

Attachment II
Revised Traffic Impact Assessment

**Concrete Batching Plant at Tsing Yi
- Renewal Application A/TY/136
(New Planning Application No. A/TY/147)**

Traffic Impact Assessment

Final Report

May 2024



CTA Consultants Limited

志達顧問有限公司

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1. INTRODUCTION

1.1 Background

1.1.1 The concrete batching plant of the captioned Planning Approval is located at Sai Tso Wan Road, Tsing Yi and shown in **Figure 1.1**

1.1.2 The captioned planning approval (previous approved planning application no.: A/TY/136) was granted in 2019 and will expire on 2 Aug 2024. The Applicant would like to submit a renewal planning application for another 5 years.

1.1.3 We, CTA Consultants Limited (CTA), is commissioned as the traffic consultant to undertake a Traffic Impact Assessment (TIA) study for assessing the traffic impact, and to propose any measures if necessary.

1.2 Study Objectives

1.2.1 The main objective of this study are as follows:

- to carry out a traffic impact assessment to identify the acceptability of the concrete batching plant in traffic terms;
- to assess the existing traffic conditions in the vicinity of the plant;
- to forecast traffic demands in the adjacent road network in the design year 2029;
- to assess the impacts of traffic generated by the adjacent new developments in the road network; and
- to propose any traffic improvement measures for alleviating any foreseeable traffic problems if necessary.

1.3 Structure of this Report

1.3.1 Following this introductory chapter, there are 5 further chapters.

- **Chapter 2 – The Development**, which presents the site location and production information of the plant.
- **Chapter 3 – Existing Traffic Condition**, which describes the existing local road



network in the vicinity of Study Area, presents a summary of the traffic count survey and assesses the existing traffic conditions.

- **Chapter 4 – Future Traffic Conditions**, which estimates the future traffic flows for the plant on the surrounding road network.
- **Chapter 5 – Traffic Impact Assessment**, which study the operation performance of the critical junctions in design year.
- **Chapter 6 – Summary and Conclusion**, which presents the conclusions regarding the traffic issues associated with the plant.



2. THE DEVELOPMENT

2.1 Site Location

2.1.1 The plant is situated at Sai Tso Wan Road, as shown in **Figure 1.1**. It is located at the Western seaside of Tsing Yi, which can only be accessed by single 2-way 2-lane Sai Tso Wan Road.

2.2 Development Proposal

2.2.1 As advised by the operator, the operation of the plant is:

- The operation last for 12 hours from 7am to 7pm every day, from Mondays to Saturdays and occasionally on Sundays and public holidays. Occasional operation at night will be required.
- 3 loading/unloading areas to be provided and operated by the plant.
- The maximum hourly production capacity of the plant will be 300 m³/hr. However, the production rate would be limited to not exceeding 80% of the output rate, i.e 240m³/hr. This rate is limited under Specific Process (SP) License issued by Environmental Protection Department (EPD)
- Assuming each concrete mixer truck can carry 8m³ concrete, it is deduced that the maximum number of a truck is be 240 / 8 = 30 trucks/hr.
- Aggregate, cement and PFA are transported by barge.

2.3 Traffic Arrangement

2.3.1 To facilitate the operation of the plant, the following types of parking facilities are provided within the plant:

- 22 nos. of HGV Waiting Spaces (11m × 3.5m);
- 3 nos. of Loading/Unloading Areas; and
- 4 nos. of Private Car Parking Spaces (5m × 2.5m)

2.3.2 A maximum of 25 trucks can stack within the Subject Site which could satisfy normal operation needs. Therefore, it is anticipated that the vehicles generated to/ from the plant will not queue along Sai Tso Wan Road outside the plant.



3. EXISTING TRAFFIC CONDITIONS

3.1 Existing Road Network

3.1.1 The plant will be accessed through Tsing Yi Road West, Tsing Yi Road and Sai Tso Wan Road.

3.1.2 Sai Tso Wan Road is a 2-lane local road connecting Sai Tso Wan area and Tsing Yi Road West/Tsing Yi Road. It is a major road link providing access to/from various sites in Sai Tso Wan area.

3.2 Critical Junctions

3.2.1 In order to establish the existing traffic condition in the vicinity, traffic survey in form of manual classification counts was conducted at 23 critical junctions. The location of the surveyed junctions is indicated in **Figure 3.1** and their existing junction layout arrangements are given in **Figures 3.2 to 3.24** respectively.



Table 3.1 Identified Critical Junctions

Ref.	Junction	Type	Figure No.
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	3.2
J2	Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Highway	Signalized	3.3
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	3.4
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	3.5
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	3.6
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	3.7
J7	Tsing Yi Road West / Tsing Chin Street*	Priority	3.8
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	3.9
J9	Tsing Yi Road West / Liu To Road	Signalized	3.10
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	3.11
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	3.12
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	3.13
J13	Tsing Yi Road / Tsing Keung Street	Priority	3.14
RA1	Tsing Yi Interchange	Roundabout	3.15
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	3.16
RA3	Hong Wan Road	Roundabout	3.17
RA4	Hong Wan Road / Tsing Ko Road	Roundabout	3.18
RA5	Tam Kon Shan Interchange	Roundabout	3.19
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	3.20
RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	3.21
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	3.22
RA9	Tam Kon Shan Road / Tsing Yi North Costal Road	Roundabout	3.23
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	3.24



3.2.2 The survey was conducted during the morning, logistic peak and evening peak periods 26 January 2024, at 07:30-09:30, 11:15-13:15 and 17:30-19:30. The survey provides details of the traffic situation in the nearby area. Based on surveyed traffic flows, it was found that the AM, logistic and PM peak hour occurred from 08:00 to 09:00, 11:15 to 12:15 and 17:30 to 18:30 respectively. The results of the observed traffic flows are presented in **Figure 3.25**.

3.2.3 Based on the observed traffic flows in **Figure 3.25**, the junction capacity assessment is carried out for the critical junctions and the results of the assessment are summarized in **Table 3.2** below.

Table 3.2 Operational Performance of Identified Critical Junctions in 2024

Ref.	Junction	Method of Control	Year 2024 Observed Case		
			RC/RFC ⁽¹⁾		
			AM Peak	Logistic Peak	PM Peak
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	72%	62%	107%
J2	Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Highway	Signalized	74%	88%	96%
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	0.5	0.41	0.41
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	46%	35%	115%
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	121%	82%	127%
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	0.34	0.27	0.21
J7	Tsing Yi Road West / Tsing Chin Street ⁽²⁾	Priority	N/A	N/A	N/A
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	60%	87%	103%
J9	Tsing Yi Road West / Liu To Road	Signalized	44%	69%	57%
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	42%	82%	78%
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	21%	40%	42%
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	45%	78%	70%
J13	Tsing Yi Road / Tsing Keung Street	Priority	0.17	0.25	0.13
RA1	Tsing Yi Interchange (North)	Roundabout	0.71	0.59	0.37
	Tsing Yi Interchange (South)	Roundabout	0.58	0.44	0.66
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	0.45	0.45	0.49
RA3	Hong Wan Road	Roundabout	0.45	0.37	0.40



RA4	Hong Wan Road / Tsing Ko Road	Roundabout	0.26	0.25	0.26
RA5	Tam Kon Shan Interchange	Roundabout	0.72	0.70	0.79
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	0.38	0.32	0.38
RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	0.07	0.09	0.10
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	0.43	0.43	0.43
RA9	Tam Kon Shan Road / Tsing Yi North Costal Road	Roundabout	0.06	0.08	0.08
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	0.27	0.25	0.19

Note: (1) RC = Reserve Capacity RFC = Ratio of Flow to Capacity for Priority Junction
(2) Only ingress traffic is allowed on Tsing Chin Street. No traffic conflicts or delay is expected in this location. Therefore, no junction assessment is required.

3.2.4 The results in **Table 3.2** show that the junctions are now operating with ample capacities in peak hours.

3.3 Public Transport Services in the Vicinity

3.3.1 Limited road-based public transport services are currently operating in the vicinity of the plant. Only one GMB route is operating close to the plant (within 500m radius from the plant) and the details of the GMB route are presented in **Table 3.3** below.

Table 3.3 Existing Road-based Public Transport Services in the Vicinity

Service	Route	Origin - Destination	Frequency (min)
GMB	88M	Kwai Fong Station – Sai Tso Wan Road (Hong Kong Unit Dockyard)	5 – 15



4. FUTURE TRAFFIC CONDITIONS

4.1 Design year

4.1.1 The original planning approval will be expire on 2 Aug 2024, as another 5 year of temporary use is applied, year 2029 is adopted as the design year for this study to assess the impact of the development related traffic on the local road network.

4.2 Reference Traffic Flows

4.2.1 To estimate the 2029 traffic flows in the local road network, an appropriate growth factor has to be identified for the area in the first instance based on historical trend and planning data.

Historical Trend

4.2.2 Transport Department has traffic count stations in the vicinity of the development. The traffic counts reported in the Annual Traffic Census (ATC) over a period of 6 years, between 2017 and 2022 are summarized in **Table 4.1**.

Table 4.1 Historical Traffic Data from Annual Traffic Census

ATC Stn No.	Road Name	Annual Average Daily Traffic						Annual Growth Rate
		2017	2018	2019	2020	2021	2022	
5038	Nam Wan Tunnel (from East Tsing Yi Viaduct to Cheung Tsing Highway)	50,940	54,280	55,040	37,850	41,090	41,060	-4.22%
5849	Tsing Yi Rd W (Tsing Nam St – Ching Hong Road)	15,410	15,640*	15,580*	15,430*	13,690	15,820	0.53%
6044	Tsing Yi Rd W (Tsing Hong Road – Fung Shue Wo Road)	20,260	19,350	19,280*	19,100*	19,840*	21,050	0.77%
6643	Sai Tso Wan Rd (Tsing Yi Rd – Dockyard Front Gate)	5,020	10,030	8,390	8,960	9,410	11,200	17.41%
TOTAL		91,630	99,300	98,290	81,340	84,030	89,130	-0.55%

*AADT estimated by Growth Factor



4.2.3 As shown in **Table 4.1**, the average annual traffic growth pattern in the vicinity of the development shows a growth trend of -0.55% per year.

2019-Based TPEDM planning data

4.2.4 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 Population and Employment Growth

Tsing Yi				
Data	Year			Average Annual Growth Rate
	2019	2026	2031	
Population	182,350	188,550	184,400	+0.09%
Employment	38,500	38,700	36,650	-0.41%
Total	220,850	227,250	221,050	0.01%

4.2.5 From **Table 4.2**, it is found that the average annual growth rates of population and employment in Tsing Yi are +0.01% per annum respectively.

Adopted Growth Rate

4.2.6 A.A.D.T. of ATC indicates that the traffic flow of the local road network has an average annual growth rate of -0.55%.

4.2.7 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 +0.01%.

4.2.8 As a conservative approach, annual growth rate **+1.0%** p.a. has been adopted for projecting traffic forecasts. 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 Planned / Committed Future Developments

4.3.1 There are numbers of planned/committed future developments in vicinity. The updated planning parameters are shown in **Table 4.3**. The locations of these future developments are shown in **Figure 4.1**.

4.3.2 The traffic trips generated from these planned/committed developments are estimated and shown in **Table 4.4**.

4.3.3 These traffic trips were assigned to the road network to obtain the reference traffic in the design year.

Table 4.3 Development Schedule of Planned Development at Vicinity

Ref.	Development Site / Planning Application No.	Use	Development Parameters	Completion Year
A	A/TY/131	Animal Welfare Centre	About 8,720m ²	2024
B	Ching Hong Road North Public Housing Development	Public Housing	Phase 1: 851 units	2024
			Phase 2: 612 units	2024
			Phase 3: 1680 units	2029
			Phase 4: 770 units	2030-31
			Retail: 2000m ² Social Welfare Facilities	2024 - 2029
C	Housing Development at Tsing Yi Road West	Public Housing	3,400 units	2034/35
D ⁽¹⁾	Y/TY/2 - Tsing Yi Town Lot 80 and 108RP (Phase 1)	Private Housing	5,048 units	2028
	Y/TY/2 - Tsing Yi Town Lot 80 and 108RP (Phase 2)	Public Housing	4,704 units	2036
		Private Housing	5,323 units	2036
E	Tsing Yi – Lantau Link	Infrastructure	-	2033 (Construction traffic may occur at about 2027)
F	A/TY/148 (Renewal of A/TY/135)	Asphalt Plant	260 tonnes/hr (208 tones/hr as limited by SP License)	2024
G	A/TY/149 (Renewal of A/TY/139)	Concrete Batching Plant	250 m ³ /hr	Under Operation

4.3.4 Housing Developments at Ching Hong Road North (Phase 4) and Tsing Yi Road West would be completed after our design year. Y/TY/2- Tsing Yi Town Lot 80 and 108RP is still under planning application and not approved yet. Thus, they would not be included in this assessment. A/TY/149 is renewal application which is already under operation and thus no new trips will be formed. The construction traffic of Tsing Yi – Lantau Link is reviewed and considered. It would not give significant impact to the road network.

Table 4.4 Estimated Traffic Generations of Planned Vicinity Development

Development Type	Average Flat Size m ²	Unit	Trip Rate			
			AM Peak		PM Peak	
			Gen.	Att.	Gen.	Att.
Public Rental	40	Pcu/hr/flat	0.0432	0.0326	0.0237	0.0301
Retail	-	pcu/hr/100 sqm GFA	0.2296	0.2434	0.3100	0.3563
Developments			Trips (Pcu/hr)			
A ⁽¹⁾	A/TY/131		64	172	115	72
B	Ching Hong Road North Public Housing Development	Phase 1	37	28	20	26
		Phase 2	26	20	15	18
		Phase 3	73	55	40	51
		Retail	5	5	6	7
		Kindergarten ⁽²⁾	30	30	30	30
		Social Welfare Facilities ⁽³⁾	10	10	10	10
E	Tsing Yi – Lantau Link Construction Vehicles ⁽⁴⁾		15	15	15	15
F ⁽⁵⁾	A/TY/148 (Renewal of A/TY/135)		45	45	45	45

Note: (1) Development trips according to its TIA report

(2) Reference from other public housing TIA reports (Sheung Shui Area 4 and 30)

(3) Nominal Trips

(4) Assume 1 construction vehicle per 10 min per bound, i.e. 6 veh/hr, For 2.5 pcu factor, 15 pcu/hr

(5) According to its TIA

4.3.5 The 2029 reference flows are then derived by applying the annual growth rate plus the additional traffic generations of the developments in Tsing Yi.

$$\begin{array}{rcccl} \mathbf{2029} & & & & \\ \mathbf{Reference\ Flows} & = & \mathbf{2024} & \mathbf{Adopted\ Growth} & \mathbf{Traffic\ Flows\ of} \\ \mathbf{(without\ the} & & \mathbf{Observed} & \mathbf{Factor} & \mathbf{Proposed} \\ \mathbf{Plant)} & & \mathbf{Flows} & \mathbf{(i.e.\ +1\% \ p.a.\ for} & \mathbf{Developments\ at} \\ & & & \mathbf{5\ years)} & \mathbf{Tsing\ Yi} \\ & & & & \mathbf{+} \end{array}$$

4.4 Development Traffic Flows

4.4.1 It is revealed that this is a renewal application, the concrete batching plant is already under operation and the development parameter is no change. Therefore, there will be **no additional traffic trip**. The 2029 design flows are shown in **Figure 5.1**.

$$\mathbf{2029\ Design\ Flows = 2029\ Reference\ Flows}$$



5. TRAFFIC IMPACT ASSESSMENT

5.1 Traffic Generation Calculation

5.1.1 As there is no change in the operation scale of the plant, no additional trips are generated. The traffic generation adopted in the approved TIA for the exiting plant (A/TY/136) is summarized in **Table 5.1** below for reference:

Table 5.1 Adopted Hourly Traffic Generation of the Concrete Batching Plant

Types of Vehicles	Traffic Generation (in veh/hr)	Traffic Generation (in pcu/hr) ⁽¹⁾
Concrete Mixer Truck	30	75
Admixture tanker & Waste Disposal Truck	N/A ⁽²⁾	N/A ⁽²⁾

Notes: (1) PCU factor of 2.5 has been adopted for trucks.

(2) Delivery of admixture and waste will be carried out during off-peak hours.

The admixture tanker will only be required twice a week during off-peak hours.

The waste disposal truck will only be required once per 2-3 days during off-peak hours.

Aggregates and cement will be delivered by barge.

5.2 Operational Assessment

5.2.1 Based on the design traffic flows in **Figure 5.1**, a junction capacity assessment is carried out for the key junctions and the results of the assessment are summarized in **Table 5.2** below.



Table 5.2 Junction Performance of Critical Junctions in Design Year 2029

Ref.	Junction	Method of Control	Year 2029 Design Case		
			RC/RFC ⁽¹⁾		
			AM Peak	Logistic Peak	PM Peak
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	40%	39%	75%
J2	Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Highway	Signalized	66%	78%	85%
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	0.54	0.45	0.45
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	33%	24%	89%
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	99%	65%	102%
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	0.38	0.30	0.23
J7	Tsing Yi Road West / Tsing Chin Street ⁽²⁾	Priority	N/A	N/A	N/A
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	39%	59%	81%
J9	Tsing Yi Road West / Liu To Road	Signalized	38%	61%	49%
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	17%	44%	45%
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	2%	15%	23%
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	26%	52%	51%
J13	Tsing Yi Road / Tsing Keung Street	Priority	0.18	0.26	0.14
J14	Tsing Yi Road / Planned New Road ⁽³⁾	Signalized	>100%	>100%	>100%
RA1	Tsing Yi Interchange (North)	Roundabout	0.76	0.63	0.40
	Tsing Yi Interchange (South)	Roundabout	0.63	0.48	0.73
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	0.48	0.48	0.53
RA3	Hong Wan Road / Planned New Road ⁽³⁾	Roundabout	0.47	0.39	0.42
RA4	Hong Wan Road / Tsing Ko Road	Roundabout	0.27	0.26	0.28
RA5	Tam Kon Shan Interchange	Roundabout	0.72	0.70	0.79
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	0.47	0.40	0.46
RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	0.08	0.09	0.11
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	0.46	0.46	0.46
RA9	Tam Kon Shan Road / Tsing Yi North Coastal Road	Roundabout	0.07	0.08	0.08
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	0.28	0.27	0.20

Note: (1) RC = Reserve Capacity RFC = Ratio of Flow to Capacity for Priority Junction
(2) Only ingress traffic is allowed on Tsing Chin Street. No traffic conflicts or delay is expected



in this location. Therefore, no junction assessment is required.
 (3) *New Road between Tsing Yi Road / Hong Wan Road was considered*

5.2.2 Based on the assessment presented in **Table 5.2**, all junctions will be operating with ample capacities during design year except J11. As the concrete batching plant is already under operation and the development parameter is no change under this renewal application, there will be no additional traffic impact caused by the plant.

5.2.3 J11 will near its capacity due to the increase of left turn traffic by Animal Welfare Centre (A/TY/131) from Tsing Yi Heung Sze Wui Road southbound to Cheung Wan Street. However, due to the committed restriction listed in **Tables 5.3** and **5.4** below, our concrete trucks cannot pass through RA6 in peak hour which is connected to J11 at the north. Thus will not concrete trucks will move to the Tsing Yi Heung Sze Wui Road southbound of J11 and will not worsen the case.

5.3 Traffic Management Plan

5.3.1 In previous application, in order to avoid traffic impact induced by the plant to Tsing Yi Town Centre, restrictions were given to the concrete trucks of the plant. They are not allowed to pass through critical junctions during the peak hour periods (Except emergency and exceptional cases which would be considered by various Government Departments) and are summarized in **Table 5.2**.

Table 5.2 Restrictions at Junction of Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West

Ref.	Junction	Restriction	Restricted Hours
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	<u>No right turn</u> from Sai Tso Wan Road to Tsing Yi Road West	AM Peak 07:45-09:15



Table 5.3 Restriction at Other Critical Junctions

Ref.	<u>No trucks</u> should be allowed to pass through the following junctions	Restricted Hours		
		AM Peak 07:45 – 9:15	Logistic Peak 11:45 – 12:45	PM Peak 16:30 – 17:30
J8	Tsing Yi Road West / Ching Hong Road	X	X	X
RA1	Tsing Yi Interchange	X	○	X
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	X	X	X
RA5	Tam Kon Shan Interchange	X	○	○
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road (Together with Junction Cheung Wan Street / Tsing Yi Heung Sze Wui Road)	X	X	X

X: Not allowed to pass through

○: Allow to pass through

5.3.2 Detailed Traffic Management Plan will be formulated and submitted to Transport Department separately.



6. SUMMARY AND CONCLUSION

6.1 Summary

- 6.1.1 The captioned planning approval (previous approved planning application no.: A/TY/136) was granted in 2019 and will expire on 2 Aug 2024. The Applicant would like to submit a renewal planning application for another 5 years.
- 6.1.2 We, CTA Consultants Limited (CTA), is commissioned as the traffic consultant to undertake a Traffic Impact Assessment (TIA) study for assessing the traffic impact, and to propose any measures if necessary.
- 6.1.3 To appraise the existing traffic conditions, a traffic count survey was conducted in the surrounding road network of the plant. Moreover, current operational performance of the critical junctions was assessed with the observed traffic flows. The operational assessment results revealed that all critical junctions are at present operating with reasonable capacity in peak hours.
- 6.1.4 In order to assess the impact of the development related traffic on the local road network, the 5th year after the approval of planning application of the plant (i.e. year 2029) has been adopted as the design year for this study.
- 6.1.5 To reveal the traffic impact of various proposed developments in the vicinity, traffic generations by the developments in the vicinity have also been taken into consideration.
- 6.1.6 It is noted that the concrete plant is already operating currently, thus **no additional traffic** would be added to the road network by this plant under this application and 2029 design flows are the same as reference flows. It is noted that growth rate is also applied to the existing trips of the application plant as conservative approach.

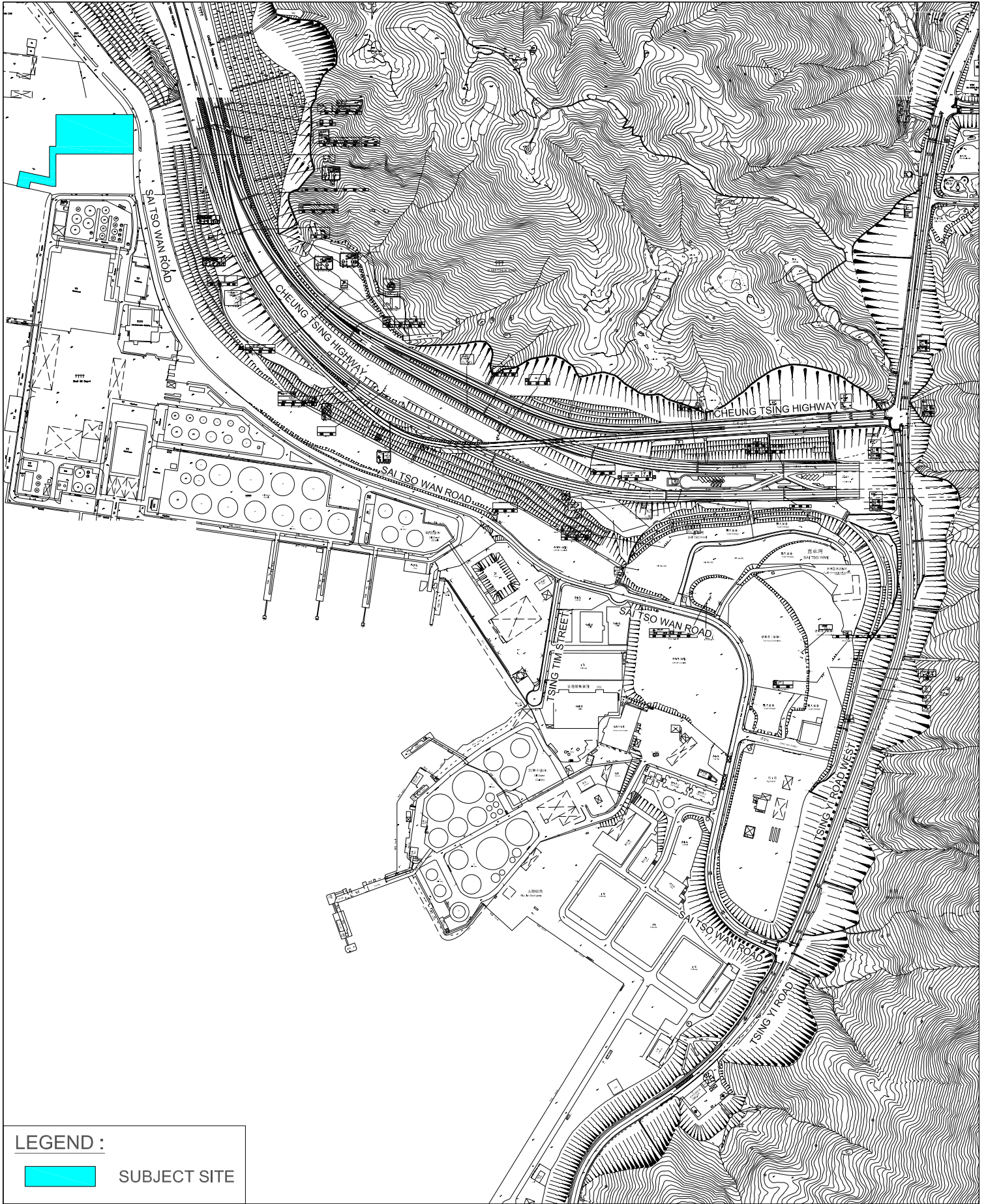


6.1.7 All the assessed junctions will be operating with ample spare capacity in design year except J11, but our concrete trucks will not pass through this junction in peak hour due to the committed restriction in previous planning application and therefore would not worsen the case.

6.2 Conclusion

6.2.1 In conclusion, this Traffic Impact Assessment (TIA) has demonstrated that the application plant will not generate additional traffic to the surrounding road network and the junctions in vicinity would have ample capacities during design year 2029.

6.2.2 Hence, it is concluded that the renewal of plant at the Application Site is acceptable from traffic engineering view point.

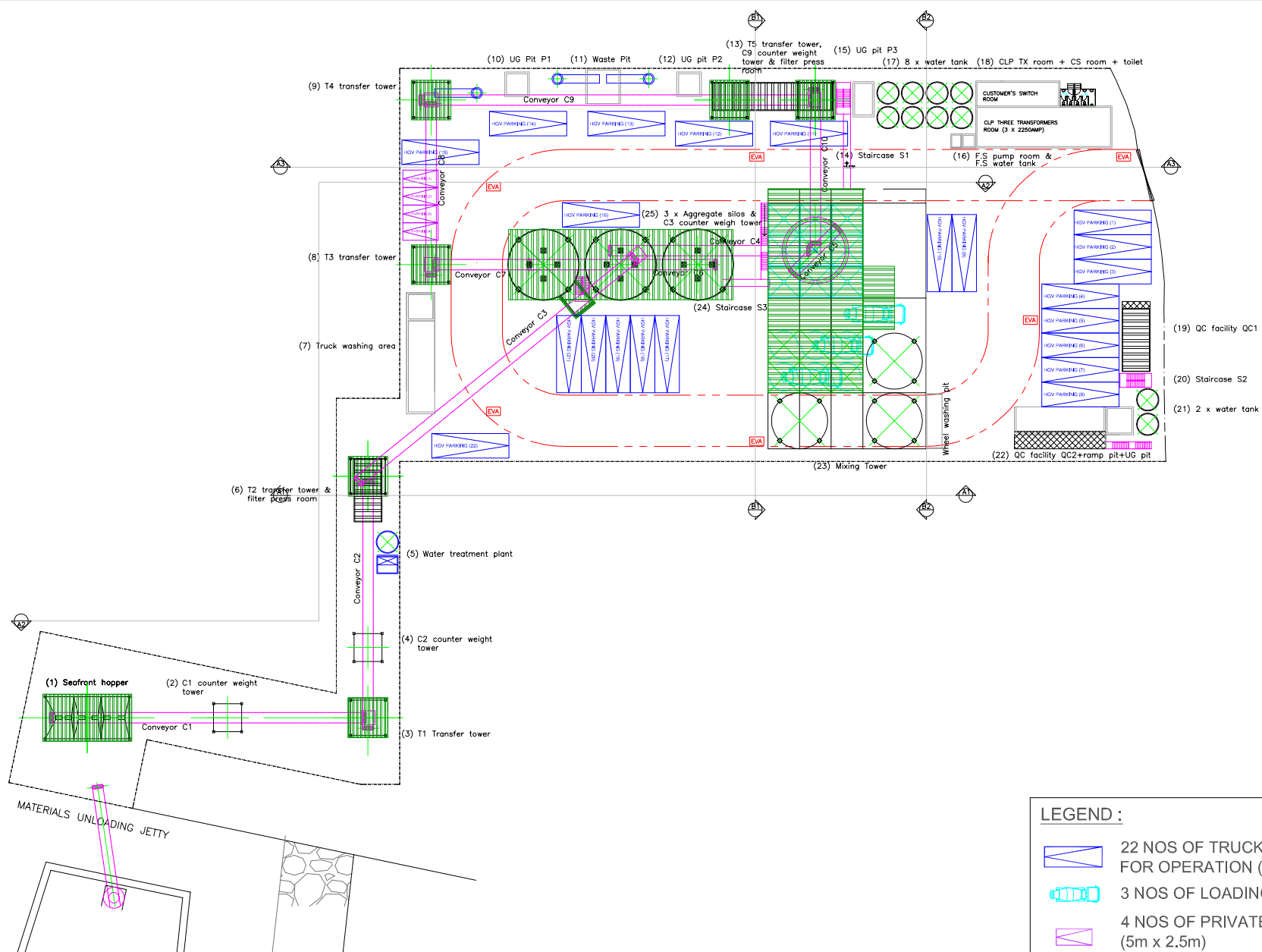


LEGEND :



SUBJECT SITE

FIGURE NO.: 1.1		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.: 24001HK		DRAWING TITLE: <h2 style="text-align: center;">LOCATION PLAN</h2>	
SCALE: 1 : 7000 (IN A4 SIZE)	DATE: 22 FEB 2024		



LEGEND :





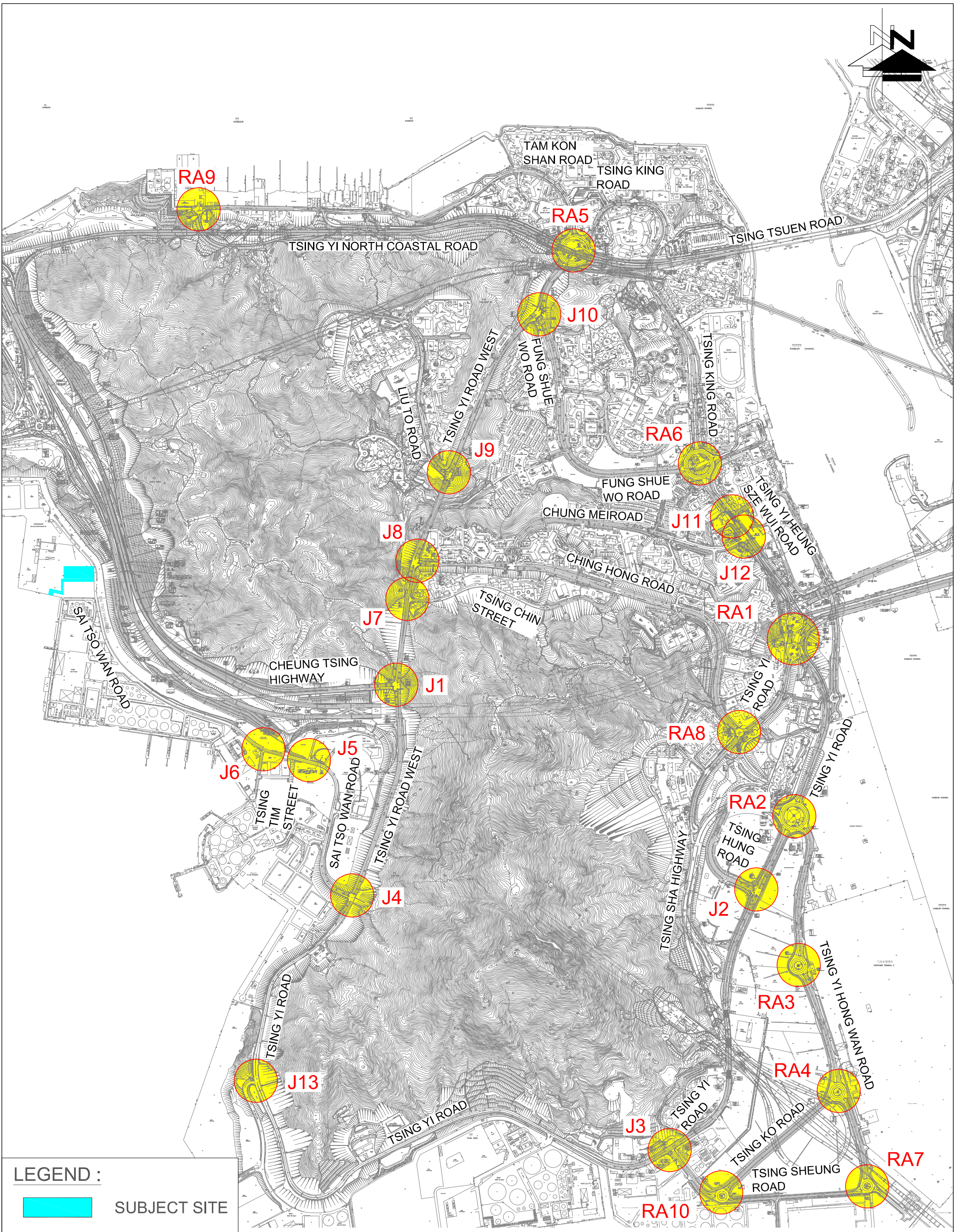
-  22 NOS OF TRUCK PARKING SPACE FOR OPERATION (11m x 3.5m)
-  3 NOS OF LOADING / UNLOADING AREA
-  4 NOS OF PRIVATE CAR PARKING SPACE (5m x 2.5m)

FIGURE NO.:	2.1	PROJECT TITLE:	Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136
PROJECT NO.:	24001HK	DRAWING TITLE:	THE PRELIMINARY LAYOUT OF THE PROPOSED CONCRETE BATCHING PLANT
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 20 MAY 2024	 CTA Consultants Limited 志達顧問有限公司	




LEGEND :	
	SUBJECT SITE

FIGURE NO.:	3.1	PROJECT TITLE:	Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136
PROJECT NO.:	24001HK	DRAWING TITLE:	CRITICAL JUNCTION
SCALE:	1: 12000 @A3	DATE:	



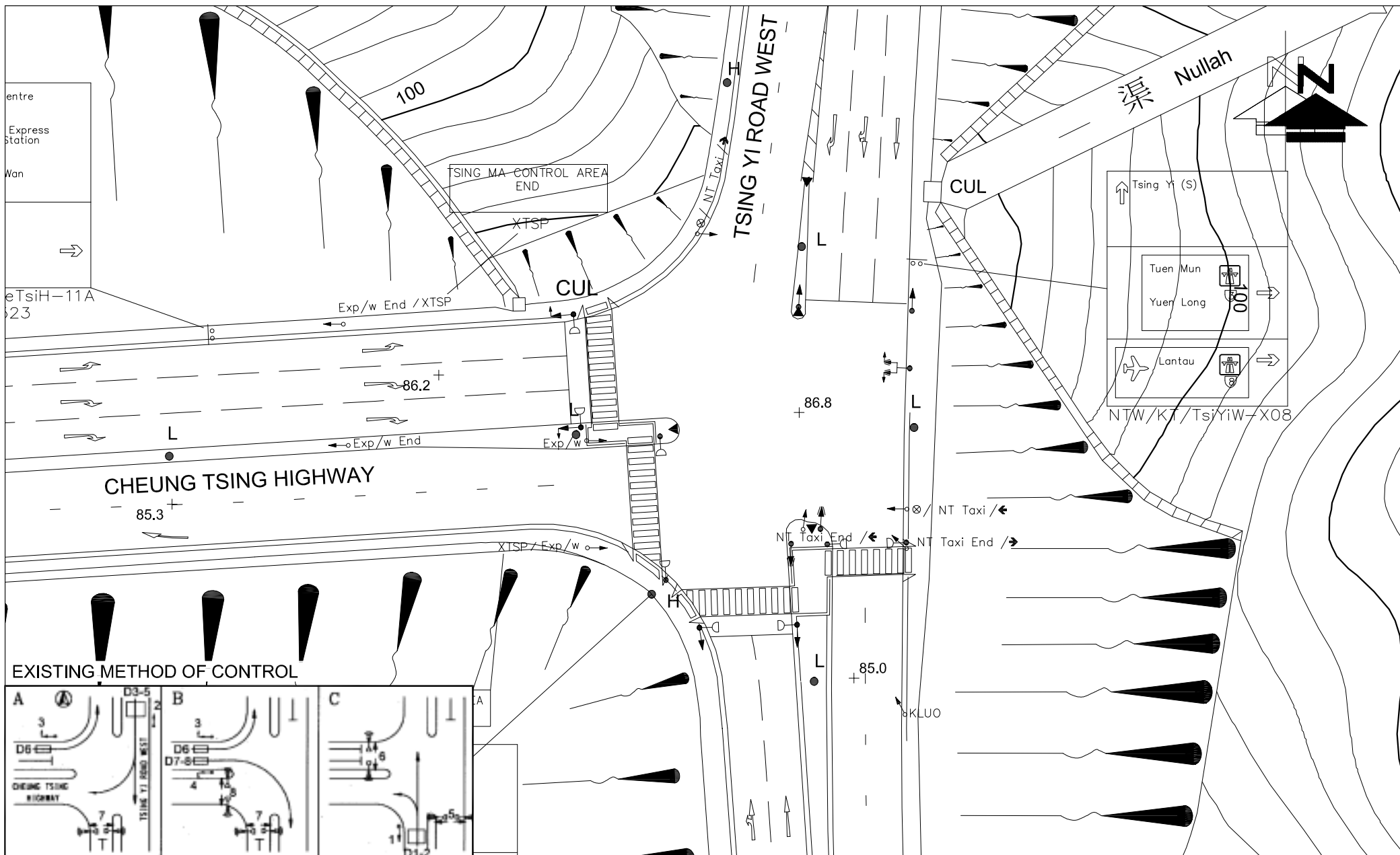


FIGURE NO.:		PROJECT TITLE:	
3.2		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		DRAWING TITLE:	
24001HK		EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / CHEUNG TSING HIGHWAY (J1)	
SCALE:	DATE:		
1 : 500 @A4	13 MAY 2024		



