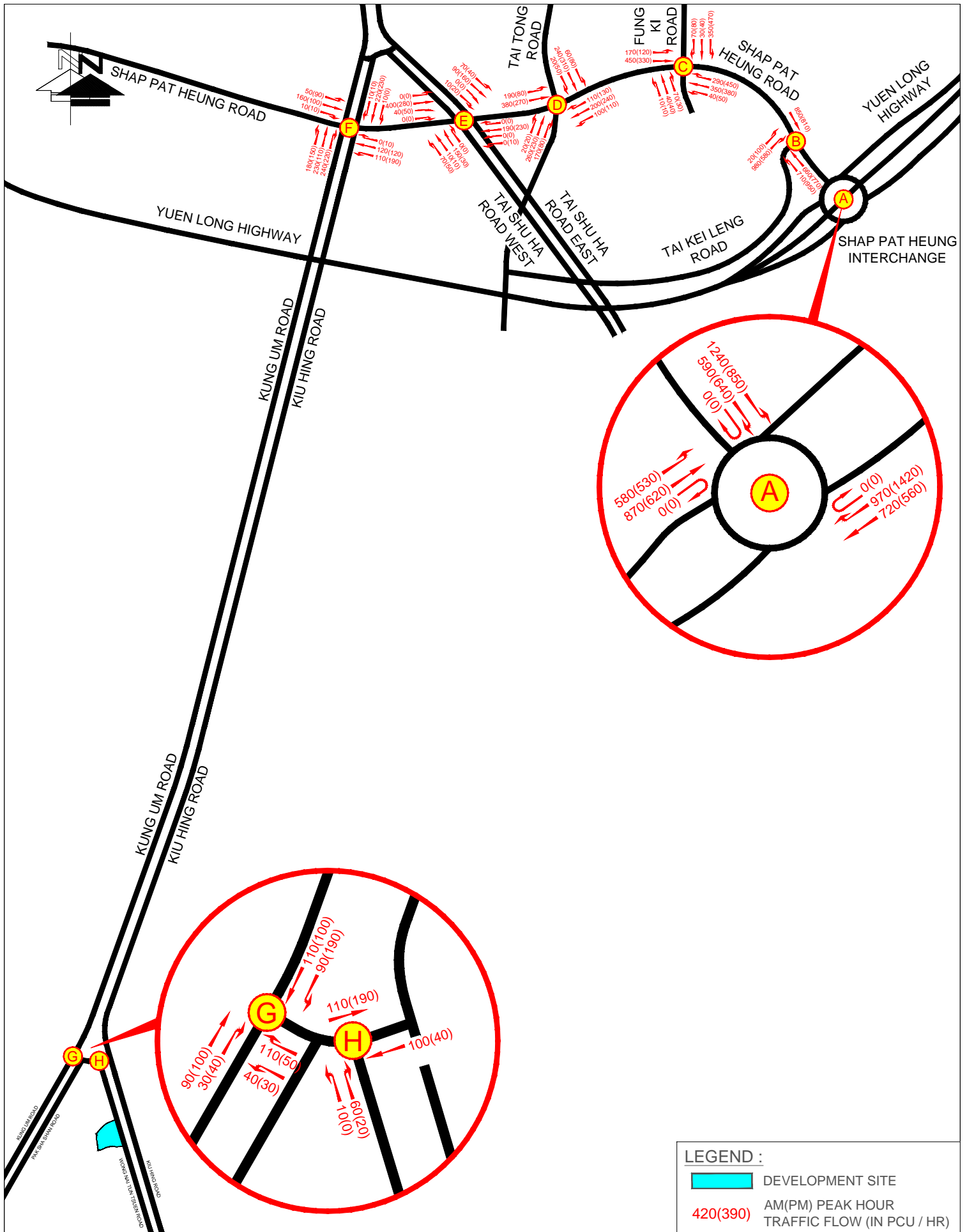



FIGURE NO.:	4.2	PROJECT TITLE:	Proposed RCHE development in Tai Tong
PROJECT NO.:	23120HK	DRAWING TITLE:	2031 REFERENCE OFF-PEAK TRAFFIC FLOWS
SCALE:	N.T.S. @A4	DATE:	13 DEC 2023





