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Appendix C

Traffic Impact Assessment

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

Traffic Impact Assessment Report

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Job number 315341-02

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1 INTRODUCTION

1.1 Background

1.1.1 Pursuant to Section 16 of the Town Planning Ordinance (TPO), this Traffic Impact Assessment (TIA) report is prepared and submitted on behalf of Treasure Arts International Group Limited ("the Applicant") to seek approval for the proposed hotel use and minor relaxation of plot ratio (PR) restriction at Nos. 646-648A Castle Peak Road, Cheung Sha Wan, Kowloon ("the Application Site"), which was a vacant site previously occupied by a pre-1987 industrial building (IB) until its demolition. The location of Application Site is shown in **Figure 1.1**.

1.1.2 Located within the Cheung Sha Wan Industrial/Business Area, the Application Site is currently zoned "Other Specified Uses" annotated "Business (1)" ("OU(B)1") on the Approved Cheung Sha Wan Outline Zoning Plan No. S/K5/41 ("the OZP"). According to the Notes for the "OU(B)" zone of the OZP, 'Hotel' is a Column 2 use under Schedule I for building other than industrial or industrial-office building, which requires planning permission from the Town Planning Board (TPB). According to the Plan and Remark (1) of the Notes for the "OU(B)1" zone, the Application Site is subject to a maximum PR of 12 or the PR of the existing building, and a maximum BH of 130 meters above Principal Datum (mPD) or the height of the existing building, whichever is the greater. Under Remark (11) for the "OU(B)" zone, it is stated that minor relaxation of PR or BH restrictions may be considered by the TPB on application under Section 16 of the TPO.

1.1.3 The Application Site is the subject of an approved S16 planning application (Application No. A/K5/838) which was approved with conditions by the TPB on 24 December 2021 for proposed minor relaxation of PR restriction to 14.4 for permitted non-polluting industrial use, excluding industrial undertakings involving the use/ storage of dangerous goods.

1.1.4 Arup Hong Kong Limited (Arup) was commissioned to carry out a TIA report in support of the Section 16 application to facilitate the proposal at the Application Site.

1.2 Objectives of this Report

1.2.1 The purpose of this report is to evaluate the potential traffic impact associated with conversion of the previously approved industrial development under the approved Planning Application No. A/K5/838 to the proposed hotel development at the Application Site.

1.3 Scope of Study

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

- Carry out traffic surveys at critical junctions to appreciate current traffic condition;
- Update the inventory regarding traffic circulation patterns, traffic conditions, as well as the constraints of the existing road network in the vicinity;
- Review the access arrangement for the proposed development and to make recommendation;
- Recommend car parking provisions and goods vehicle loading/unloading arrangements and provide justifications to the proposed internal transport facilities, if applicable;
- Assess the volume of traffic likely to be generated by the proposed development;
- Set up the reference scenario should the Application Site be developed into industrial use under the approved Planning Application No. A/K5/838, i.e. reference scenario with the approved industrial development;
- Identify the likely change in traffic generation should the Application Site be developed into hotel development, i.e. design scenario with the proposed hotel development; and
- Compare the above two traffic scenarios for evaluation of the likely traffic impact, if any, associated with the proposed development.

1.4 Structure of the Report

1.4.1 The structure of this TIA report is as follows:

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

2 EXISTING TRAFFIC CONDITION

2.1 Site Characteristics

2.1.1 The Application Site is located at No. 648 – 648A Castle Peak Road with a site area of approximate 856m^2. This corner site is bounded by Tai Nan West Street at its east and Castle Peak Road at its south. The north-west is surrounded by Easy Tower and Yick Tai Industrial Building respectively. **Figure 1.1** shows the location and the environs of the Application Site.

2.2 Existing Road Network

2.2.1 The Application Site is well-served by a comprehensive road network to and from all districts. Some major roads in the vicinity of the Application Site are listed as follows:

- Cheung Sha Wan Road is a primary distributor road with 3-traffic lanes configuration at each bound, performing an important distributor road for east-west direction, connecting Sham Shui Po District at its east and Tsuen Wan District at its west..
- As part of the long-formed Castle Peak Road district distributor, this section of Castle Peak Road is a 3-lane arrangement with single direction towards Kowloon. It functioned as a major connecting road with Nathan Road and other local roads at Sham Shu Po district.
- Tai Nan West Street is a one-way carriageway, connecting Cheung Sha Wan Road with King Lam Street.
- Wing Hong Street is a one-way carriageway, connecting Tai Nan West Street with Castle Peak Road.
- King Lam Street is a one-way carriageway, connecting Wing Ming Street and Yu Chau West Street with Wing Hong Street.

2.3 Existing Junction Performance

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

J1	-	Tung Chau West Street / Castle Peak Road	(Signalized Junction)
J2	-	Wing Hong Street / Yee Kuk West Street	(Priority Junction)
J3	-	Castle Peak Road / Yee Kuk West Street	(Signalized Junction)
J4	-	Cheung Sha Wan Road / Cheung Lai Street	(Signalized Junction)
J5	-	Wing Hong Street / Tai Nan West Street	(Priority Junction)

J6 - Castle Peak Road / Tai Nan West Street (Signalized Junction)

J7 - Cheung Sha Wan Road / Tai Nan West Street (Signalized Junction)

J8 - Wing Hong Street / Yu Chau West Street (Priority Junction)

J9 - Yu Chau West Street / Castle Peak Road (Priority Junction)

J10 - Castle Peak Road / Fuk Wa Street (Signalized Junction)

J11 - Cheung Sha Wan Road / Cheung Wah Street (Signalized Junction)

2.3.2 A manual traffic count survey were undertaken on a typical weekday during the periods 07:00-10:00 and 16:30-19:30 hours. The morning and evening peak hour were identified to be 09:00-10:00 and 17:00-18:00 respectively. The observed traffic flows during these peak hours are presented in **Figure 2.2**.

2.3.3 Junction capacity analysis was carried out at the identified key junctions in the vicinity of the Application Site. Results of the capacity assessment are shown in **Table 2.3.1** below.

Table 2.3.1 Year 2026 Existing Junction Performance

Junction		Type	Performance (1)	
			AM	PM
J1	Tung Chau West Street / Castle Peak Road	Signalized	53%	96%
J2	Wing Hong Street / Yee Kuk West Street	Priority	0.23	0.29
J3	Castle Peak Road / Yee Kuk West Street	Signalized	>100%	>100%
J4	Cheung Sha Wan Road / Cheung Lai Street	Signalized	>100%	82%
J5	Wing Hong Street / Tai Nan West Street	Priority	0.29	0.34
J6	Castle Peak Road / Tai Nan West Street	Signalized	56%	>100%
J7	Cheung Sha Wan Road / Tai Nan West Street	Signalized	50%	54%
J8	Wing Hong Street / Yu Chau West Street	Priority	0.36	0.35
J9	Yu Chau West Street / Castle Peak Road	Priority	0.62	0.50
J10	Castle Peak Road / Fuk Wa Street	Signalized	94%	>100%
J11	Cheung Sha Wan Road / Cheung Wah Street	Signalized	75%	81%

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

2.3.4 Results of the analysis indicate that the identified key junctions in the vicinity of the Application Site are currently operating satisfactorily during both morning and evening peak hours.

2.4 Public Transport Facilities

2.4.1 The Application Site is served by various modes of public transport services as shown in **Figure 2.3**. The MTR Lai Chi Kok Station is located approximately 100m southward to the Application Site, which is estimated to be a 2-minute walking journey. There are also number of franchised bus, Green Minibus (GMB) and Red Minibus (RMB) service routes operating within the surrounding road network. A

summary of the public transport services operating in the vicinity of the Application Site is provided in **Table 2.4.1**.

Table 2.4.1 Existing Franchised Bus and Public Light Bus Services

Route No.	Route Name	AM Peak Hour Headways	PM Peak Hour Headways
2A	Lok Wah - Mei Foo	12	10 to 12
2B	Chuk Yuen Estate - Cheung Sha Wan	30	30
2F	Tsz Wan Shan (North) - Cheung Sha Wan	20	20
2P	Cheung sha Wan – Tsz Wan Shan (North)	Weekday special buses	
2X	Choi Fook - Mei Foo	30	30
6	Star Ferry - Lai Chi Kok	10 to 13	9 to 12
6C	Kowloon City Ferry - Mei Foo	10	9 to 10
6D	Ngau Tau Kok - Mei Foo	15 to 20	12 to 20
30	Allway Gardens - Cheung Sha Wan	25 to 30	25 to 30
30X	Tsuen Wan (Allway Gardens) - Whampoa Garden	20 to 25	20 to 25
31B	Shek Lei (Tai Loong Street) - Olympic Station	12 to 20	12 to 15
32	Tsuen Wan (Shek Wai Kok) - Olympic Station	20 to 25	15 to 25
33A	Tsuen Wan (Nina Tower) - Mong Kok (Park Avenue)	20	17 to 20
35A	On Yam - Tsim Sha Tsui East	8 to 15	12 to 15
36A	Lei Muk Shue Estate Public Transport Interchange - Cheung Sha Wan (Sham Mong Road)	25	15 to 25
36B	Lei Muk Shue - Jordan (West Kowloon Station)	15 to 20	15
36X	Lei Muk Shue - Tsim Sha Tsui East (Mody Road)	Weekday special buses	
37	Olympic Station - Kwai Shing (Central)	15 to 20	13 to 20
40	Tsuen Wan (Belvedere Garden) - Laguna City	15	13
40A	Kwai Hing Station - Ping Tin	Weekday special buses	
42	Tsing Yi (Cheung Hong Estate) - Shun Lee	20	15 to 20
42A	Cheung Hang - Jordan (West Kowloon Station)	6 to 14	6 to 10
43C	Island Harbourview - Tsing Yi (Cheung Hang Estate)	-	15
44	Tsing Yi Estate - Mong Kong East Station	10 to 20	9 to 20
45	Kowloon City Ferry - Lai Yiu	25 to 30	30
46	Jordan (West Kowloon Station) - Lai Yiu	25 to 30	25 to 30
52P	So Kwun Wat – Mong Kok (Park Avenue)	Weekday special buses	
52X	So Kwun Wat - Mong Kok (Park Avenue)	15	15
58X	Tuen Mun (Leung King Estate) - Mong Kok East Station	8 to 12	5 to 12
59X	Lung Mun Oasis - Mong Kok East Station	8	11
60X	Tuen Mun Central - Jordan (West Kowloon Station)	8 to 15	7 to 13