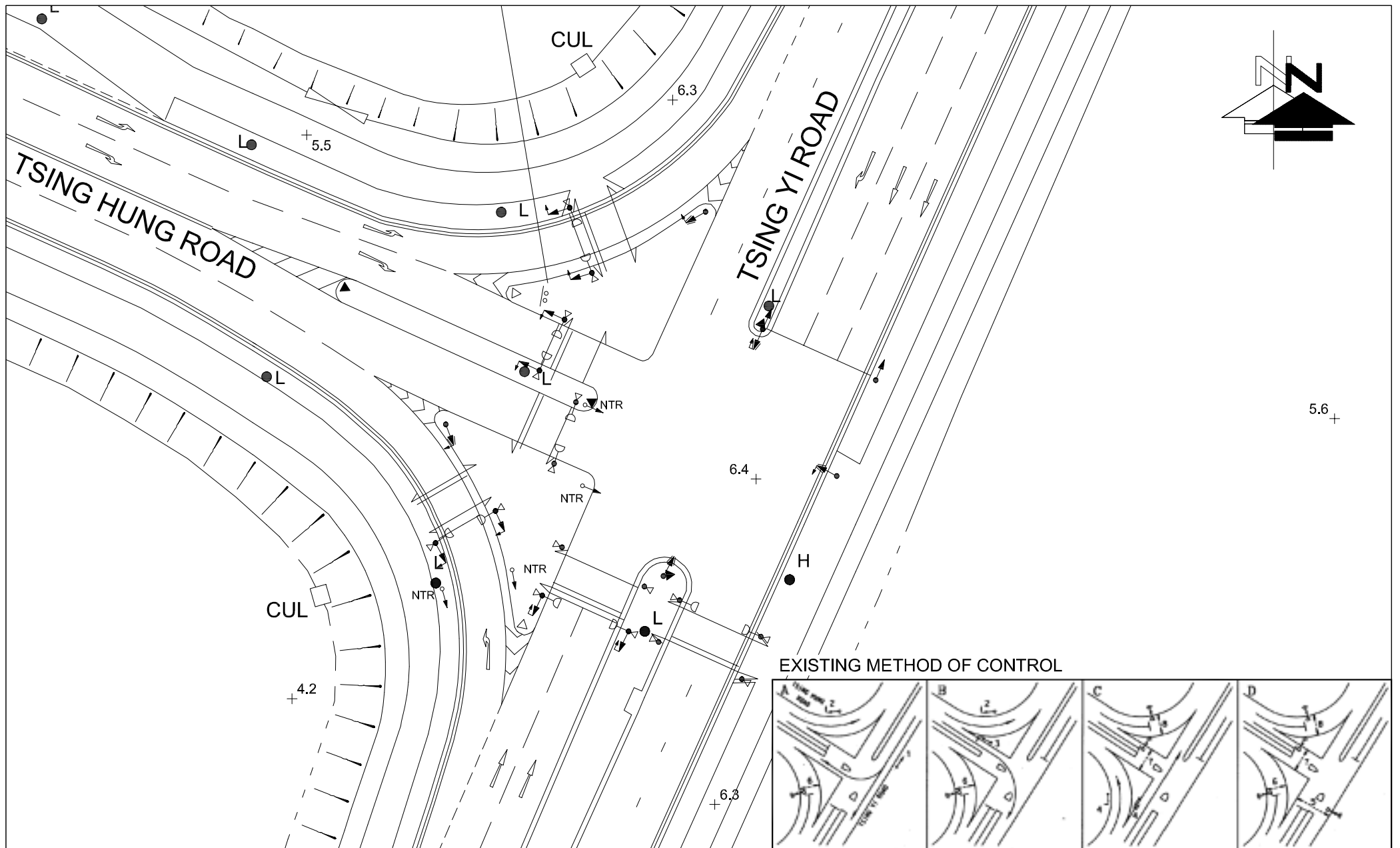



FIGURE NO.: 3.3		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING HUNG ROAD / TSING YI ROAD (J2)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 13 MAY 2024		

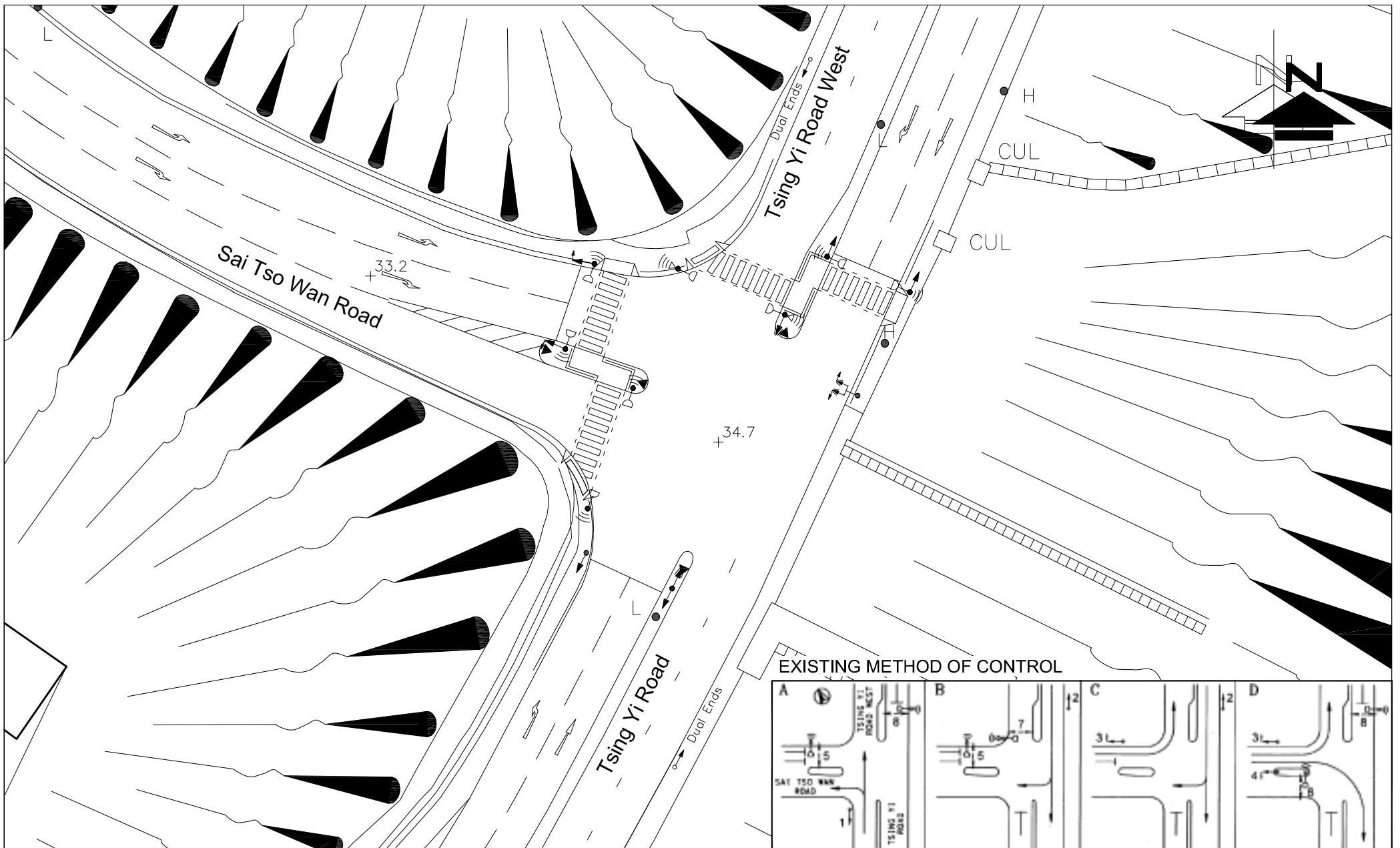

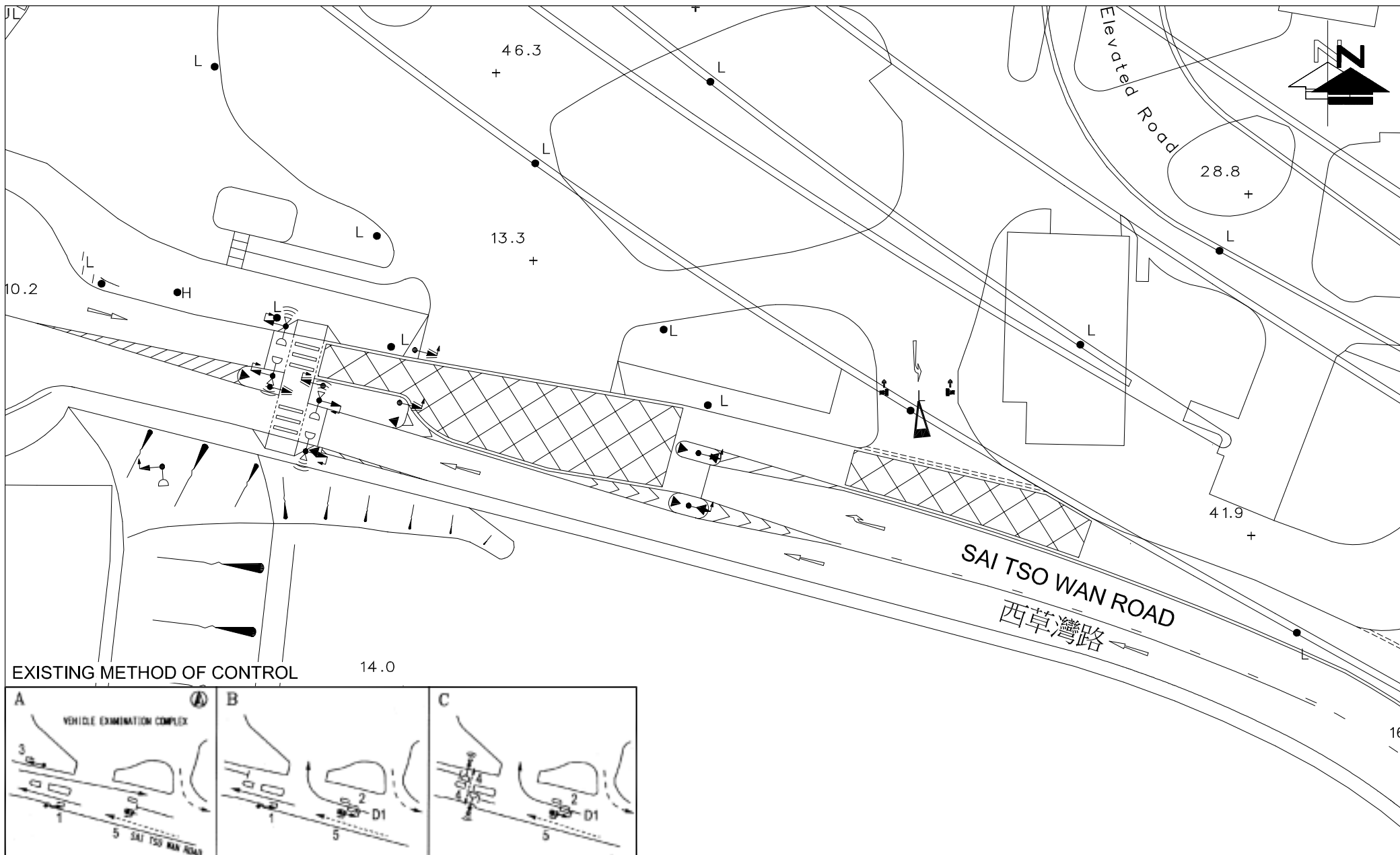


FIGURE NO.: 3.5		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SAI TSO WAN ROAD / TSING YI ROAD WEST / TSING YI ROAD (J4)	
SCALE: 1 : 500 @A4	DATE: 13 MAY 2024		



EXISTING METHOD OF CONTROL

14.0

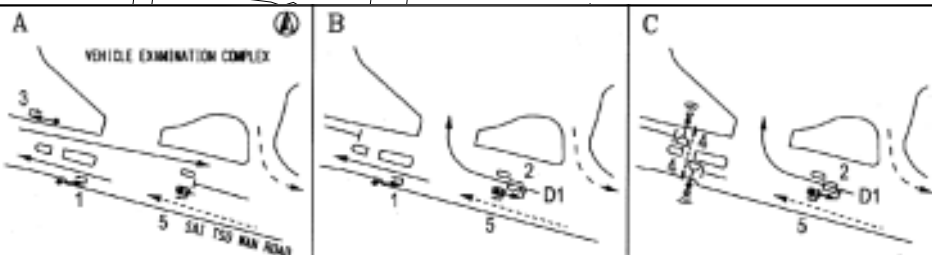



FIGURE NO.: 3.6		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF ENTRANCE OF VEC / SAI TSO ROAD (J5)	
SCALE: 1 : 500 @A4	DATE: 13 MAY 2024		

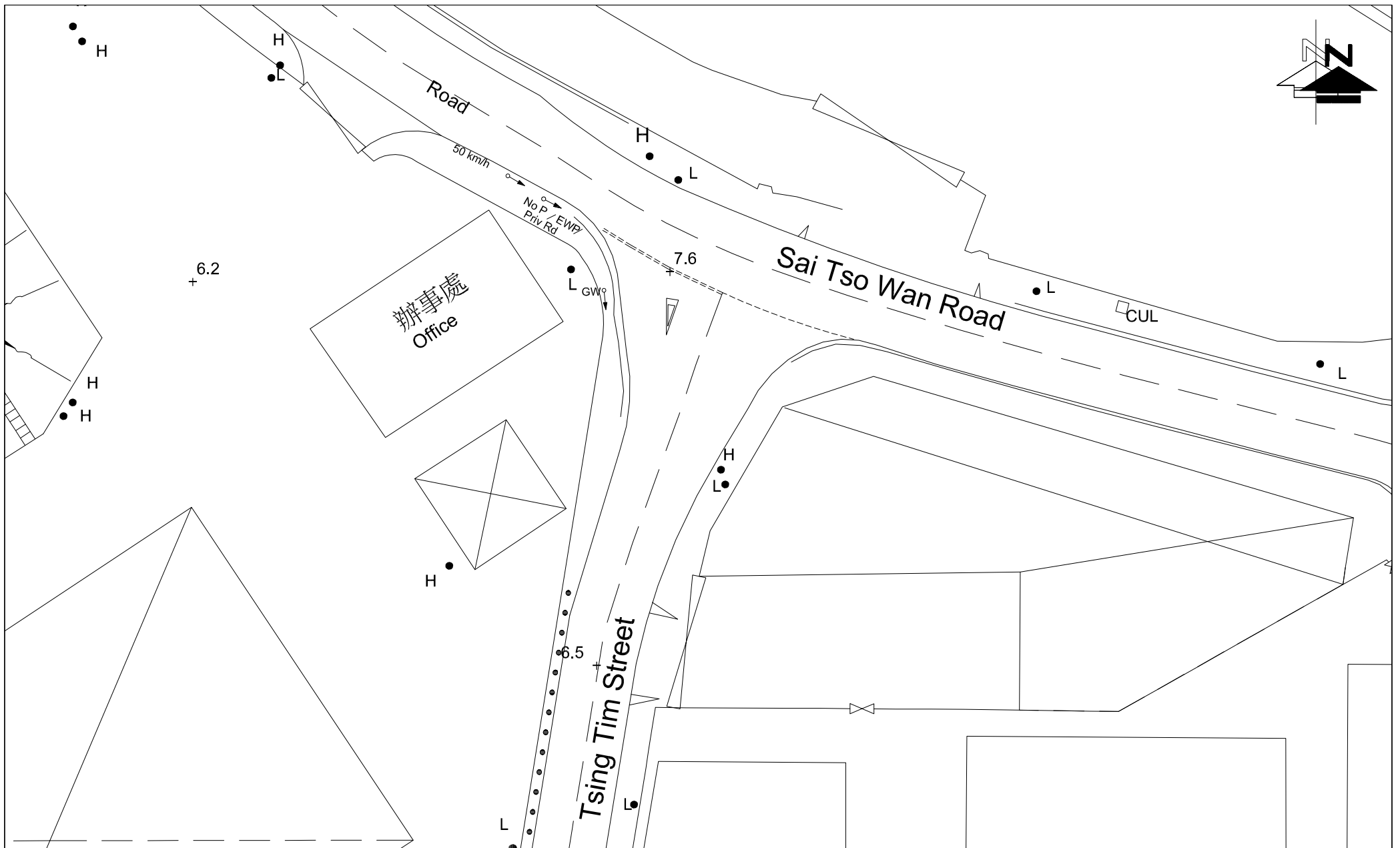




FIGURE NO.: 3.7		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING TIM STREET / SAI TSO WAN ROAD (J6)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 13 MAY 2024		



FIGURE NO.: 3.8		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF YI ROAD WEST / TSING CHIN STREET (J7)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 13 MAY 2024		

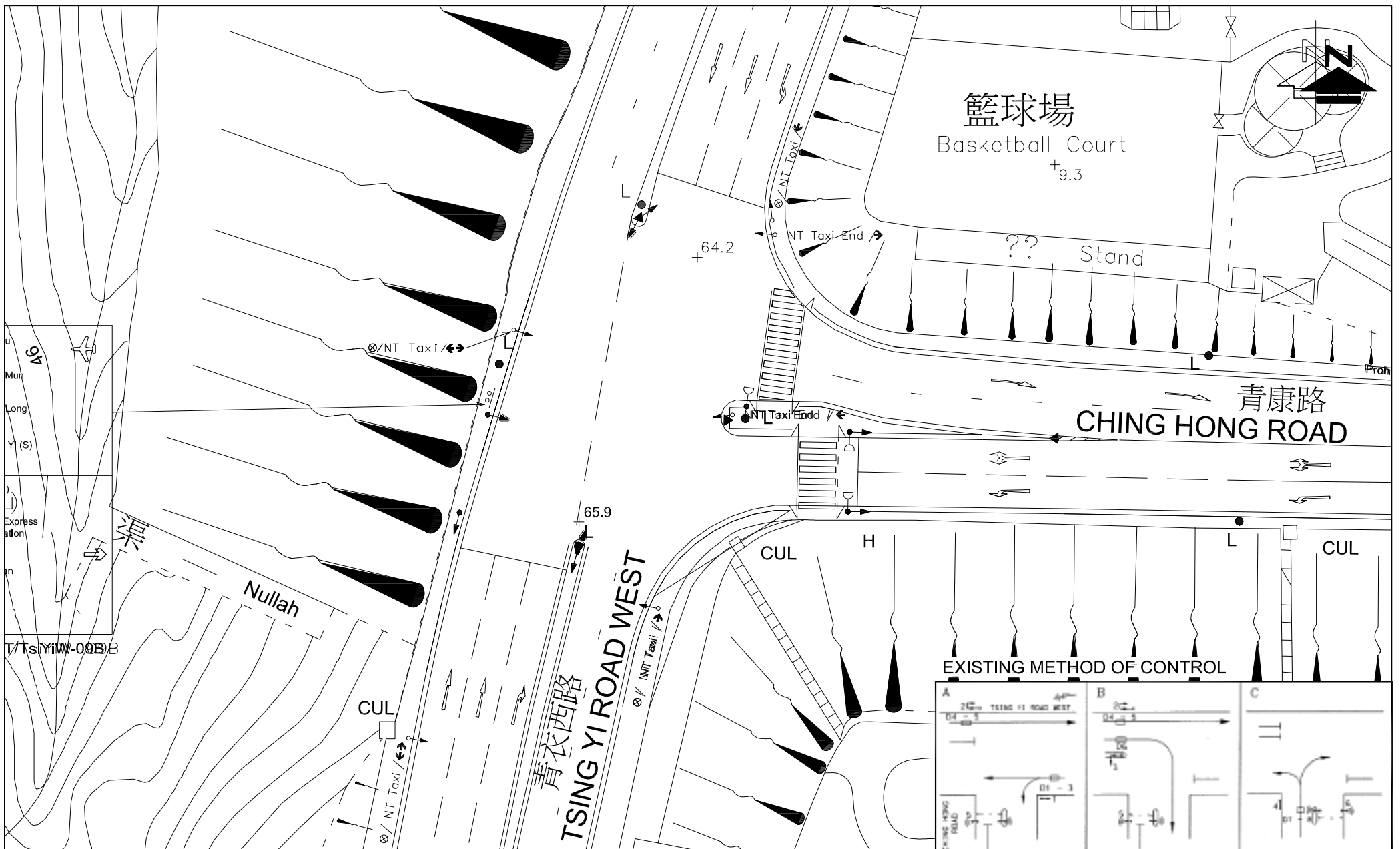


FIGURE NO.:		3.9		PROJECT TITLE:		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		24001HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / TSING HONG ROAD (J8)	
SCALE:	DATE:						
1 : 500 (IN A4 SIZE)	13 MAY 2024						



CTA Consultants Limited
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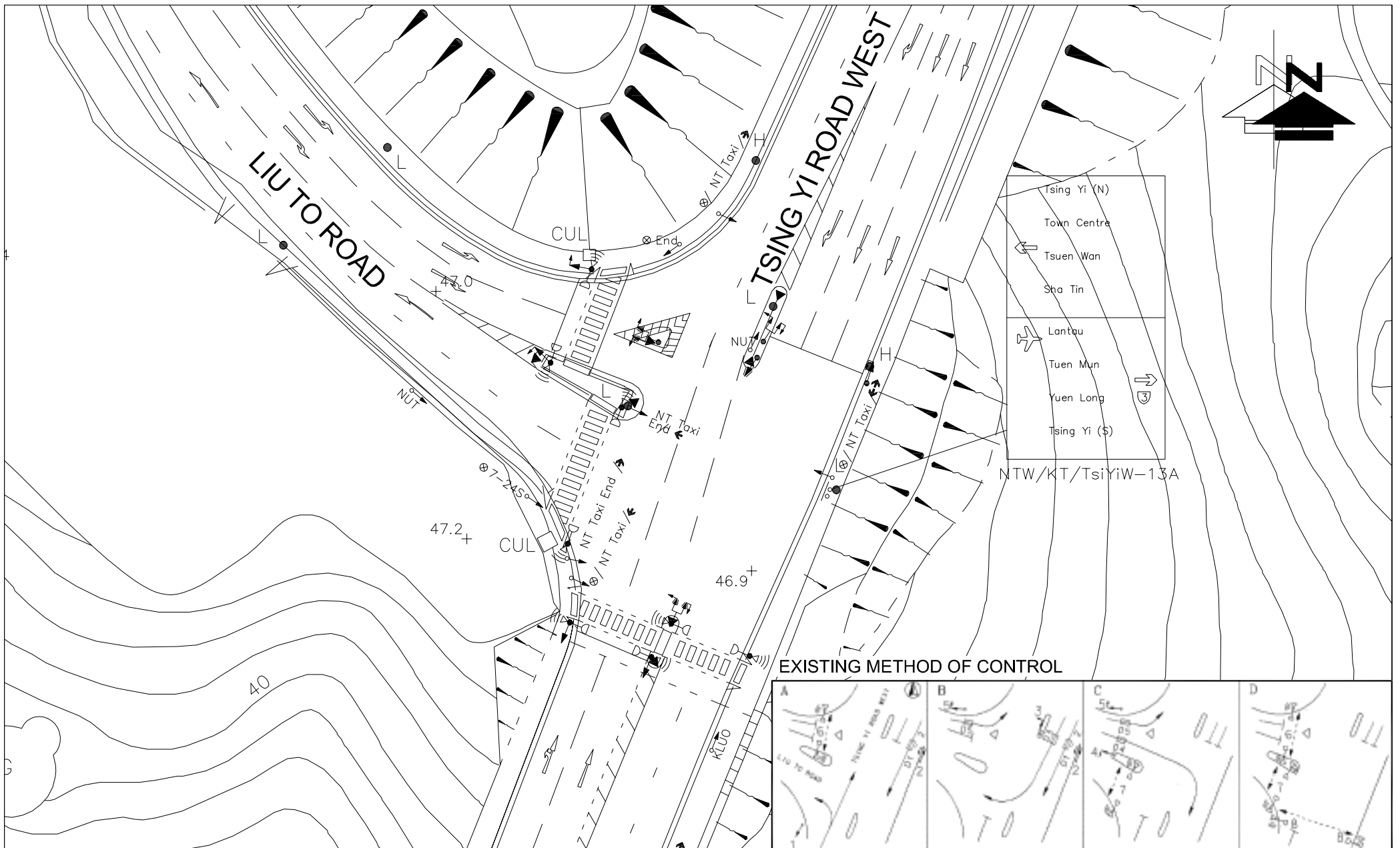


FIGURE NO.: 3.10		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / LIU TO ROAD (J9)
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 13 MAY 2024	



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EXISTING METHOD OF CONTROL

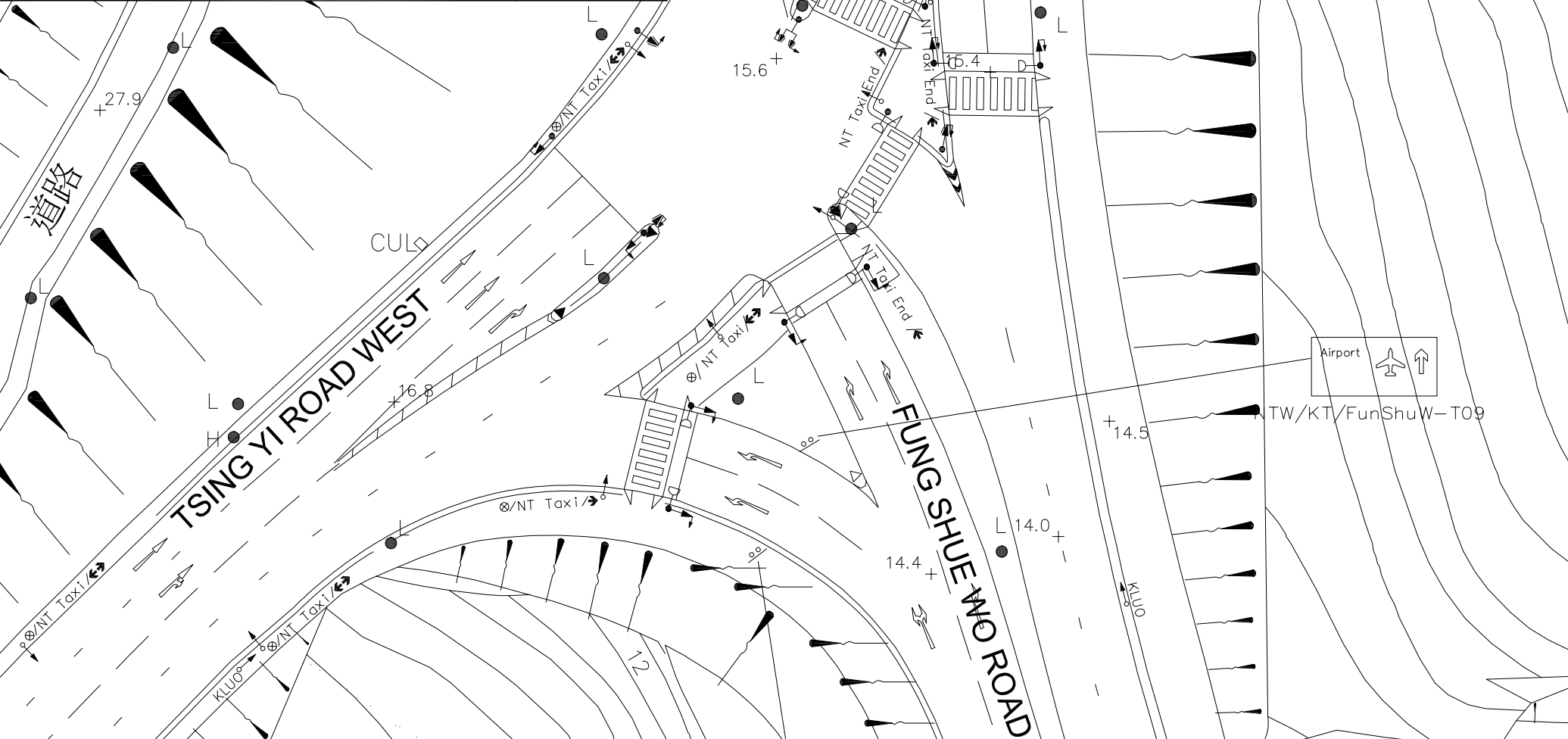
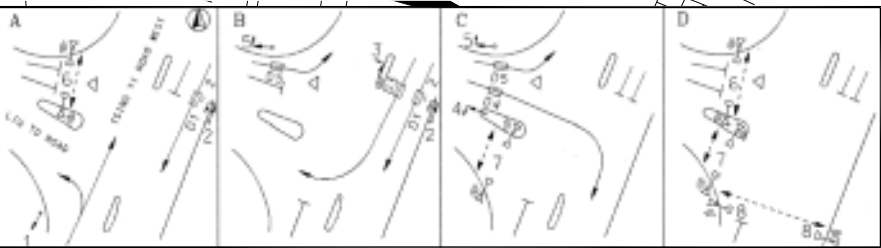
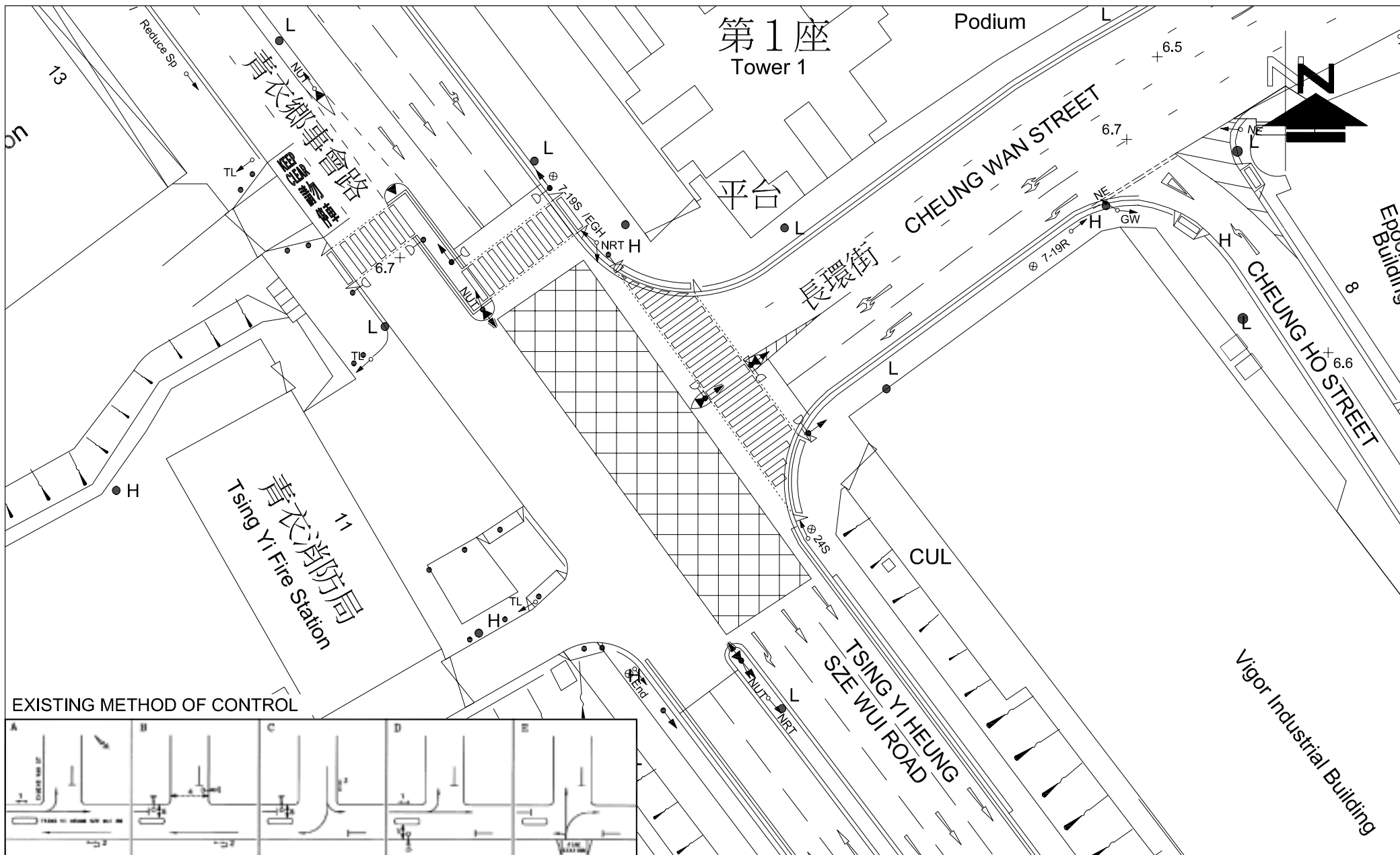


FIGURE NO.: 3.11		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / FUNG SHUE WO ROAD (J10)
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 13 MAY 2024	





EXISTING METHOD OF CONTROL

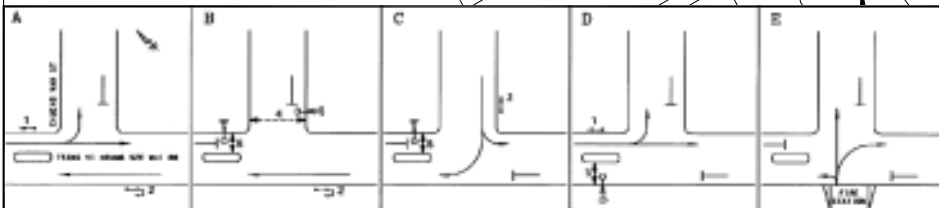



FIGURE NO.: 3.12		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI HEUNG SZE WUI ROAD / CHEUNG WAN STREET (J11)	
SCALE: 1 : 500 @A4	DATE: 14 MAY 2024		