FIGURE NO.: <b>4.3</b>		PROJECT TITLE: <b>Proposed RCHE development in Tai Tong</b>	 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
PROJECT NO.: 23120HK		DRAWING TITLE: <b>PROPOSED IMPROVEMENT JUNCTION LAYOUT OF SHAP PAT HEUNG INTERCHANGE (A) BY CEDD</b>	
SCALE: 1 : 1500@A4	DATE: 14 FEB 2024		



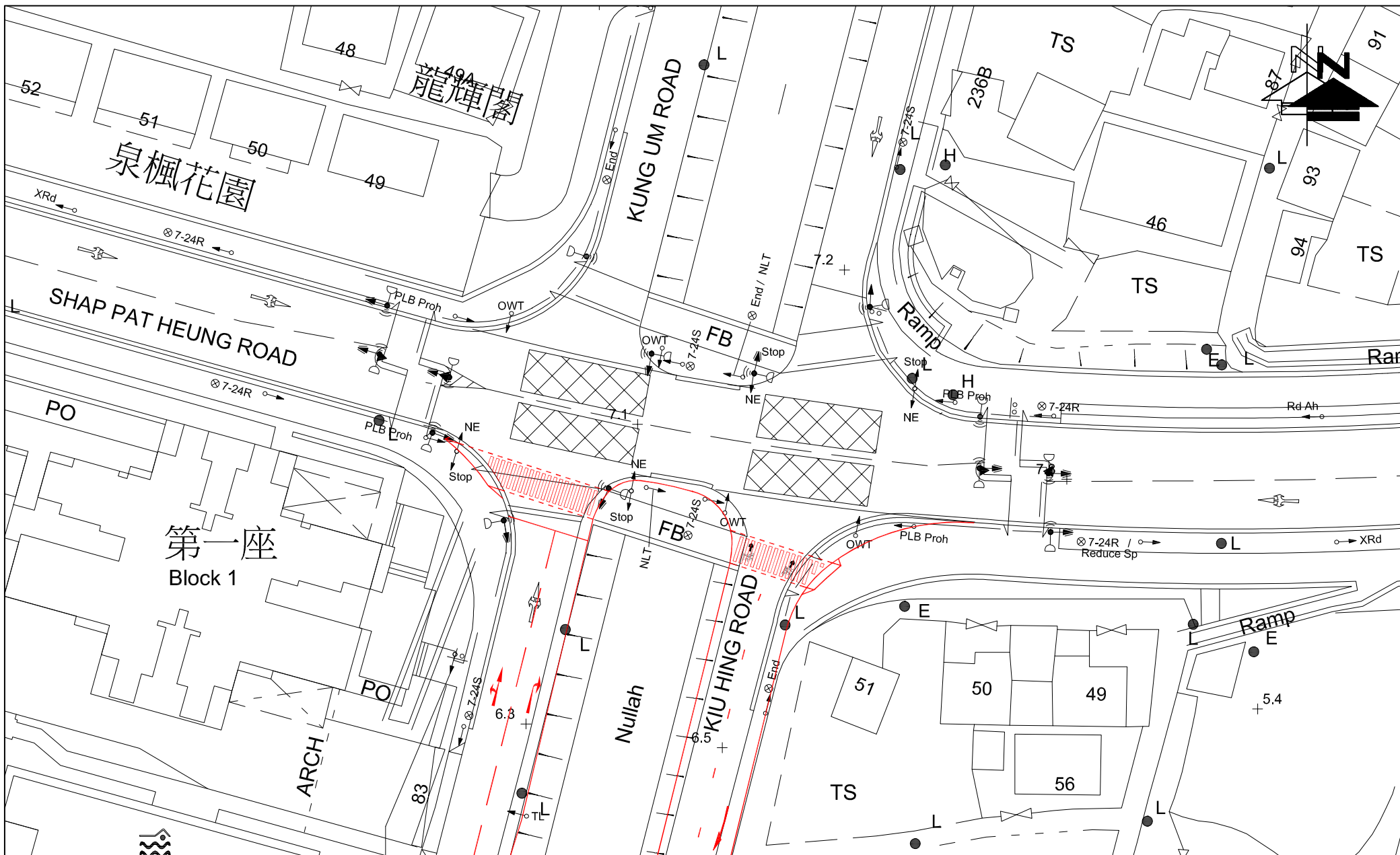


FIGURE NO.:		PROJECT TITLE:	
4.4		Proposed RCHE development in Tai Tong	
PROJECT NO.:		DRAWING TITLE:	
23120HK		PROPOSED IMPROVEMENT JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / KUNG UM ROAD / KIU HING ROAD (F) BY CEDD	
SCALE:	DATE:		
1 : 500 @A4	15 FEB 2024		