Route No.	Route Name	AM Peak Hour Headways	PM Peak Hour Headways
66X	Tuen Mun (Tai Hing Estate) - Olympic Station	12 to 20	10 to 15
67X	Tuen Mun (Siu Hong Court) - Mong Kok East Station	15	9 to 20
68X	Yuen Long (West) - Mong Kok (Park Avenue)	25	20
69X	Tin Yiu - Jordan (West Kowloon Station)	20	20
72	Tai Wo - Cheung Sha Wan	20 to 25	15 to 25
79X	Queen's Hill Fanling – Cheung Sha Wan (Kom Tsun Street)	40	40
86	Wong Nai Tau - Mei Foo	20	15 to 20
86A	Sha Tin Wai - Cheung Sha Wan (Kom Tsun Street)	20 to 25	20 to 25
86C	Lee On - Cheung Sha Wan	25 to 30	25 to 30
98C	Hang Hau (North) - Mei Foo	12 to 20	9 to 15
98E	Han Hau (North) – Mei Foo	Weekday special buses	
98S	Lohas Park Station - Mei Foo	Weekday special buses	
102	Shau Kei Wan - Mei Foo	5 to 8	5 to 8
102P	Shau Kei Wan - Mei Foo	Weekday special buses	
171	Lai Chi Kok - South Horizons	12	11
171A	Lei Tung Estate - Lai Chi Kok	Weekday special buses	
171P	South Horizons - Lai Chi Kok	Weekday special buses	
214	Po Tat - Cheung Sha Wan (Kom Tsun Street)	20	20
214P	On Sau Road - Cheung Sha Wan (Kom Tsun Street)	Weekday special buses	
234X	Tsim Sha Tsui East (Mody Road) - Bayview Garden	12 to 15	15
238X	Tsuen Wan (Riviera Gardens) - China Ferry Terminal	14 to 18	12 to 18
240X	Wong Nai Tau - Kwai Hing Station	Weekday special buses	
265B	Tin Heng Estate - Mong Kok (Park Avenue)	11 to 15	7 to 20
270B	Sheung Shui - Olympic Station	30	30
270D	Luen Wo Hui Bus Terminus - Sham Shui Po	Weekday special buses	
272E	Tai Wo - Mong Kok (Park Avenue)	-	15
272P	Fu Heng - Kwai Hing Station	Weekday special buses	
286A	Sha Tin Wai – Cheung Sha Wan (Circular)	25	-
286C	Lee On - Cheung Sha Wan (Sham Mong Road)	20 to 30	9 to 30
286D	Ma On Shan Town Centre – Sham Shui Po	Weekday special buses	
286P	Mei Chung Court - Cheung Sha Wan	Weekday special buses	
286X	Hin Keng - Sham Shui Po(Circular)	15	12
293S	Hang Hau (Ngau O Road) – Mei Foo	Special buses	
296P	Sheung Tak - Lai Chi Kok Station	Weekday special buses	
298X	Hang Hau (North) (Tseung Kwan O Hospital) – Mei Foo	30	30
586	Go Park Sai Sha – Tsuen Wan Station	Weekday special buses	
795	Tseung Kwan O Industrial Estate – Cheung Sha wan (Hoi Tat)	Weekday special buses	

Route No.	Route Name	AM Peak Hour Headways	PM Peak Hour Headways
795X	Oscar By The Sea – So Uk	30	30
904	Lai Chi Kok - Kennedy Town	20	18
905	Lai Chi Kok - Wan Chai North	11 to 13	5 to 11
905A	Wan Chai North - Lai Chi Kok	Weekday special buses	
936	Tsuen Wan (Shek Wai Kok) - Causeway Bay (Cotton Path)	20	20
936A	Lei Muk Shue - Causeway Bay (Cotton Path)	Weekday special buses	
970X	Tin Wan - Cheung Sha Wan (Kom Tsun Street)	13	15
A20	Hung Hom Station - Airport (Ground Transportation Centre)	60	60
A23	Tsz Wan Shan (North) - Airport	30	30
E21	Tai Kok Tsui (Island Harbourview) - Asiaworld-Expo	15	10 to 20
E21A	Ho Man Tin (Oi Man Estate) - Tung Chung (Yat Tung Estate)	20	20
E21C	Tai Kok Tsui (Island Harbourview) - Aircraft Maintenance Area	Weekday special buses	
E21B	Tung Chung (Yat Tung Estate) – Ho Man Tin (Oi Man Estate)	20	20
E21D	Skycity – Tai Kok Tsui (Island Harbourview)	20	20
NA20	Whampoa Garden - Hzmb Hong Kong Port	Night services only	
N21	Tsim Sha Tsui (Star Ferry) - Airport (Ground Transportation Centre)	Night services only	
N21A	Tsim Sha Tsui (Star Ferry) - Airport (Via Yat Tung Estate)	Night services only	
N122	Mei Foo - Shau Kei Wan	Night services only	
N171	Lai Chi Kok - Ap Lei Chau Estate	Night services only	
N214	Yau Tong – Mei Foo	Night services only	
N241	Hung Hom Station - Cheung Wang	Night services only	
X6C	Mei Foo – Hong Kong Children's Hospital	30	30
X970	South Horizons - Cheung Sha Wan (Kom Tsun Street)	Weekday special buses	
Green Minibus			
42	Cheung Sha Wan (Yu Chau West Street) - Chak On Estate	25	25
75	Sham Shui Po (Fu Cheong Estate) - Cheung Sha Wan (Castle Peak Road) (Circular)	8	8
411	Kwai Chung (Lai Kong Street) - Sham Shui Po (Un Chau Street) (Circular)	12	10
Red Minibus			
-	To Kwa Wan (Jubilant Place) - Mei Foo	3-9	3-9
-	Tsz Wan Shan - Cheung Sha Wan And Mei Foo	Depart when fully loaded	Depart when fully loaded
-	Cheung Sha Wan (Hk Spinners Industrial Bldg) - Lam Tin And Yau Tong	10-15	10-15

Route No.	Route Name	AM Peak Hour Headways	PM Peak Hour Headways
-	Ngau Tau Kok Station - Cheung Sha Wan (Hk Spinners Industrial Bldg)	Depart when fully loaded	Depart when fully loaded
-	Cheung Sha Wan (Hk Spinners Industrial Bldg) - Kwun Tong (Yee On St)	Depart when fully loaded	Depart when fully loaded
AN1/2	Tsuen Wan (Belvedere Garden) - Cheung Sha Wan And Sham Shui Po	Scheduled Service	Scheduled Service

2.4.2 In summary, the subject development would have good accessibility to the public transport services via adjacent road network and the existing MTR Lai Chi Kok Station.

3 THE SUBJECT DEVELOPMENT

3.1 Development Schedule

3.1.1 The Applicant intends to redevelop the site into hotel use. The proposed development is envisaged to be completed by Year 2030.

3.1.2 The proposed development schedule is summarized in **Table 3.1.1**.

Table 3.1.1 Proposed Development Schedule

Development Schedule	
Site Area	About 856m^2
GFA	12,525.14m^2 *(including a bonus PR of 0.25, equivalent to a GFA of about 210.26 m^2)*
Description	A 30-storey hotel building with 299 hotel rooms

3.2 Proposed Vehicular Access Arrangement

3.2.1 The vehicular access of proposed development will be situated at the Tai Nan West Street.

3.2.2 To prevent vehicle stopping outside the vehicular access of the proposed development and maintain a smooth traffic flow of the adjacent junction, the road making "KEEP CLEAR" is proposed, and the existing traffic signs and road markings of the overnight parking (8PM – 7AM) for goods vehicles are proposed to be modified that the overall length of the overnight parking spaces for goods vehicle will be reduced from approximately 21m to 16m, as illustrated in **Figure 3.1**.

3.2.3 According to the parking occupancy study conducted for overnight goods vehicle parking spaces in the vicinity, including King Lam Street, Wing Hong Street and Castle Peak Road in Cheung Sha Wan, a surplus of 13 parking spaces and an approximately 45m long overnight parking lay-by was observed. As such, the proposed 5m reduction of the overnight goods vehicle parking space at Tai Nan Street is considered to have no adverse impact on the overall parking provision in the area.

3.2.4 The major ingress and egress routes for vehicular traffic approaching and leaving the Application Site are illustrated in **Figure 3.2**.

3.3 Internal Transport Facilities Provision

3.3.1 Upon to the redevelopment of the site, the Applicant is intended to provide internal transport facilities, reference is made to Hong Kong Planning Standards and Guidelines (HKPSG) requirement and summarized in **Table 3.3.1** below.

Table 3.3.1 Internal Transport Provision for the Proposed Development (Hotel)

Type of Development	Facilities (L x W x H)	HKPSG Requirement		HKPSG Required Provision	Proposed Provision
Hotel (299 rooms)	Car Parking Space (5.0m x 2.5m x 2.4m)	1 car space per 100 rooms		**3 (incl. Accessible Car Parking Spaces)**	**3 (incl. Accessible Car Parking Spaces)**
	Accessible Car Parking Space (5.0m x 3.5m x 2.4m)	1 car spaces for total provision of 1-50 nos. car parking spaces in lot		1	1
	Motorcycle Parking Spaces (2.4m x 1.0m x 2.4m)	5-10% of the total provision for private cars with respect to each type of development for all non-residential developments		1	**1**
	Loading / Unloading Bay for Goods Vehicles (LGV: 7.0m x 3.5m x 3.6m)	Loading/unloading bays for goods vehicles: 0.5-1 goods vehicle bay per 100 rooms		2-3	**LGV: 2**
	Lay-by for taxi and private cars (5.0m x 2.5m x 2.4m)	≤299 rooms	2	2	**2**
		350-599 rooms	3		
		≥600 rooms	4		
	Lay-by for single-deck tour buses (Mini Coach: 8.0m x 3m x 3.3m	≤299 rooms	1	1	**Mini Coach: 1**
		300-899 rooms	2-3		
		≥900 rooms	3		

3.3.2 From **Table 3.3.1** above, the proposed provision of internal transport facilities for the subject development is in full compliance with the HKPSG requirements whilst the proposed proportion of goods vehicle loading/unloading bay provision and the dimension of lay-by for single-deck tour buses provision will be discussed and justified in **Section 3.4**.