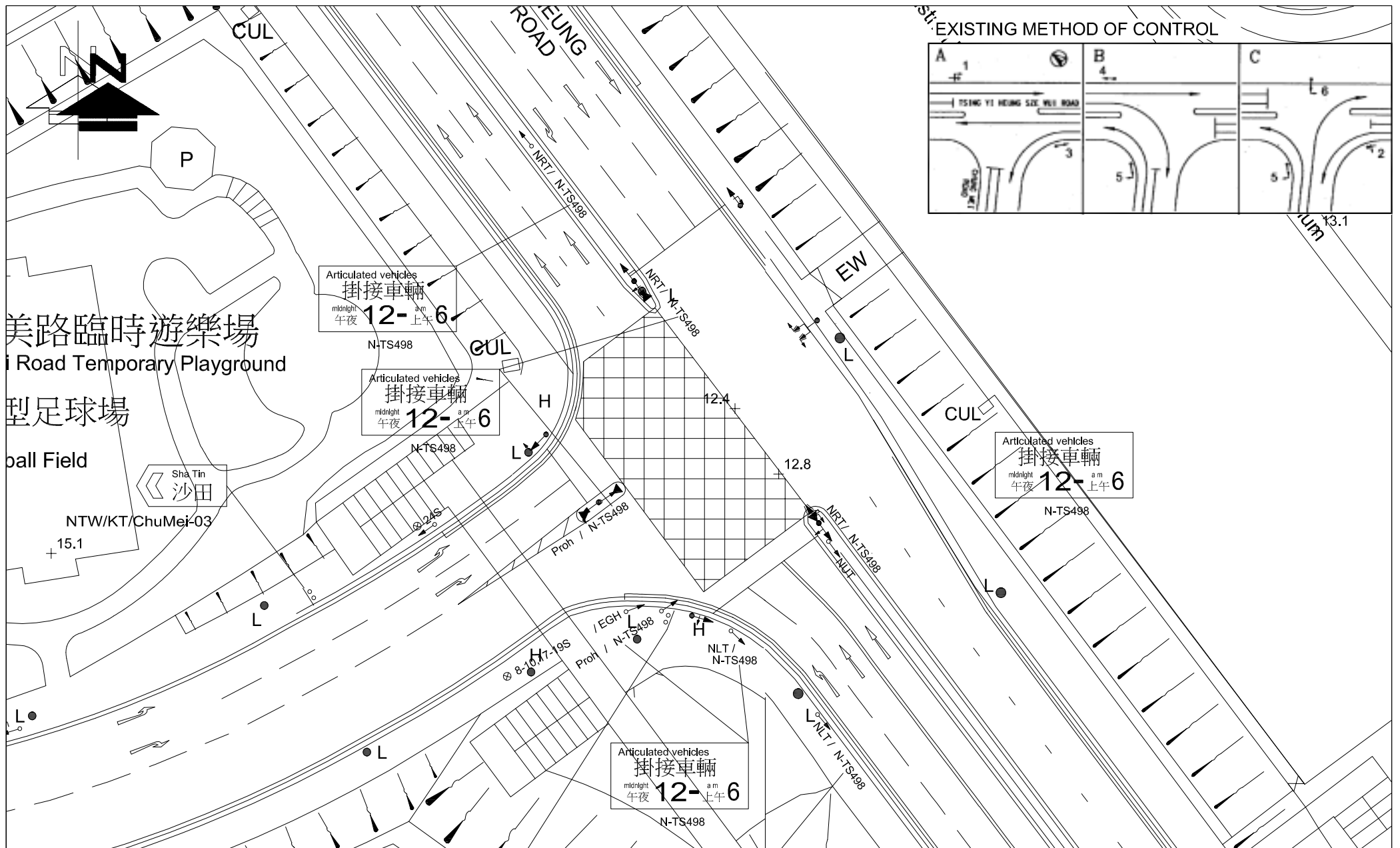



FIGURE NO.: 3.13		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI HEUNG SZE WUI ROAD / CHUNG MEI STREET (J12)	
SCALE: 1 : 500 @A4	DATE: 14 MAY 2024		

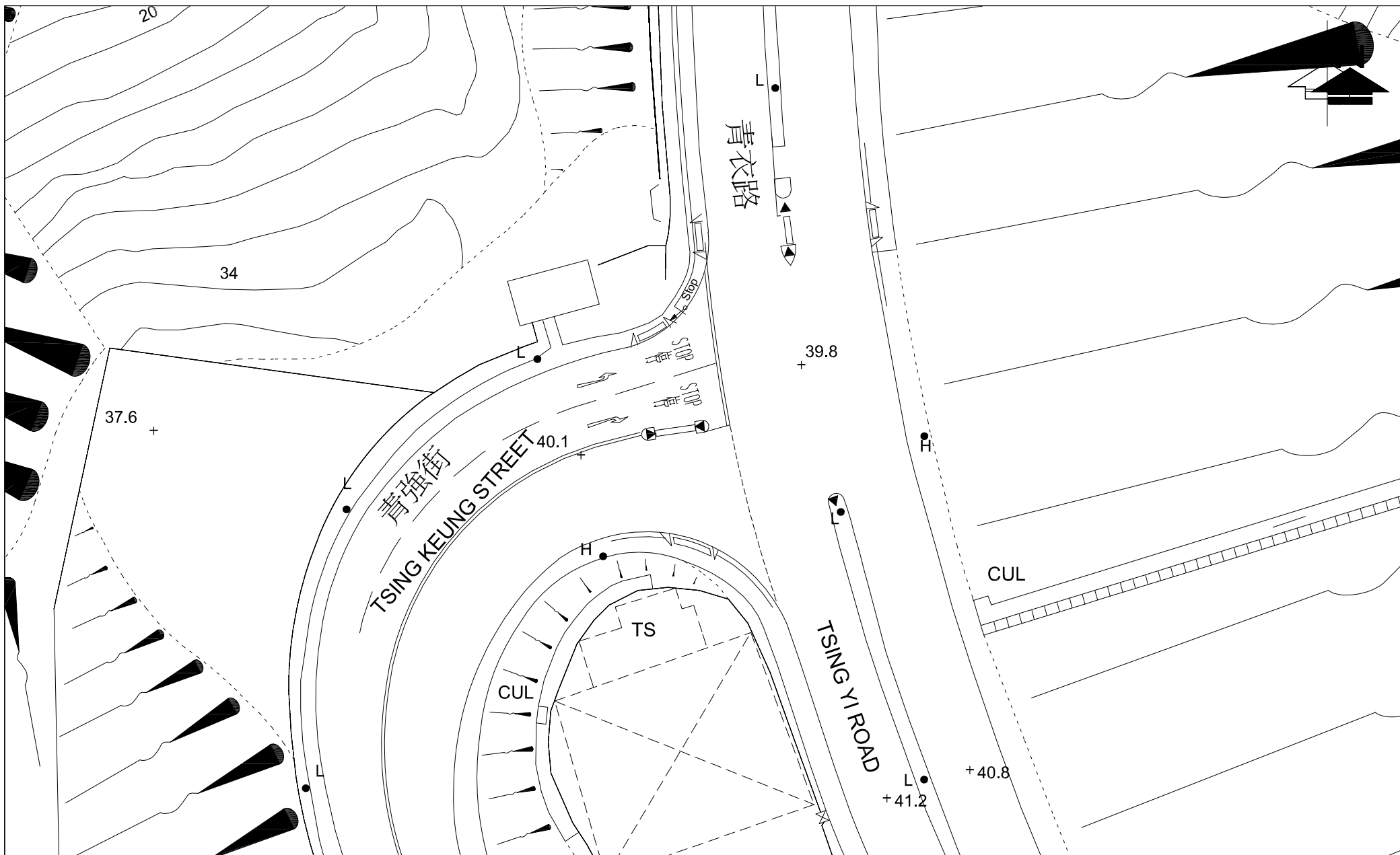



FIGURE NO.: 3.14		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YIP ROAD / TSING KEUNG STREET (J13)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 13 MAY 2024		

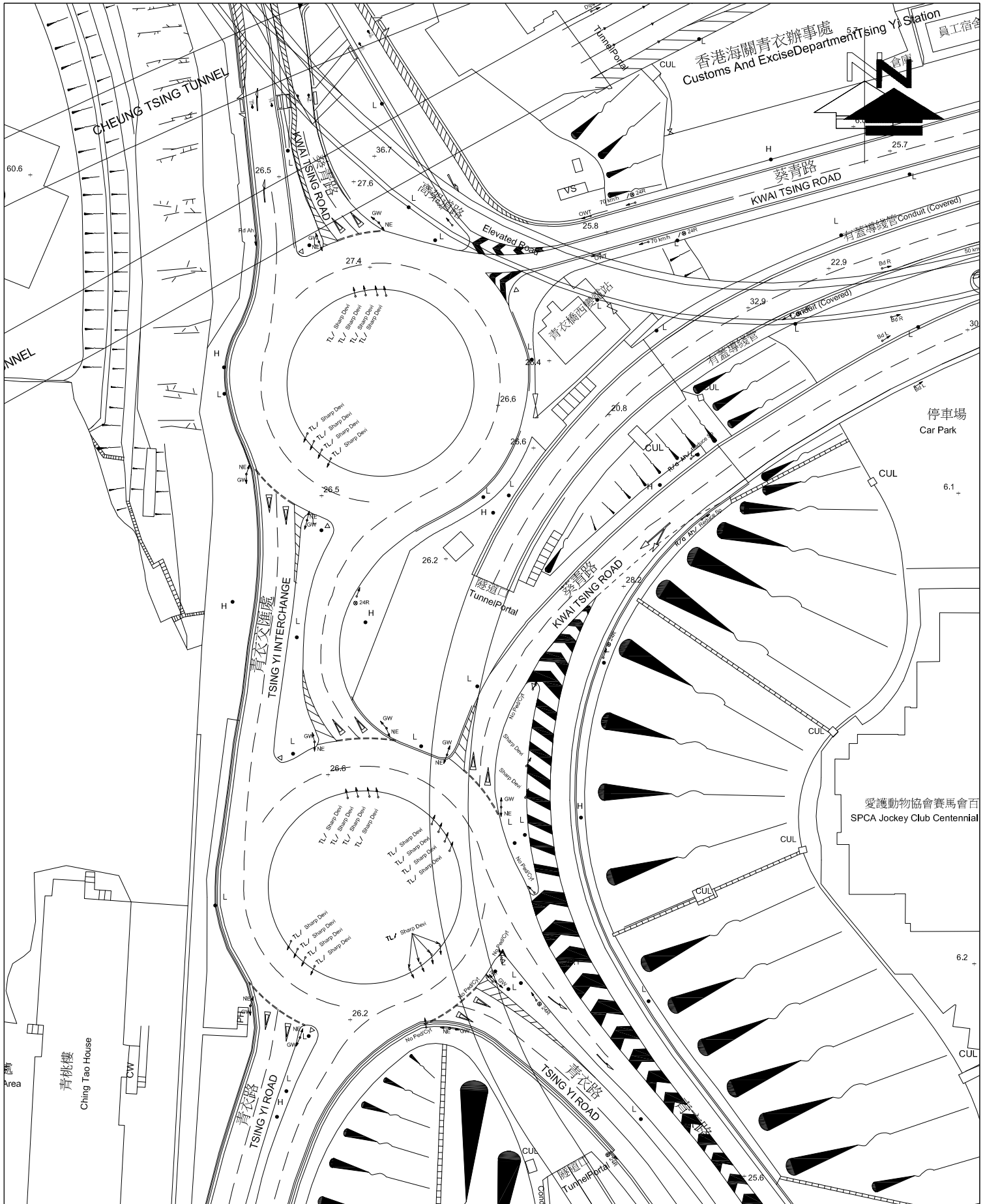


FIGURE NO.:
3.15

PROJECT TITLE:
Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136

PROJECT NO.:
24001HK

DRAWING TITLE:
EXISTING JUNCTION LAYOUT OF
SING YI INTERCHANGE (RA1)

SCALE:
1 : 1000
(IN A4 SIZE)

DATE:
14 MAY 2024



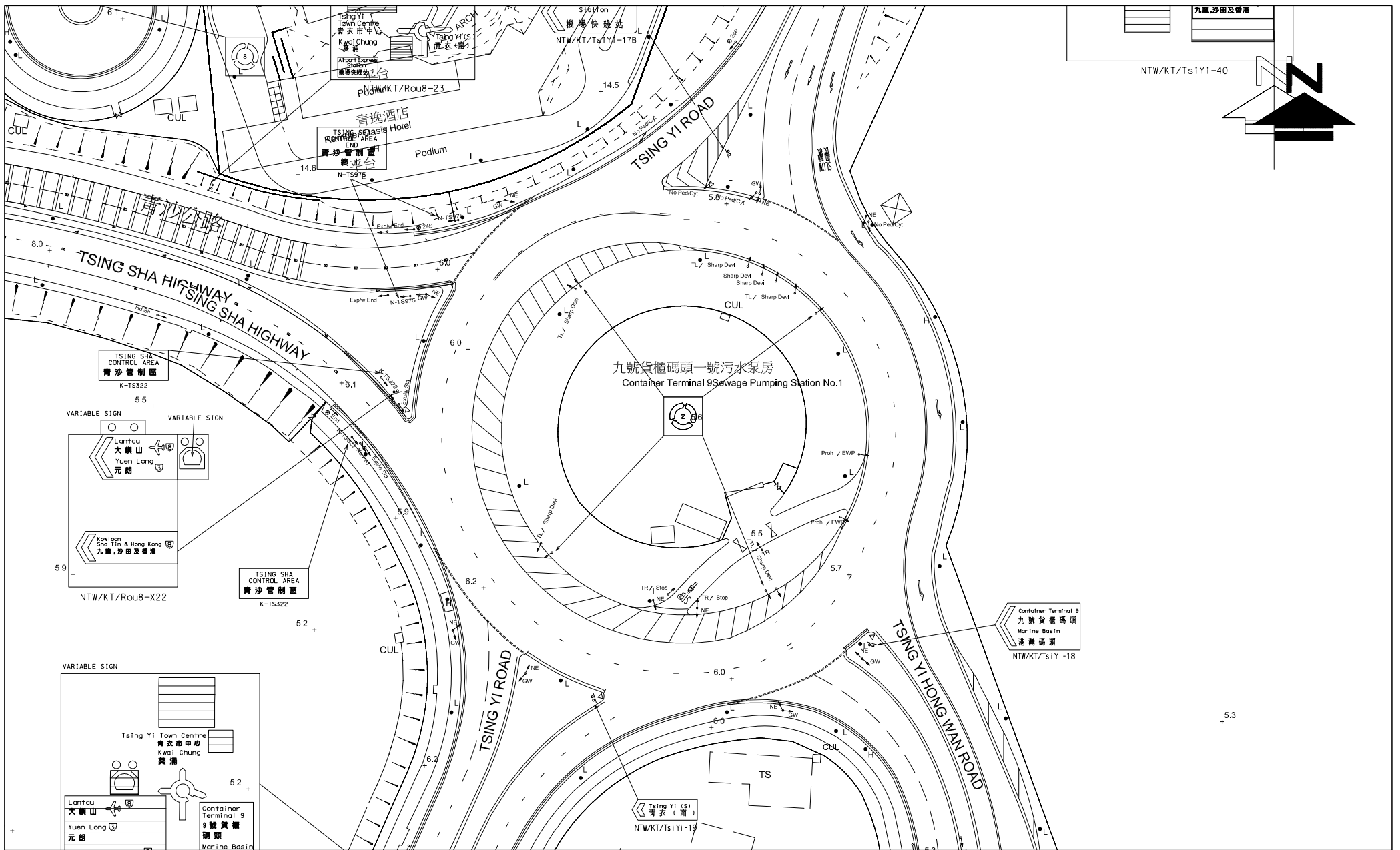


FIGURE NO.:		PROJECT TITLE:	
3.16		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		DRAWING TITLE:	
24001HK		EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / TSING YI HONG WAN ROAD / TSING SHA HIGHWAY (RA2)	
SCALE:	DATE:		
1 : 1000 (IN A4 SIZE)	13 MAY 2024		



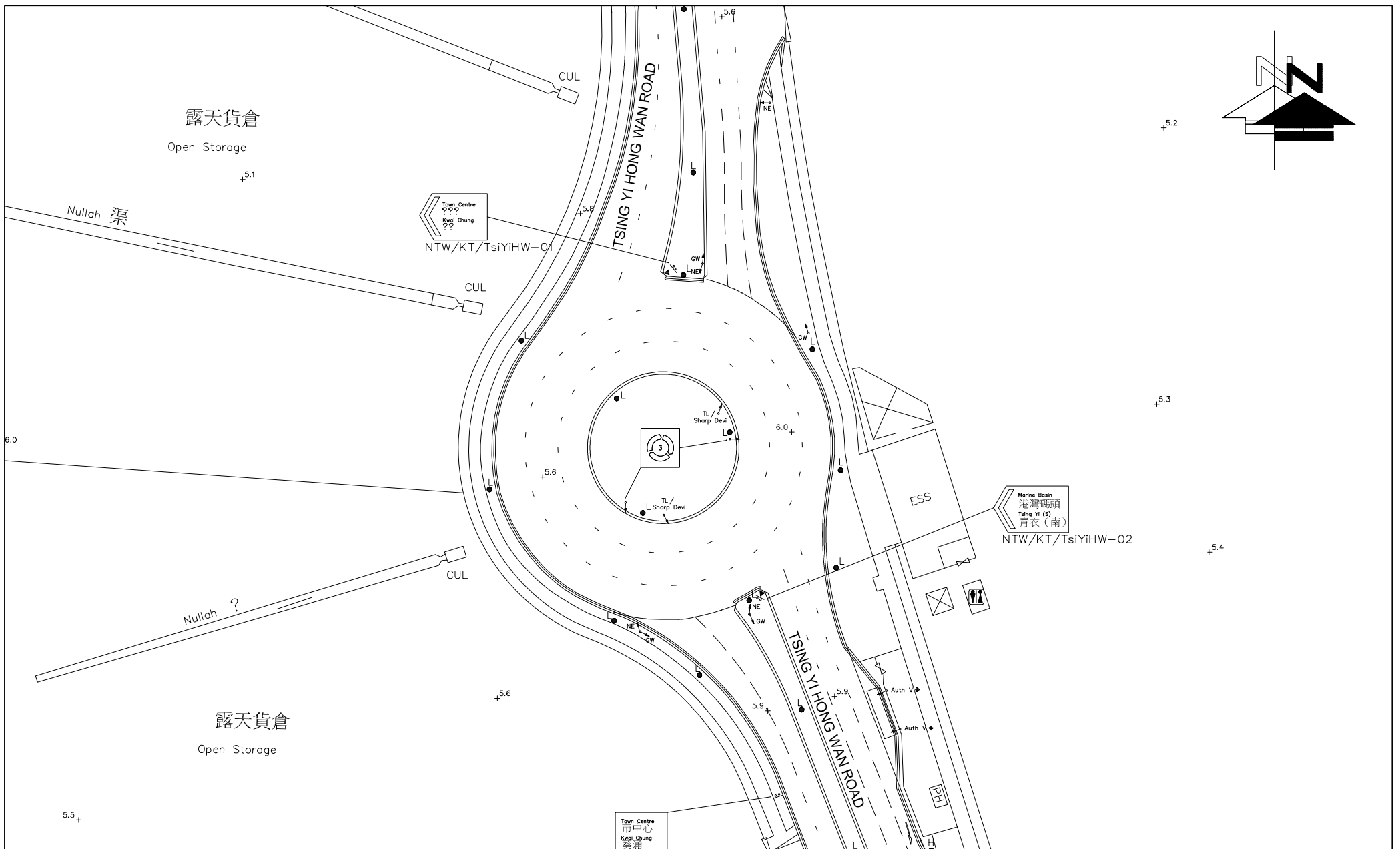



FIGURE NO.: 3.17		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / FUNG SHUE WO ROAD (RA3)	
SCALE: 1 : 1000 (IN A4 SIZE)	DATE: 13 MAY 2024		

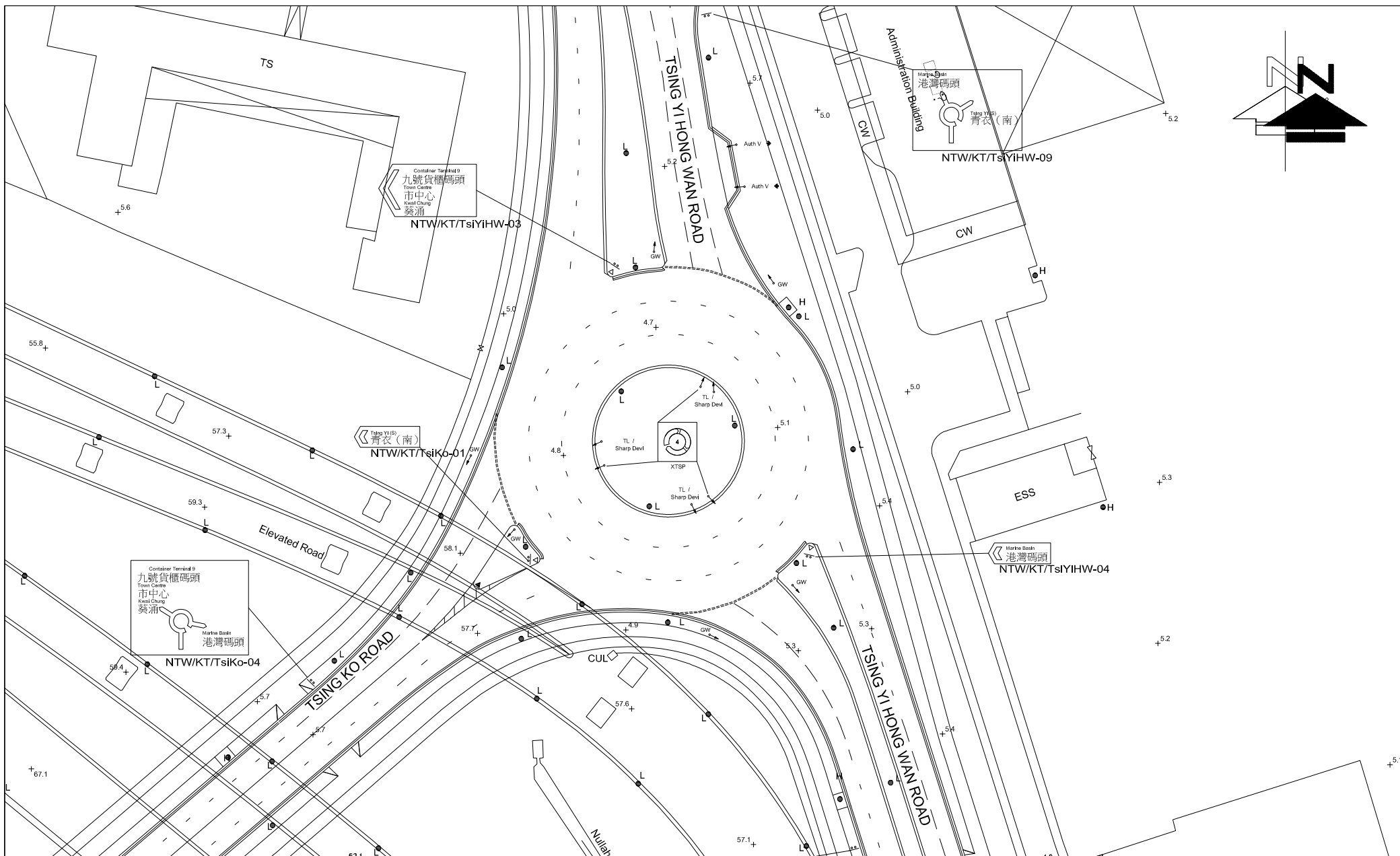


FIGURE NO.:		3.18		PROJECT TITLE:		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		24001HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING YI HONG WAN ROAD / TSING KO ROAD (RA4)	
SCALE:	DATE:						
1 : 1000 (IN A4 SIZE)	13 MAY 2024						



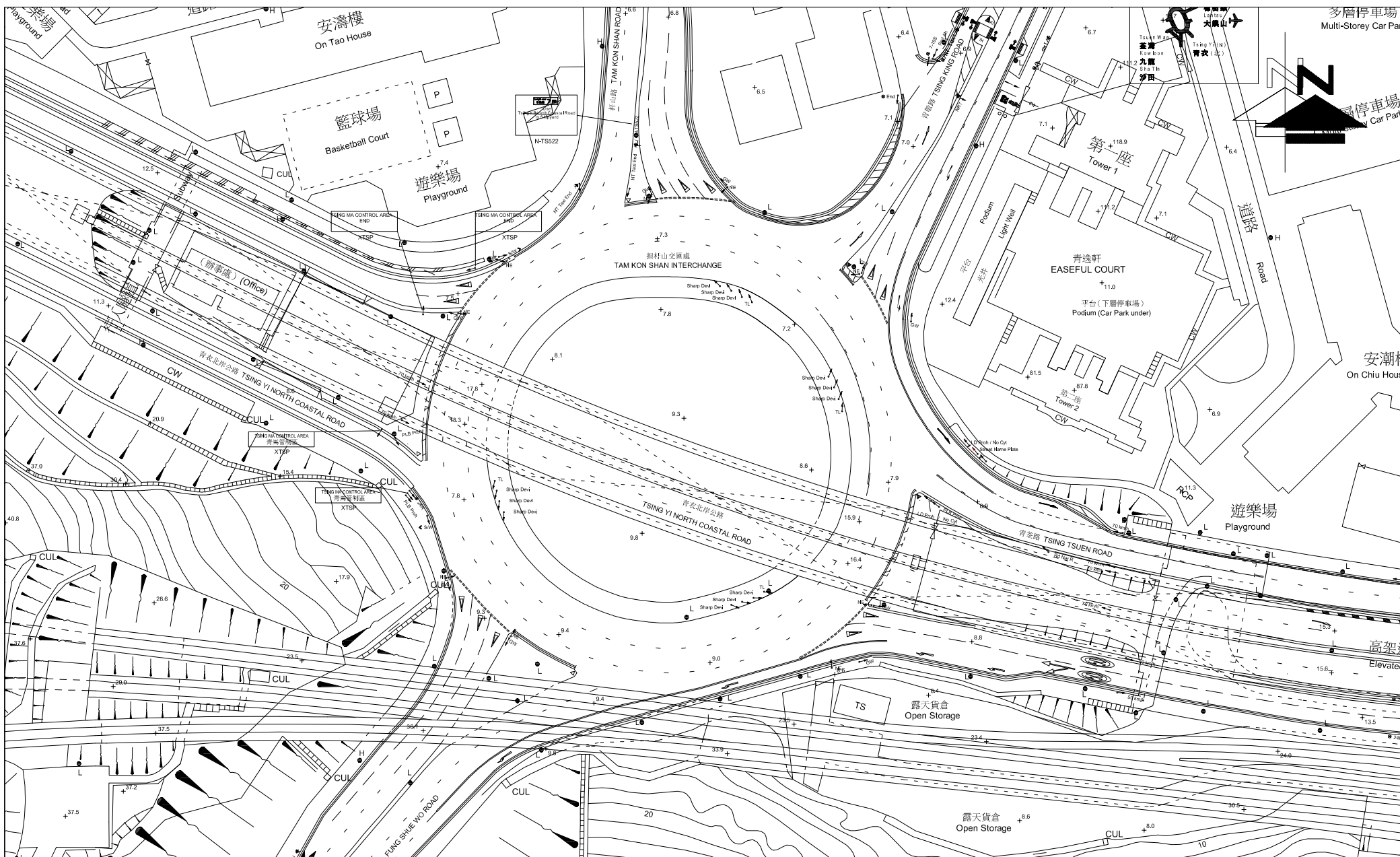



FIGURE NO.: 3.19		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TAM KON SHAN INTERCHANGE (RA5)	
SCALE: 1 : 1200 (IN A4 SIZE)	DATE: 13 MAY 2024		

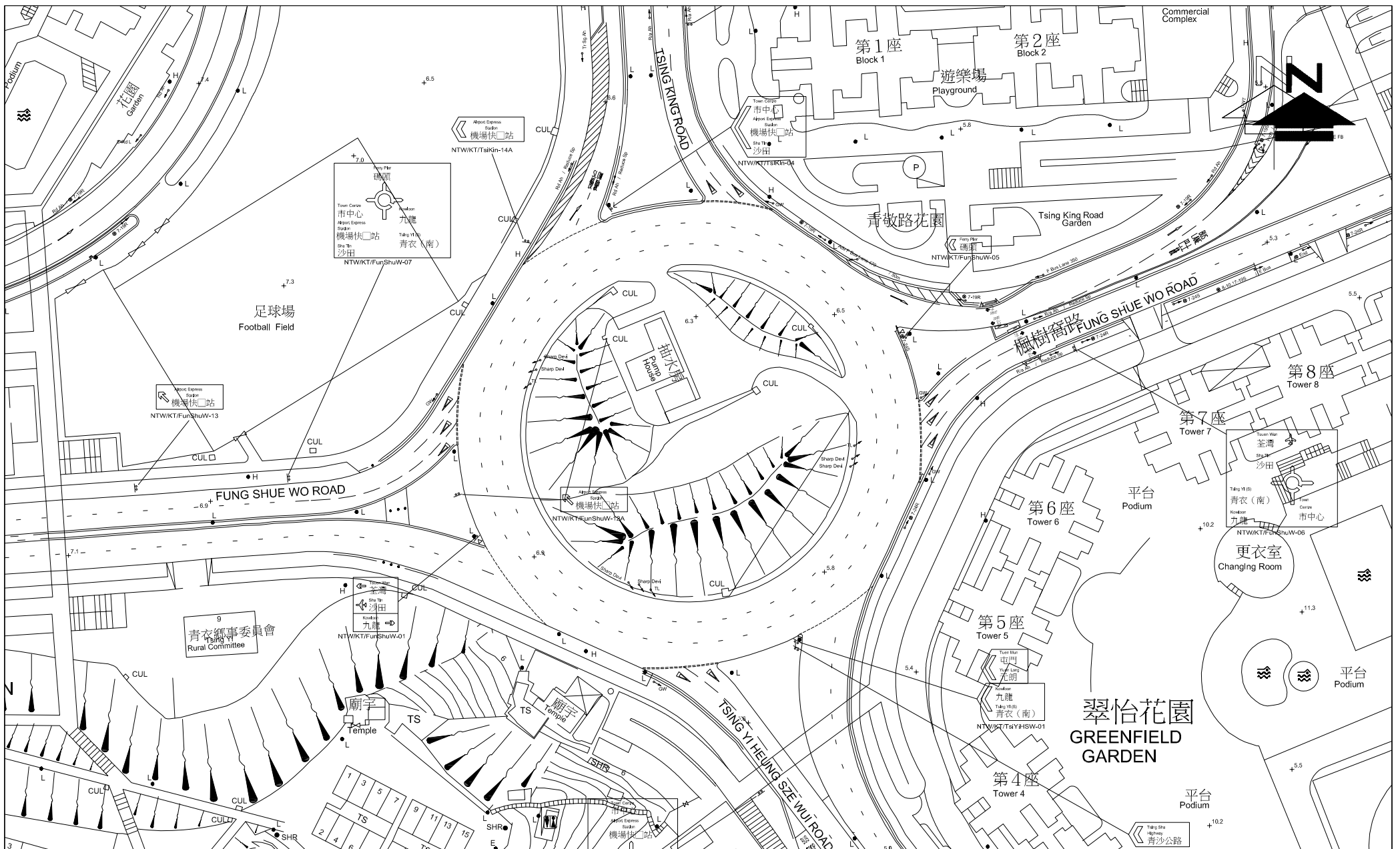


FIGURE NO.:		3.20		PROJECT TITLE:		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		24001HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING YI HEUNG SZE WUI ROAD / FUNG SHUE WO ROAD / TSING KING ROAD (RA6)	
SCALE:	DATE:						
1 : 1200 (IN A4 SIZE)	13 MAY 2024						



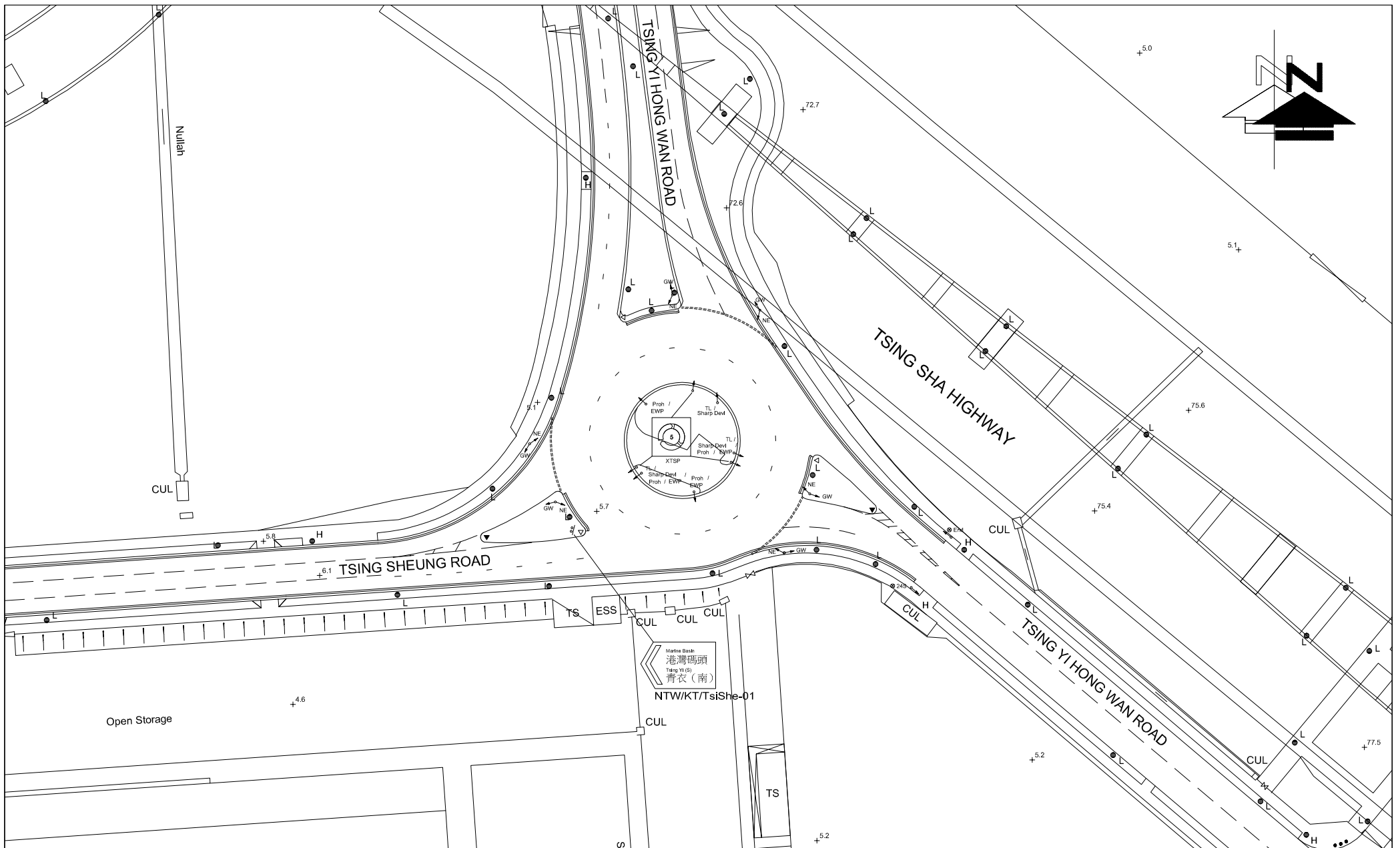


FIGURE NO.:		3.21		PROJECT TITLE:		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		24001HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING SHEUNG ROAD / TSING YI HONG WAN ROAD (RA7)	
SCALE:	DATE:						
1 : 1000 (IN A4 SIZE)	13 MAY2024						



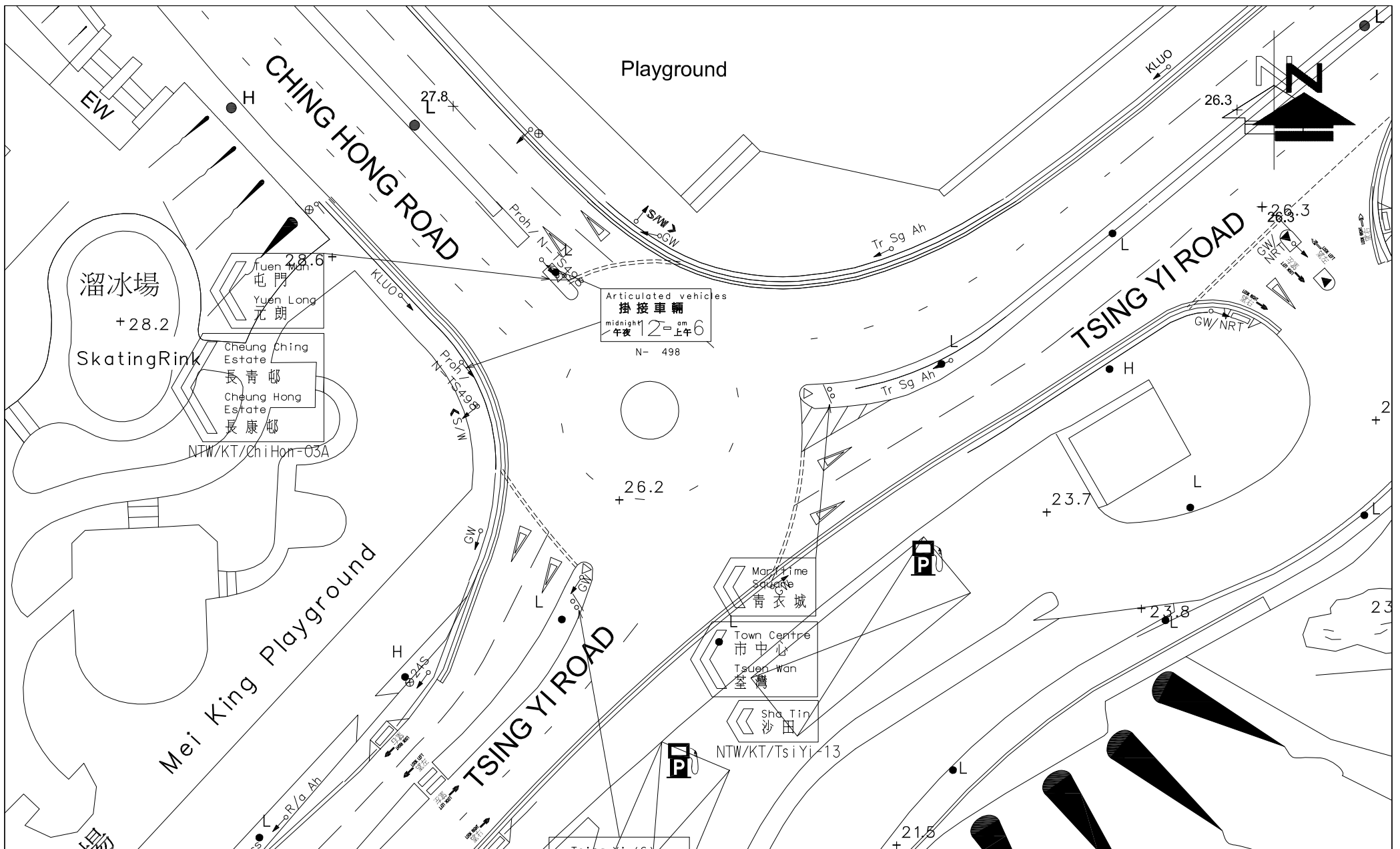


FIGURE NO.:		3.22	
PROJECT NO.:		24001HK	
SCALE:	DATE:	PROJECT TITLE:	
1 : 500	13 MAY 2024	Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
(IN A4 SIZE)		DRAWING TITLE:	
		EXISTING JUNCTION LAYOUT OF TSING HONG ROAD / TSING YI ROAD (RA8)	