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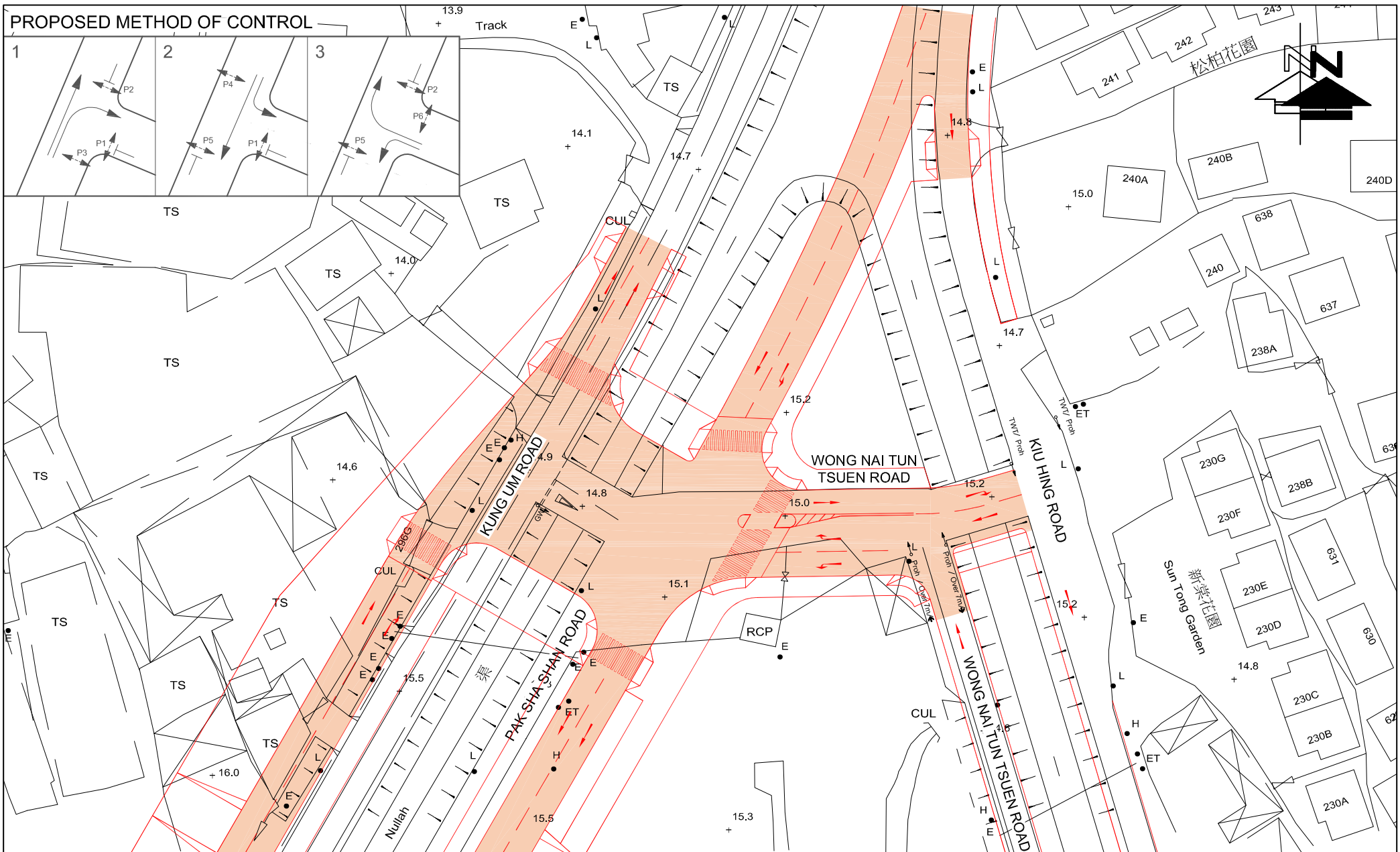


FIGURE NO.: <b>4.5</b>		PROJECT TITLE: Proposed RCHE development in Tai Tong	 <b>CTA Consultants Limited</b> 志達顧問有限公司
PROJECT NO.: 23120HK		DRAWING TITLE: <b>PROPOSED IMPROVEMENT JUNCTION LAYOUT OF WONG NAI TUN TSUEN ROAD / KUNG UM ROAD (G) BY CEDD</b>	
SCALE: 1 : 750 @A4	DATE: 14 FEB 2024		