3.3.3 The corresponding preliminary layout plans are demonstrated in **Figures 3.3**.

3.4 Justifications on Internal Transport Facilities Provision

3.4.1 Referring to **Section 3.3** earlier, a total of 2 nos. goods vehicle loading/unloading bays, 1 no. of lay-by for single-deck tour buses, 1 no. motorcycle parking space, 2 nos. of lay-by for taxis and private cars and 3 car parking spaces are provided to in order fulfil the HKPSG requirement. Given the constraints of the site, the proposed loading/unloading bays (7m x 3.5m x 3.6m) will accommodate LGV and the lay-by for single-deck tour buses (8m x 3m 3.3m) will accommodate mini coach (up to 29 passengers) only. Justifications on the proposed provision are presented in the following sections.

Justification – Infeasibility of Providing 12m long Coach and 11m long HGV Bay and Turntable System

3.4.2 The provision of a coach/HGV turntable system to facilitate coach or HGV manoeuvring within the site for loading/unloading at the coach/ HGV bay has been explored.

3.4.3 Assembling all the development essential facilities (Development structures, E&M facilities, lift core, staircase, etc.) the development has been working with even more difficulties for installing a Coach/ HGV bay and turntable within the site permissible dimension. It would be difficult to be installed without clashing other essential facilities and structural column, as demonstrated in **Figure 3.4** and **3.5**.

3.4.4 Furthermore, irrespective of the impacts on structural columns, the provision of a coach/HGV turntable would result in the loss of 2 nos. lay-bys for taxis and private cars, and 2 nos. car parking spaces currently proposed. Given the limited footprint of the ground floor, these facilities could not be fully re-provided elsewhere within the site. Under such arrangement, only 1 nos. car parking space and no lay-by for taxis and private cars could be accommodated, which would will not fulfil the HKPSG requirements, which stipulate the provision of 3 nos. car parking spaces and 2 nos. lay-bys for taxis and private cars.

3.4.5 Given the site constrains particularly the site footprint area and the positioning of essential facilities and structural columns, it is not feasible to provide Coach/ HGV bay and turntable.

3.5 Swept Path Assessment

3.5.1 Swept path assessment for the critical movements of vehicles entering/leaving the Application Site and vehicle manoeuvring for loading/unloading bays was carried out as demonstrated in **Figures 3.6** to **3.9**.

4 TRAFFIC IMPACT ASSESSMENT

4.1 Trip Generation and Attraction of Proposed Development

4.1.1 The likely amount of traffic generated and attracted by the approved industrial development and the proposed hotel development and were calculated based on 'Traffic Rates for Non-Residential Developments at 95% Confidence Level' adopted in the TPDM Vol. 1 Appendix 1 Table 2. The adopted rates and associated trips for the approved industrial development (i.e. under the approved Planning Application No. A/K5/838) and the proposed hotel development at the Application Site are shown in **Table 4.1.1** and **Table 4.1.2** respectively.

4.1.2 The traffic impact arising from the conversion from the approved development to the proposed development would be due to the difference in the traffic generation and attraction between the two scenarios, the approved industrial development and the proposed hotel development.

Table 4.1.1 Traffic Generation and Attraction of the Approved Industrial Development (pcu/hr)

Development Use	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Industrial (pcu/hr/100 sqm GFA) GFA = 12,525.14m^2	0.1153	0.1727	0.1648	0.1260
Total (pcu/hr)	**14**	**22**	**21**	**16**

Table 4.1.2 Traffic Generation and Attraction for the Proposed Hotel Development (pcu/hr)

Development Use	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Hotel (pcu/hr/guestroom) No. of Guest Rooms = 299	0.1814	0.2082	0.1697	0.2183
Total (pcu/hr)	**54**	**62**	**51**	**65**

4.1.3 The volume of traffic generation and attraction in pcu/hr under the two scenarios (the approved industrial development and the proposed hotel development) have been compared and are presented in **Table 4.1.3**.

Table 4.1.3 Differences in Trip Generation and Attraction (the Approved Industrial Development vs the Proposed Hotel Development)

Development Use	AM Peak (pcu/hr)			PM Peak (pcu/hr)		
	Generation	Attraction	Total	Generation	Attraction	Total
Approved Industrial Development	14	22	**36**	21	16	**37**
Proposed Hotel Development	54	62	**116**	51	65	**116**
Net Difference	40	40	**80**	30	49	**79**

4.1.4 As indicated in **Table 4.1.3**, the proposed change in the use of the Application Site from the approved industrial development to the proposed hotel development would result in increased net trip generation and attraction of 40 pcu/hr and 40 pcu/hr respectively during AM peak, and 30 pcu/hr and 49 pcu/hr respectively during PM peak.

4.2 Adjacent Developments

4.2.1 In addition to the development flow, the traffic generated and attracted by adjacent major planned/committed developments in the vicinity of the proposed development were taken into account for the traffic forecast. Details of these adjacent planned developments are summarized below.

- URA Kim Shin Lane/ Fuk Wa Street Development Project (SSP-017)
- URA Cheung Wah Street/ Cheung Sha Wan Road Development (SSP-018)
- 750 Cheung Sha Wan Road, Kowloon (Industrial Use)

4.3 Future Traffic Growth

4.3.1 It is anticipated that the proposed redevelopment will be fully completed and occupied by Year 2030. In order to assess the traffic impact of the development-related traffic on the adjacent road network, year 2033 (i.e. 3 years after completion) will be adopted as the design year of the study.

Annual Traffic Census

4.3.2 Reference was made to Annual Traffic Census (ATC) on annual average daily traffic (AADT) at counting stations in the vicinity of the proposed development and the corresponding traffic flows are summarized in **Table 4.3.1** below.

Table 4.3.1 Annual Average Growth Rate by ATC

Station No.	2020 AADT	2021 AADT	2022 AADT	2023 AADT	2024 AADT	Average Annual Growth Rate from 2020 to 2024
3101	10,390	10,520	10,440	11,320	11,180	+1.8%
3229	16,690	17,220	17,020	18,760	16,610	-0.12%
3261	12,150	12,720	12,040	13,580	14,080	+3.8%
3427	35,400	36,530	36,080	38,140	32,810	-1.88%
3466	8,580	8,980	8,510	9,140	9,860	+3.5%
3468	9,930	10,390	9,840	10,580	11,850	+4.5%
3627	1,680	1,560	1,230	1,290	1,570	-1.68%
3628	1,500	1,790	1,880	1,980	2,110	+8.9%
3668	39,020	40,600	40,110	42,390	41,740	+1.7%
3671	54,200	50,610	49,990	52,840	52,020	-1.02%
3825	6,180	6,860	6,500	6,980	6,800	+2.4%
3876	6,270	6,650	6,300	6,770	6,590	+1.3%
4022	45,880	41,990	41,580	43,950	43,270	-1.45%
4643	31,230	32,220	28,700	31,300	30,820	-0.33%
4648	7,270	7,950	8,040	8,640	8,410	+3.7%
Total	**286,370**	**286,590**	**278,260**	**297,660**	**289,720**	**+0.29%**

4.3.3 The ATC historic data indicates a small growth of traffic in recent years in the region with around +0.29% p.a.

Territorial Population and Employment Data Matrix (TPEDM)

4.3.4 Reference was also made to 2021-based TPEDM published by Planning Department. **Table 4.3.2** below summarize the estimated and projected population and employment data as well as their respective annual average growth rate of Sham Shui Po Districts in 2021, 2026 and 2031.

Table 4.3.2 Annual Average Growth Rate of Sham Shui Po District by TPEDM

Year	2021	2026	2031
Population	431,100	432,200	438,600
Employment	228,650	219,000	214,000
TOTAL	**659,750**	**651,200**	**652,600**
Annual Average Growth Rate	**-0.11% (from 2021 to 2031)**	**0.04% (from 2026 to 2031)**	

4.3.5 From the table above, the annual average growth rate of Sham Shui Po District from 2021 to 2031 is -0.11% p.a. and that from 2026 to 2031 is 0.04% p.a.

4.3.6 The average annual growth rate determined from ATC is +0.29% p.a., and that of TPEDM ranges from -0.11% to +0.04% p.a. For conservative purpose, growth rate of **+1% p.a.** is adopted to produce the traffic forecast for 2026–2033.

4.4 Assessment Scenarios

4.4.1 To evaluate the associated traffic impact likely to be induced by the proposed increase in PR restriction for the proposed development, two scenarios were analysed and compared.

4.4.2 The first scenario (i.e. Year 2033 Reference Scenario) refers to the traffic forecast with the approved industrial development (i.e. under the approved Planning Application No. A/K5/838) at the Application Site.

Scenario 1

Year 2033 Reference Scenario

= Year 2026 observed traffic flows × growth factor during the period of year 2026-2033

Plus traffic generations of other major planned/committed developments in the vicinity

Plus trips generated and attracted by the with the approved industrial development (i.e. under the approved Planning Application No. A/K5/838) at the Application Site.

Scenario 2

Year 2033 Design Scenario

= Year 2026 observed traffic flows × growth factor during the period of year 2026-2033

Plus traffic generations of other major planned/committed developments in the vicinity

Plus trips generated and attracted by the proposed hotel development where the development trip ends of the proposed hotel development (as presented in Table 4.1.2)

4.4.3 The forecasted traffic flows for the above two scenarios are presented in **Figures 4.1** and **4.2** respectively.

4.5 Junction Capacity Assessment

4.5.1 Junction capacity assessment was carried out at the identified key junctions for Year 2033 Reference and Design scenarios. Assessment results are summarized in **Table 4.5.1** below.