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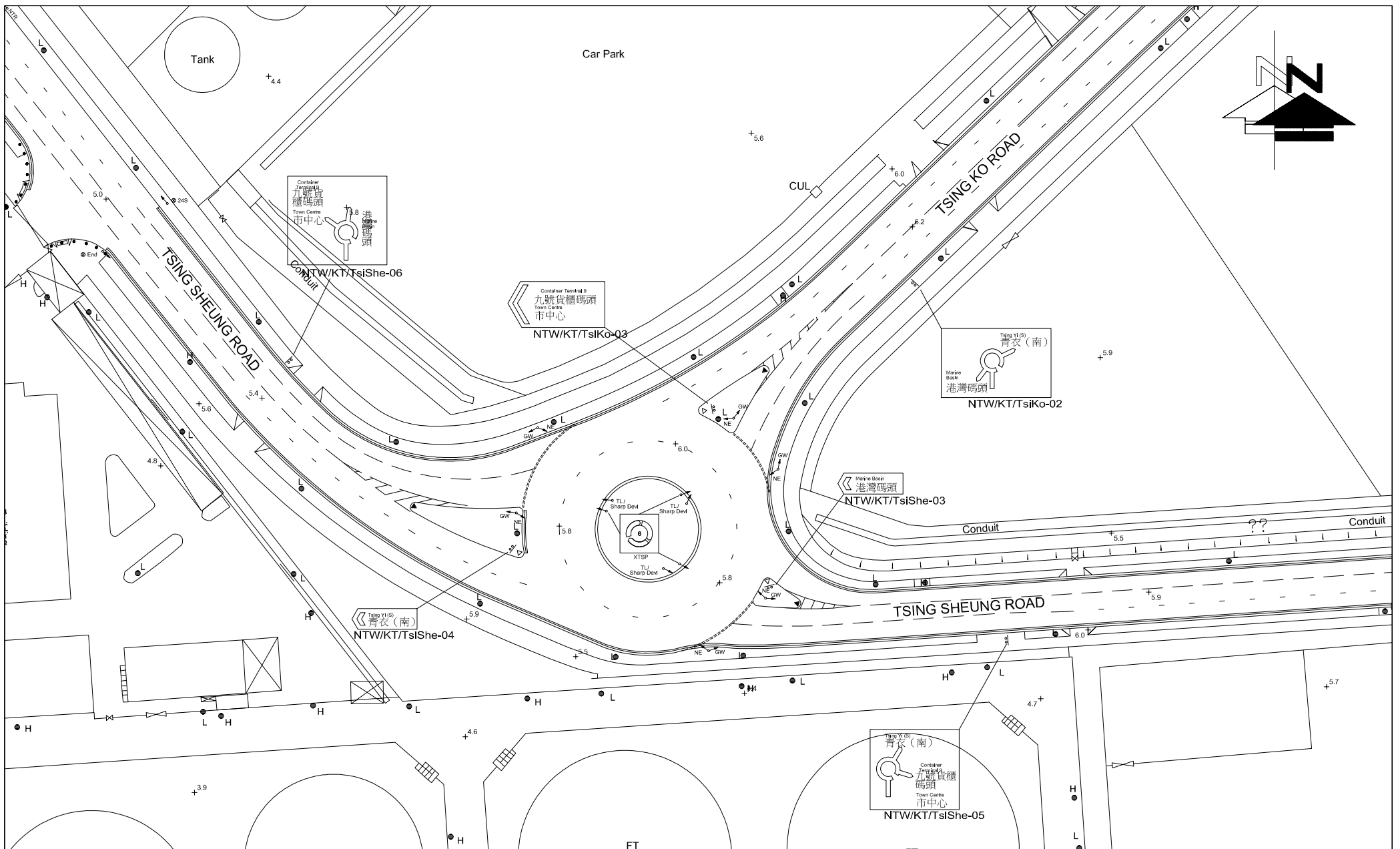



FIGURE NO.: 3.24		PROJECT TITLE: Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24001HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING KO ROAD / TSING SHEUNG ROAD (RA10)	
SCALE: 1 : 1000 (IN A4 SIZE)	DATE: 13 MAY 2024		

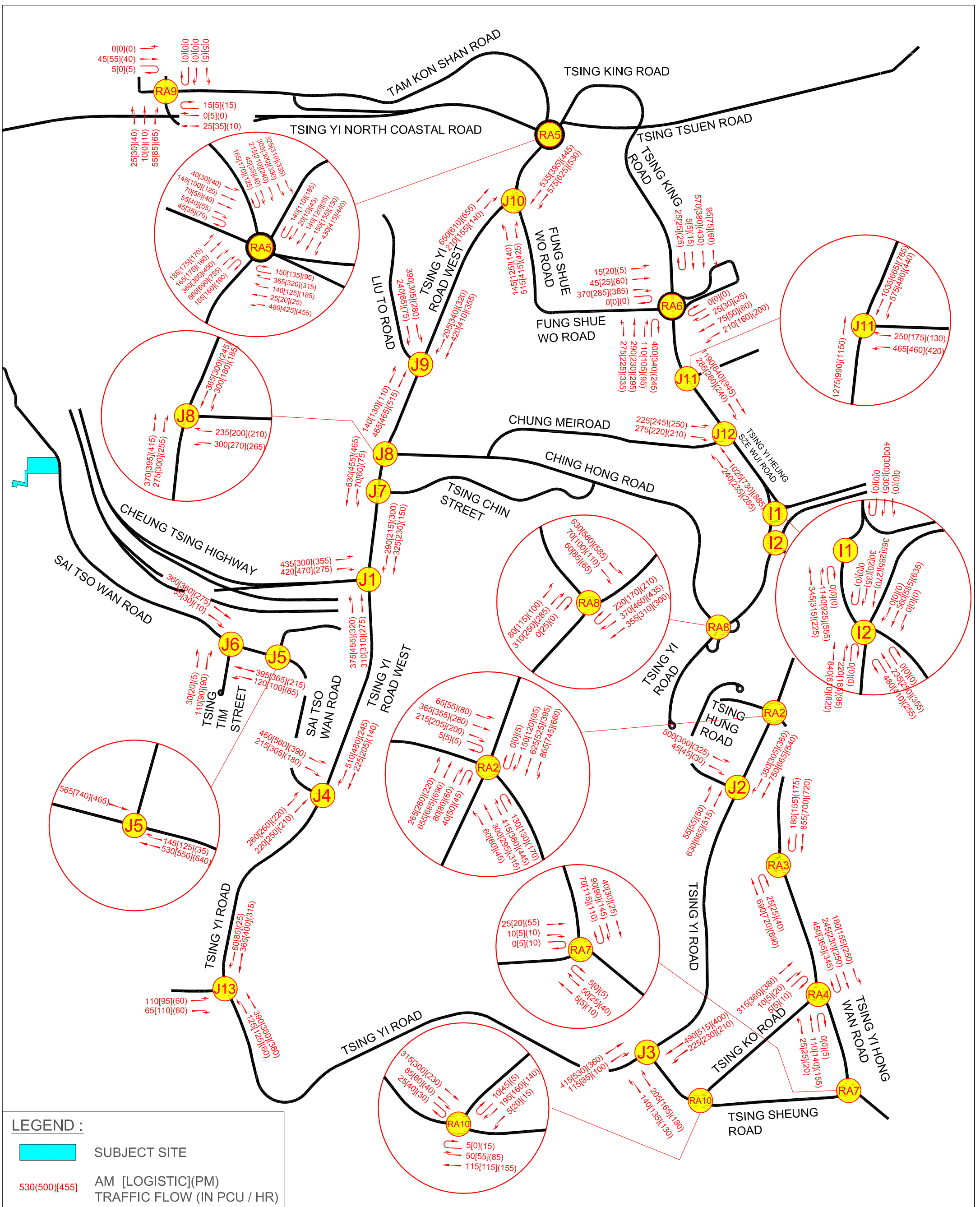
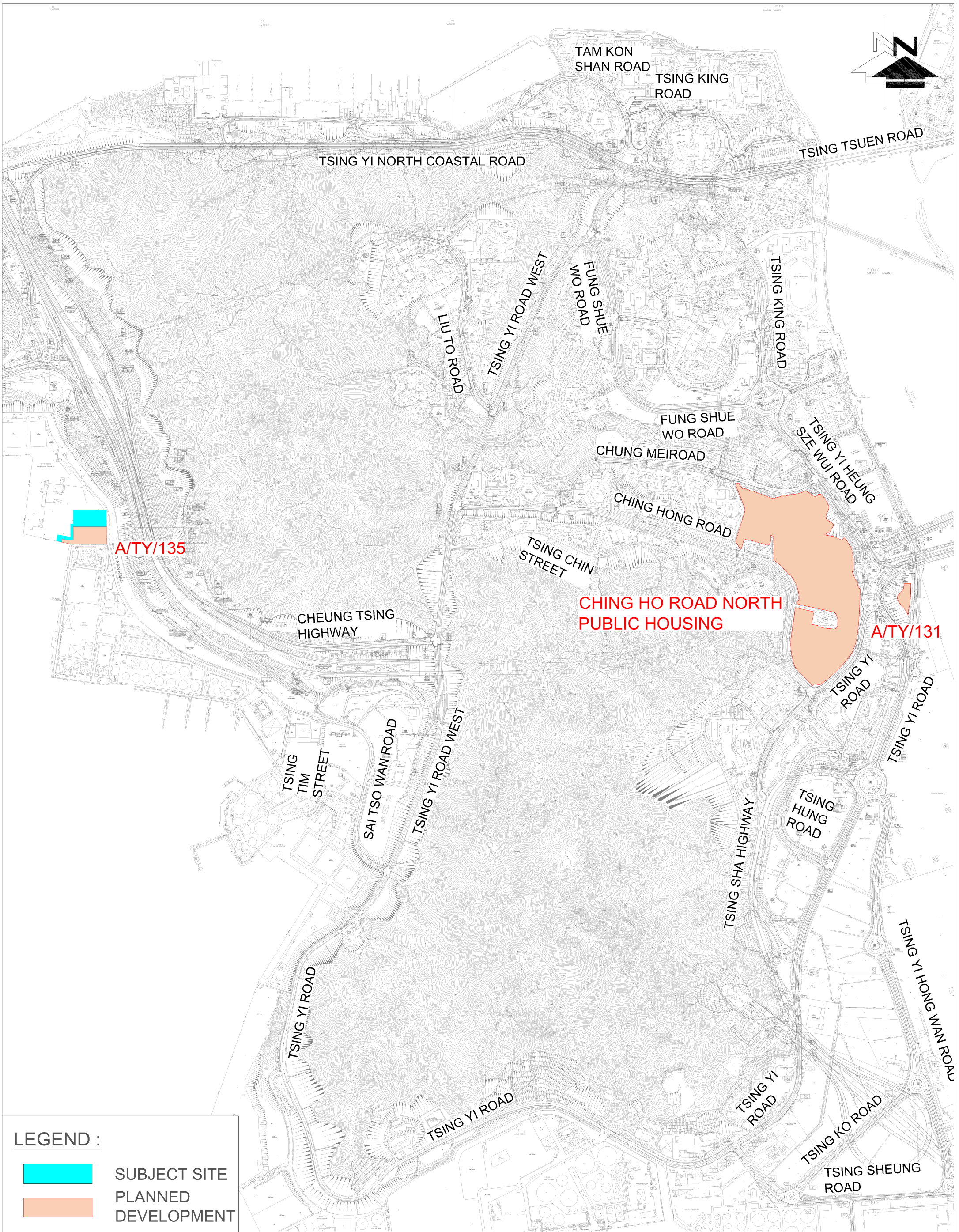
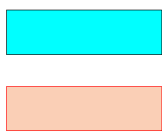


FIGURE NO.:		3.22		PROJECT TITLE:		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		24001HK		DRAWING TITLE:		2024 OBSERVED TRAFFIC FLOW	
SCALE:	DATE:			CTA Consultants Limited 志達顧問有限公司			
1 : 12000 @ A3	14 MAY 2024						



LEGEND :

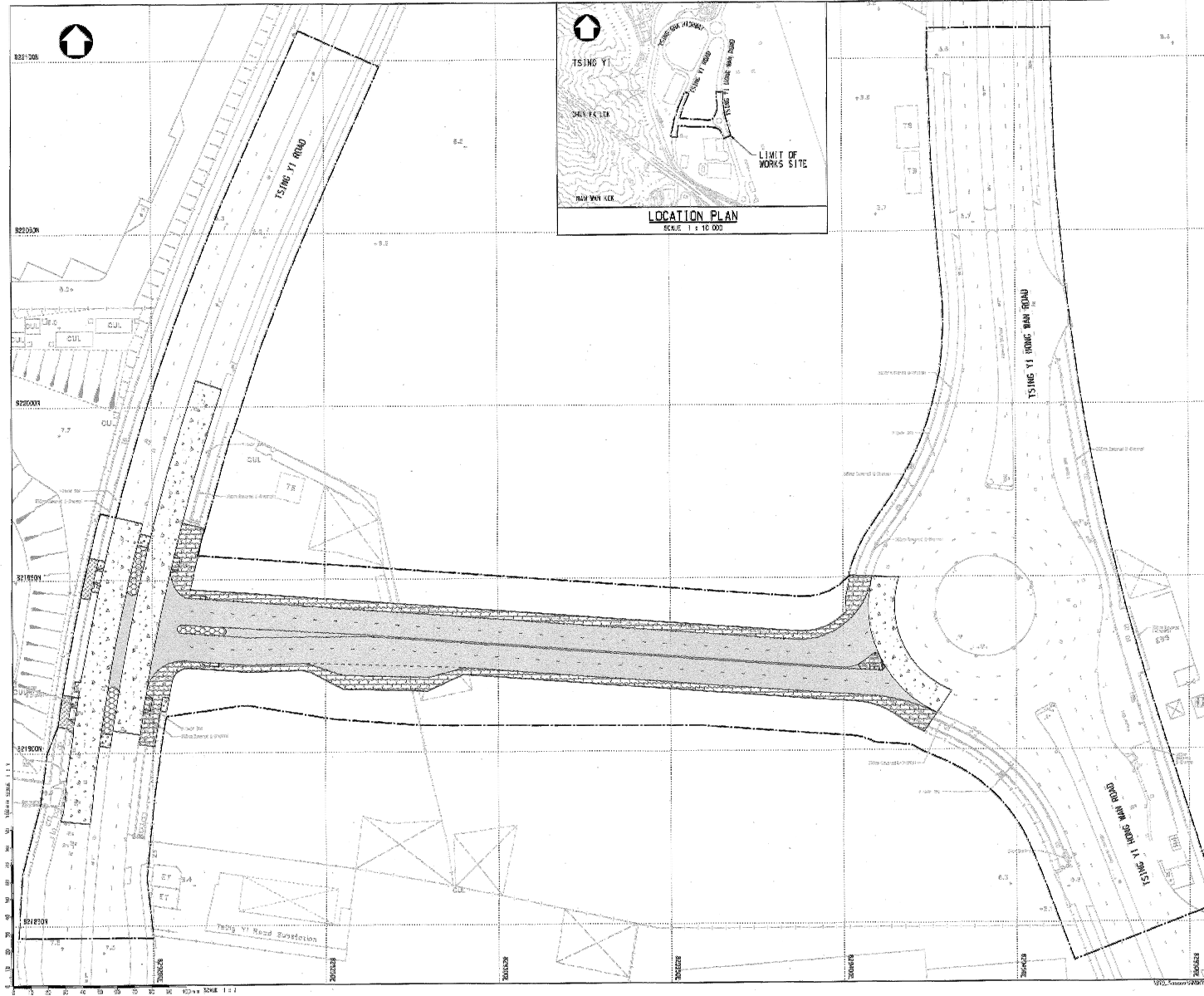
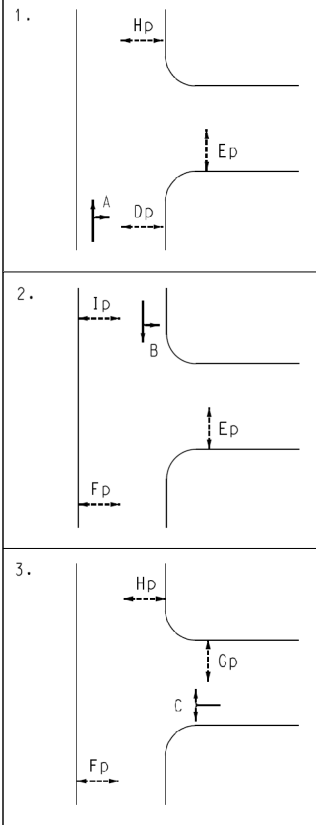


SUBJECT SITE
PLANNED DEVELOPMENT

FIGURE NO.:	4.1
PROJECT NO.:	24001HK
SCALE:	DATE:
1 : 11000 @A3	04 MAR 2024

PROJECT TITLE:	Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136
DRAWING TITLE:	PLANNED DEVELOPMENT IN VICINITY

METHOD OF CONTROL



LEGEND :

- LIMIT OF WORKS SITE
- PROPOSED CARRIAGEWAY WITH FLEXIBLE PAVEMENT
- PROPOSED FOOTPATH WITH CONCRETE PAVEMENT
- PROPOSED PEDESTRIAN REFUGE ISLAND
- PROPOSED KERBED TRAFFIC COLLECTION ISLAND
- EXISTING CARRIAGEWAY TO BE RECONSTRUCTED
- EXISTING FOOTPATH TO BE RECONSTRUCTED
- EXISTING OPENLY AREA TO BE RECONSTRUCTED
- PROPOSED PEDESTRIAN CROSSING

REV	DATE	REVISION	BY	CHECKED
1	08/07/2021	GENERAL REVISION		

DESIGNED	CHKD	DATE	SCALE
P. F. YU		28 MAR 2021	1:1
DRAWN	CHKD	DATE	SCALE
C. S. XU		28 MAR 2021	1:1
CHECKED	DATE	SCALE	
M. K. CHU	28 APR 2021		

PROJECT NO.: HW/2021/11

PROJECT TITLE: NEW ROAD CONNECTING TSING YI ROAD AND TSING YI HONG WAN ROAD, TSING YI

GENERAL LAYOUT

DRAWING NO.	SCALE
HW/2021/11-GL001-A	1:1

WORKS DIVISION

HIGHWAYS DEPARTMENT HONG KONG

FIGURE NO.:	4.2
PROJECT NO.:	24001HK
SCALE: N.T.S (IN A4 SIZE)	DATE: 07 MAY 2024

PROJECT TITLE:	Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136
DRAWING TITLE:	PLANNED JUNCTION LAYOUT OF NEW ROAD CONNECTING TSING YI HONG WAN ROAD AND TSING YI ROAD



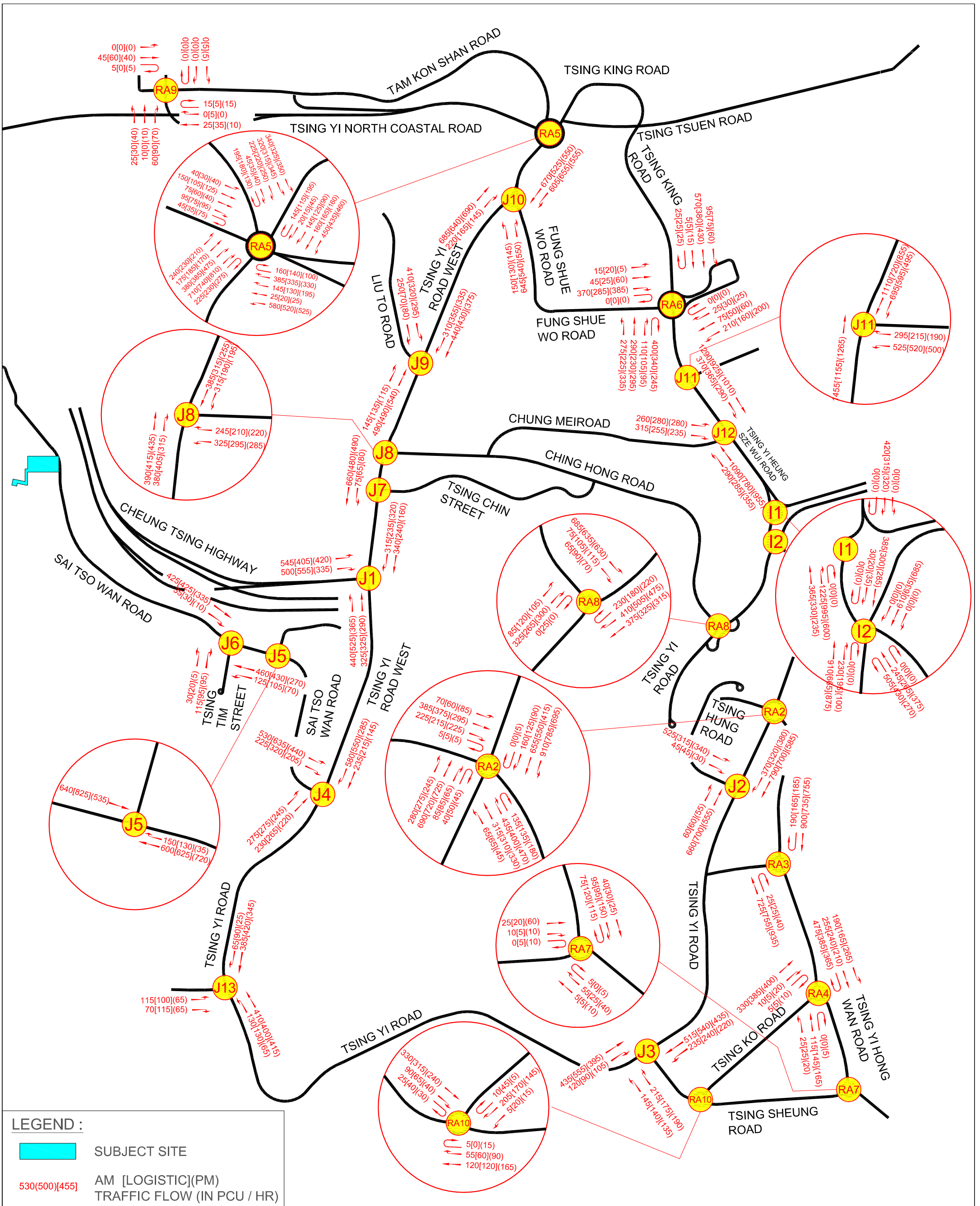


FIGURE NO.:		PROJECT TITLE:	
5.1		Concrete Batching Plant at Tsing Yi - Renewal Application A/TY/136	
PROJECT NO.:		DRAWING TITLE:	
24001HK		2029 DESIGN TRAFFIC FLOW	
SCALE:	DATE:	CTA Consultants Limited 志達顧問有限公司	
1 : 12000 @ A3	05 JUN 2024		



Appendix 1

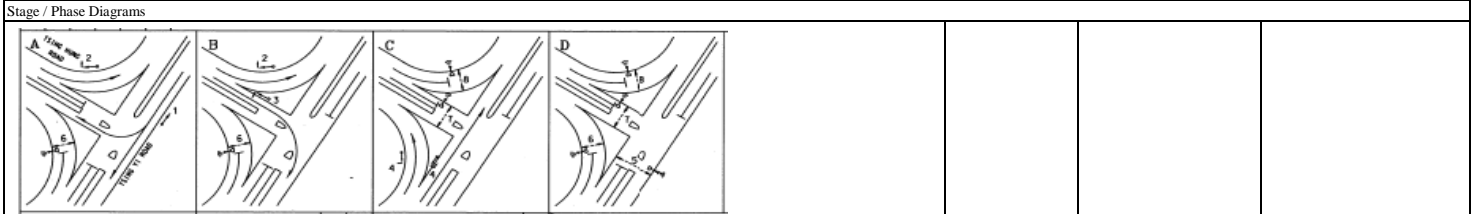
Junction Calculation Sheets

Junction: (J1) Tsing Yi Road West / Cheung Tsing Highway																										
Description: 2024 Observed Traffic Flow																										
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak					
						Left	Right			A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	0%	1965	6135	1965	1965	5905	5825	205	0.104	0.104	150	0.076	0.078			
	S	↔	2	A	3.3	0	20	0	0	43%	100%	2085	0	2020	1940	0	0	210	0.104		151	0.078				
	S	↔	2	A	3.3	0	17.5	0	0	100%	100%	2085	0	1920	1920	0	0	200	0.104		149	0.078				
Cheung Tsing Highway	E	↑	3	A,B	3.4	20	0	0	1	100%	100%	1955	1955	1820	1820	1820	1820	435	0.239		355	0.195				
	E	↔	4	B	3.5	0	30	0	0	100%	100%	2105	4210	2005	2005	3990	3990	211	0.105		138	0.069				
	E	↓	4	B	3.5	0	25	0	0	100%	100%	2105	0	1985	1985	0	0	209	0.105	0.105	137	0.069	0.069			
Tsing Yi Road West	N	↔	1	C	3.6	20	0	6.5	1	100%	100%	1702	3544	1585	1585	3425	3425	375	0.237	0.237	320	0.202	0.202			
	N	↑	1	C	3.6	0	0	6.5	0	0%	0%	1842	0	1840	1840	0	0	310	0.168		275	0.149				
*																										
Pedestrian crossing			↔	5P	C	Min. Green time = 5GM + 10FG = 15s																				
			↕	6P	C	Min. Green time = 5GM + 6FG = 11s																				
			↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s																				
			↕	8P	B	Min. Green time = 5GM + 10FG = 15s																				
Notes:												Traffic Flow (pcu / hr)				A.M. Check Phase		P.M. Check Phase								
																ey 0.446 0.476 L (sec) 13 9 C (sec) 100 100 y pract. 0.783 0.819 R.C. (%) 76% 72%		ey 0.349 0.397 L (sec) 13 9 C (sec) 105 105 y pract. 0.789 0.823 R.C. (%) 126% 107%								
Stage / Phase Diagrams																										
																					I/G = 5		I/G = 5		I/G = 6	

Junction: (J2) Tsing Hung Road / Tsing Yi Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	N	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	362	0.184		261	0.133			
	S	↓	1	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	388	0.184		279	0.133			
	S	←	1	A	3.6	0.0	18	0	100%	100%	2115	2115	1950	1950	1950	1950	350	0.179		360	0.185	0.185		
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%	100%	2015	2015	1920	1920	1920	1920	55	0.029		50	0.026			
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	315	0.150	0.150	258	0.122			
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	315	0.150		258	0.122	0.122		
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	500	0.272	0.272	325	0.177			
	E	→	3	B	4.0	0.0	22	0	100%	100%	2155	2155	2015	2015	2015	2015	45	0.022		30	0.015			
Pedestrian Crossing		↔	5P	D	Min. Green time = 5GM + 7FG = 12s																			
		↔	6P	A,B,D	Min. Green time = 5GM + 5FG = 10s																			
		↔	7P	C,D	Min. Green time = 5GM + 10FG = 15s																			
		↔	8P	C,D	Min. Green time = 5GM + 5FG = 10s																			

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	A,B,C,D		A,B,C,D		A,B,C,D		A,B,C,D	
			AM Peak Check Phase	AB,C,D	PM Peak Check Phase	AB,C,D	AB,C,D	AB,C,D		
	500(325) 45(30)	350(360) 750(540)	0.356	0.422	0.307	0.299				
			L (sec)	33 22	L (sec)	33 22				
			C (sec)	120 120	C (sec)	100 100				
			y pract.	0.653 0.735	y pract.	0.603 0.702				
			R.C. (%)	83% 74%	R.C. (%)	96% 134%				



I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12		
I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12		

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(%) uphill Gradient	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		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		
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%	100%	1792	1792	1630	1630	260	0.160	0.160	220	0.135	0.135	
	NE	↗	1	A	3.4	0	0	6.5	0	0%	0%	1822	1822	1820	1820	220	0.121		210	0.115		
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%	100%	1995	1995	1815	1815	460	0.253		390	0.215		
	NW	↗	4	D	3.8	0	25	0	0	100%	100%	2135	2135	2015	2015	215	0.107	0.107	180	0.089	0.089	
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%	0%	1955	1955	1955	1955	225	0.115		140	0.072		
	SE	↙	2	B,C	3.7	0	25	0	0	100%	100%	2125	2125	2005	2005	510	0.254	0.254	245	0.122	0.122	
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s																	

Notes:	<p>Traffic Flow (pcu / hr)</p>	<p>A.M. Check Phase</p> <p>Ey 0.521 L (sec) 19 C (sec) 120 y pract. 0.758 R.C. (%) 46%</p>	<p>P.M. Check Phase</p> <p>Ey 0.346 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 115%</p>
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Stage / Phase Diagrams			
<p>A</p>	<p>B</p>	<p>C</p>	<p>D</p>
I/G = 7	I/G = 10		I/G = 5

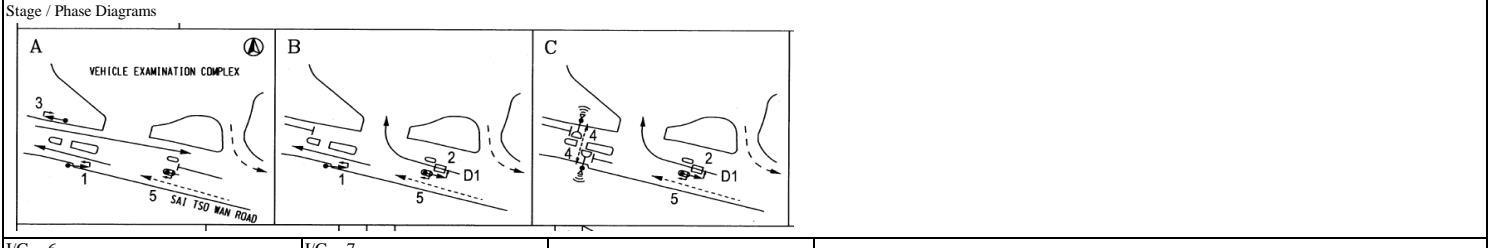
TRAFFIC SIGNALS CALCULATION

Job No: 24001HK

Junction: **(J5) Sai Tso Wan Road Near VEC**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak					
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
						Sai Tso Wan Road	EB		→	3			A	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	530	0.263		640	0.318	0.318			
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%	100%	2155	2155	1875	1875	1875	1875	145	0.077	0.077	35	0.019				

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak	A,BC		AB,C		A,BC		AB,C	
			AM Peak Check Phase		PM Peak Check Phase					
		565(465) →	εy	0.358	0.263	εy	0.249	0.318		
		↖ 145(35)	L (sec)	11	18	L (sec)	11	18		
		← 530(640)	C (sec)	91	91	C (sec)	91	91		
			y pract.	0.791	0.722	y pract.	0.791	0.722		
			R.C. (%)	121%	174%	R.C. (%)	217%	127%		

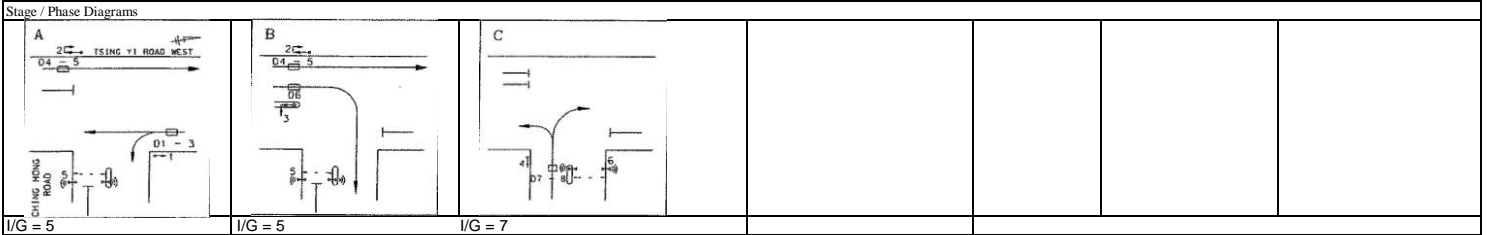


I/G = 6 I/G = 7

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM			AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	0	5.5	0	0%	0%	1824	3698	1824	1824	3698	3698	180	0.099	0.197	121	0.066	0.121
	S	↓	1	A	3.5	0.0	0	0	5.5	0	0%	0%	1874	0	1874	1874	0	0	185	0.099		124	0.066	
	S	↘	1	A	3.7	10.0	0	0	5.5	1	100%	100%	1754	1754	1525	1525	1525	1525	300	0.197		185	0.121	
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	179	0.091		200	0.102	
	N	↑	2	A,B	3.5	0.0	0	0	0	0	0%	0%	2105	0	2105	2105	0	0	191	0.091		215	0.102	
	N	↗	3	B	3.3	0.0	18	0	0	0	100%	100%	2085	2085	1925	1925	1925	1925	275	0.143	0.143	255	0.132	0.132
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	16% / 84%	15% / 85%	2095	0	1945	1945	0	0	280	0.144	0.144	248	0.128	0.128	
	W	↓	4	C	3.4	15.0	0	0	0	1	100%	100%	1955	4050	1775	1775	3720	3720	255	0.144		227	0.128	
Pedestrian crossing		↕	5P	A,B																				
		↕	6P	C																				
Min. Green time = 11s (G) + 8s (FS) = 19s Min. Green time = 5s (G) + 12s (FS) = 17s																								
Pedestrian Crossing																								

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 370(415) 275(255)	Weekday AM Peak 365(245) 300(185)	AM Peak Check Phase Ey 0.483 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 60%	PM Peak Check Phase Ey 0.382 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 103%



Junction: (J9) Tsing Yi Road West / Liu To Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%	0%	1735	3610	1735	1735	3610	3610	202	0.116		171	0.098	
	S	↓	2	A,B	3.3	0.0	0	5	0	0%	0%	1875	0	1875	1875	0	0	218	0.116		184	0.098	
	S	↙	3	B	3.3	0.0	22	5	0	100%	100%	1875	1875	1755	1755	1755	1755	295	0.168	0.168	320	0.182	0.182
Tsing Yi Road West	N	↕	1	A	3.2	10.0	0	0	1	51%	38%	1935	4100	1795	1830	3960	3995	274	0.153	0.153	286	0.156	0.156
	N	↑	1	A	4.1	0.0	0	0	0	0%	0%	2165	0	2165	2165	0	0	331	0.153		339	0.156	
Liu To Road	E	↕	5	B,C	3.2	10.0	0	0	1	100%	100%	1935	1935	1685	1685	1685	1685	390	0.231		280	0.166	
	E	↘	4	C	4.1	0.0	18	0	0	100%	100%	2165	2165	2000	2000	2000	2000	240	0.120	0.120	75	0.038	0.038
Pedestrian crossing		↕	6P	A,D																			
		↕	7P	C,D																			
		↔	8P	D																			
Pedestrian Crossing																							

A,B,C,D A,B,C,D A,B,C,D A,B,C,D

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 	AM Peak Check Phase		PM Peak Check Phase	
		6y 0.384 0.441 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 73% 44%	6y 0.323 0.376 L (sec) 34 38 C (sec) 110 110 y pract. 0.622 0.589 R.C. (%) 93% 57%		

Stage / Phase Diagrams			
<p>L/G = 5</p>	<p>L/G = 7</p>	<p>L/G = 5</p>	<p>L/G = 11 + Ped 13</p>

Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	616	0.313		555	0.283	0.283	
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	659	0.313		595	0.283		
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	33% / 67%	55% / 45%	2105	0	1955	1950	0	0	374	0.191	0.191	287	0.147	0.147	
	W	↘	3	C	3.5	15.0	0	0	1	100%	100%	1965	4070	1785	1785	3740	3735	341	0.191		263	0.147		
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.5	10.0	0	0	1	100%	100%	1965	6175	1710	1710	5920	5920	575	0.336	0.336	440	0.257		
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	518	0.246		398	0.189		
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	518	0.246		398	0.189		
Pedestrian crossing		↑ ↓	4P	B																			Min. Green time = 8GM + 11FG = 19s	
		← →	5P	D																				Min. Green time = 5GM + 10FG = 15s
		← →	6P	C																				Min. Green time = 5GM + 8FG = 13s

AB,C,D AD,B,C AB,C,D AD,B,C

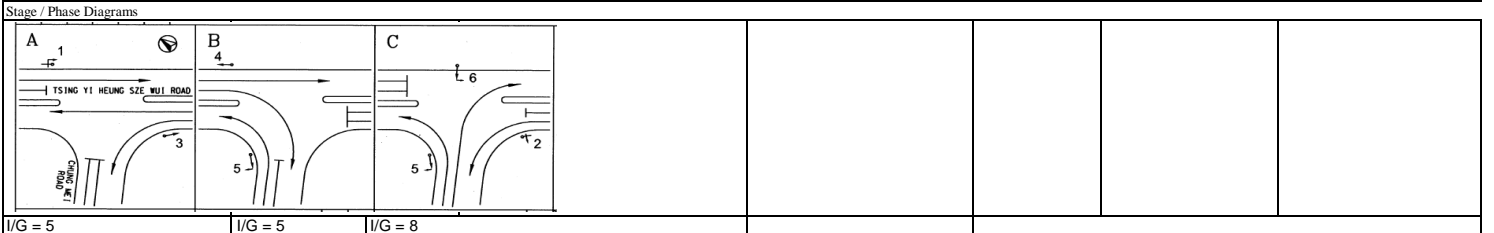
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase				
		1275(1150)	1035(795)	575(440)	Ey	0.505	0.528	Ey	0.430	0.405
			↓	↘	L (sec)	32	33	L (sec)	32	33
					C (sec)	114	114	C (sec)	100	100
					y pract.	0.647	0.639	y pract.	0.612	0.603
					R.C. (%)	28%	21%	R.C. (%)	42%	49%

Stage / Phase Diagrams							
I/G = 2	I/G = 8 + Ped 19	I/G = 3 I/G = 5	I/G = 5 I/G = 12 + Ped 15				

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%	100%	1945	1945	1690	1690	1690	1690	225	0.133		250	0.148	
	E	↘	6	C	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	275	0.143	0.143	210	0.109	0.109
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	240	0.131		285	0.155	
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	513	0.243	0.243	443	0.210	0.210
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	513	0.243		443	0.210	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%	0%	1839	3818	1839	1839	3818	3818	573	0.312		455	0.248	
	S	↙	1	A,B	3.5	0.0	0	3	0	0%	0%	1979	0	1979	1979	0	0	617	0.312		490	0.248	
	S	↖	4	B	3.5	0.0	22	3	0	100%	100%	1979	1979	1855	1855	1855	1855	285	0.154	0.154	240	0.129	0.129

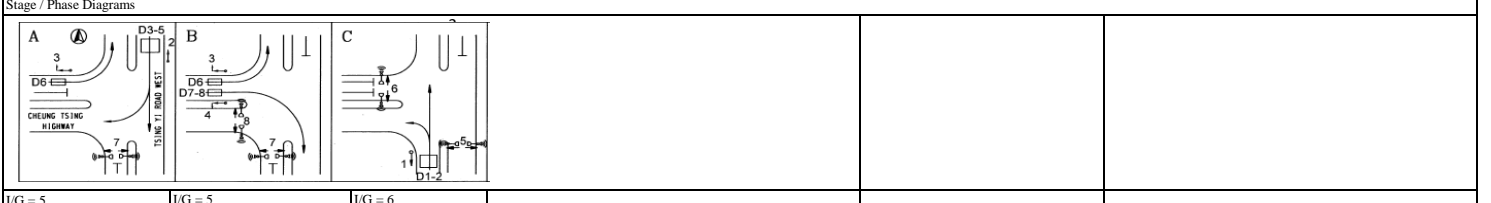
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
	225(250) 275(210)		Ey 0.540 L (sec) 15 C (sec) 114 y pract. 0.782 R.C. (%) 45%	Ey 0.449 L (sec) 15 C (sec) 100 y pract. 0.765 R.C. (%) 70%



Junction: (J1) Cheung Tsing Highway / Tsing Yi Road West
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak				
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%		1965	6135	1965	5900	148	0.075	0.075				
	S	↙	2	A	3.3	0	20	0	0	46%		2085	0	2015	0	152	0.075					
	S	↘	2	A	3.3	0	17.5	0	0	100%		2085	0	1920	0	145	0.075					
Cheung Tsing Highway	E	↗	3	A,B	3.4	20	0	0	1	100%		1955	1955	1820	1820	300	0.165					
	E	↘	4	B	3.5	0	30	0	0	100%		2105	4070	2005	3860	244	0.122					
	E	↙	4	B	3.5	0	25	0	1	100%		1965	0	1855	0	226	0.122	0.122				
Tsing Yi Road West	N	↙	1	C	3.6	20	0	6.5	1	100%		1702	3544	1585	3425	455	0.287	0.287				
	N	↘	1	C	3.6	0	0	6.5	0	0%		1842	0	1840	0	310	0.168					
Pedestrian crossing		↕	5P	C	Min. Green time = 5GM + 10FG = 15s																	
		↕	6P	C	Min. Green time = 5GM + 6FG = 11s																	
		↕	7P	A,B	Min. Green time = 5GM + 9FG = 14s																	
		↕	8P	B	Min. Green time = 5GM + 10FG = 15s																	

Notes:	Traffic Flow (pcu / hr)		Logistic Peak Check Phase														
			<table border="1"> <tr> <td>ey</td> <td>0.484</td> <td>0.452</td> </tr> <tr> <td>L (sec)</td> <td>13</td> <td>9</td> </tr> <tr> <td>C (sec)</td> <td>100</td> <td>100</td> </tr> <tr> <td>y pract.</td> <td>0.783</td> <td>0.819</td> </tr> <tr> <td>R.C. (%)</td> <td>62%</td> <td>81%</td> </tr> </table>	ey	0.484	0.452	L (sec)	13	9	C (sec)	100	100	y pract.	0.783	0.819	R.C. (%)	62%
ey	0.484	0.452															
L (sec)	13	9															
C (sec)	100	100															
y pract.	0.783	0.819															
R.C. (%)	62%	81%															



Junction: (J2) Tsing Hung Road / Tsing Yi Road																				
Description: 2024 Observed Traffic Flow																				
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right		Logistic Peak				Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%		1965	4070	1965		4070	321	0.163			
	S	↓	1	A	3.5	0.0	0	0	0%		2105	0	2105		0	344	0.163			
	S	←	1	A	3.6	0.0	18	0	100%		2115	2115	1950		1950	305	0.156	0.163		
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%		2015	2015	1920		1920	55	0.029			
	N	↑	4	C	3.5	0.0	0	0	0%		2105	4210	2105		4210	333	0.158			
	N	↑	4	C	3.5	0.0	0	0	0%		2105	0	2105		0	333	0.158	0.158		
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%		1945	1945	1835		1835	300	0.163			
	E	→	3	B	4.0	0.0	22	0	100%		2155	2155	2015		2015	45	0.022			
Pedestrian Crossing		↔	5P	D																
		↔	6P	A,B,D																
		↔	7P	C,D																
		↔	8P	C,D																
											A,B,C,D		A,B,C,D							
Notes:											Traffic Flow (pcu / hr) Weekday AM Peak					Logistic Peak Check Phase				
																Ey 0.321 0.321 L (sec) 33 22 C (sec) 100 100 y pract. 0.603 0.702 R.C. (%) 88% 118%				
Stage / Phase Diagrams																				
I/G = 2				I/G = 6 + Min. G 5				I/G = 5				I/G = 5 + 12								

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%		1792	1792	1630	260	0.160	0.160			
	NE	↗	1	A	3.4	0	0	6.5	0	0%		1822	1822	1820	250	0.137				
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%		1995	1995	1815	560	0.309				
	NW	↗	4	D	3.8	0	25	0	0	100%		2135	2135	2015	305	0.151	0.151			
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%		1955	1955	1955	205	0.105				
	SE	↙	2	B,C	3.7	0	25	0	0	100%		2125	2125	2005	480	0.239	0.239			
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s															

Notes:	<p>Traffic Flow (pcu / hr)</p>	<p>Logistic Peak Check Phase</p> <p>Exy 0.550 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 35%</p>
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Stage / Phase Diagrams			
<p>A</p>	<p>B</p>	<p>C</p>	<p>D</p>
I/G = 5	I/G = 5	I/G = 2	I/G = 5
I/G = 5	I/G = 8+12	I/G = 2	

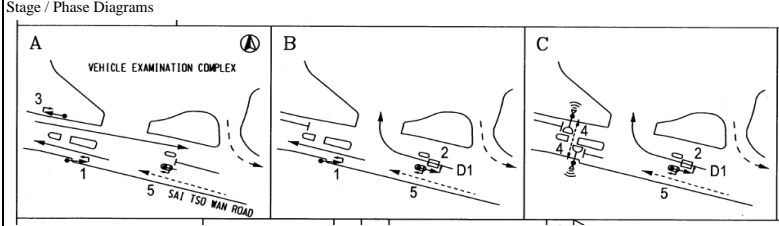
Junction: (J5) Sai Tso Wan Road Near VEC

Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right		Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%		2015	2015	2015		2015		740	0.367	0.367
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%		2015	2015	2015		2015		550	0.273	
Sai Tso Wan Road	WB	↶	2	B,C	4.0	0.0	10	0	100%		2155	2155	1875		1875		125	0.067	0.067

Pedestrian Crossing 4P C Min. green time = 6Gm + 5 FGm = 11s

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak		Logistic Peak Check Phase		
		740	→	εy	0.434	0.273
			↶	L (sec)	11	18
			←	C (sec)	91	91
				y pract.	0.791	0.722
				R.C. (%)	82%	165%



I/G = 6	I/G = 7		
I/G = 3	I/G = 7	I/G = 5 + P11s	

Junction: **J9 - Tsing Yi Road West / Liu To Road**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%		1735	3610	1735		3610	197	0.114			
	S	↓	2	A,B	3.3	0.0	0	5	0	0%		1875	0	1875		0	213	0.114			
	S	↙	3	B	3.3	0.0	22	5	0	100%		1875	1875	1755		1755	340	0.194	0.194		
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	48%		1935	4100	1805		3970	271	0.150	0.150		
	N	↑	1	A	4.1	0.0	0	0	0	0%		2165	0	2165		0	324	0.150			
Liu To Road	E	↘	5	B,C	3.2	10.0	0	0	1	100%		1935	1935	1685		1685	305	0.181			
	E	↘	4	C	4.1	0.0	18	0	0	100%		2165	2165	2000		2000	65	0.033	0.033		
Pedestrian crossing		↑ ↓ ← →	6P	A,D																	
			7P	C,D																	
			8P	D																	
Pedestrian Crossing																					

A,B,C,D A,B,C,D

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
	305 65		Day 0.331 0.376 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 101% 69%

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: **J10 - Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak	Other				Logistic Peak	Other	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road	S	↓	1	A,D	4.1	0.0	0	3	0	0%			1	2039	4058	2039	4058	314	0.154	0.172			
(To Tsing Yi Road West)	S	↓	1	A,D	3.9	0.0	0	3	0	0%			1	2019	0	2019	0	311	0.154				
Fung Shue Wo Road	S	↓	1	A,D	4.0	0.0	0	3	1	0%			1	1889	2294.8	1889	2294.8	325	0.172				
(To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	0	0%			0.2	405.8	0	405.8	0	70	0.172				
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1	1965	2491.3	1965	2491.25	481	0.245				
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			0.25	526.25	0	526.25	0	129	0.245				
	N	↗	3	B	3.6	0.0	18	0	0	100%			1	2115	2115	1950	1950	155	0.079	0.079			
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%			1	1869	2193.6	1790	2100	107	0.060				
	N	↖	4	C	4.0	38.0	0	3	0	100%			0.16	324.64	0	310	0	18	0.060				
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%			0.23	457.47	2446.5	440	2355	78	0.176	0.176			
	N	↗	4	C	3.6	0.0	40	3	0	100%			1	1989	0	1915	0	337	0.176				
Pedestrian crossing		←---→	5p	D																			
		←---→	6P	B,C																			
		↑	7P	A,C,D																			
		↓	8P	A,B,D																			

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
			Ey 0.428 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 82%

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

Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%		1965	4070	1965	4070	478	0.243			
	N	↑	2	A,B	3.5	0.0	0	0	0	0%		2105	0	2105	0	512	0.243			
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	47% / 53%		2105	0	1950	0	332	0.170	0.170		
	W	↘	3	C	3.5	15.0	0	0	1	100%		1965	4070	1785	3735	303	0.170			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.0	10.0	0	0	1	100%		1915	6025	1665	5775	480	0.288	0.288		
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	333	0.162			
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	333	0.162			
Pedestrian crossing		↑ ↓	4P	B						Min. Green time = 8GM + 11FG = 19s										
		← →	5P	D						Min. Green time = 5GM + 10FG = 15s										
		← →	6P	C						Min. Green time = 5GM + 8FG = 13s										

AB,C,D AD,B,C

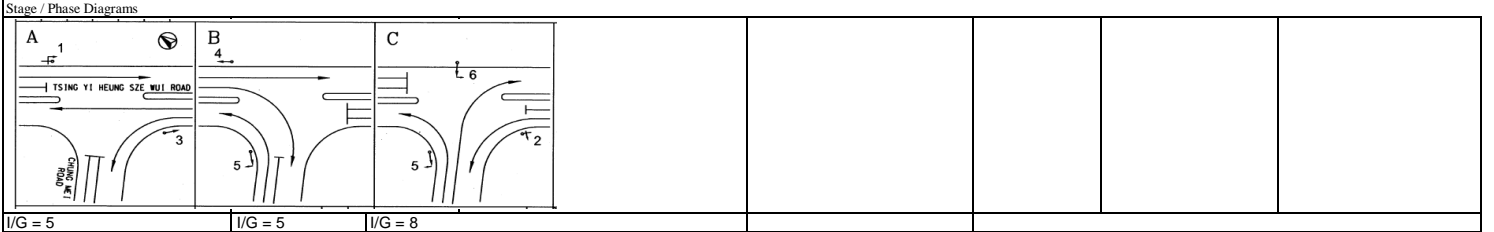
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak																			
			665	480																	
			↑	↓	↘	↙															
			990												175	460					

Stage / Phase Diagrams							
I/G = 2	I/G = 5	I/G = 12 + Ped 15					

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2024 Observed Traffic Flow

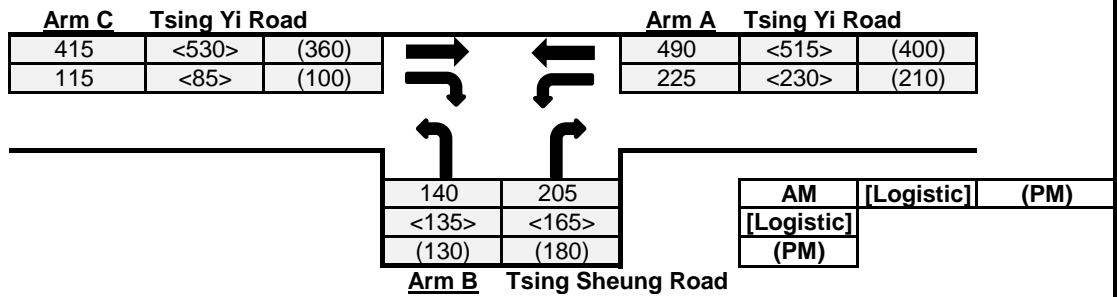
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%		1945	1945	1690		1690	245	0.145			
	E	↘	6	C	3.3	0.0	18	0	0	100%		2085	2085	1925		1925	220	0.114	0.114		
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%		1945	1945	1835		1835	235	0.128			
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	4210	2105		4210	365	0.173	0.173		
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	0	2105		0	365	0.173			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%		1839	3818	1839		3818	405	0.220			
	S	↙	1	A,B	3.5	0.0	0	3	0	0%		1979	0	1979		0	435	0.220			
	S	↖	4	B	3.5	0.0	22	3	0	100%		1979	1979	1855		1855	280	0.151	0.151		
Pedestrian crossing																					

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 245 ↗ 220 ↘ 280 ↖ 840.00 ↓ 235 ↖ 730 ↑	Logistic Peak Check Phase g _y 0.439 L (sec) 15 C (sec) 114 y _{pract.} 0.782 R.C. (%) 78%
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Priority Junction Calculation

Junction : (J3) Tsing Yi Road / Tsing Sheung Road Job No.: 24001HK
 Scenario : 2024 Observed Traffic Flow



The predictive equations of capacity of movement are:

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

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

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

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

$$D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))$$

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

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

where

- Y = 1 - 0.0345W
- q-AB, etc = the design flow of movement AB, etc
- W = major road width
- W-CR = central reserve width
- w-BA, etc = lane width to vehicle
- v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc
- v-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input	Calculated
W	14	D 0.933
W-CR	0	E 1.012
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F 0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	Y 0.517
V-rBA	30	
V-IBA	50	
V-rBC	50	
V-rCB	50	
w-BA	4.5	
w-BC	4.5	
w-CB	0	

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM
	pcu/hr				pcu/hr			
	q-CA	415	530	360	Q-BA	409	399	435
	q-CB	115	85	100	Q-BC	644	638	662
	q-AB	225	230	210	Q-CB	376	372	388
	q-AC	490	515	400	Q-CA	N/A	N/A	N/A
	q-BA	205	165	180	Q-BAC	N/A	N/A	N/A
	q-BC	140	135	130				
	f	0.406	0.450	0.419				

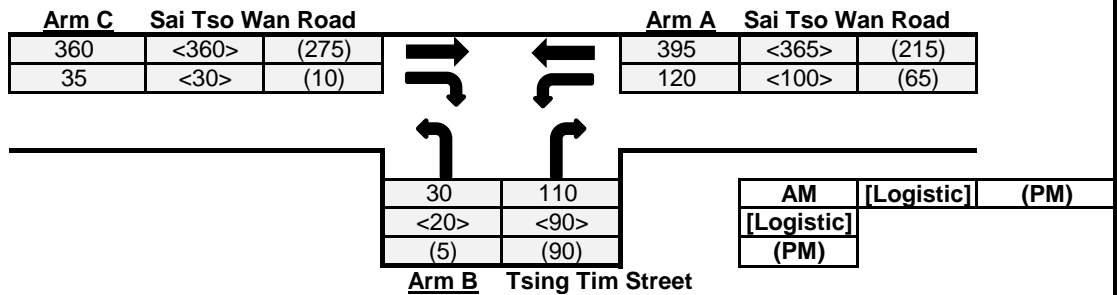
(If C-B blocked C- (If Minor Road Share LT&RT))

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.50	0.41	0.41
	B-C	0.22	0.21	0.20
	C-B	0.31	0.23	0.26
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A
	Critical DFC	0.50	0.41	0.41

Priority Junction Calculation

Junction : (J6) Sai Tso Wan Road / Tsing Tim Street Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



The predictive equations of capacity of movement are:

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

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

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

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

$$D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))$$

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

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

where

$$Y = 1 - 0.0345W$$

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

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

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

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

Geometry :	Input			Calculated			
W	7	V-rBA	50	w-BA	3.6	D	0.877
W-CR	0	V-IBA	50	w-BC	3.6	E	0.933
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	0	F	0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	V-rCB	50			Y	0.759

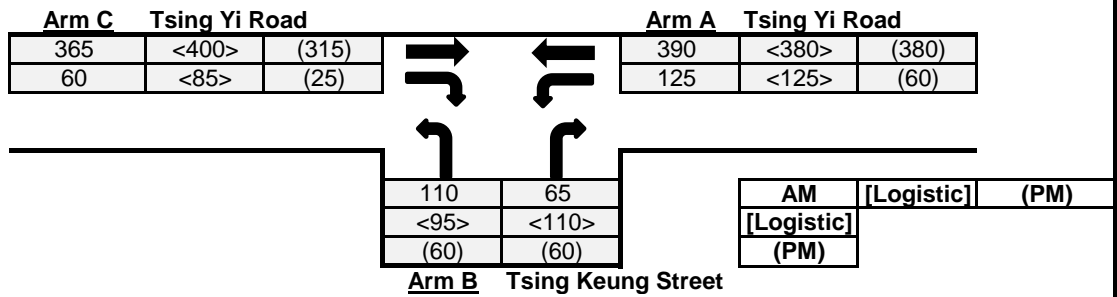
Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	360	360	275	Q-BA	376	387	446	
	q-CB	35	30	10	Q-BC	581	591	633	
	q-AB	120	100	65	Q-CB	371	380	411	
	q-AC	395	365	215	Q-CA	N/A	N/A	N/A	(If C-B blocked C- (If Minor Road Share LT&RT)
	q-BA	110	90	90	Q-BAC	406	412	453	
	q-BC	30	20	5					
	f	0.214	0.182	0.053					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	N/A	N/A	N/A
	B-C	N/A	N/A	N/A
	C-B	0.09	0.08	0.02
	C-A	N/A	N/A	N/A
	B-AC	0.34	0.27	0.21

Critical DFC **0.34 0.27 0.21**

Priority Junction Calculation

Junction : (J13) Tsing Yi Road / Tsing Keung Street Job No.: 24001HK
 Scenario : 2024 Observed Traffic Flow



The predictive equations of capacity of movement are:

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

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

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

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

$$D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))$$

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

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

where

- Y = 1 - 0.0345W
- q-AB, etc = the design flow of movement AB, etc
- W = major road width
- W-CR = central reserve width
- w-BA, etc = lane width to vehicle
- v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc
- v-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input			Calculated			
W	15	V-rBA	50	w-BA	4	D	0.910
W-CR	0	V-IBA	50	w-BC	4	E	0.968
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	4.7	F	1.029
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	V-rCB	50			Y	0.483

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
q-CA	365	400	315	315	Q-BA	450	442	469	
q-CB	60	85	25	25	Q-BC	646	648	652	
q-AB	125	125	60	60	Q-CB	674	676	687	
q-AC	390	380	380	380	Q-CA	N/A	N/A	N/A	(If C-B blocked C-
q-BA	65	110	60	60	Q-BAC	N/A	N/A	N/A	(If Minor Road Share
q-BC	110	95	60	60					LT&RT)
f	0.629	0.463	0.500	0.500					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.14	0.25	0.13
	B-C	0.17	0.15	0.09
	C-B	0.09	0.13	0.04
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A
	Critical DFC	0.17	0.25	0.13

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (North) Job No.: 24001HK
 Scenario : 2024 Observed Traffic Flow

Arm 4 Tsing Yi Heung Sze Wui Road

	0	400	0
	<0>	<300>	<0>
	(0)	(305)	(0)

Arm 1 Tsing Yi Bridge

	400	<300>	(305)

Arm 3

	1140	<925>	(555)

Arm 2 Tsing Yi Interchange Access Road

	1485	<1240>	(780)
	345	1140	0
	<315>	<925>	<0>
	(225)	(555)	(0)

AM [Logistic] (PM)

AM	[Logistic]	(PM)
[Logistic]		
(PM)		

Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	6		6
E	=	Entry width (m)	7		7
L	=	Effective length of flare (m)	5		5
R	=	Entry radius	62		41
D	=	Inscribed circle diameter (m)	60		60
A	=	Entry angle (degree)	27		60
Q	=	Entry flow (pcu/hr)	1485		400
		AM	1485		400
		Logistic	1240		300
		PM	780		305
Qc	=	Circulating flow across entry (pcu/hr)	0		1140
		AM	0		1140
		Logistic	0		925
		PM	0		555

Output Parameters

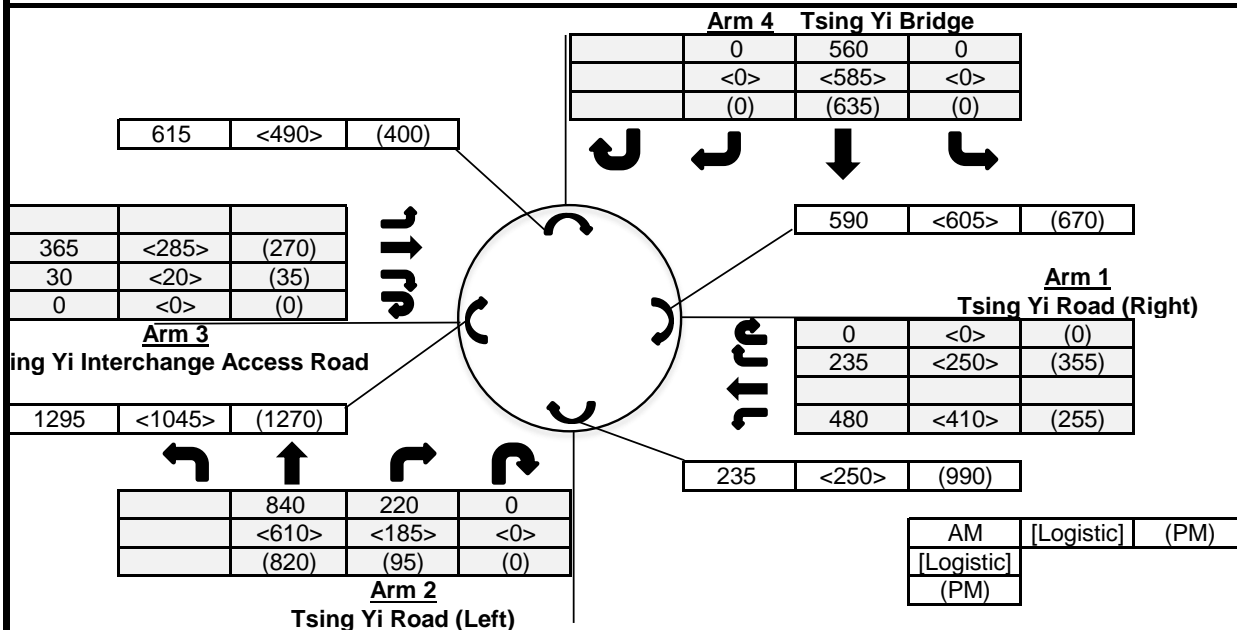
		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = 1.6*(E-V)/L	0.32		0.32
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.04		0.92
X2	=	V+((E-V)/(1+2*S))	6.61		6.61
M	=	Exp((D-60)/10)	1.00		1.00
F	=	303*X2	2003		2003
Td	=	1+(0.5/(1+M))	1.25		1.25
Fc	=	0.21*Td*(1+0.2*X2)	0.61		0.61
Qe	=	Capacity = K*(F-Fc*Qc)	2090		1205
		AM	2090		1205
		Logistic	2090		1325
		PM	2090		1533
DFC	=	Entry Flow/Capacity = Q/Qe	0.71		0.33
		AM	0.71		0.33
		Logistic	0.59		0.23
		PM	0.37		0.20

**DFC of Critical Approach = AM 0.71
Logistic 0.59
PM 0.37**

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (South) Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7	6.8	7	6
E	= Entry width (m)	7.2	7	7.3	6.3
L	= Effective length of flare (m)	5	5	5	5
R	= Entry radius	23	25	24	44
D	= Inscribed circle diameter (m)	60	60	60	60
A	= Entry angle (degree)	43	54	27	23
Q	= Entry flow (pcu/hr)	AM 715 Logistic 660 PM 610	1060 795 915	395 305 305	560 585 635
Qc	= Circulating flow across entry (pcu/hr)	AM 590 Logistic 605 PM 670	235 250 990	1295 1045 1270	615 490 400

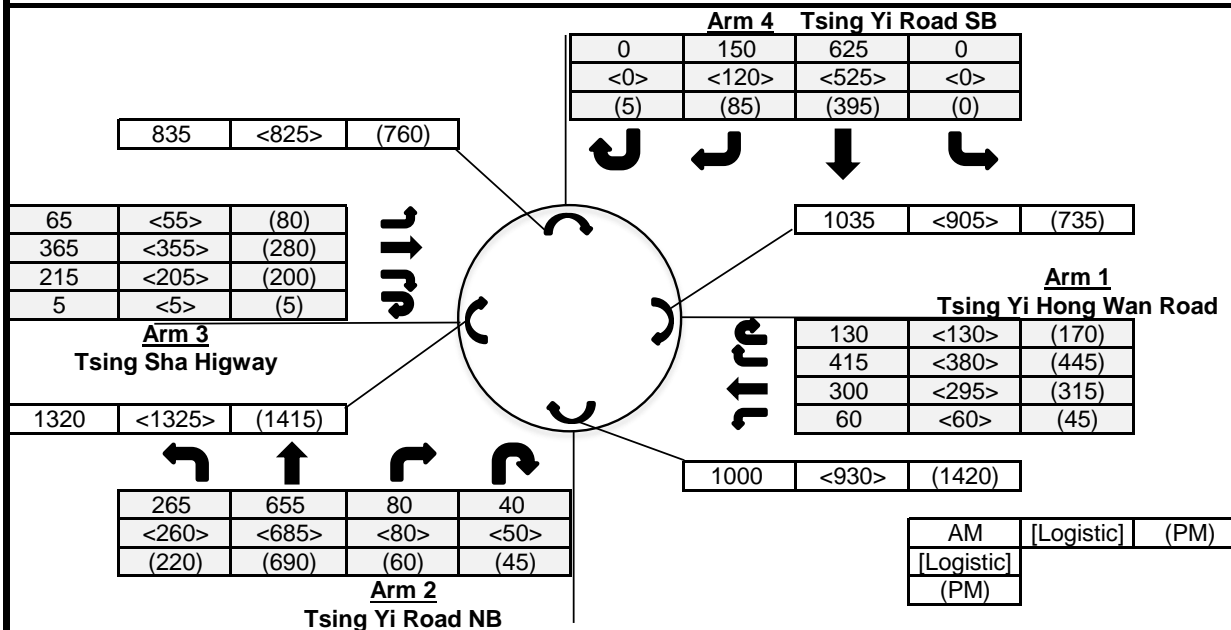
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.06	0.06	0.10	0.10
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.96	0.93	1.02	1.05
X2	= $V+((E-V)/(1+2*S))$	7.18	6.98	7.25	6.25
M	= $Exp((D-60)/10)$	1.00	1.00	1.00	1.00
F	= $303*X2$	2175	2114	2197	1894
Td	= $1+(0.5/(1+M))$	1.25	1.25	1.25	1.25
Fc	= $0.21*Td*(1+0.2*X2)$	0.64	0.63	0.64	0.59
Qe	= Capacity = $K*(F-Fc*Qc)$	AM 1728 Logistic 1719 PM 1679	1822 1813 1382	1390 1553 1406	1609 1687 1742
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.41 Logistic 0.38 PM 0.36	0.58 0.44 0.66	0.28 0.20 0.22	0.35 0.35 0.36

DFC of Critical Approach = AM 0.58
Logistic 0.44
PM 0.66

Roundabout Junction Calculation

Junction : (RA2) Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Hig Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7.3	7.1	7.3	7.3
E	= Entry width (m)	13.5	12	9.5	10
L	= Effective length of flare (m)	30	15	30	15
R	= Entry radius	45	97	52	34
D	= Inscribed circle diameter (m)	100	100	100	100
A	= Entry angle (degree)	29	32	31	46
Q	= Entry flow (pcu/hr)	AM 905 Logistic 865 PM 975	1040 1075 1015	650 620 565	775 645 485
Qc	= Circulating flow across entry (pcu/hr)	AM 1035 Logistic 905 PM 735	1000 930 1420	1320 1325 1415	835 825 760

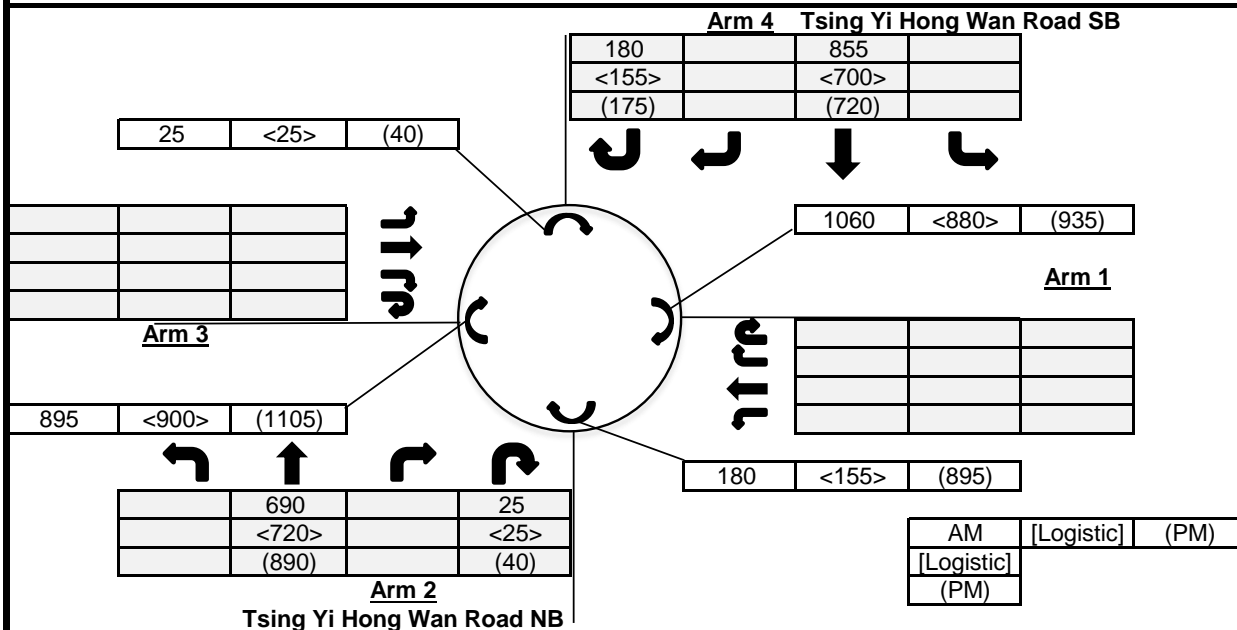
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L	0.33	0.52	0.12	0.29
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	1.03	1.03	1.03	0.96
X2	= V+((E-V)/(1+2*S))	11.03	9.50	9.08	9.01
M	= Exp((D-60)/10)	54.60	54.60	54.60	54.60
F	= 303*X2	3343	2877	2752	2731
Td	= 1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	= 0.21*Td*(1+0.2*X2)	0.68	0.61	0.60	0.59
Qe	= Capacity = K*(F-Fc*Qc)	AM 2720 Logistic 2811 PM 2930	2335 2379 2069	2016 2013 1958	2156 2162 2199
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.33 Logistic 0.31 PM 0.33	0.45 0.45 0.49	0.32 0.31 0.29	0.36 0.30 0.22

DFC of Critical Approach = AM 0.45
Logistic 0.45
PM 0.49

Roundabout Junction Calculation

Junction : (RA3) Tsing Yi Hong Wan Road Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	7		7.3
E	=	Entry width (m)	14		12
L	=	Effective length of flare (m)	20		2
R	=	Entry radius	65		75
D	=	Inscribed circle diameter (m)	68		68
A	=	Entry angle (degree)	53		46
Q	=	Entry flow (pcu/hr)	AM Logistic PM	715 745 930	1035 855 895
Qc	=	Circulating flow across entry (pcu/hr)	AM Logistic PM	180 155 895	25 25 40