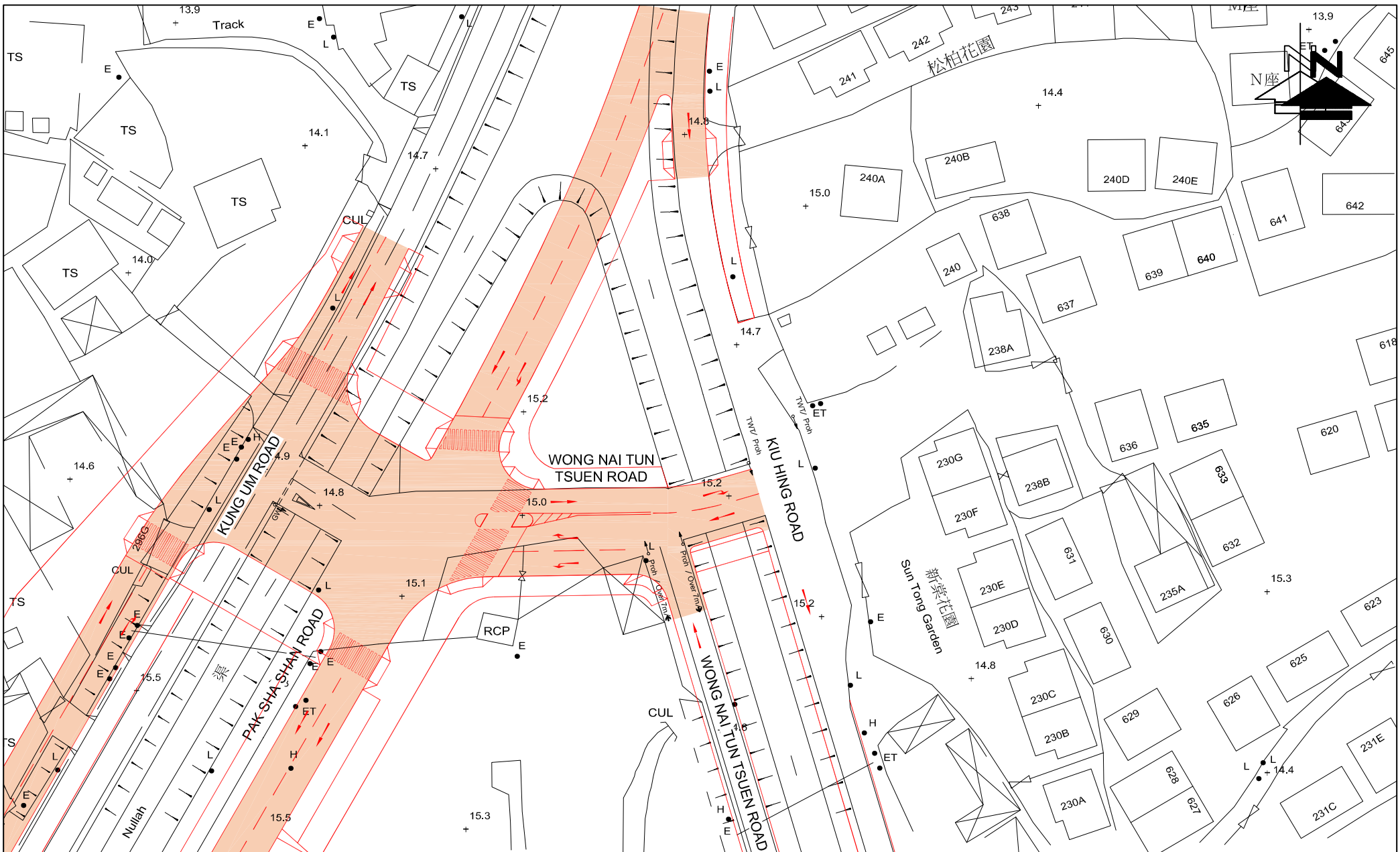



FIGURE NO.: <b>4.6</b>		PROJECT TITLE: <b>Proposed RCHE development in Tai Tong</b>	 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
PROJECT NO.: 23120HK		DRAWING TITLE: <b>PROPOSED IMPROVEMENT JUNCTION LAYOUT OF WONG NAI TUN TSUEN ROAD (H) BY CEDD</b>	
SCALE: 1 : 750 @A4	DATE: 14 FEB 2024		