Table 4.5.1 Year 2033 Future Junction Performance

Junction		Type	Performance (1)			
			2033 Reference		2033 Design	
			AM	PM	AM	PM
J1	Tung Chau West Street / Castle Peak Road	Signalized	36%	72%	33%	67%
J2	Wing Hong Street / Yee Kuk West Street	Priority	0.25	0.32	0.27	0.33
J3	Castle Peak Road / Yee Kuk West Street	Signalized	>100%	>100%	>100%	>100%
J4	Cheung Sha Wan Road / Cheung Lai Street	Signalized	96%	66%	96%	66%
J5	Wing Hong Street / Tai Nan West Street	Priority	0.33	0.39	0.35	0.41
J6	Castle Peak Road / Tai Nan West Street	Signalized	40%	81%	35%	77%
J7	Cheung Sha Wan Road / Tai Nan West Street	Signalized	33%	39%	33%	39%
J8	Wing Hong Street / Yu Chau West Street	Priority	0.39	0.38	0.39	0.38
J9	Yu Chau West Street / Castle Peak Road	Priority	0.71	0.57	0.73	0.57
J10	Castle Peak Road / Fuk Wa Street	Signalized	72%	88%	71%	88%
J11	Cheung Sha Wan Road / Cheung Wah Street	Signalized	55%	64%	55%	64%

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

4.5.2 The above results reveal that the identified key junctions would operate within capacity with the proposed hotel development in Year 2033. The junction performance under the Design Scenario in Year 2033 would be more or less the same as the junction performance under the Reference Scenario during both morning and evening peak hours. The proposed hotel development would not induce adverse traffic impact to the surrounding road network.

5 CONCLUSION

5.1 Summary

5.1.1 The Applicant intends to submit this S16 Planning Application for proposed hotel use, which the Application Site is the subject of an approved S16 planning application (Application No. A/K5/838) which was approved with conditions for proposed minor relaxation of PR restriction to 14.4 for non-polluting industrial use. The Application Site is with a site area of about 856m^2.

5.1.2 A Traffic Impact Assessment (TIA) study was carried out to evaluate the likely traffic impact associated with the proposed hotel development, in support of the planning application for the Application Site.

5.1.3 The proposed provision of internal parking and servicing facilities for the subject development is in compliance with the HKPSG requirements. The car park, lay-by and goods vehicle loading/unloading area will be located on G/F. The vehicular access of proposed development will be situated at the Tai Nan West Street.

5.1.4 The provision of loading/unloading bay for Coach/ HGV using turntable system is not feasible. It is demonstrated that only mini coach and LGV loading/unloading bays with adequate manoeuvring space can be provided within the proposed Application Site .

5.1.5 The identified key junctions in the vicinity were assessed with respect to traffic generation of the proposed development upon Year 2033 (3 years after the target Completion Year 2030), taking into account the traffic generation by the major planned/committed developments in the vicinity.

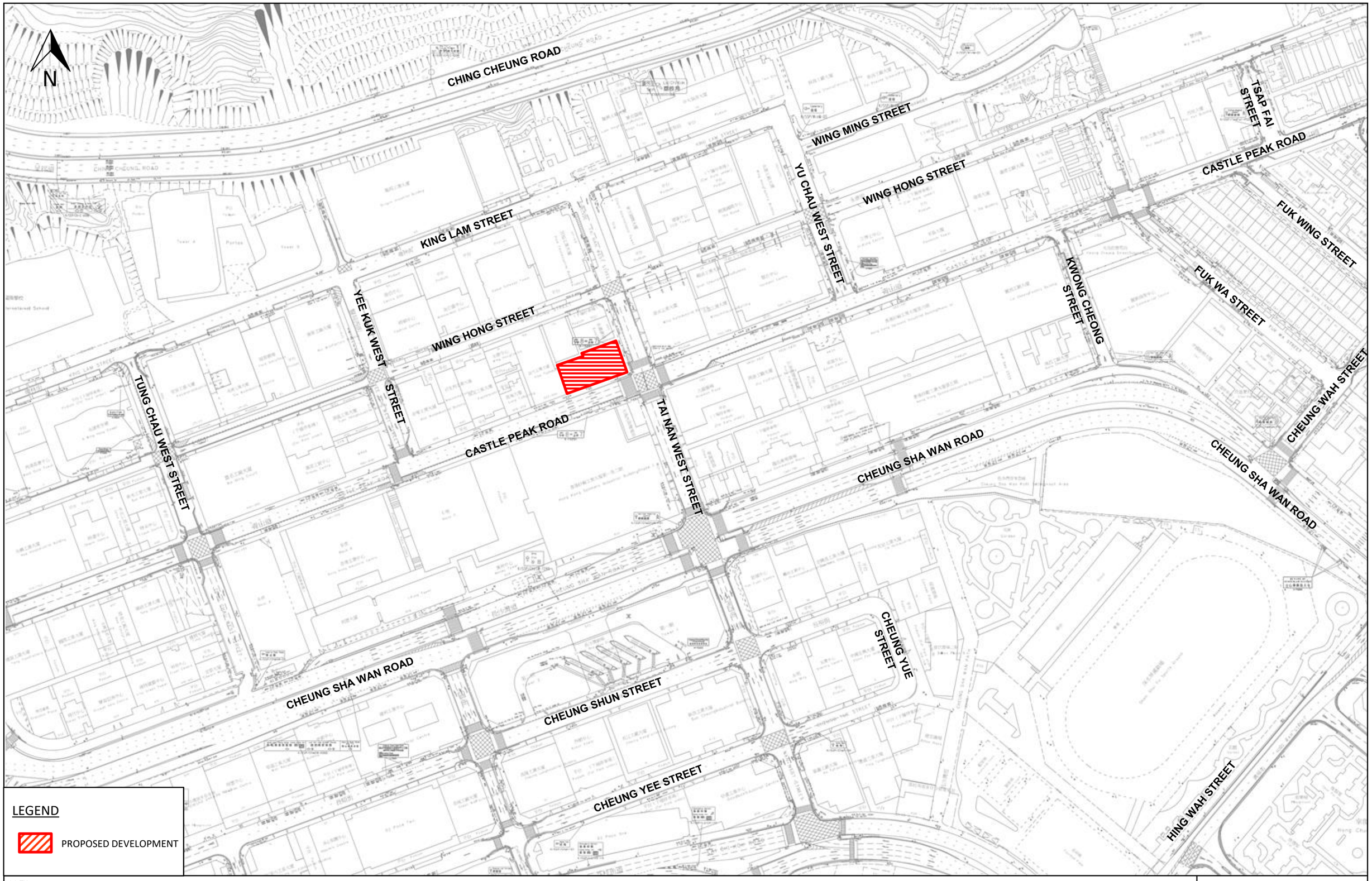
5.1.6 Traffic impact assessment scenarios were set up for the proposed development, namely Year 2033 Reference scenario (i.e. the site occupied by the industrial development under the approved Planning Application No. A/K5/838) and Year 2033 Design scenario (i.e. the site occupied by the proposed hotel development).

5.1.7 Assessment results showed that the identified key junctions and road links would operate within capacity with the proposed hotel development in Year 2033 The traffic impact due to the proposed development is considered minimal and could be accommodated by the surrounding road network.

5.2 Conclusion

5.2.1 It could be concluded that the proposed hotel development at Application Site will not impose adverse traffic impact on the surrounding road network and thus is feasible from the traffic engineering point of view.