Output Parameters

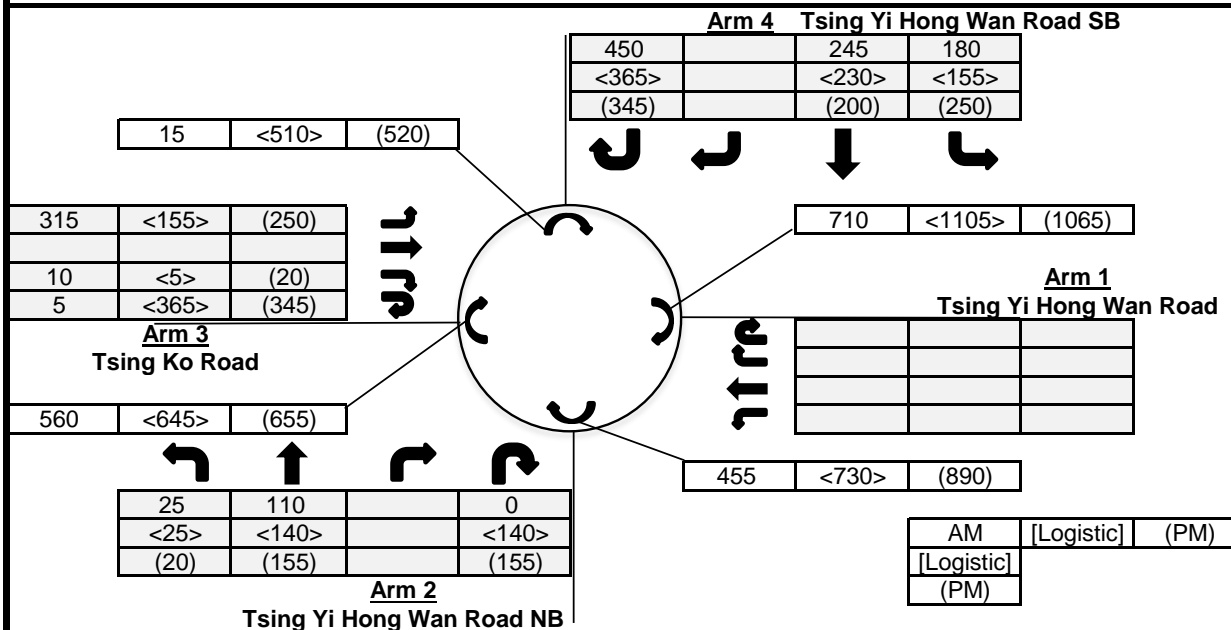
		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.56		3.76
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.95		0.98
X2	=	$V+((E-V)/(1+2*S))$	10.30		7.85
M	=	$Exp((D-60)/10)$	2.23		2.23
F	=	$303*X2$	3121		2379
Td	=	$1+(0.5/(1+M))$	1.16		1.16
Fc	=	$0.21*Td*(1+0.2*X2)$	0.74		0.62
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM Logistic PM	2851 2868 2344	2317 2317 2308
DFC	=	Entry Flow/Capacity = Q/Qe	AM Logistic PM	0.25 0.26 0.40	0.45 0.37 0.39

DFC of Critical Approach = AM 0.45
Logistic 0.37
PM 0.40

Roundabout Junction Calculation

Junction : (RA4) Tsing Yi Hong Wan Road / Tsing Ko Road Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6.7	6.3	7.3
E	= Entry width (m)		13.5	12.5	15
L	= Effective length of flare (m)		18	30	30
R	= Entry radius		47	100	75
D	= Inscribed circle diameter (m)		68	68	68
A	= Entry angle (degree)		41	22	46
Q	= Entry flow (pcu/hr)	AM	135	330	875
		Logistic	305	525	750
		PM	330	615	795
Qc	= Circulating flow across entry (pcu/hr)	AM	455	560	15
		Logistic	730	645	510
		PM	890	655	520

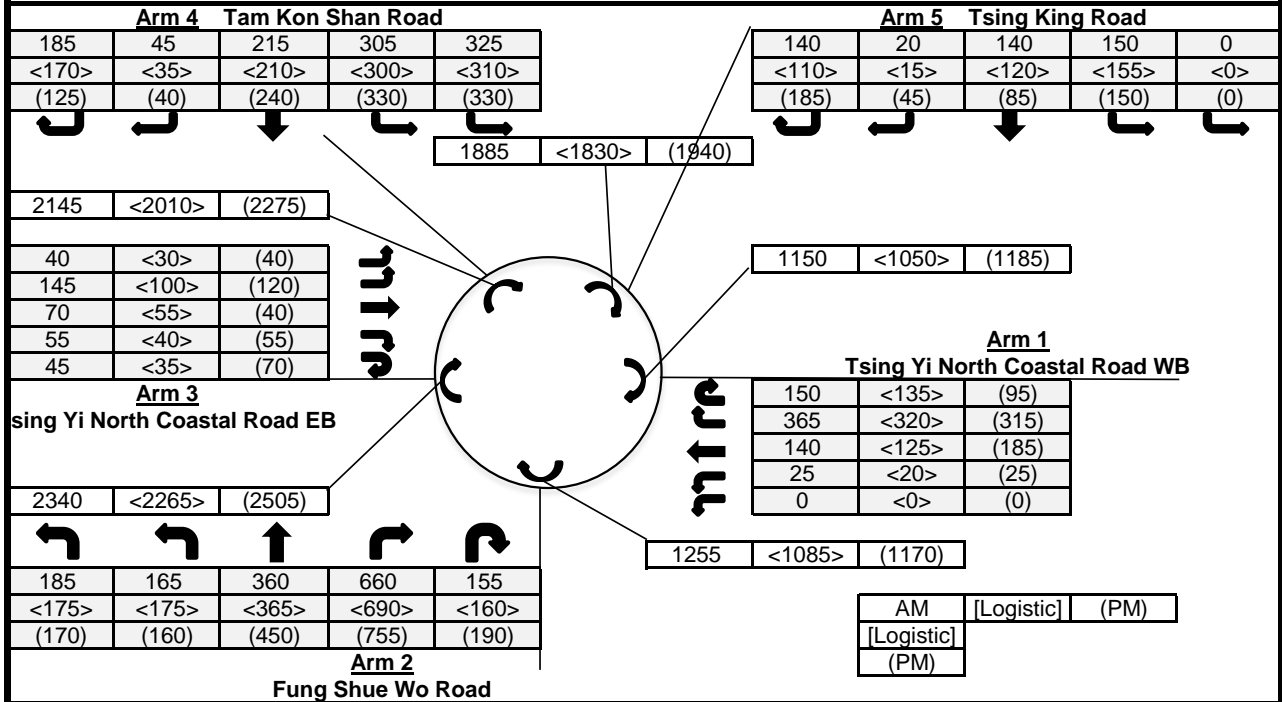
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.60	0.33	0.41
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		0.99	1.07	0.98
X2	= $V+((E-V)/(1+2*S))$		9.78	10.03	11.53
M	= $Exp((D-60)/10)$		2.23	2.23	2.23
F	= $303*X2$		2963	3040	3493
Td	= $1+(0.5/(1+M))$		1.16	1.16	1.16
Fc	= $0.21*Td*(1+0.2*X2)$		0.72	0.73	0.80
Qe	= Capacity = $K*(F-Fc*Qc)$	AM	2610	2807	3412
		Logistic	2415	2741	3023
		PM	2301	2733	3015
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.05	0.12	0.26
		Logistic	0.13	0.19	0.25
		PM	0.14	0.22	0.26

**DFC of Critical Approach = AM 0.26
Logistic 0.25
PM 0.26**

Roundabout Junction Calculation

Junction : (RA5) Tam Kon Shan Interchange Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
V	=	Approach half width (m)	7	7.3	5.5	7.3	7
E	=	Entry width (m)	9	13.5	7.5	13.5	11
L	=	Effective length of flare (m)	9	20	11	50	10
R	=	Entry radius	100	35	45	35	45
D	=	Inscribed circle diameter (m)	100	100	100	100	100
A	=	Entry angle (degree)	30	25	25	45	45
Q	=	Entry flow (pcu/hr)	AM 680	1525	355	1075	450
			Logistic 600	1565	260	1025	400
			PM 620	1725	325	1065	465
Qc	=	Circulating flow across entry (pcu/hr)	AM 1150	1255	2340	2145	1885
			Logistic 1050	1085	2265	2010	1830
			PM 1185	1170	2505	2275	1940

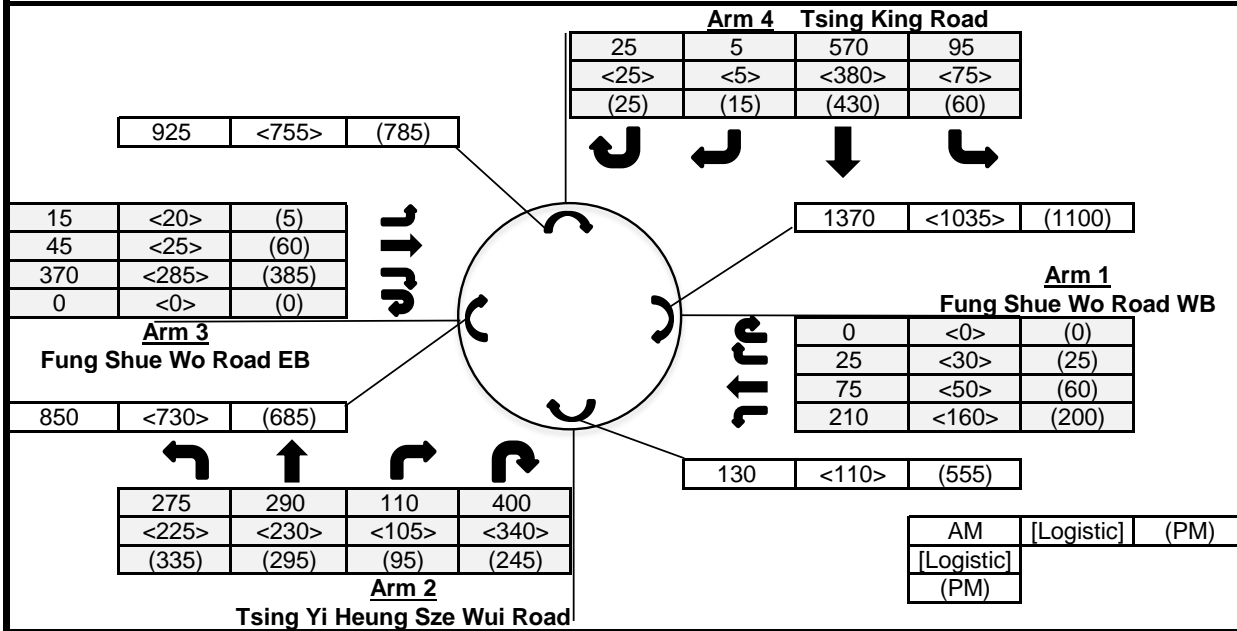
Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
S	=	Sharpness of flare = 1.6*(E-V)/L	0.36	0.50	0.29	0.20	0.64
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.04	1.04	1.04	0.97	0.98
X2	=	V+((E-V)/(1+2*S))	8.17	10.41	6.76	11.74	8.75
M	=	Exp((D-60)/10)	54.60	54.60	54.60	54.60	54.60
F	=	303*X2	2475	3155	2050	3557	2653
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01	1.01
Fc	=	0.21*Td*(1+0.2*X2)	0.56	0.65	0.50	0.71	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	AM 1905	2425	922	1972	1515
			Logistic 1963	2540	961	2065	1546
			PM 1885	2482	836	1883	1484
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.36	0.63	0.38	0.55	0.30
			Logistic 0.31	0.62	0.27	0.50	0.26
			PM 0.33	0.69	0.39	0.57	0.31

DFC of Critical Approach = AM 0.63
 Logistic 0.62
 PM 0.69

Roundabout Junction Calculation

Junction : (RA6) Tsing King Road / Fung Shue Wo Road Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4	
V	= Approach half width (m)	6.7	7.3	7.3	6.9	
E	= Entry width (m)	9.7	10	9.2	8.9	
L	= Effective length of flare (m)	16	20	14	16	
R	= Entry radius	55	71	60	62	
D	= Inscribed circle diameter (m)	100	100	100	100	
A	= Entry angle (degree)	36	30	18	25	
Q	= Entry flow (pcu/hr)	310	1075	430	695	
		Logistic	240	900	330	485
		PM	285	970	450	530
Qc	= Circulating flow across entry (pcu/hr)	1370	130	850	925	
		Logistic	1035	110	730	755
		PM	1100	555	685	785

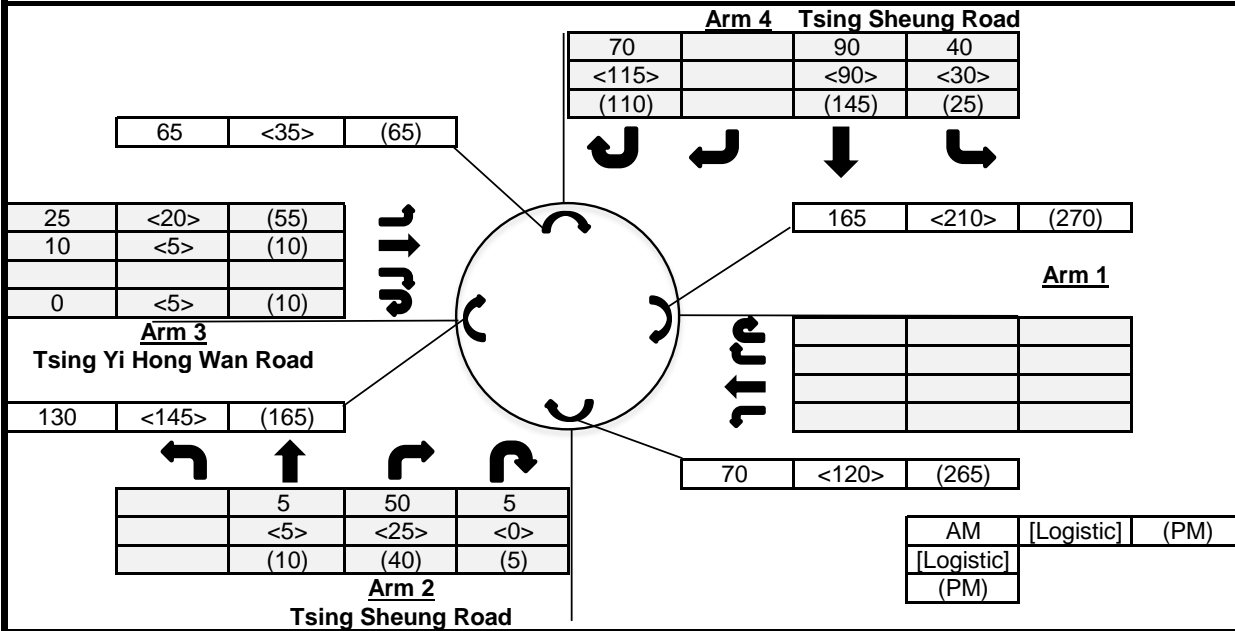
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4	
S	= Sharpness of flare = $1.6*(E-V)/L$	0.30	0.22	0.22	0.20	
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.01	1.04	1.07	1.05	
X2	= $V+((E-V)/(1+2*S))$	8.58	9.19	8.62	8.33	
M	= $Exp((D-60)/10)$	54.60	54.60	54.60	54.60	
F	= $303*X2$	2598	2783	2613	2524	
Td	= $1+(0.5/(1+M))$	1.01	1.01	1.01	1.01	
Fc	= $0.21*Td*(1+0.2*X2)$	0.58	0.60	0.58	0.56	
Qe	= Capacity = $K*(F-Fc*Qc)$	1829	2800	2280	2102	
		Logistic	2023	2813	2355	2203
		PM	1986	2536	2382	2185
DFC	= Entry Flow/Capacity = Q/Qe	0.17	0.38	0.19	0.33	
		Logistic	0.12	0.32	0.14	0.22
		PM	0.14	0.38	0.19	0.24

DFC of Critical Approach = AM 0.38
Logistic 0.32
PM 0.38

Roundabout Junction Calculation

Junction : (RA7) Tsing Yi Hong Wan Road / Tsing Sheung Road Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		5.2	3	6.7
E	= Entry width (m)		9	8.4	12
L	= Effective length of flare (m)		25	15	23
R	= Entry radius		63	55	11.6
D	= Inscribed circle diameter (m)		53	53	53
A	= Entry angle (degree)		33	48	38
Q	= Entry flow (pcu/hr)	AM	60	35	200
		Logistic	30	30	235
		PM	55	75	280
Qc	= Circulating flow across entry (pcu/hr)	AM	70	130	65
		Logistic	120	145	35
		PM	265	165	65

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.24	0.58	0.37
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		1.02	0.97	0.94
X2	= $V+((E-V)/(1+2*S))$		7.76	5.51	9.75
M	= $Exp((D-60)/10)$		0.50	0.50	0.50
F	= $303*X2$		2350	1669	2954
Td	= $1+(0.5/(1+M))$		1.33	1.33	1.33
Fc	= $0.21*Td*(1+0.2*X2)$		0.71	0.59	0.83
Qe	= Capacity = $K*(F-Fc*Qc)$	AM	2353	1543	2717
		Logistic	2316	1534	2741
		PM	2210	1523	2717
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.03	0.02	0.07
		Logistic	0.01	0.02	0.09
		PM	0.02	0.05	0.10

DFC of Critical Approach	=	AM	0.07
		Logistic	0.09
		PM	0.10

Roundabout Junction Calculation

Junction : (RA8) Tsing Yi Road / Ching Hong Road Job No.: 24001HK
 Scenario : 2024 Observed Traffic Flow

Arm 4 Tsing Yi Road SB

220	370	355	
<170>	<460>	<310>	
(210)	(435)	(300)	

Arm 1

1075	<1150>	(1120)	

Arm 3 Ching Hong Road

630	<580>	(585)	
70	<100>	(110)	
60	<85>	(65)	

Arm 2 Tsing Yi Road NB

530	<445>	(495)	
80		310	0
<115>		<250>	<25>
(100)		(285)	(0)

AM [Logistic] (PM)

AM	[Logistic]	(PM)
[Logistic]		
(PM)		

Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	4.5	7.3	7	
E	=	Entry width (m)	9	8.5	8.5	
L	=	Effective length of flare (m)	25	4	16	
R	=	Entry radius	24.5	30	100	
D	=	Inscribed circle diameter (m)	30	30	30	
A	=	Entry angle (degree)	44	40	27	
Q	=	Entry flow (pcu/hr)	AM	390	760	945
			Logistic	390	765	940
			PM	385	760	945
Qc	=	Circulating flow across entry (pcu/hr)	AM	650	530	440
			Logistic	715	445	460
			PM	1010	495	460

Output Parameters

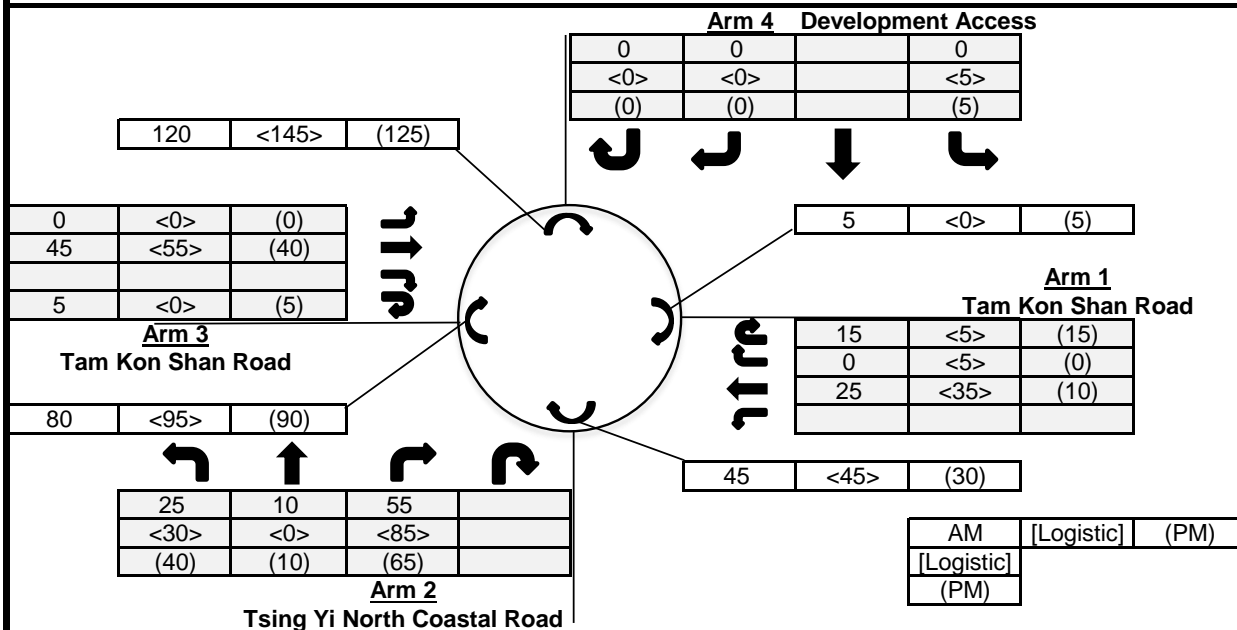
		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = 1.6*(E-V)/L	0.29	0.48	0.15	
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	0.96	0.98	1.05	
X2	=	V+((E-V)/(1+2*S))	7.36	7.91	8.15	
M	=	Exp((D-60)/10)	0.05	0.05	0.05	
F	=	303*X2	2229	2397	2471	
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48	
Fc	=	0.21*Td*(1+0.2*X2)	0.77	0.80	0.82	
Qe	=	Capacity = K*(F-Fc*Qc)	AM	1662	1937	2216
			Logistic	1614	2004	2199
			PM	1397	1964	2199
DFC	=	Entry Flow/Capacity = Q/Qe	AM	0.23	0.39	0.43
			Logistic	0.24	0.38	0.43
			PM	0.28	0.39	0.43

**DFC of Critical Approach = AM 0.43
Logistic 0.43
PM 0.43**

Roundabout Junction Calculation

Junction : (RA9) Tam Kon Shan Road Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	3.3	4	3.4	4.2
E	= Entry width (m)	6.7	4.9	5.8	5.4
L	= Effective length of flare (m)	10	10	10	10
R	= Entry radius	32	97	52	34
D	= Inscribed circle diameter (m)	30	30	30	30
A	= Entry angle (degree)	34	32	31	46
Q	= Entry flow (pcu/hr)	40	90	50	0
		AM	90	50	0
		Logistic	45	55	5
		PM	25	45	5
Qc	= Circulating flow across entry (pcu/hr)	5	45	80	120
		AM	5	80	120
		Logistic	0	95	145
		PM	5	90	125

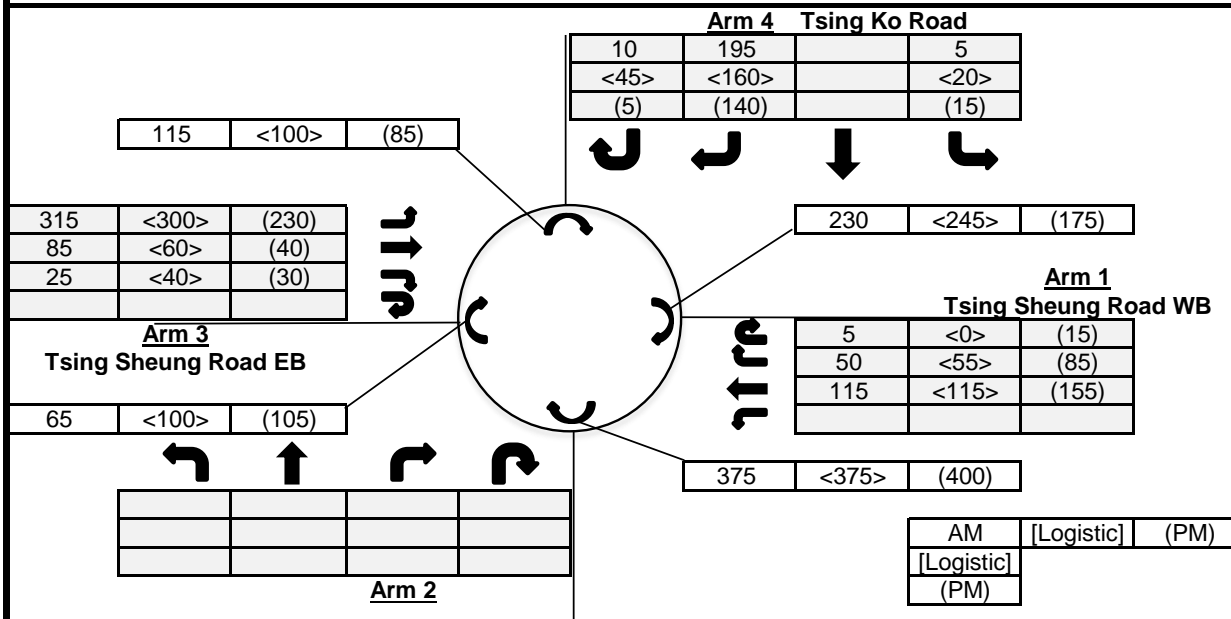
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.54	0.14	0.38	0.19
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.00	1.03	1.03	0.96
X2	= $V+((E-V)/(1+2*S))$	4.93	4.70	4.76	5.07
M	= $Exp((D-60)/10)$	0.05	0.05	0.05	0.05
F	= $303*X2$	1493	1424	1442	1535
Td	= $1+(0.5/(1+M))$	1.48	1.48	1.48	1.48
Fc	= $0.21*Td*(1+0.2*X2)$	0.62	0.60	0.61	0.62
Qe	= Capacity = $K*(F-Fc*Qc)$	1497	1441	1430	1409
		AM	1441	1421	1394
		Logistic	1497	1424	1406
		PM	1497	1424	1406
DFC	= Entry Flow/Capacity = Q/Qe	0.03	0.06	0.03	0.00
		AM	0.03	0.04	0.00
		Logistic	0.03	0.04	0.00
		PM	0.02	0.03	0.00

DFC of Critical Approach = AM 0.06
Logistic 0.08
PM 0.08

Roundabout Junction Calculation

Junction : (RA10) Tsing Sheung Road / Tsing Ko Road Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	6.6	5.6	6.4
E	=	Entry width (m)	12.9	5.1	11.6
L	=	Effective length of flare (m)	18	30	30
R	=	Entry radius	47	67.3	75
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	41	22	46
Q	=	Entry flow (pcu/hr)	AM 170 Logistic 170 PM 255	425 400 300	210 225 160
Qc	=	Circulating flow across entry (pcu/hr)	AM 230 Logistic 245 PM 175	65 100 105	115 100 85

Output Parameters

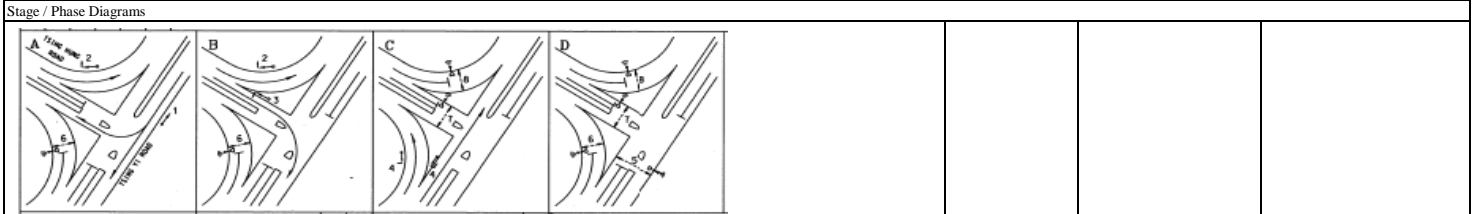
		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.56	-0.03	0.28
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.99	1.06	0.98
X2	=	$V+((E-V)/(1+2*S))$	9.57	5.07	9.74
M	=	$Exp((D-60)/10)$	0.37	0.37	0.37
F	=	$303*X2$	2900	1537	2953
Td	=	$1+(0.5/(1+M))$	1.37	1.37	1.37
Fc	=	$0.21*Td*(1+0.2*X2)$	0.84	0.58	0.85
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM 2681 Logistic 2668 PM 2726	1592 1571 1568	2799 2812 2824
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.06 Logistic 0.06 PM 0.09	0.27 0.25 0.19	0.08 0.08 0.06

DFC of Critical Approach = AM **0.27**
 Logistic **0.25**
 PM **0.19**

Junction: (J1) Tsing Yi Road West / Cheung Tsing Highway																								
Description: 2029 Design Traffic Flow																								
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak			
						Left	Right			A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	0%	1965	6135	1965	1965	5900	5825	218	0.111	0.111	160	0.081	0.083	
	S	↔	2	A	3.3	0	20	0	0	46%	100%	2085	0	2015	1940	0	0	224	0.111		161	0.083		
	S	↔	2	A	3.3	0	17.5	0	0	100%	100%	2085	0	1920	1920	0	0	213	0.111		159	0.083		
Cheung Tsing Highway	E	↑	3	A,B	3.4	20	0	0	1	100%	100%	1955	1955	1820	1820	1820	1820	545	0.299		420	0.231		
	E	↔	4	B	3.5	0	30	0	0	100%	100%	2105	4210	2005	2005	3990	3990	251	0.125		168	0.084		
	E	↓	4	B	3.5	0	25	0	0	100%	100%	2105	0	1985	1985	0	0	249	0.125	0.125	167	0.084	0.084	
Tsing Yi Road West	N	↔	1	C	3.6	20	0	6.5	1	100%	100%	1702	3544	1585	1585	3425	3425	455	0.287	0.287	380	0.240	0.240	
	N	↑	1	C	3.6	0	0	6.5	0	0%	0%	1842	0	1840	1840	0	0	325	0.177		290	0.158		
Pedestrian crossing		↔	5P	C	Min. Green time = 5GM + 10FG = 15s																			
		↕	6P	C	Min. Green time = 5GM + 6FG = 11s																			
		↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s																			
		↕	8P	B	Min. Green time = 5GM + 10FG = 15s																			
Notes:												Traffic Flow (pcu / hr)				A.M. Check Phase		P.M. Check Phase						
																ey 0.523 0.587 L (sec) 13 9 C (sec) 100 100 y pract. 0.783 0.819 R.C. (%) 50% 40%		ey 0.407 0.471 L (sec) 13 9 C (sec) 105 105 y pract. 0.789 0.823 R.C. (%) 94% 75%						
Stage / Phase Diagrams																								
I/G = 5							I/G = 5							I/G = 6										

Junction: (J2) Tsing Hung Road / Tsing Yi Road																								
Description: 2029 Design Traffic Flow																								
Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right		Left	Right		AM	PM			AM	PM	AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	381	0.194		282	0.144	
	S	↓	1	A	3.5	0.0	0	0	0	0	0%	0%	2105	0	2105	2105	0	0	409	0.194		303	0.144	
	S	←	1	A	3.6	0.0	18	0	100%	100%	2115	2115	1950	1950	1950	1950	1950	1950	370	0.190		380	0.195	0.195
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%	100%	2015	2015	1920	1920	1920	1920	1920	1920	60	0.031		55	0.029	
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	4210	4210	330	0.157	0.157	278	0.132	
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	0	0	330	0.157		278	0.132	0.132
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	1835	1835	525	0.286	0.286	340	0.185	
	E	→	3	B	4.0	0.0	22	0	100%	100%	2155	2155	2015	2015	2015	2015	2015	2015	45	0.022		30	0.015	
Pedestrian Crossing		↔	5P	D	Min. Green time = 5GM + 7FG = 12s																			
		↔	6P	A,B,D	Min. Green time = 5GM + 5FG = 10s																			
		↔	7P	C,D	Min. Green time = 5GM + 10FG = 15s																			
		↔	8P	C,D	Min. Green time = 5GM + 5FG = 10s																			

Notes:	Traffic Flow (pcu / hr)		Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase															
	A,B,C,D	AB,C,D	A,B,C,D	AB,C,D	ey	L (sec)	C (sec)	y pract.	R.C. (%)	ey	L (sec)	C (sec)	y pract.	R.C. (%)								
			525(340)	45(30)	370(380)	790(585)	0.373	0.443	0.327	0.317	33	22	33	22	100	100	0.603	0.702	75%	66%	85%	121%



I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12		
I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12		

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		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		
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%	100%	1792	1792	1630	1630	275	0.169	0.169	245	0.150	0.150	
	NE	↗	1	A	3.4	0	0	6.5	0	0%	0%	1822	1822	1820	1820	230	0.126		220	0.121		
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%	100%	1995	1995	1815	1815	530	0.292		440	0.242		
	NW	↗	4	D	3.8	0	25	0	0	100%	100%	2135	2135	2015	2015	225	0.112	0.112	205	0.102	0.102	
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%	0%	1955	1955	1955	1955	235	0.120		145	0.074		
	SE	↗	2	B,C	3.7	0	25	0	0	100%	100%	2125	2125	2005	2005	580	0.289	0.289	285	0.142	0.142	
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s																	

Notes:		<table border="1"> <tr> <th colspan="2">A.M. Check Phase</th> <th colspan="2">P.M. Check Phase</th> </tr> <tr> <td>Ey</td> <td>0.570</td> <td>Ey</td> <td>0.394</td> </tr> <tr> <td>L (sec)</td> <td>19</td> <td>L (sec)</td> <td>19</td> </tr> <tr> <td>C (sec)</td> <td>120</td> <td>C (sec)</td> <td>110</td> </tr> <tr> <td>y pract.</td> <td>0.758</td> <td>y pract.</td> <td>0.745</td> </tr> <tr> <td>R.C. (%)</td> <td>33%</td> <td>R.C. (%)</td> <td>89%</td> </tr> </table>	A.M. Check Phase		P.M. Check Phase		Ey	0.570	Ey	0.394	L (sec)	19	L (sec)	19	C (sec)	120	C (sec)	110	y pract.	0.758	y pract.	0.745	R.C. (%)	33%	R.C. (%)	89%
A.M. Check Phase		P.M. Check Phase																								
Ey	0.570	Ey	0.394																							
L (sec)	19	L (sec)	19																							
C (sec)	120	C (sec)	110																							
y pract.	0.758	y pract.	0.745																							
R.C. (%)	33%	R.C. (%)	89%																							

Stage / Phase Diagrams	A	B	C	D
I/G = 7				
I/G = 10				
I/G = 5				

TRAFFIC SIGNALS CALCULATION

Job No: 24001HK

Junction: **(J5) Sai Tso Wan Road Near VEC**
 Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	640	0.318	0.318	535	0.266	
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	600	0.298		720	0.357	0.357
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%	100%	2155	2155	1875	1875	1875	1875	150	0.080	0.080	35	0.019	

Pedestrian Crossing 4P C Min. green time = 6Gm + 5 FGm = 11s

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak	A,BC		AB,C		A,BC		AB,C	
			AM Peak Check Phase		PM Peak Check Phase					
		640(535) →	εy	0.398	0.298	εy	0.284	0.357		
		↖ 150(35)	L (sec)	11	18	L (sec)	11	18		
		← 600(720)	C (sec)	91	91	C (sec)	91	91		
			y pract.	0.791	0.722	y pract.	0.791	0.722		
			R.C. (%)	99%	142%	R.C. (%)	178%	102%		

Stage / Phase Diagrams

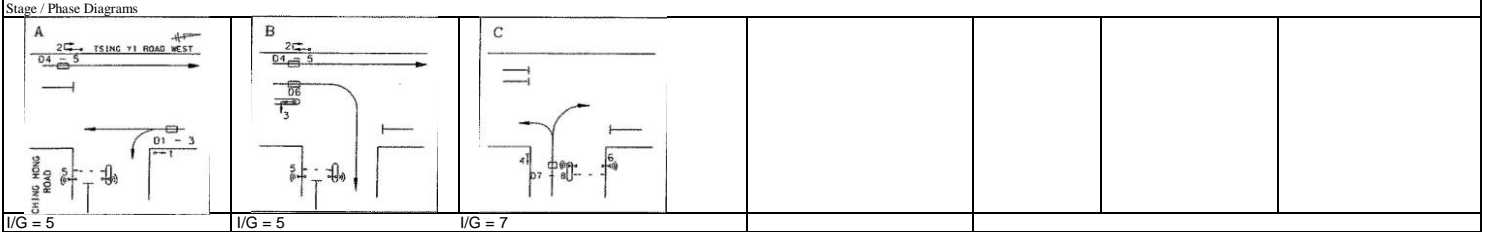


I/G = 6 I/G = 7

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
					Left	Right	AM	PM			AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	0	5.5	0	0%	0%	1824	3698	1824	1824	3698	3698	190	0.104	0.207	126	0.069	0.128	
	S	↓	1	A	3.5	0.0	0	0	5.5	0	0%	0%	1874	0	1874	1874	0	0	195	0.104		129	0.069		
	S	↘	1	A	3.7	10.0	0	0	5.5	1	100%	100%	1754	1754	1525	1525	1525	1525	315	0.207		195	0.128		
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	188	0.096		210	0.107		
	N	↑	2	A,B	3.5	0.0	0	0	0	0	0%	0%	2105	0	2105	2105	0	0	202	0.096		225	0.107		
	N	↗	3	B	3.3	0.0	18	0	0	0	100%	100%	2085	2085	1925	1925	1925	1925	380	0.197	0.197	315	0.164	0.164	
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	18% / 82%	17% / 83%	2095	0	1945	1945	0	0	298	0.153	0.153	264	0.136	0.136		
	W	↓	4	C	3.4	15.0	0	0	0	1	100%	100%	1955	4050	1775	1775	3720	3720	272	0.153		241	0.136		
Pedestrian crossing		↕	5P	A,B															Min. Green time = 11s (G) + 8s (FS) = 19s						
		↕	6P	C															Min. Green time = 5s (G) + 12s (FS) = 17s						
Pedestrian Crossing																									

Notes:	Traffic Flow (pcu/hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase	
		390(435)	380(315)	385(255)	315(195)	Ey	0.557
				L (sec)	14	L (sec)	14
				C (sec)	100	C (sec)	100
				y pract.	0.774	y pract.	0.774
				R.C. (%)	39%	R.C. (%)	81%