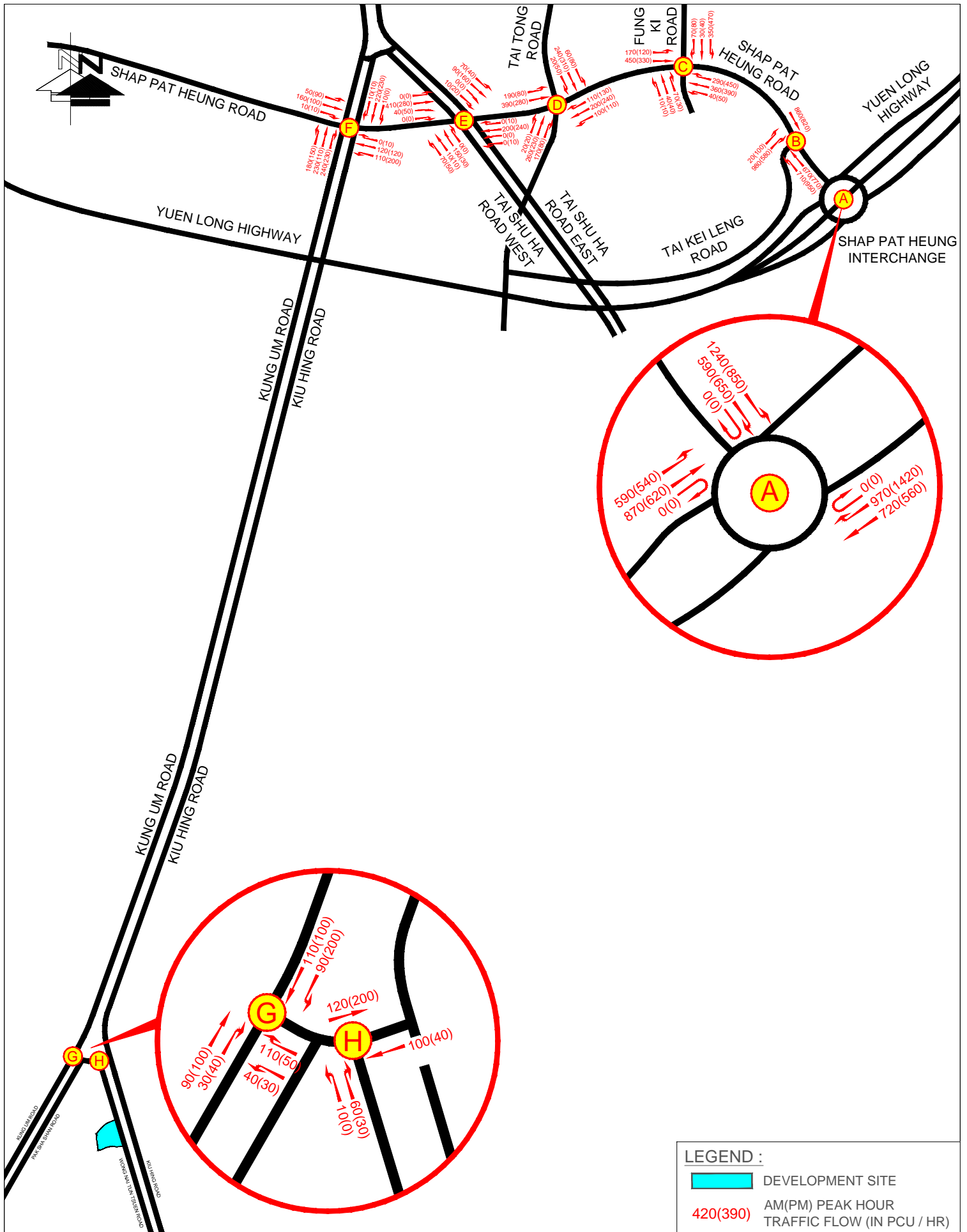


FIGURE NO.:	4.7
PROJECT NO.:	23120HK
SCALE:	N.T.S. @A4
DATE:	13 DEC 2023

PROJECT TITLE:	Proposed RCHE development in Tai Tong
DRAWING TITLE:	2031 DESIGN OFF-PEAK TRAFFIC FLOWS