Figures

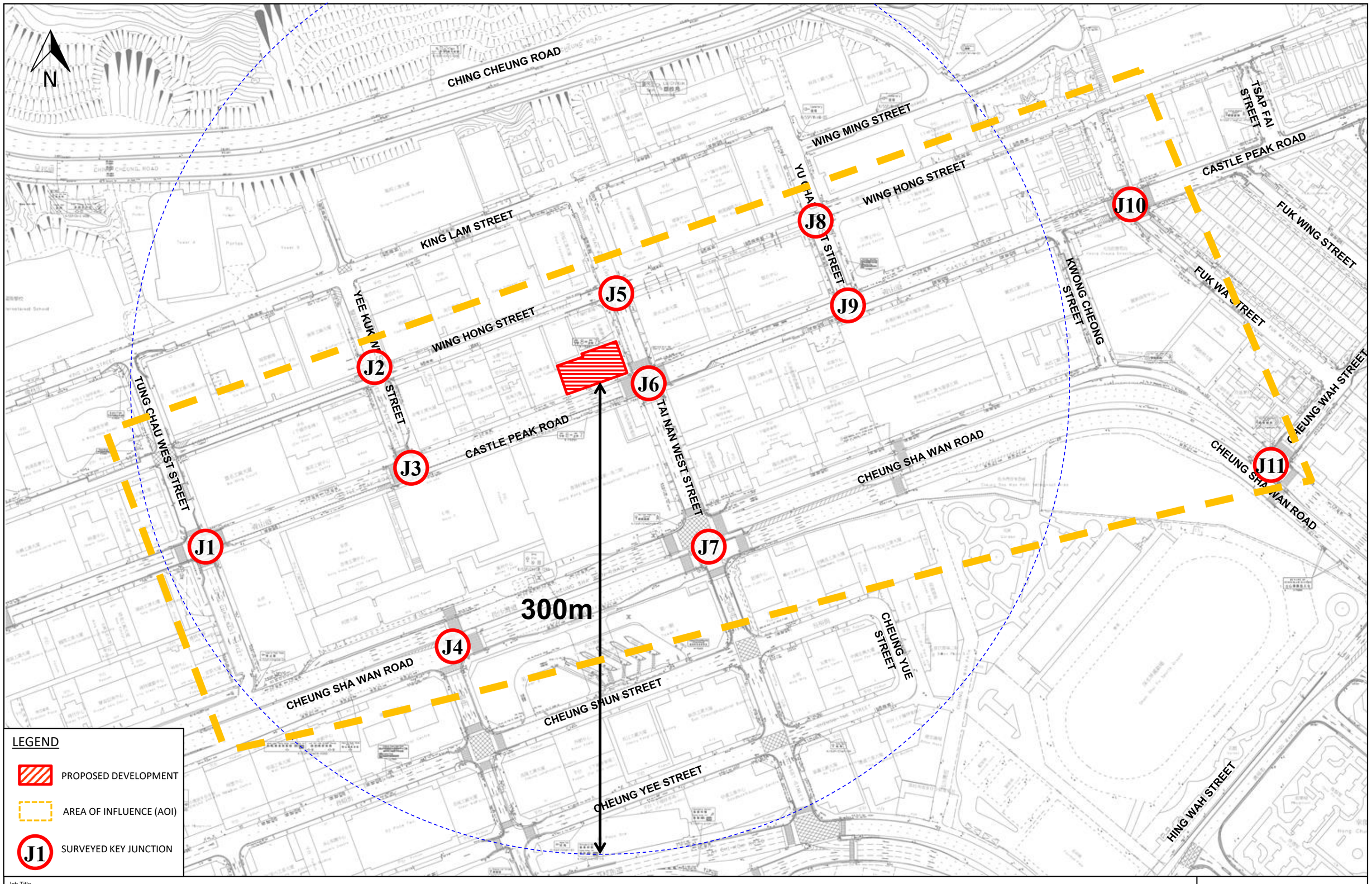


Job Title
APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

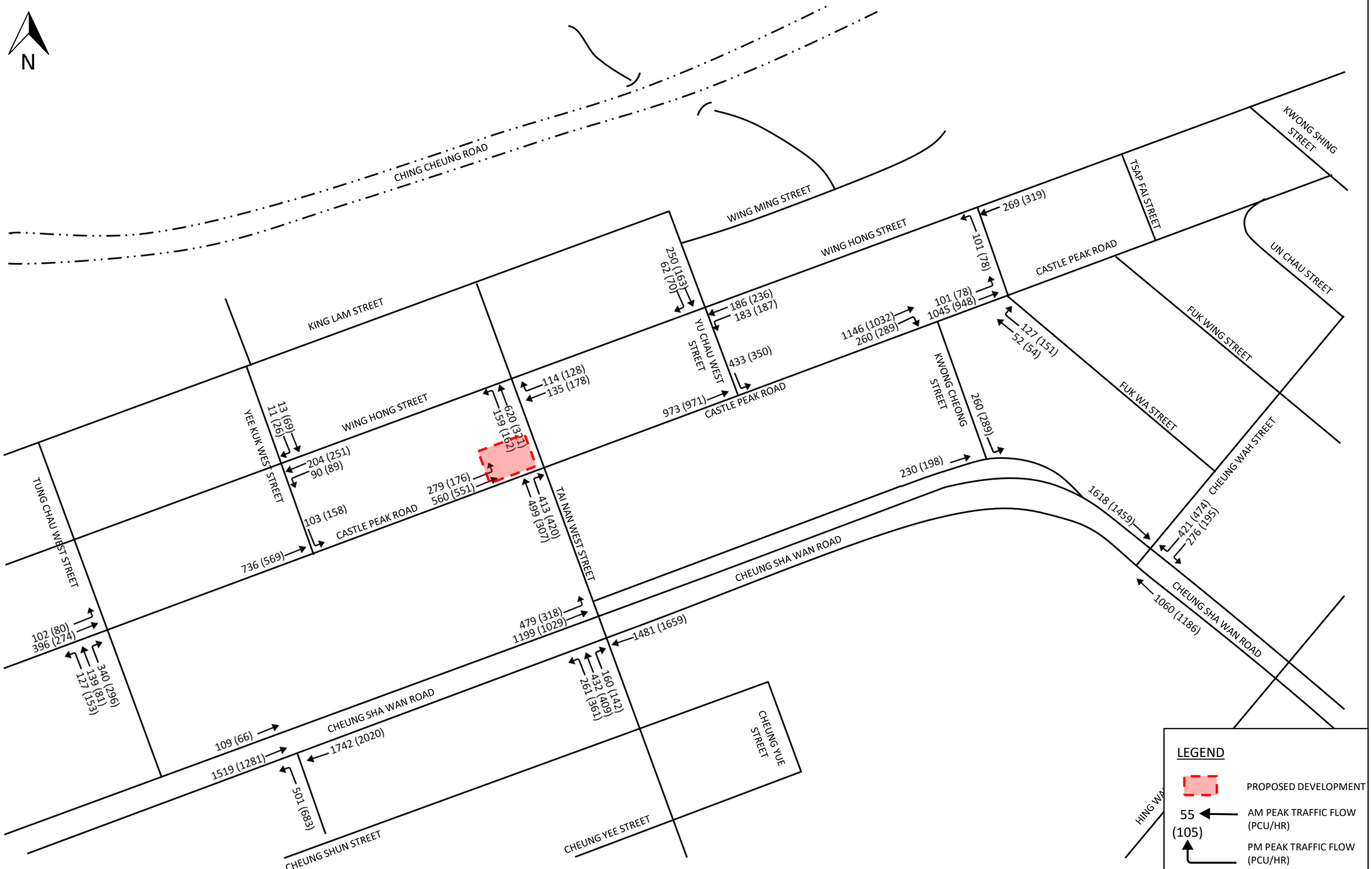
FIGURE 1.1

Date	Scale	Drawing Title
6/2026	N.T.S.	LOCATION OF THE PROPOSED DEVELOPMENT AND ITS ENVIRONS
Drawn	Job No.	
CNC	315341-02	

ARUP



Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON		FIGURE 2.1
Date: 6/2026	Scale: N.T.S.	Drawing Title: LOCATION OF SURVEYED JUNCTIONS IN THE VICINITY OF PROPOSED DEVELOPMENT
Drawn: CNC	Job No.: 315341-02	ARUP



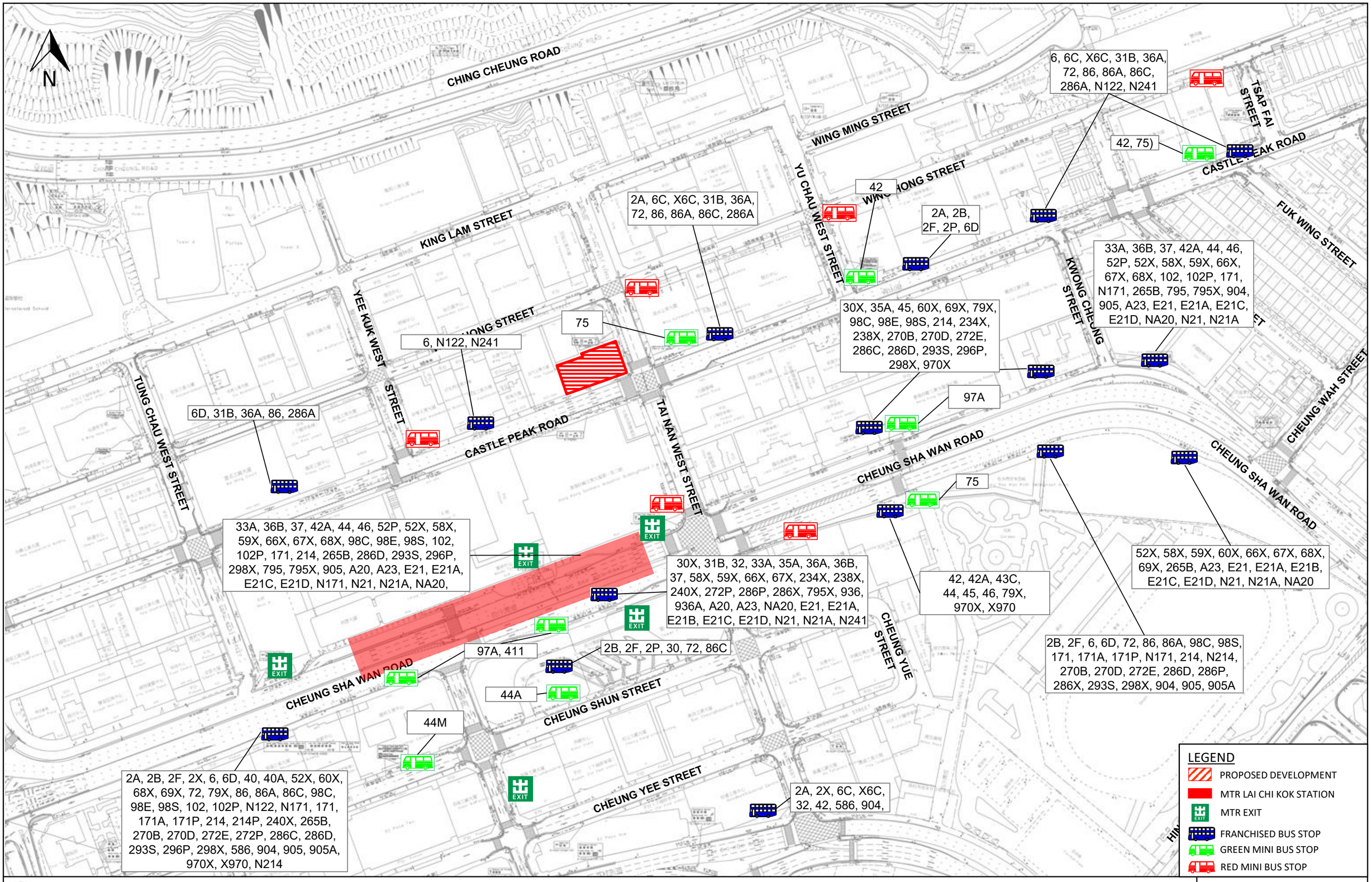
Job Title

APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 2.2

Date	Scale	Drawing Title
6/2026	**N.T.S.**	**YEAR 2026 EXISTING TRAFFIC FLOW**
Drawn	Job No.	
CNC	**315341-02**	