Junction: (J9) Tsing Yi Road West / Liu To Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
						Tsing Yi Road West	S			↓	2			A,B	3.3	0.0	0	5	1	0%	0%	1735	3610
	S	↓	2	A,B	3.3	0.0	0	5	0	0%	0%	1875	0	1875	1875	0	0	229	0.122		195	0.104	
	S	↖	3	B	3.3	0.0	22	5	0	100%	100%	1875	1875	1755	1755	1755	1755	310	0.177	0.177	335	0.191	0.191
Tsing Yi Road West	N	↕	1	A	3.2	10.0	0	0	1	50%	38%	1935	4100	1800	1830	3965	3995	288	0.160	0.160	300	0.164	0.164
	N	↑	1	A	4.1	0.0	0	0	0	0%	0%	2165	0	2165	2165	0	0	347	0.160		355	0.164	
Liu To Road	E	↗	5	B,C	3.2	10.0	0	0	1	100%	100%	1935	1935	1685	1685	1685	1685	410	0.243		295	0.175	
	E	↘	4	C	4.1	0.0	18	0	0	100%	100%	2165	2165	2000	2000	2000	2000	250	0.125	0.125	80	0.040	0.040
Pedestrian crossing		↕	6P	A,D																			
		↕	7P	C,D																			
		↔	8P	D																			
Pedestrian Crossing																							

A,B,C,D A,B,C,D A,B,C,D A,B,C,D

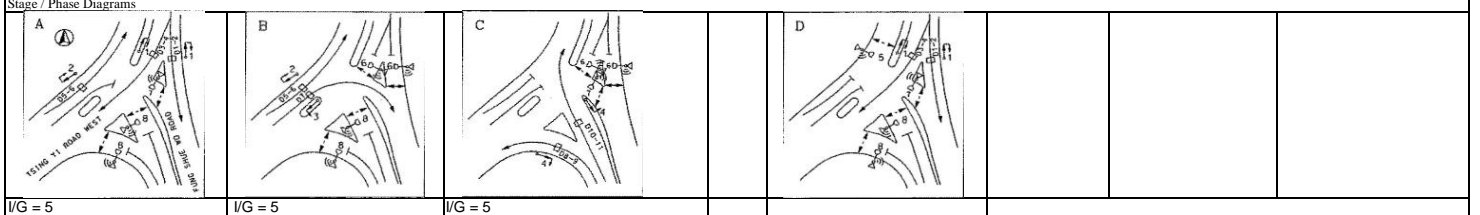
Notes:	Traffic Flow (pcu / hr) Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
		e _y 0.404 0.462 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 65% 38%	e _y 0.339 0.395 L (sec) 34 38 C (sec) 110 110 y pract. 0.622 0.589 R.C. (%) 83% 49%

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: (J10) Tsing Yi Road West / Fung Shue Wo Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM				AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road (To Tsing Yi Road West)	S	↓	1	A,D	4.1	0.0	0	3	0	0%	0%	1	2039	4058	2039	2039	4058	4058	304	0.149	0.292	279	0.137	0.240
	S	↓	1	A,D	3.9	0.0	0	3	0	0%	0%	1	2019	0	2019	2019	0	0	301	0.149		276	0.137	
Fung Shue Wo Road (To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	1	0%	0%	1	1889	2294.8	1889	1889	2294.8	2294.8	552	0.292		453	0.240	
	S	↓	1	A,D	4.0	0.0	0	3	0	0%	0%	0.2	405.8	0	405.8	405.8	0	0	118	0.292		97	0.240	
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1	1965	2491.3	1965	1965	2491.25	2491.25	540	0.275		544	0.277	
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	0.25	526.25	0	526.25	526.25	0	0	145	0.275		146	0.277	
	N	↗	3	B	3.6	0.0	18	0	0	100%	100%	1	2115	2115	1950	1950	1950	1950	220	0.113	0.113	145	0.074	0.074
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%	100%	1	1869	2193.6	1790	1790	2100	2100	128	0.071		124	0.069	
	N	↖	4	C	4.0	38.0	0	3	0	100%	100%	0.16	324.64	0	310	310	0	0	22	0.071		21	0.069	
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%	100%	0.23	457.47	2446.5	440	440	2355	2355	121	0.274	0.274	103	0.234	0.234
	N	↗	4	C	3.6	0.0	40	3	0	100%	100%	1	1989	0	1915	1915	0	0	524	0.274		447	0.234	
Pedestrian crossing		↔	5p	D																				
		↔	6P	B,C																				
		↕	7P	A,C,D																				
		↕	8P	A,B,D																				

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase	
		605(555)	670(550)	εy 0.679	0.548	εy 0.548	0.548
		↑	↗	L (sec) 12	12	L (sec) 12	12
			↓	C (sec) 100	100	C (sec) 100	100
			↖	y pract. 0.792	0.792	y pract. 0.792	0.792
			↗	R.C. (%) 17%	17%	R.C. (%) 45%	45%
		685(690)	220(145)				
				150(145)	645(550)		



Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	702	0.357		611	0.311	0.311
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	753	0.357		654	0.311	
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	31% / 69%	47% / 53%	2105	0	1955	1950	0	0	428	0.219	0.219	360	0.185	0.185
	W	↘	3	C	3.5	15.0	0	0	1	100%	100%	1965	4070	1785	1785	3740	3735	392	0.219		330	0.185	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.5	10.0	0	0	1	100%	100%	1965	6175	1710	1710	5920	5920	695	0.406	0.406	495	0.289	
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	555	0.264		428	0.203	
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	555	0.264		428	0.203	
Pedestrian crossing		↑ ↓	4P	B																			Min. Green time = 8GM + 11FG = 19s
		← →	5P	D																			Min. Green time = 5GM + 10FG = 15s
		← →	6P	C																			Min. Green time = 5GM + 8FG = 13s

AB,C,D AD,B,C AB,C,D AD,B,C

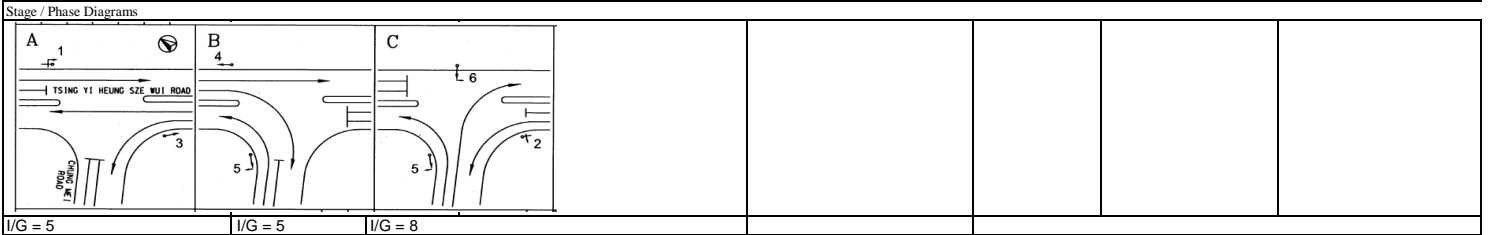
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase		
		1455(1265)	1110(855)	695(495)	Ey 0.577	0.626	Ey 0.496	0.474
			↓	↘	L (sec) 32	33	L (sec) 32	33
					C (sec) 114	114	C (sec) 100	100
					y pract. 0.647	0.639	y pract. 0.612	0.603
					R.C. (%) 12%	2%	R.C. (%) 23%	27%

Stage / Phase Diagrams			
I/G = 2	I/G = 8 + Ped 19	I/G = 3 I/G = 5	I/G = 5 I/G = 12 + Ped 15

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
						Chung Mei Road	E			↗	5			B,C	3.3	10.0	0	0	1	100%	100%	1945	1945
	E	↘	6	C	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	315	0.164	0.164	235	0.122	0.122
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	290	0.158		355	0.193	
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	545	0.259	0.259	478	0.227	0.227
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	545	0.259		478	0.227	
Tsing Yi Heung Sze Wui Road	S	↙	1	A,B	3.5	0.0	0	3	1	0%	0%	1839	3818	1839	1839	3818	3818	621	0.338		486	0.265	
	S	↓	1	A,B	3.5	0.0	0	3	0	0%	0%	1979	0	1979	1979	0	0	669	0.338		524	0.265	
	S	↖	4	B	3.5	0.0	22	3	0	100%	100%	1979	1979	1855	1855	1855	1855	370	0.199	0.199	290	0.156	0.156

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
	260(280) 315(235)		Ey 0.622 L (sec) 15 C (sec) 114 y pract. 0.782 R.C. (%) 26%	Ey 0.505 L (sec) 15 C (sec) 100 y pract. 0.765 R.C. (%) 51%



Junction: (J14) Tsing Yi Road / Planned New Road
 Description: 2029 Design Traffic Flow (With Planned New Road)

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road	N	↑	A	1	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4065	4065	554	0.282	0.282	546	0.278	0.278
	N	↗	A	1	3.5	0.0	40	0	0	8%	9%	2105	0	2100	2100	0	0	591	0.282		584	0.278	
Planned New Road	W	↖	C	3	3.5	0.0	18	0	0	100%	100%	2105	2105	1945	1945	1945	1945	50	0.026		50	0.026	
	W	↘	C	3	3.5	10.0	0	0	1	100%	100%	1965	1965	1710	1710	1710	1710	50	0.029	0.029	50	0.029	0.029
Tsing Yi Road	S	↘	B	2	3.5	10.0	0	0	1	10%	13%	1965	4070	1935	1925	4040	4030	496	0.256	0.256	373	0.194	0.194
	S	↓	B	2	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	539	0.256		407	0.193	
Pedestrian crossing		↔	Dp	1		Min. Green time = 5GM + 7FG = 12s																	
		↑	EP	1,2		Min. Green time = 5GM + 7FG = 12s																	
		↔	Fp	2,3		Min. Green time = 5GM + 7FG = 12s																	
		↓	Gp	3		Min. Green time = 5GM + 7FG = 12s																	
		↔	Hp	1,3		Min. Green time = 5GM + 7FG = 12s																	
		↔	Ip	2		Min. Green time = 5GM + 7FG = 12s																	

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 1095(1080) 50(50) 985(730) 50(50)	AM Peak Check Phase Ey 0.311 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 146%	PM Peak Check Phase Ey 0.307 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 149%
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Stage / Phase Diagrams			
1.	2.	3.	
I/G = 5	I/G = 10	I/G = 6	

Junction: (J1) Cheung Tsing Highway / Tsing Yi Road West
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak						
					Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	1965	6135	1965		5895	158	0.081	0.081					
	S	↙	2	A	3.3	0	20	0	0	50%	2085	0	2010		0	162	0.081						
	S	↘	2	A	3.3	0	17.5	0	0	100%	2085	0	1920		0	155	0.081						
Cheung Tsing Highway	E	↗	3	A,B	3.4	20	0	0	1	100%	1955	1955	1820		1820	405	0.223						
	E	↘	4	B	3.5	0	30	0	0	100%	2105	4070	2005		3860	288	0.144						
	E	↙	4	B	3.5	0	25	0	1	100%	1965	0	1855		0	267	0.144	0.144					
Tsing Yi Road West	N	↙	1	C	3.6	20	0	6.5	1	100%	1702	3544	1585		3425	540	0.341	0.341					
	N	↘	1	C	3.6	0	0	6.5	0	0%	1842	0	1840		0	325	0.177						
Pedestrian crossing		↕	5P	C	Min. Green time = 5GM + 10FG = 15s																		
		↕	6P	C	Min. Green time = 5GM + 6FG = 11s																		
		↕	7P	A,B	Min. Green time = 5GM + 9FG = 14s																		
		↕	8P	B	Min. Green time = 5GM + 10FG = 15s																		

A,B,C AB,C

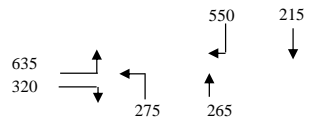
Notes:	Traffic Flow (pcu / hr)		Logistic Peak Check Phase	
			Ey 0.565 0.563 L (sec) 13 9 C (sec) 100 100 y pract. 0.783 0.819 R.C. (%) 39% 45%	

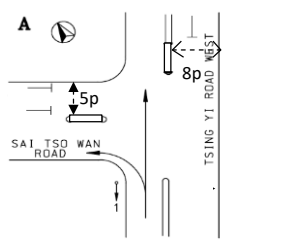
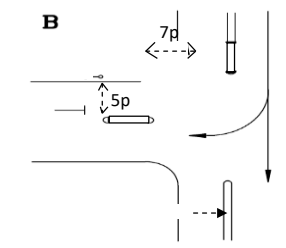
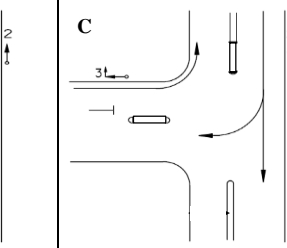
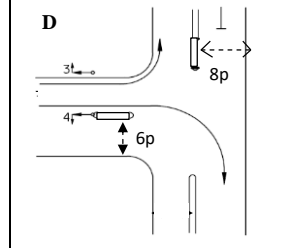
Stage / Phase Diagrams		
I/G = 5	I/G = 5	I/G = 6

Junction: (J2) Tsing Hung Road / Tsing Yi Road																										
Description: 2029 Design Traffic Flow																										
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)			Logistic Peak								
						Left	Right		Logistic Peak				Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y				
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%		1965	4070	1965		4070	338	0.172									
	S	↓	1	A	3.5	0.0	0	0	0%		2105	0	2105		0	362	0.172									
	S	←	1	A	3.6	0.0	18	0	100%		2115	2115	1950		1950	320	0.164	0.172								
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%		2015	2015	1920		1920	60	0.031									
	N	↑	4	C	3.5	0.0	0	0	0%		2105	4210	2105		4210	350	0.166									
	N	↑	4	C	3.5	0.0	0	0	0%		2105	0	2105		0	350	0.166	0.166								
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%		1945	1945	1835		1835	315	0.172									
	E	→	3	B	4.0	0.0	22	0	100%		2155	2155	2015		2015	45	0.022									
Pedestrian Crossing		↔	5P	D																						
		↔	6P	A,B,D																						
		↔	7P	C,D																						
		↔	8P	C,D																						
											A,B,C,D		A,B,C,D													
Notes:											Traffic Flow (pcu / hr) Weekday AM Peak					Logistic Peak Check Phase										
																Ey 0.338 0.338 L (sec) 33 22 C (sec) 100 100 y pract. 0.603 0.702 R.C. (%) 78% 108%										
Stage / Phase Diagrams																										
I/G = 2				I/G = 6 + Min. G 5				I/G = 5				I/G = 5 + 12														

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%		1792	1792	1630	275	0.169	0.169			
	NE	↗	1	A	3.4	0	0	6.5	0	0%		1822	1822	1820	265	0.146				
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%		1995	1995	1815	635	0.350				
	NW	↗	4	D	3.8	0	25	0	0	100%		2135	2135	2015	320	0.159	0.159			
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%		1955	1955	1955	215	0.110				
	SE	↙	2	B,C	3.7	0	25	0	0	100%		2125	2125	2005	550	0.274	0.274			
Pedestrian crossing		↑ ↓ ↔	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s															

Notes:	Traffic Flow (pcu / hr) 	Logistic Peak Check Phase E _y 0.602 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 24%
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Stage / Phase Diagrams			
A 	B 	C 	D 
I/G = 5	I/G = 5	I/G = 2	I/G = 5
I/G = 5	I/G = 8+12		

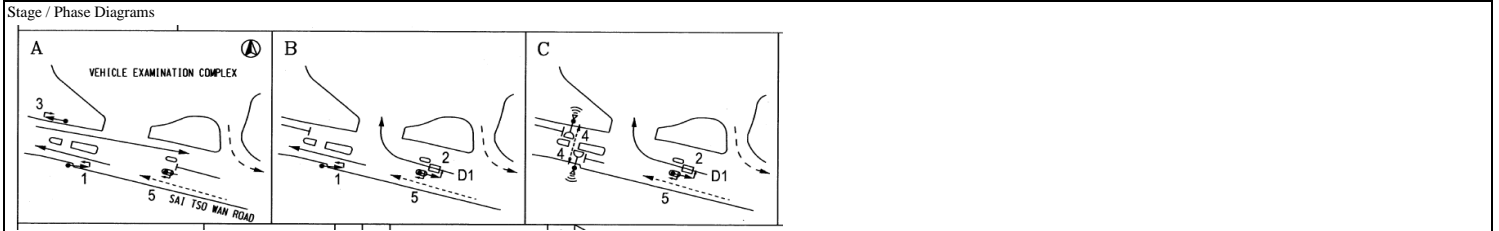
Junction: (J5) Sai Tso Wan Road Near VEC

Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right		Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%		2015	2015	2015		2015		825	0.409	0.409
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%		2015	2015	2015		2015		625	0.310	
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%		2155	2155	1875		1875		130	0.069	0.069

Pedestrian Crossing 4P C Min. green time = 6Gm + 5 FGm = 11s

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak		Logistic Peak Check Phase						
		825	→	130	↖	625	←	εy	0.479	0.310
						L (sec)	11	18		
						C (sec)	91	91		
						y pract.	0.791	0.722		
						R.C. (%)	65%	133%		



I/G = 6	I/G = 7		
I/G = 3	I/G = 7	I/G = 5 + P11s	

Junction: **J9 - Tsing Yi Road West / Liu To Road**
 Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%		1735	3610	1735		3610	207	0.119			
	S	↓	2	A,B	3.3	0.0	0	5	0	0%		1875	0	1875		0	223	0.119			
	S	↙	3	B	3.3	0.0	22	5	0	100%		1875	1875	1755		1755	355	0.202	0.202		
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	47%		1935	4100	1805		3970	284	0.157	0.157		
	N	↑	1	A	4.1	0.0	0	0	0	0%		2165	0	2165		0	341	0.157			
Liu To Road	E	↘	5	B,C	3.2	10.0	0	0	1	100%		1935	1935	1685		1685	320	0.190			
	E	↘	4	C	4.1	0.0	18	0	0	100%		2165	2165	2000		2000	70	0.035	0.035		
Pedestrian crossing		↑ ↓ ← →	6P	A,D																	
			7P	C,D																	
			8P	D																	
Pedestrian Crossing																					

A,B,C,D A,B,C,D

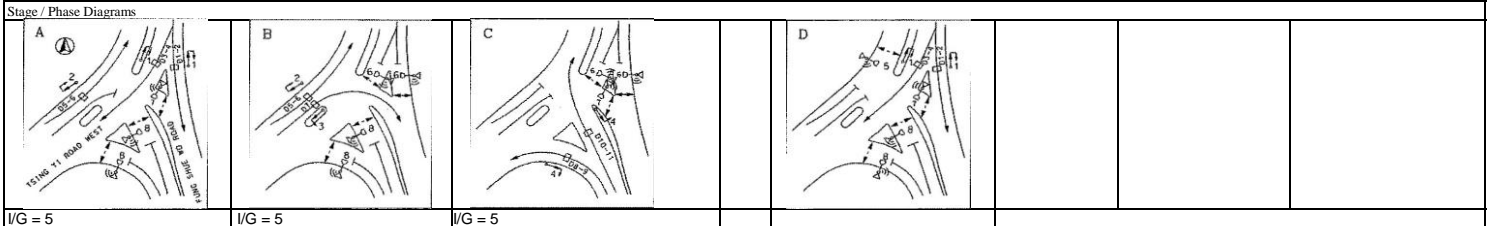
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
	320 70		Day 0.347 0.395 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 91% 61%

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: **J10 - Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Logistic Peak				Logistic Peak					Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road	S	↓	1	A,D	4.1	0.0	0	3	0	0%			1	2039	4058	2039	4058	329	0.161	0.229			
(To Tsing Yi Road West)	S	↓	1	A,D	3.9	0.0	0	3	0	0%			1	2019	0	2019	0	326	0.161				
Fung Shue Wo Road	S	↓	1	A,D	4.0	0.0	0	3	1	0%			1	1889	2294.8	1889	2294.8	432	0.229				
(To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	0	0%			0.2	405.8	0	405.8	0	93	0.229				
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1	1965	2491.3	1965	2491.25	505	0.257				
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			0.25	526.25	0	526.25	0	135	0.257				
	N	↗	3	B	3.6	0.0	18	0	0	100%			1	2115	2115	1950	1950	165	0.085	0.085			
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%			1	1869	2193.6	1790	2100	111	0.062				
	N	↖	4	C	4.0	38.0	0	3	0	100%			0.16	324.64	0	310	0	19	0.062				
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%			0.23	457.47	2446.5	440	2355	101	0.229	0.229			
	N	↗	4	C	3.6	0.0	40	3	0	100%			1	1989	0	1915	0	439	0.229				
Pedestrian crossing		←---→	5p	D																			
		←---→	6P	B,C																			
		↑	7P	A,C,D																			
		↓	8P	A,B,D																			

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
			Ey 0.543 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 44%

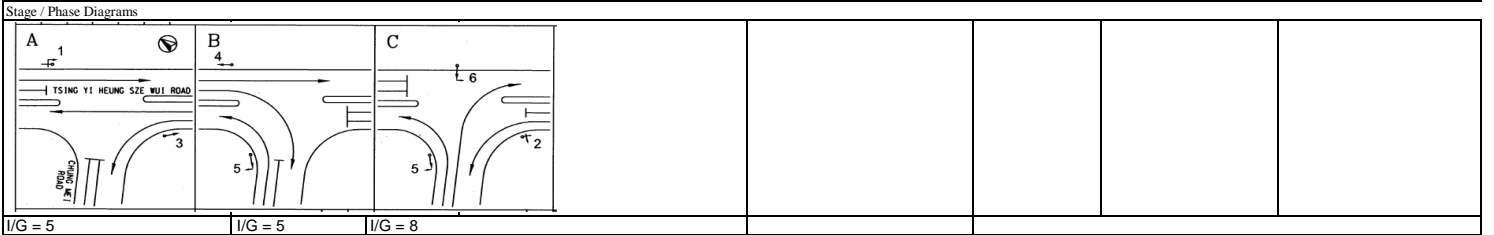


I/G = 5 I/G = 5 I/G = 5

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%		1945	1945	1690	1690	280	0.166			
	E	↘	6	C	3.3	0.0	18	0	0	100%		2085	2085	1925	1925	255	0.132	0.132		
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%		1945	1945	1835	1835	285	0.155			
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	4210	2105	4210	390	0.185	0.185		
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	0	2105	0	390	0.185			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%		1839	3818	1839	3818	446	0.242			
	S	↙	1	A,B	3.5	0.0	0	3	0	0%		1979	0	1979	0	479	0.242			
	S	↖	4	B	3.5	0.0	22	3	0	100%		1979	1979	1855	1855	365	0.197	0.197		
Pedestrian crossing																				

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 280 ↗ 255 ↘ 365 ↖ 925.00 ↓ 285 ↖ 780 ↑	Logistic Peak Check Phase g _y 0.515 L (sec) 15 C (sec) 114 y _{pract.} 0.782 R.C. (%) 52%
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Junction: (J14) Tsing Yi Road / Planned New Road
 Description: 2029 Design Traffic Flow (With Planned New Road)

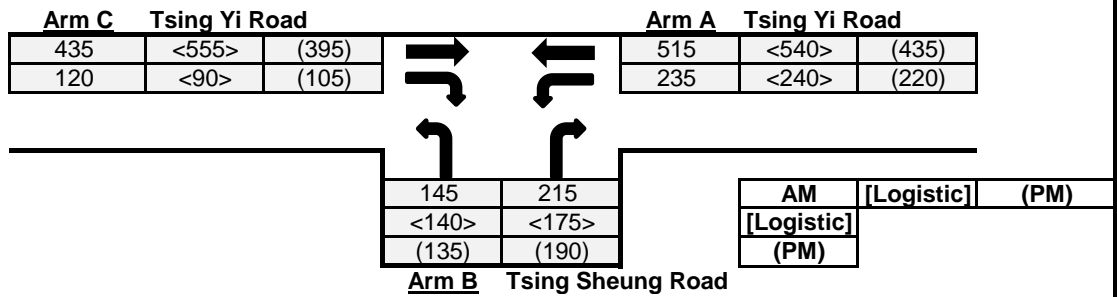
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road	N	↑	A	1	3.5	0.0	0	0	1	0%		1965	4070	1965		4065		573	0.292	0.292	
	N	↗	A	1	3.5	0.0	40	0	0	8%		2105	0	2100	0			612	0.291		
Planned New Road	W	↖	C	3	3.5	0.0	18	0	0	100%		2105	2105	1945		1945		50	0.026		
	W	↘	C	3	3.5	10.0	0	0	1	100%		1965	1965	1710		1710		50	0.029	0.029	
Tsing Yi Road	S	↓	B	2	3.5	10.0	0	0	1	11%		1965	4070	1935		4040		448	0.231	0.232	
	S	↙	B	2	3.5	0.0	0	0	0	0%		2105	0	2105	0			487	0.232		
Pedestrian crossing		↔	Dp	1		Min. Green time = 5GM + 7FG = 12s															
		↑	EP	1,2		Min. Green time = 5GM + 7FG = 12s															
		↔	Fp	2,3		Min. Green time = 5GM + 7FG = 12s															
		↓	Gp	3		Min. Green time = 5GM + 7FG = 12s															
		↔	Hp	1,3		Min. Green time = 5GM + 7FG = 12s															
		↔	Ip	2		Min. Green time = 5GM + 7FG = 12s															

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 985(730) 50(50) 1095(1080) 50(50)	AM Peak Check Phase Ey 0.321 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 138%
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Stage / Phase Diagrams		
<p>1. I/G = 5</p>	<p>2. I/G = 10</p>	<p>3. I/G = 6</p>

Priority Junction Calculation

Junction : (J3) Tsing Yi Road / Tsing Sheung Road Job No.: 24001HK
 Scenario : 2029 Design Traffic Flow



The predictive equations of capacity of movement are:

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

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

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

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

$$D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))$$

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

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

where

- Y = 1 - 0.0345W
- q-AB, etc = the design flow of movement AB, etc
- W = major road width
- W-CR = central reserve width
- w-BA, etc = lane width to vehicle
- v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc
- v-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input			Calculated			
W	14	V-rBA	30	w-BA	4.5	D	0.933
W-CR	0	V-IBA	50	w-BC	4.5	E	1.012
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	0	F	0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	V-rCB	50			Y	0.517

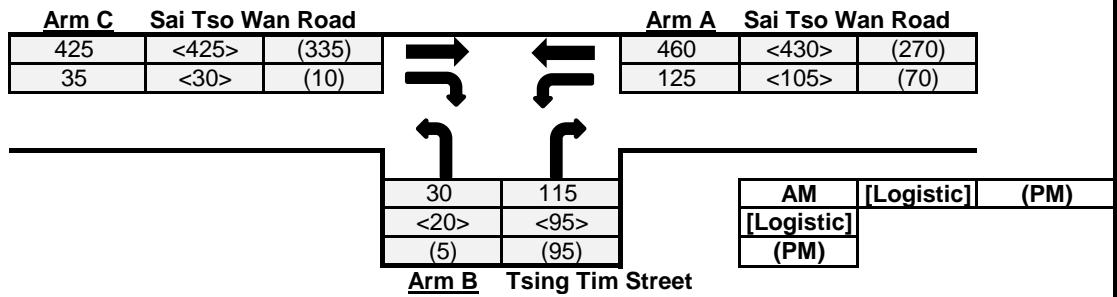
Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	435	555	395	Q-BA	400	390	423	
	q-CB	120	90	105	Q-BC	638	633	654	
	q-AB	235	240	220	Q-CB	372	368	383	
	q-AC	515	540	435	Q-CA	N/A	N/A	N/A	(If C-B blocked C-
	q-BA	215	175	190	Q-BAC	N/A	N/A	N/A	(If Minor Road Share
	q-BC	145	140	135					LT&RT)
	f	0.403	0.444	0.415					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.54	0.45	0.45
	B-C	0.23	0.22	0.21
	C-B	0.32	0.24	0.27
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A

Critical DFC **0.54 0.45 0.45**

Priority Junction Calculation

Junction : (J6) Sai Tso Wan Road / Tsing Tim Street Job No.: 24001HK
 Scenario : 2029 Design Traffic Flow



The predictive equations of capacity of movement are:

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

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

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

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

$$D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))$$

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

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

where

- Y = 1 - 0.0345W
- q-AB, etc = the design flow of movement AB, etc
- W = major road width
- W-CR = central reserve width
- w-BA, etc = lane width to vehicle
- v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc
- v-IBA = visibility to the left for waiting vehicles in stream BA, etc

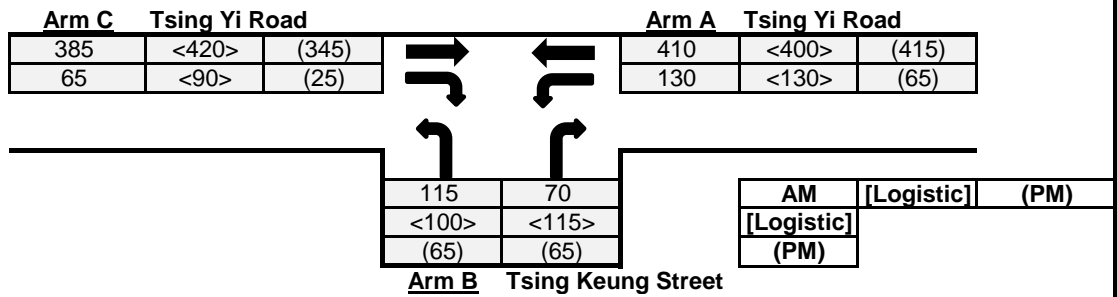
Geometry :	Input			Calculated			
W	7	V-rBA	50	w-BA	3.6	D	0.877
W-CR	0	V-IBA	50	w-BC	3.6	E	0.933
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	0	F	0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	V-rCB	50			Y	0.759

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	425	425	335	Q-BA	350	360	423	
	q-CB	35	30	10	Q-BC	564	573	618	
	q-AB	125	105	70	Q-CB	359	368	401	
	q-AC	460	430	270	Q-CA	N/A	N/A	N/A	(If C-B blocked C-
	q-BA	115	95	95	Q-BAC	379	385	430	(If Minor Road Share
	q-BC	30	20	5					LT&RT)
	f	0.207	0.174	0.050					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	N/A	N/A	N/A
	B-C	N/A	N/A	N/A
	C-B	0.10	0.08	0.02
	C-A	N/A	N/A	N/A
	B-AC	0.38	0.30	0.23
	Critical DFC	0.38	0.30	0.23

Priority Junction Calculation

Junction : (J13) Tsing Yi Road / Tsing Keung Street Job No.: 24001HK
 Scenario : 2029 Design Traffic Flow



The predictive equations of capacity of movement are:

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

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

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

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

$$D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))$$

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

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

where

- Y = 1 - 0.0345W
- q-AB, etc = the design flow of movement AB, etc
- W = major road width
- W-CR = central reserve width
- w-BA, etc = lane width to vehicle
- v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc
- v-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input			Calculated			
W	15	V-rBA	50	w-BA	4	D	0.910
W-CR	0	V-IBA	50	w-BC	4	E	0.968
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	4.7	F	1.029
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	V-rCB	50			Y	0.483

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
q-CA	385	420	345		Q-BA	443	436	460	
q-CB	65	90	25		Q-BC	643	644	646	
q-AB	130	130	65		Q-CB	669	671	680	
q-AC	410	400	415		Q-CA	N/A	N/A	N/A	(If C-B blocked C-
q-BA	70	115	65		Q-BAC	N/A	N/A	N/A	(If Minor Road Share LT&RT)
q-BC	115	100	65						
f	0.622	0.465	0.500						

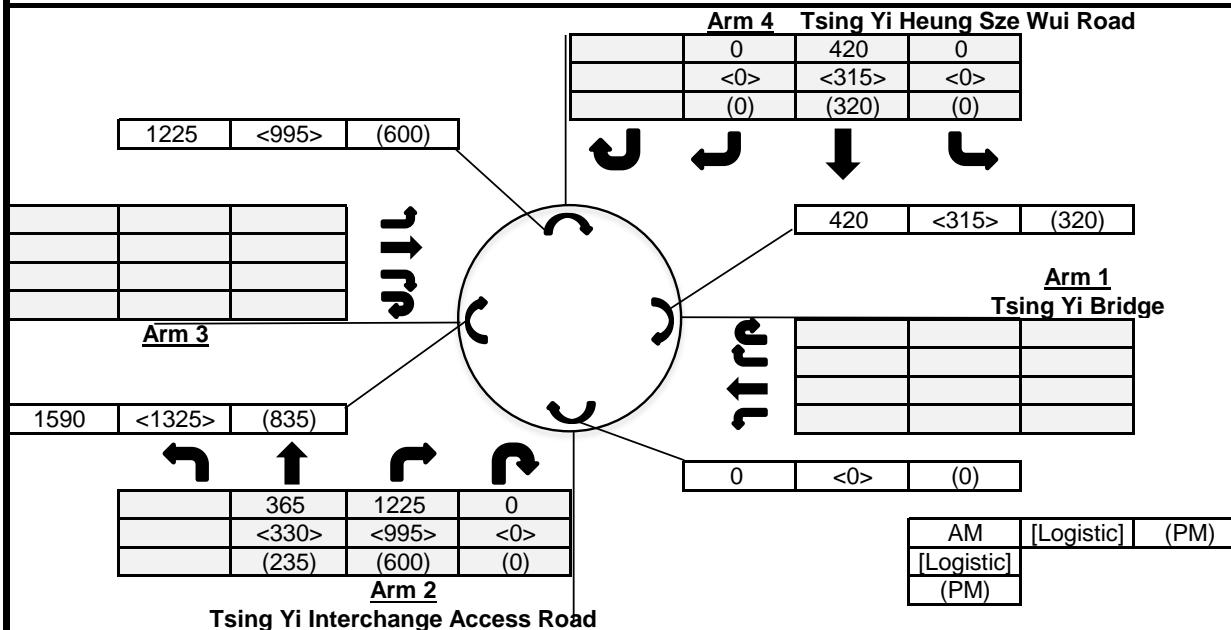
Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.16	0.26	0.14
	B-C	0.18	0.16	0.10
	C-B	0.10	0.13	0.04
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A

Critical DFC **0.18 0.26 0.14**

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (North) Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6		6
E	= Entry width (m)		7		7
L	= Effective length of flare (m)		5		5
R	= Entry radius		62		41
D	= Inscribed circle diameter (m)		60		60
A	= Entry angle (degree)		27		60
Q	= Entry flow (pcu/hr)		1590		420
		AM	1590		420
		Logistic	1325		315
		PM	835		320
Qc	= Circulating flow across entry (pcu/hr)		0		1225
		AM	0		1225
		Logistic	0		995
		PM	0		600

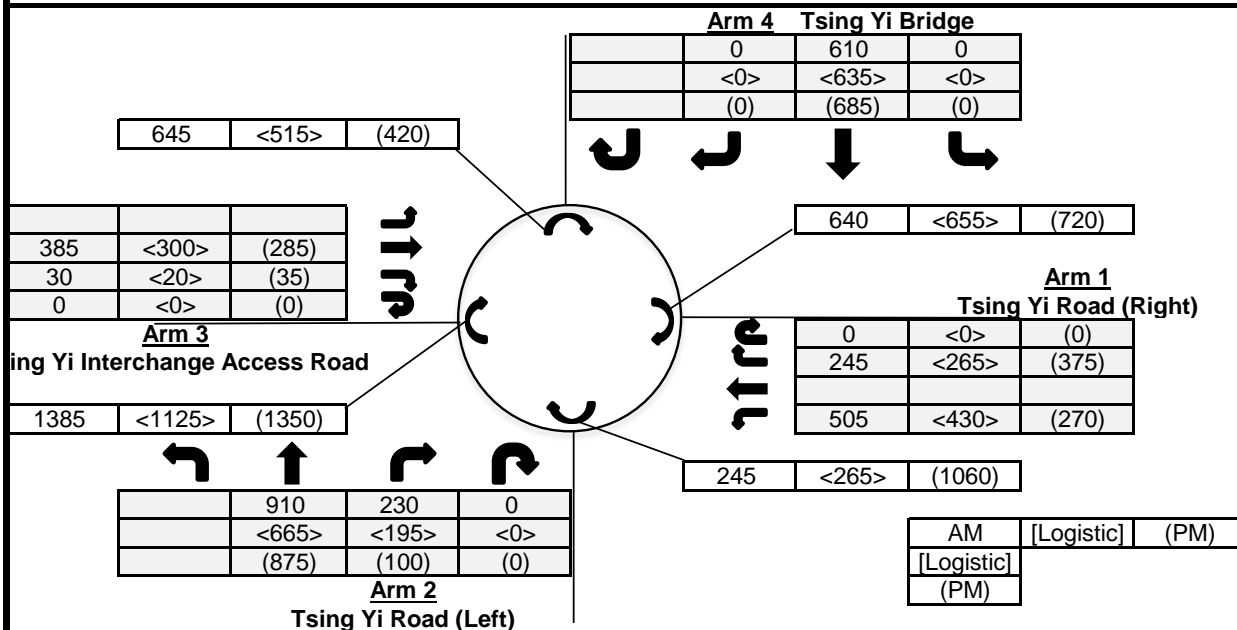
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.32		0.32
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		1.04		0.92
X2	= V+((E-V)/(1+2*S))		6.61		6.61
M	= Exp((D-60)/10)		1.00		1.00
F	= 303*X2		2003		2003
Td	= 1+(0.5/(1+M))		1.25		1.25
Fc	= 0.21*Td*(1+0.2*X2)		0.61		0.61
Qe	= Capacity = K*(F-Fc*Qc)		2090		1157
		AM	2090		1157
		Logistic	2090		1286
		PM	2090		1508
DFC	= Entry Flow/Capacity = Q/Qe		0.76		0.36
		AM	0.76		0.36
		Logistic	0.63		0.24
		PM	0.40		0.21