ARUP



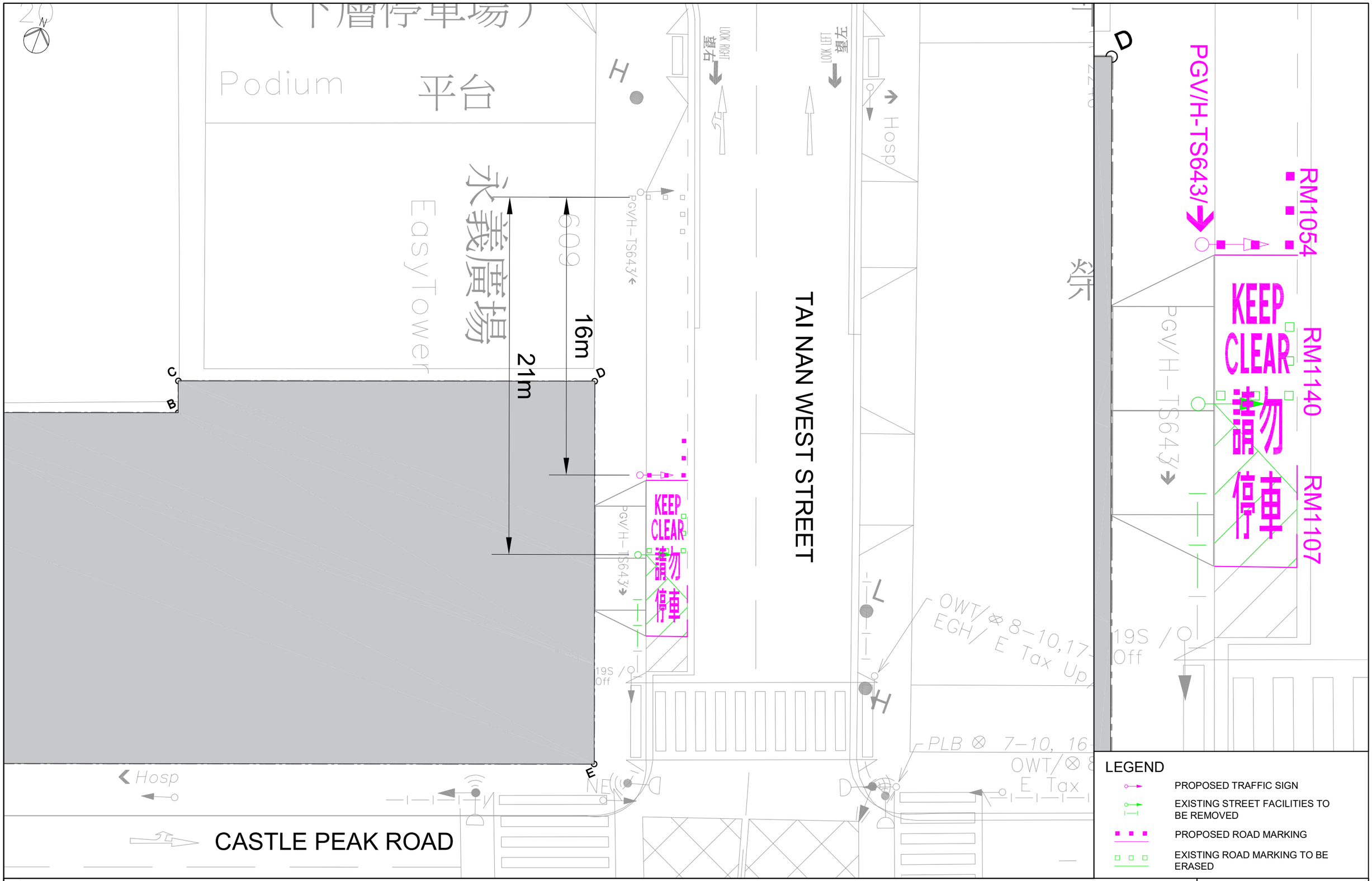
Job Title

APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 2.3

Date	Scale	Drawing Title
6/2026	N.T.S.	**PUBLIC TRANSPORT FACILITIES IN THE VICINITY OF THE PROPOSED DEVELOPMENT**
Drawn	Job No.	
CNC	315341-02	

ARUP



Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 3.1

Date	Scale
22JUN26	NTS
Drawn	Job No.
WLAC	315341-02

Drawing Title: PROPOSED MODIFICATION OF EXISTING ROAD MARKING AND TRAFFIC SIGN AT TAI NAN WEST STREET

ARUP

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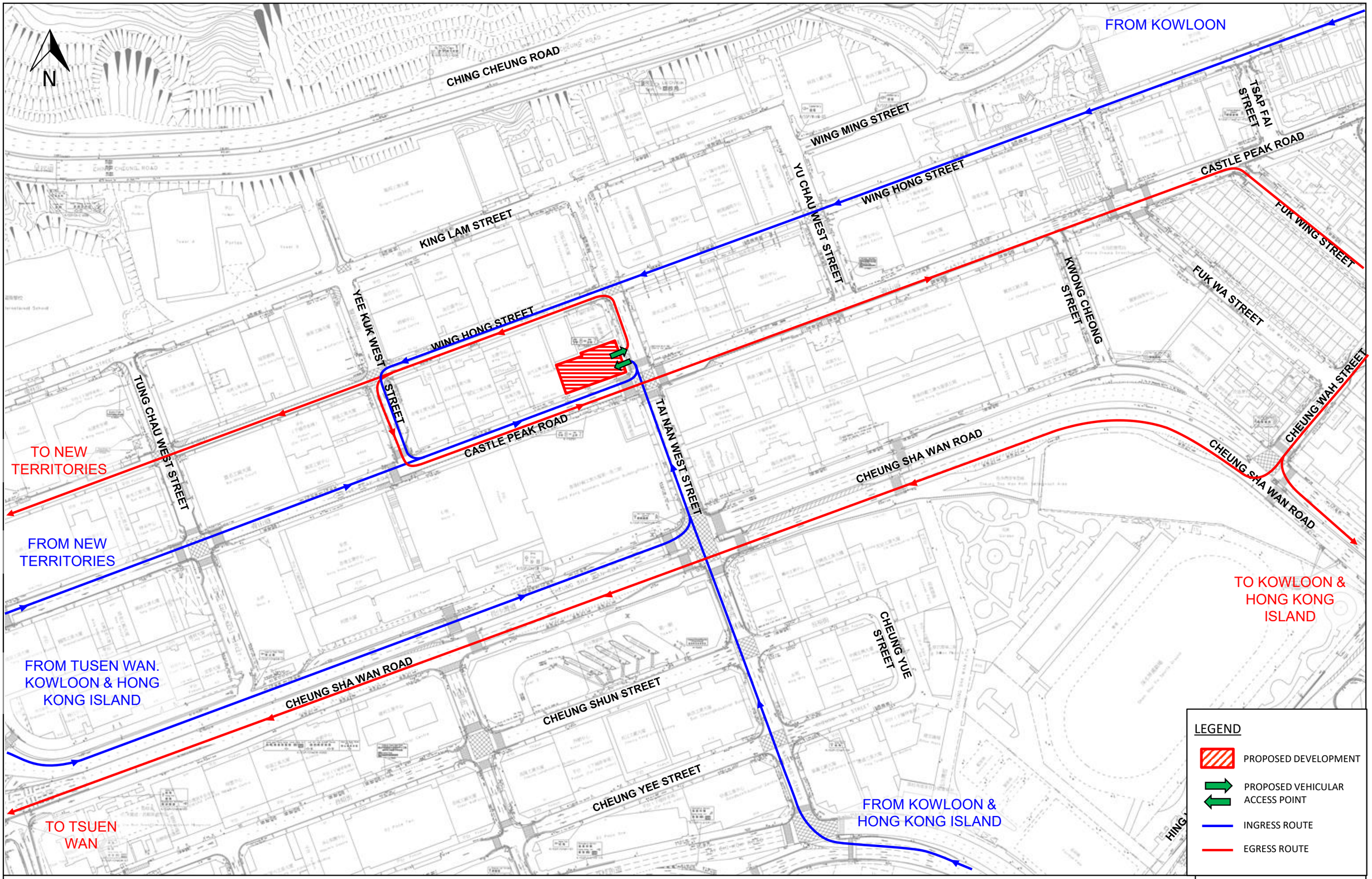

Job Title

APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 3.2

Date	Scale	Drawing Title
6/2026	**N.T.S.**	**INGRESS AND EGRESS VEHICULAR ROUTES OF THE PROPOSED DEVELOPMENT**
Drawn	Job No.	
CNC	**315341-02**	

ARUP

PLANT ROOM

PLANT ROOM

REQUIRED STAIRCASE

FIREFIGHTING AND RESCUE STAIRWAY AND FIREMAN'S LIFT LOBBY

SANITARY FITMENTS PROVISION

Lay-by for Coach 12m x 3.5m

LGV L/UL Bay 7m x 3.5m

LGV L/UL Bay 7m x 3.5m

MC

Private Car 5m x 2.5m

Private Car (Accessible) 5m x 3.5m

Private Car 5m x 2.5m

Lay-by for Taxi and Private Cars 5m x 2.5m

Lay-by for Taxi and Private Cars 5m x 2.5m

A

B

C

D

E

F

1 no. of Coach Lay-by
1 no. of Taxi and Private Cars Lay-by
1 no. of MC Parking Space
2 nos. of LGV U/UL Bay

To provide a Coach turntable and 12m long Coach Lay-by, several structure columns will be affected.

3 nos. car parking spaces (including 1 accessible) and 1 no. lay-by for taxi and private cars will be missing, the internal transport facilities will not fulfil the HKPSG requirement.

Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON		FIGURE 3.4
Date: 22JUN26	Scale: 1:200@A3	Drawing Title: TURNTABLE ARRANGEMENT FOR 12M LONG COACH
Drawn: WLAC	Job No.: 315341-02	ARUP

PRINTED BY: $USER$ FILE NAME : $FILE$ $DATE$ $TIME$

PLANT ROOM

PLANT ROOM

REQUIRED STAIRCASE

FIREFIGHTING AND RESCUE STAIRWAY AND FIREMAN'S LIFT LOBBY

SANITARY FITMENTS PROVISION

Lay-by for Mini Coach 8m x 3m

LGV L/UL Bay 7m x 3.5m

HGV L/UL Bay 11m x 3.5m

MC

Private Car 5m x 2.5m

Private Car 5m x 2.5m

Lay-by for Taxi and Private Cars 5m x 2.5m

Lay-by for Taxi and Private Cars 5m x 2.5m

Private Car (Accessible) 5m x 3.5m

A

B

C

D

E

F

1 no. of Mini Coach Lay-by
1 no. of Taxi and Private Cars Lay-by
1 no. of MC Parking Space
1 no. of LGV U/UL Bay
1 no. of HGV U/UL Bay

To provide a HGV turntable and 11m long HGV londing/unloading bay, several structure columns will be affected.