DFC of Critical Approach = AM 0.76
 Logistic 0.63
 PM 0.40

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (South) Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	7	6.8	7	6
E	=	Entry width (m)	7.2	7	7.3	6.3
L	=	Effective length of flare (m)	5	5	5	5
R	=	Entry radius	23	25	24	44
D	=	Inscribed circle diameter (m)	60	60	60	60
A	=	Entry angle (degree)	43	54	27	23
Q	=	Entry flow (pcu/hr)	AM 750	1140	415	610
			Logistic 695	860	320	635
			PM 645	975	320	685
Qc	=	Circulating flow across entry (pcu/hr)	AM 640	245	1385	645
			Logistic 655	265	1125	515
			PM 720	1060	1350	420

Output Parameters

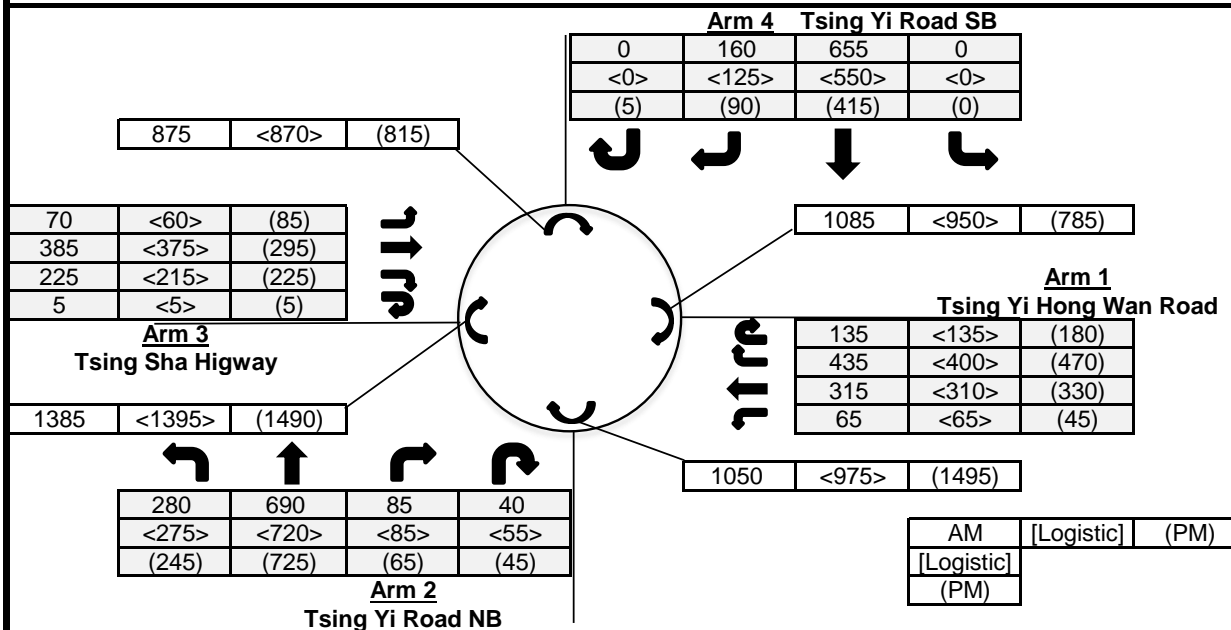
		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.06	0.06	0.10	0.10
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.96	0.93	1.02	1.05
X2	=	$V+((E-V)/(1+2*S))$	7.18	6.98	7.25	6.25
M	=	$Exp((D-60)/10)$	1.00	1.00	1.00	1.00
F	=	$303*X2$	2175	2114	2197	1894
Td	=	$1+(0.5/(1+M))$	1.25	1.25	1.25	1.25
Fc	=	$0.21*Td*(1+0.2*X2)$	0.64	0.63	0.64	0.59
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM 1697	1816	1331	1590
			Logistic 1688	1804	1501	1671
			PM 1648	1341	1354	1730
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.44	0.63	0.31	0.38
			Logistic 0.41	0.48	0.21	0.38
			PM 0.39	0.73	0.24	0.40

DFC of Critical Approach = AM 0.63
Logistic 0.48
PM 0.73

Roundabout Junction Calculation

Junction : (RA2) Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Hig Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7.3	7.1	7.3	7.3
E	= Entry width (m)	13.5	12	9.5	10
L	= Effective length of flare (m)	30	15	30	15
R	= Entry radius	45	97	52	34
D	= Inscribed circle diameter (m)	100	100	100	100
A	= Entry angle (degree)	29	32	31	46
Q	= Entry flow (pcu/hr)	AM 950 Logistic 910 PM 1025	AM 1095 Logistic 1135 PM 1080	AM 685 Logistic 655 PM 610	AM 815 Logistic 675 PM 510
Qc	= Circulating flow across entry (pcu/hr)	AM 1085 Logistic 950 PM 785	AM 1050 Logistic 975 PM 1495	AM 1385 Logistic 1395 PM 1490	AM 875 Logistic 870 PM 815

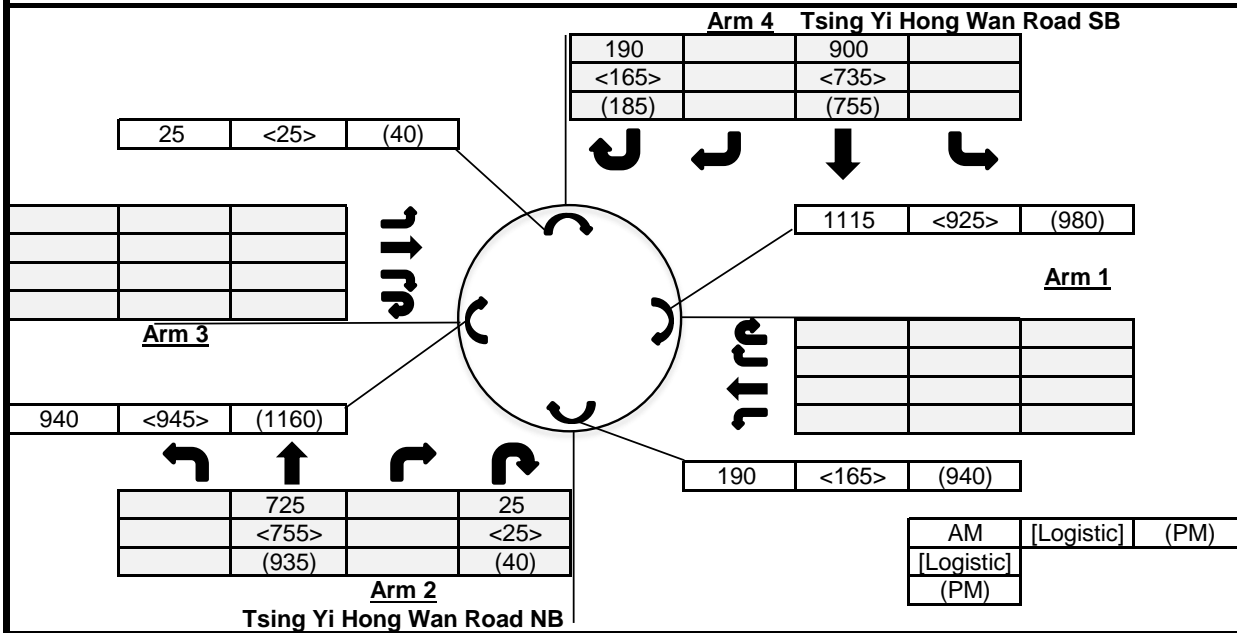
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L	0.33	0.52	0.12	0.29
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	1.03	1.03	1.03	0.96
X2	= V+((E-V)/(1+2*S))	11.03	9.50	9.08	9.01
M	= Exp((D-60)/10)	54.60	54.60	54.60	54.60
F	= 303*X2	3343	2877	2752	2731
Td	= 1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	= 0.21*Td*(1+0.2*X2)	0.68	0.61	0.60	0.59
Qe	= Capacity = K*(F-Fc*Qc)	AM 2685 Logistic 2780 PM 2895	AM 2303 Logistic 2351 PM 2021	AM 1977 Logistic 1970 PM 1912	AM 2133 Logistic 2136 PM 2168
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.35 Logistic 0.33 PM 0.35	AM 0.48 Logistic 0.48 PM 0.53	AM 0.35 Logistic 0.33 PM 0.32	AM 0.38 Logistic 0.32 PM 0.24

DFC of Critical Approach = AM 0.48
Logistic 0.48
PM 0.53

Roundabout Junction Calculation

Junction : (RA3) Tsing Yi Hong Wan Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow (With Planned New Road)



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	7		7.3
E	=	Entry width (m)	14		12
L	=	Effective length of flare (m)	20		2
R	=	Entry radius	65		75
D	=	Inscribed circle diameter (m)	68		68
A	=	Entry angle (degree)	53		46
Q	=	Entry flow (pcu/hr)	AM	750	1090
			Logistic	780	900
			PM	975	940
Qc	=	Circulating flow across entry (pcu/hr)	AM	190	25
			Logistic	165	25
			PM	940	40

Output Parameters

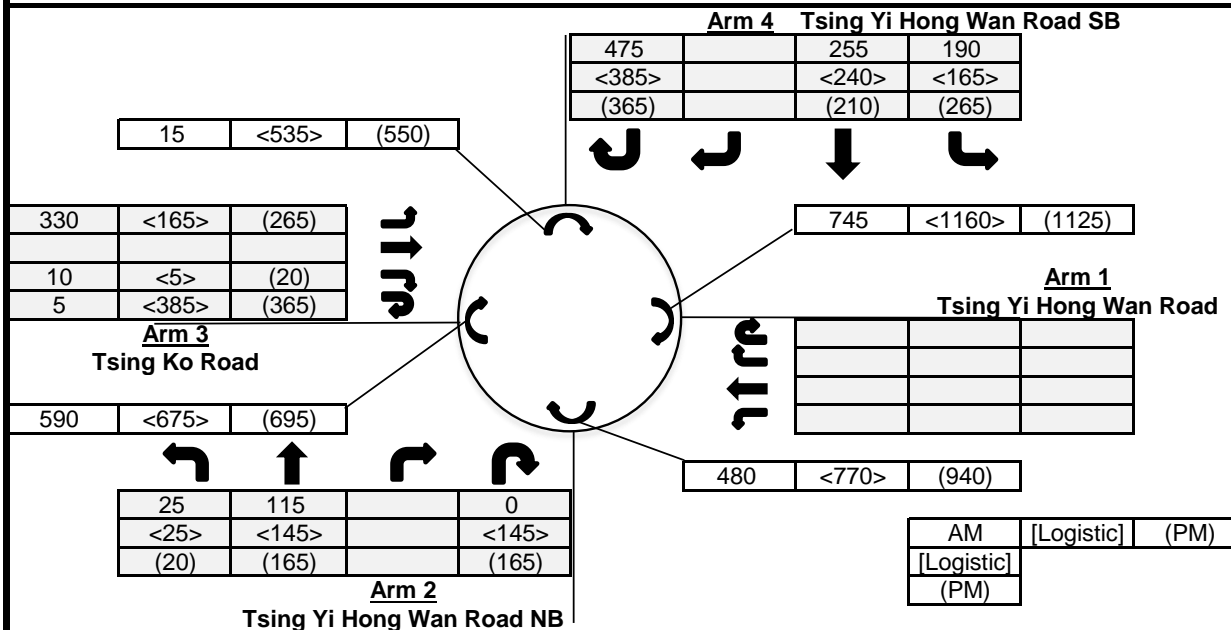
		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.56		3.76
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.95		0.98
X2	=	$V+((E-V)/(1+2*S))$	10.30		7.85
M	=	$Exp((D-60)/10)$	2.23		2.23
F	=	$303*X2$	3121		2379
Td	=	$1+(0.5/(1+M))$	1.16		1.16
Fc	=	$0.21*Td*(1+0.2*X2)$	0.74		0.62
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM	2843	2317
			Logistic	2861	2317
			PM	2312	2308
DFC	=	Entry Flow/Capacity = Q/Qe	AM	0.26	0.47
			Logistic	0.27	0.39
			PM	0.42	0.41

DFC of Critical Approach = AM **0.47**
 Logistic **0.39**
 PM **0.42**

Roundabout Junction Calculation

Junction : (RA4) Tsing Yi Hong Wan Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6.7	6.3	7.3
E	= Entry width (m)		13.5	12.5	15
L	= Effective length of flare (m)		18	30	30
R	= Entry radius		47	100	75
D	= Inscribed circle diameter (m)		68	68	68
A	= Entry angle (degree)		41	22	46
Q	= Entry flow (pcu/hr)	AM	140	345	920
		Logistic	315	555	790
		PM	350	650	840
Qc	= Circulating flow across entry (pcu/hr)	AM	480	590	15
		Logistic	770	675	535
		PM	940	695	550

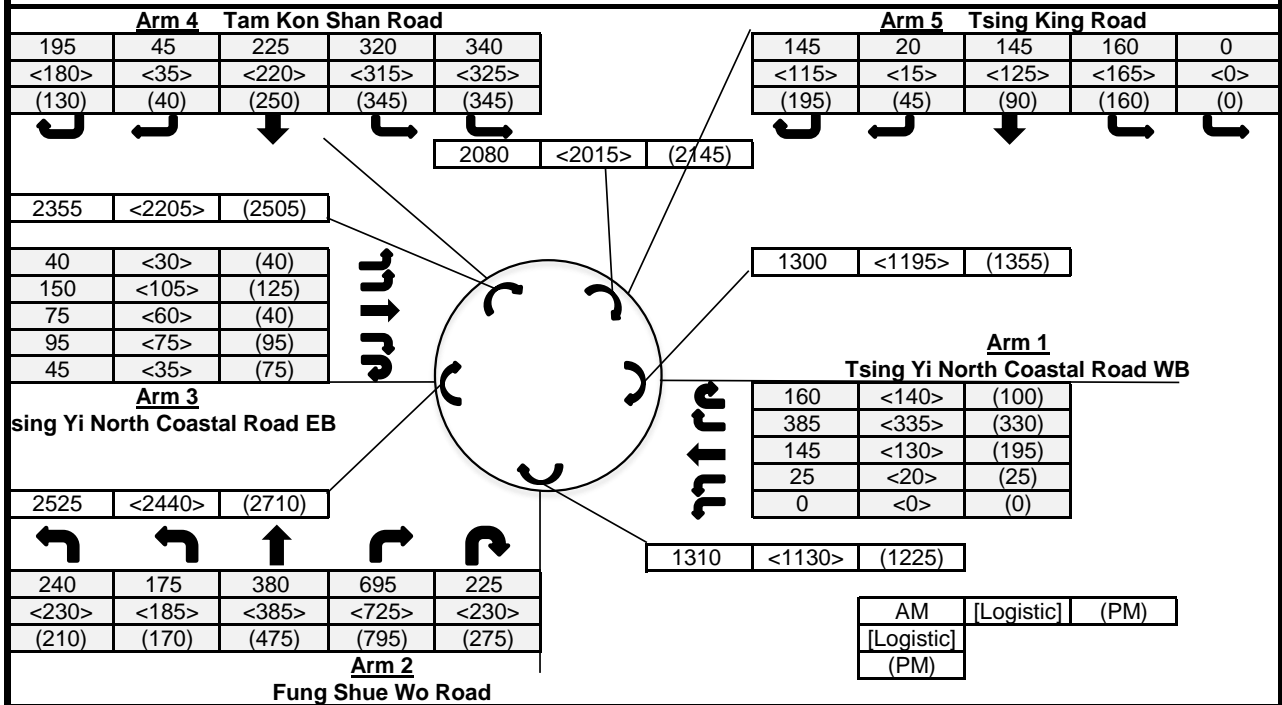
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.60	0.33	0.41
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		0.99	1.07	0.98
X2	= $V+((E-V)/(1+2*S))$		9.78	10.03	11.53
M	= $Exp((D-60)/10)$		2.23	2.23	2.23
F	= $303*X2$		2963	3040	3493
Td	= $1+(0.5/(1+M))$		1.16	1.16	1.16
Fc	= $0.21*Td*(1+0.2*X2)$		0.72	0.73	0.80
Qe	= Capacity = $K*(F-Fc*Qc)$	AM	2592	2784	3412
		Logistic	2387	2718	3004
		PM	2266	2702	2992
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.05	0.12	0.27
		Logistic	0.13	0.20	0.26
		PM	0.15	0.24	0.28

DFC of Critical Approach = AM 0.27
 Logistic 0.26
 PM 0.28

Roundabout Junction Calculation

Junction : (RA5) Tam Kon Shan Interchange Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
V	=	Approach half width (m)	7	7.3	5.5	7.3	7
E	=	Entry width (m)	9	13.5	7.5	13.5	11
L	=	Effective length of flare (m)	9	20	11	50	10
R	=	Entry radius	100	35	45	35	45
D	=	Inscribed circle diameter (m)	100	100	100	100	100
A	=	Entry angle (degree)	30	25	25	45	45
Q	=	Entry flow (pcu/hr)					
		AM	715	1715	405	1125	470
		Logistic	625	1755	305	1075	420
		PM	650	1925	375	1110	490
Qc	=	Circulating flow across entry (pcu/hr)					
		AM	1300	1310	2525	2355	2080
		Logistic	1195	1130	2440	2205	2015
		PM	1355	1225	2710	2505	2145

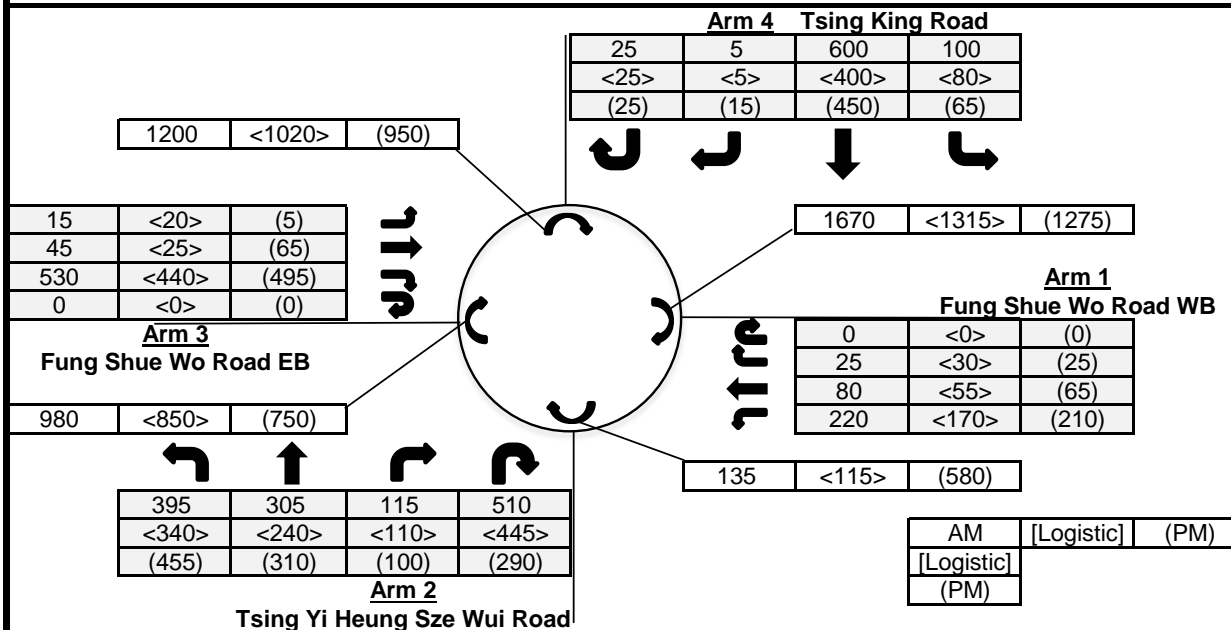
Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
S	=	Sharpness of flare = 1.6*(E-V)/L	0.36	0.50	0.29	0.20	0.64
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.04	1.04	1.04	0.97	0.98
X2	=	V+((E-V)/(1+2*S))	8.17	10.41	6.76	11.74	8.75
M	=	Exp((D-60)/10)	54.60	54.60	54.60	54.60	54.60
F	=	303*X2	2475	3155	2050	3557	2653
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01	1.01
Fc	=	0.21*Td*(1+0.2*X2)	0.56	0.65	0.50	0.71	0.58
Qe	=	Capacity = K*(F-Fc*Qc)					
		AM	1818	2387	826	1828	1404
		Logistic	1879	2510	870	1931	1441
		PM	1786	2445	730	1725	1367
DFC	=	Entry Flow/Capacity = Q/Qe					
		AM	0.39	0.72	0.49	0.62	0.33
		Logistic	0.33	0.70	0.35	0.56	0.29
		PM	0.36	0.79	0.51	0.64	0.36

DFC of Critical Approach	=	AM	0.72
		Logistic	0.70
		PM	0.79

Roundabout Junction Calculation

Junction : (RA6) Tsing King Road / Fung Shue Wo Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4	
V	= Approach half width (m)	6.7	7.3	7.3	6.9	
E	= Entry width (m)	9.7	10	9.2	8.9	
L	= Effective length of flare (m)	16	20	14	16	
R	= Entry radius	55	71	60	62	
D	= Inscribed circle diameter (m)	100	100	100	100	
A	= Entry angle (degree)	36	30	18	25	
Q	= Entry flow (pcu/hr)	325	1325	590	730	
		Logistic	255	1135	485	510
		PM	300	1155	565	555
Qc	= Circulating flow across entry (pcu/hr)	1670	135	980	1200	
		Logistic	1315	115	850	1020
		PM	1275	580	750	950

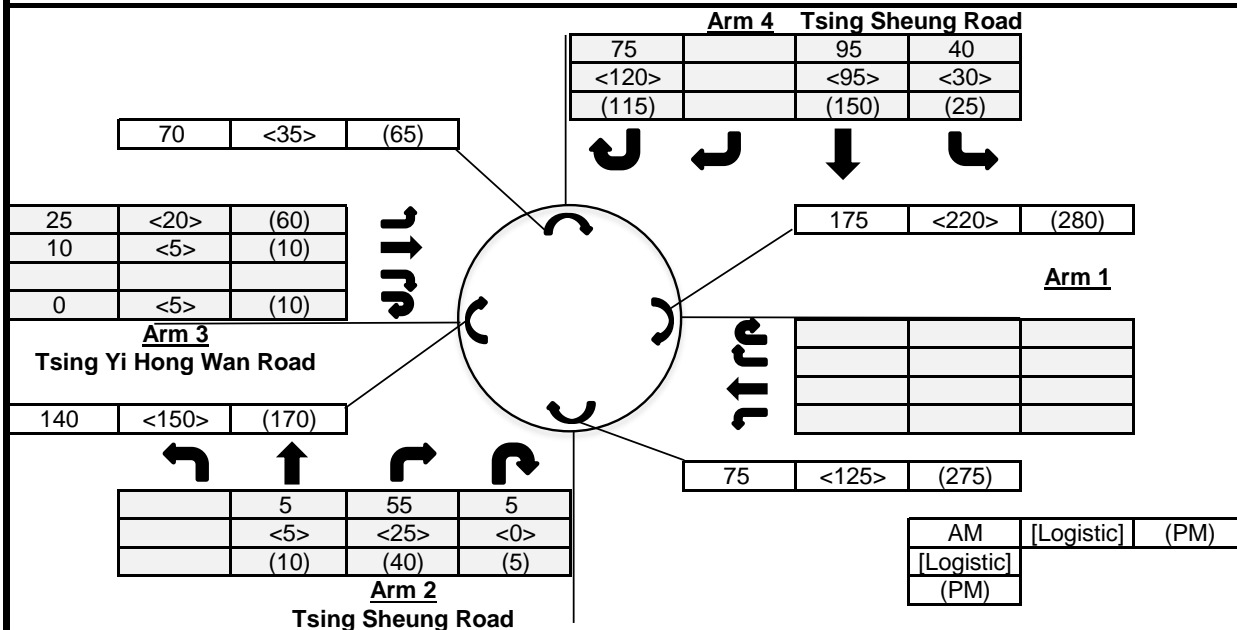
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4	
S	= Sharpness of flare = 1.6*(E-V)/L	0.30	0.22	0.22	0.20	
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	1.01	1.04	1.07	1.05	
X2	= V+((E-V)/(1+2*S))	8.58	9.19	8.62	8.33	
M	= Exp((D-60)/10)	54.60	54.60	54.60	54.60	
F	= 303*X2	2598	2783	2613	2524	
Td	= 1+(0.5/(1+M))	1.01	1.01	1.01	1.01	
Fc	= 0.21*Td*(1+0.2*X2)	0.58	0.60	0.58	0.56	
Qe	= Capacity = K*(F-Fc*Qc)	1654	2797	2199	1939	
		Logistic	1861	2809	2280	2046
		PM	1884	2520	2342	2087
DFC	= Entry Flow/Capacity = Q/Qe	0.20	0.47	0.27	0.38	
		Logistic	0.14	0.40	0.21	0.25
		PM	0.16	0.46	0.24	0.27

DFC of Critical Approach = AM 0.47
Logistic 0.40
PM 0.46

Roundabout Junction Calculation

Junction : (RA7) Tsing Yi Hong Wan Road / Tsing Sheung Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		5.2	3	6.7
E	= Entry width (m)		9	8.4	12
L	= Effective length of flare (m)		25	15	23
R	= Entry radius		63	55	11.6
D	= Inscribed circle diameter (m)		53	53	53
A	= Entry angle (degree)		33	48	38
Q	= Entry flow (pcu/hr)	AM	65	35	210
		Logistic	30	30	245
		PM	55	80	290
Qc	= Circulating flow across entry (pcu/hr)	AM	75	140	70
		Logistic	125	150	35
		PM	275	170	65

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.24	0.58	0.37
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		1.02	0.97	0.94
X2	= V+((E-V)/(1+2*S))		7.76	5.51	9.75
M	= Exp((D-60)/10)		0.50	0.50	0.50
F	= 303*X2		2350	1669	2954
Td	= 1+(0.5/(1+M))		1.33	1.33	1.33
Fc	= 0.21*Td*(1+0.2*X2)		0.71	0.59	0.83
Qe	= Capacity = K*(F-Fc*Qc)	AM	2349	1537	2714
		Logistic	2313	1531	2741
		PM	2203	1520	2717
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.03	0.02	0.08
		Logistic	0.01	0.02	0.09
		PM	0.02	0.05	0.11

**DFC of Critical Approach = AM 0.08
Logistic 0.09
PM 0.11**

Roundabout Junction Calculation

Junction : (RA8) Tsing Yi Road / Ching Hong Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow

230	410	375	
<180>	<505>	<325>	
(220)	(475)	(315)	

465	<485>	(485)
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685	<635>	(630)
75	<105>	(115)
65	<90>	(70)

1155	<1230>	(1195)
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555	<470>	(520)	
85		325	0
<120>		<265>	<25>
(105)		(300)	(0)

705	<775>	(1080)
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AM	[Logistic]	(PM)
[Logistic]		
(PM)		

Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		4.5	7.3	7
E	= Entry width (m)		9	8.5	8.5
L	= Effective length of flare (m)		25	4	16
R	= Entry radius		24.5	30	100
D	= Inscribed circle diameter (m)		30	30	30
A	= Entry angle (degree)		44	40	27
Q	= Entry flow (pcu/hr)		410	825	1015
		AM	410	825	1015
		Logistic	410	830	1010
		PM	405	815	1010
Qc	= Circulating flow across entry (pcu/hr)		705	555	465
		AM	705	555	465
		Logistic	775	470	485
		PM	1080	520	485

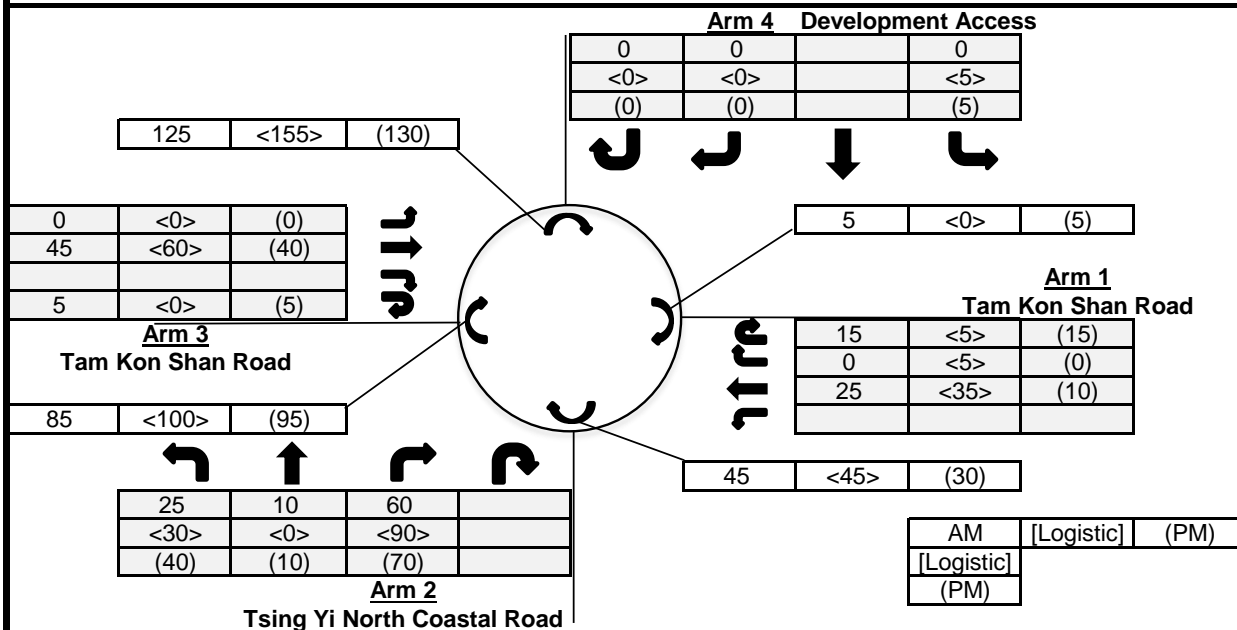
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.29	0.48	0.15
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		0.96	0.98	1.05
X2	= V+((E-V)/(1+2*S))		7.36	7.91	8.15
M	= Exp((D-60)/10)		0.05	0.05	0.05
F	= 303*X2		2229	2397	2471
Td	= 1+(0.5/(1+M))		1.48	1.48	1.48
Fc	= 0.21*Td*(1+0.2*X2)		0.77	0.80	0.82
Qe	= Capacity = K*(F-Fc*Qc)		1622	1917	2195
		AM	1622	1917	2195
		Logistic	1570	1984	2178
		PM	1346	1945	2178
DFC	= Entry Flow/Capacity = Q/Qe		0.25	0.43	0.46
		AM	0.25	0.43	0.46
		Logistic	0.26	0.42	0.46
		PM	0.30	0.42	0.46

DFC of Critical Approach	=				
		AM	0.46		
		Logistic	0.46		
		PM	0.46		

Roundabout Junction Calculation

Junction : (RA9) Tam Kon Shan Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	3.3	4	3.4	4.2
E	= Entry width (m)	6.7	4.9	5.8	5.4
L	= Effective length of flare (m)	10	10	10	10
R	= Entry radius	32	97	52	34
D	= Inscribed circle diameter (m)	30	30	30	30
A	= Entry angle (degree)	34	32	31	46
Q	= Entry flow (pcu/hr)	40	95	50	0
		AM	95	50	0
		Logistic	45	60	5
		PM	25	45	5
Qc	= Circulating flow across entry (pcu/hr)	5	45	85	125
		AM	5	45	85
		Logistic	0	45	100
		PM	5	30	95

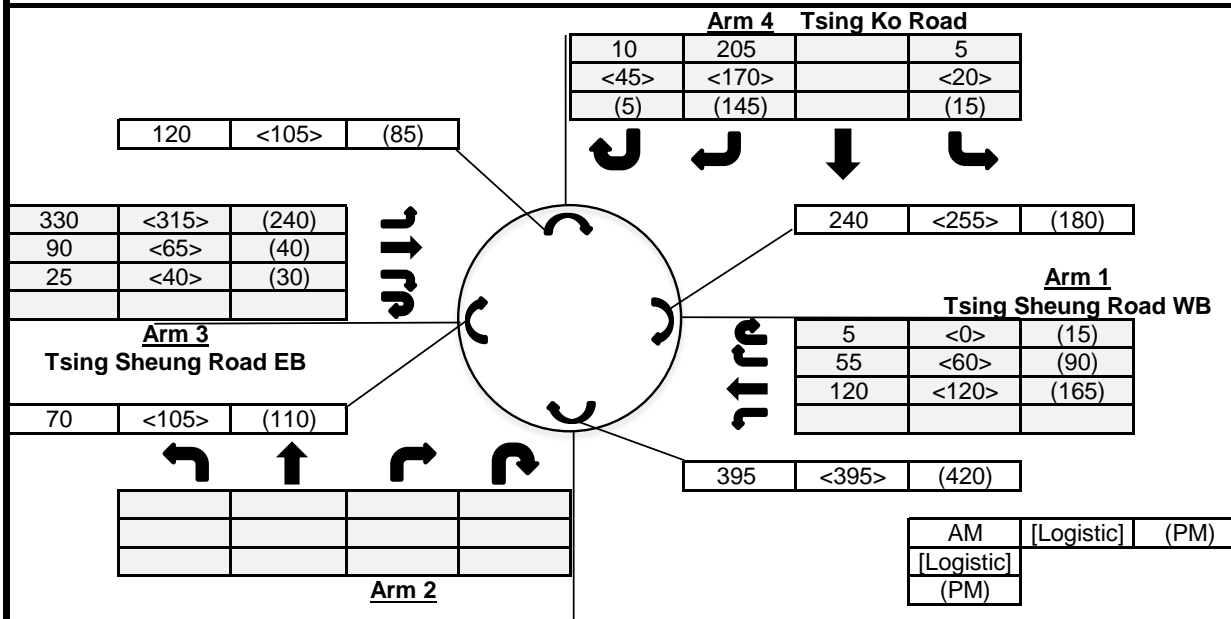
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.54	0.14	0.38	0.19
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.00	1.03	1.03	0.96
X2	= $V+((E-V)/(1+2*S))$	4.93	4.70	4.76	5.07
M	= $Exp((D-60)/10)$	0.05	0.05	0.05	0.05
F	= $303*X2$	1493	1424	1442	1535
Td	= $1+(0.5/(1+M))$	1.48	1.48	1.48	1.48
Fc	= $0.21*Td*(1+0.2*X2)$	0.62	0.60	0.61	0.62
Qe	= Capacity = $K*(F-Fc*Qc)$	1497	1441	1427	1406
		AM	1441	1418	1388
		Logistic	1500	1418	1388
		PM	1497	1421	1403
DFC	= Entry Flow/Capacity = Q/Qe	0.03	0.07	0.04	0.00
		AM	0.03	0.04	0.00
		Logistic	0.03	0.04	0.00
		PM	0.02	0.03	0.00

DFC of Critical Approach = AM 0.07
Logistic 0.08
PM 0.08

Roundabout Junction Calculation

Junction : (RA10) Tsing Sheung Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	6.6	5.6	6.4
E	=	Entry width (m)	12.9	5.1	11.6
L	=	Effective length of flare (m)	18	30	30
R	=	Entry radius	47	67.3	75
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	41	22	46
Q	=	Entry flow (pcu/hr)	AM 180	445	220
			Logistic 180	420	235
			PM 270	310	165
Qc	=	Circulating flow across entry (pcu/hr)	AM 240	70	120
			Logistic 255	105	105
			PM 180	110	85

Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = 1.6*(E-V)/L	0.56	-0.03	0.28
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	0.99	1.06	0.98
X2	=	V+((E-V)/(1+2*S))	9.57	5.07	9.74
M	=	Exp((D-60)/10)	0.37	0.37	0.37
F	=	303*X2	2900	1537	2953
Td	=	1+(0.5/(1+M))	1.37	1.37	1.37
Fc	=	0.21*Td*(1+0.2*X2)	0.84	0.58	0.85
Qe	=	Capacity = K*(F-Fc*Qc)	AM 2672	1589	2795
			Logistic 2660	1568	2808
			PM 2722	1565	2824
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.07	0.28	0.08
			Logistic 0.07	0.27	0.08
			PM 0.10	0.20	0.06

**DFC of Critical Approach = AM 0.28
Logistic 0.27
PM 0.20**