3 nos. car parking spaces (including 1 accessible) and 1 no. lay-by for taxi and private cars will be missing, the internal transport facilities will not fulfil the HKPSG requirement.

Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 3.5

Date:

Scale: 1:200@A3

Drawn: WLAC

Job No.: 315341-02

Drawing Title: TURNTABLE ARRANGEMENT FOR 11M LONG HGV

ARUP

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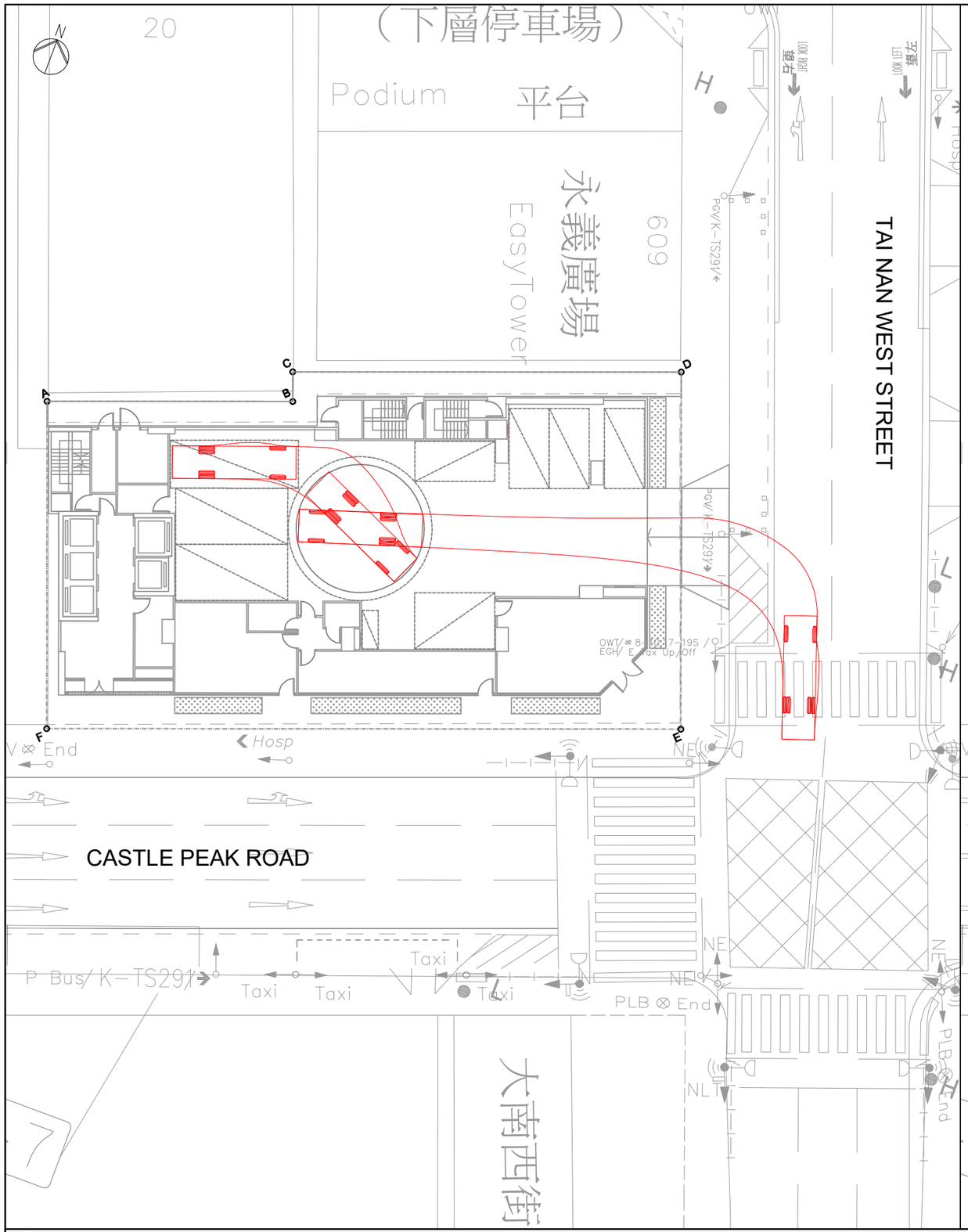
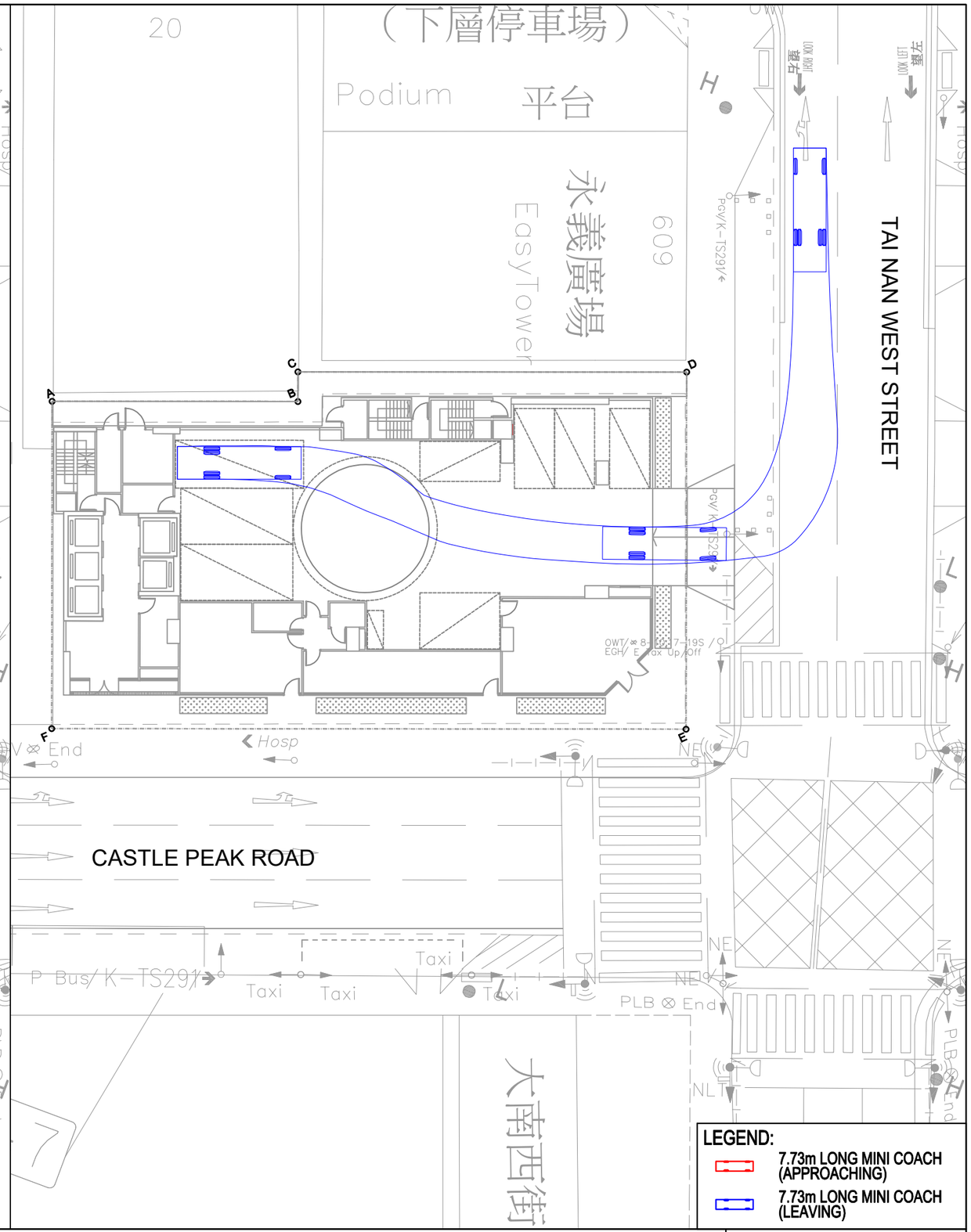
$DATE$
$TIME$





LEGEND:

- 7.73m LONG MINI COACH (APPROACHING)
- 7.73m LONG MINI COACH (LEAVING)

Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

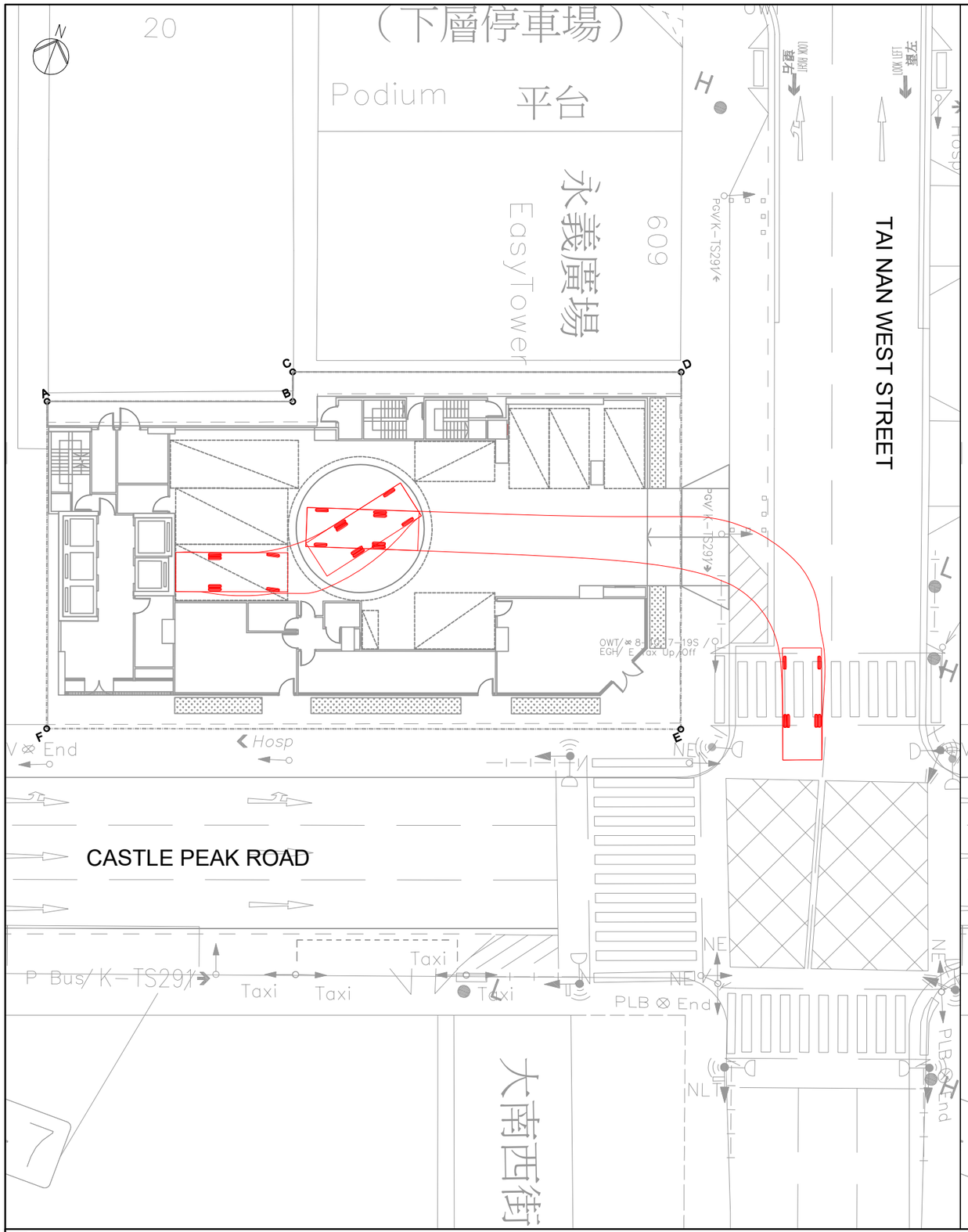
FIGURE 3.6

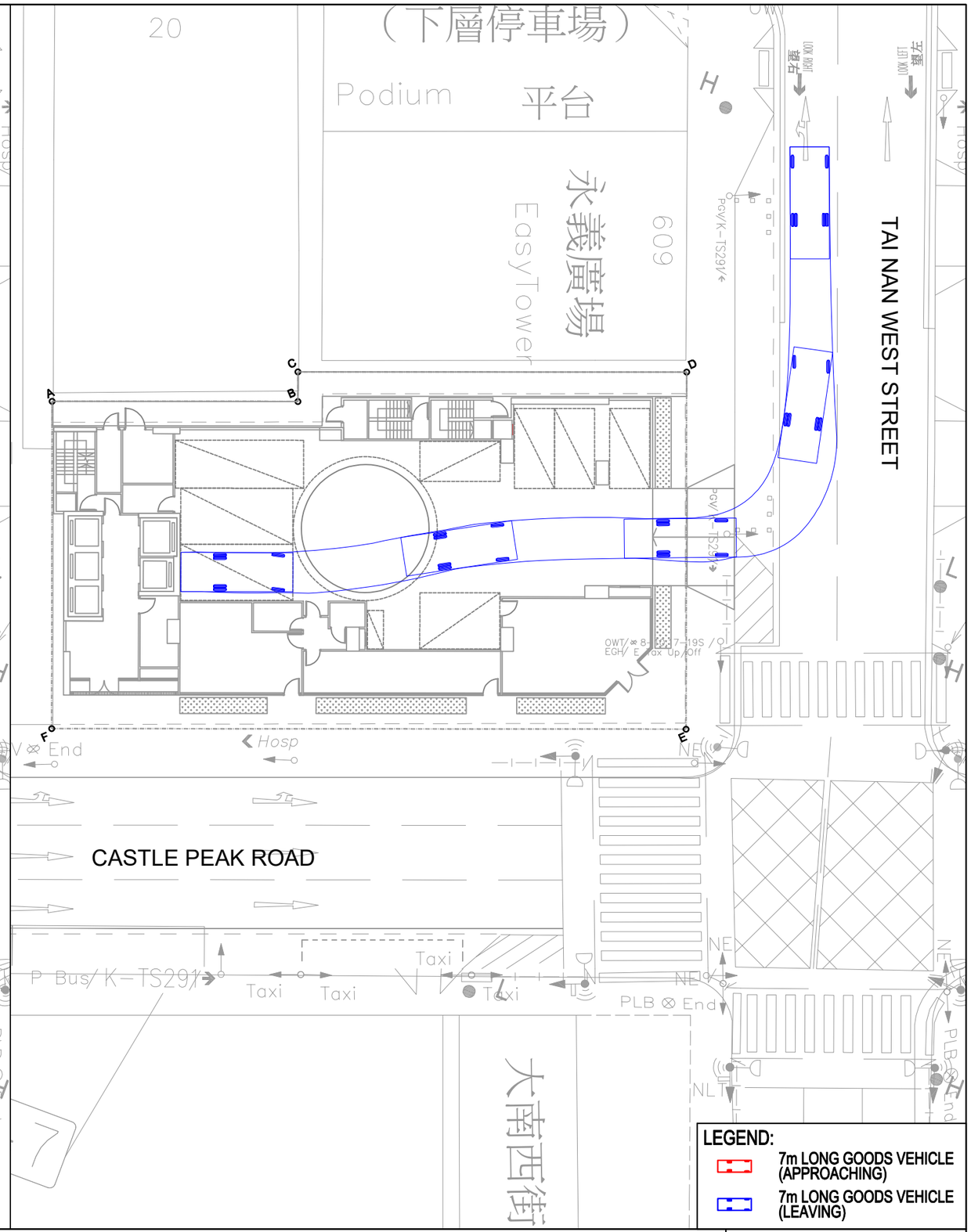
Date	Scale
22JUN26	1:300@A3
Drawn	Job No.
WLAC	315341-02

Drawing Title: SWEPT PATH ANALYSIS FOR MINI COACH (APPROACHING/ LEAVING)

ARUP

PRINTED BY: $USER$
FILE NAME : $FILE$
$DATE$
$TIME$





LEGEND:

- 7m LONG GOODS VEHICLE (APPROACHING)
- 7m LONG GOODS VEHICLE (LEAVING)

Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 3.7

Date: 22JUN26 | Scale: 1:300@A3

Drawing Title: SWEPT PATH ANALYSIS FOR 7m LONG GOODS VEHICLE (APPROACHING/ LEAVING)

Drawn: WLAC | Job No.: 315341-02

ARUP

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FILE NAME : $FILE$
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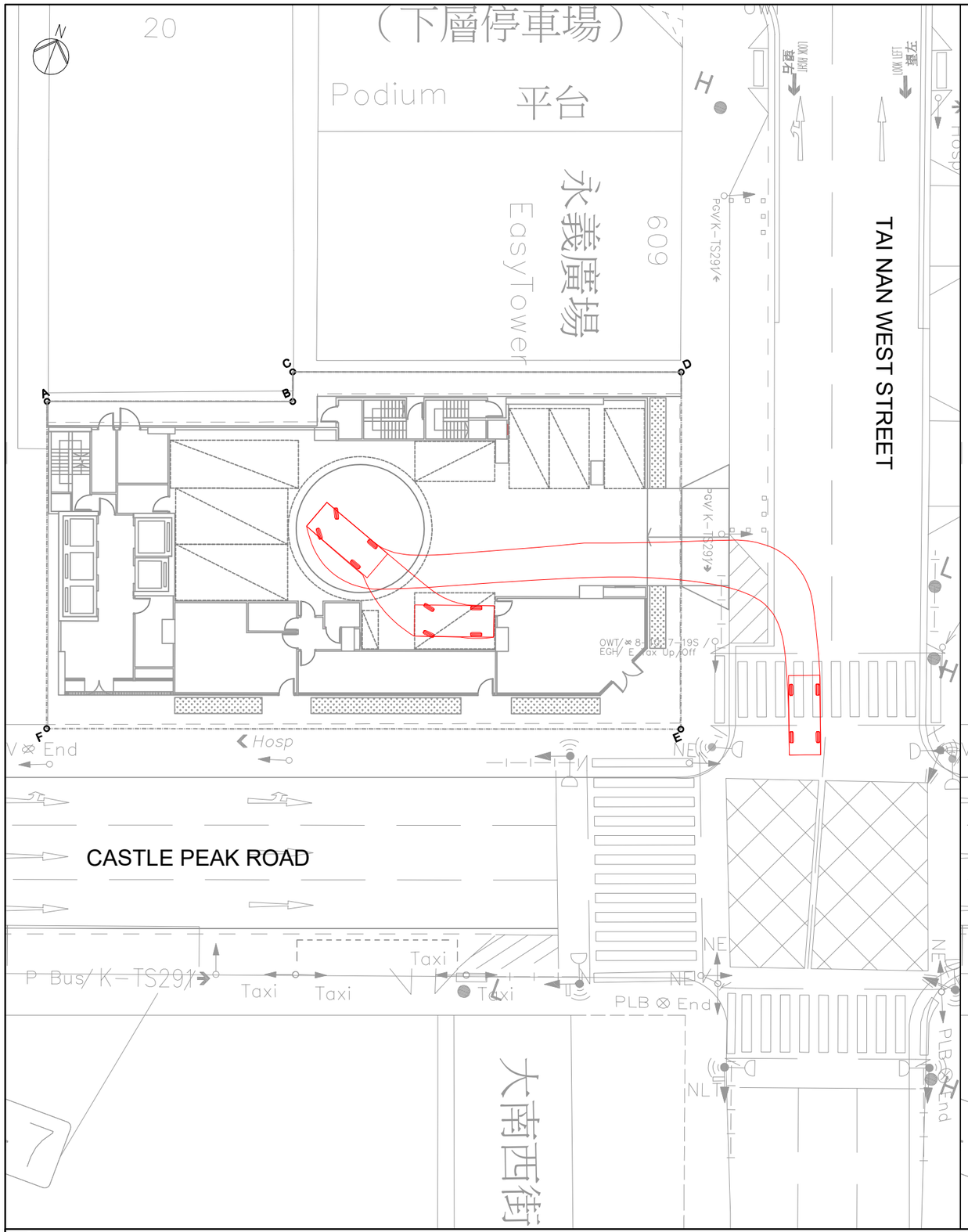
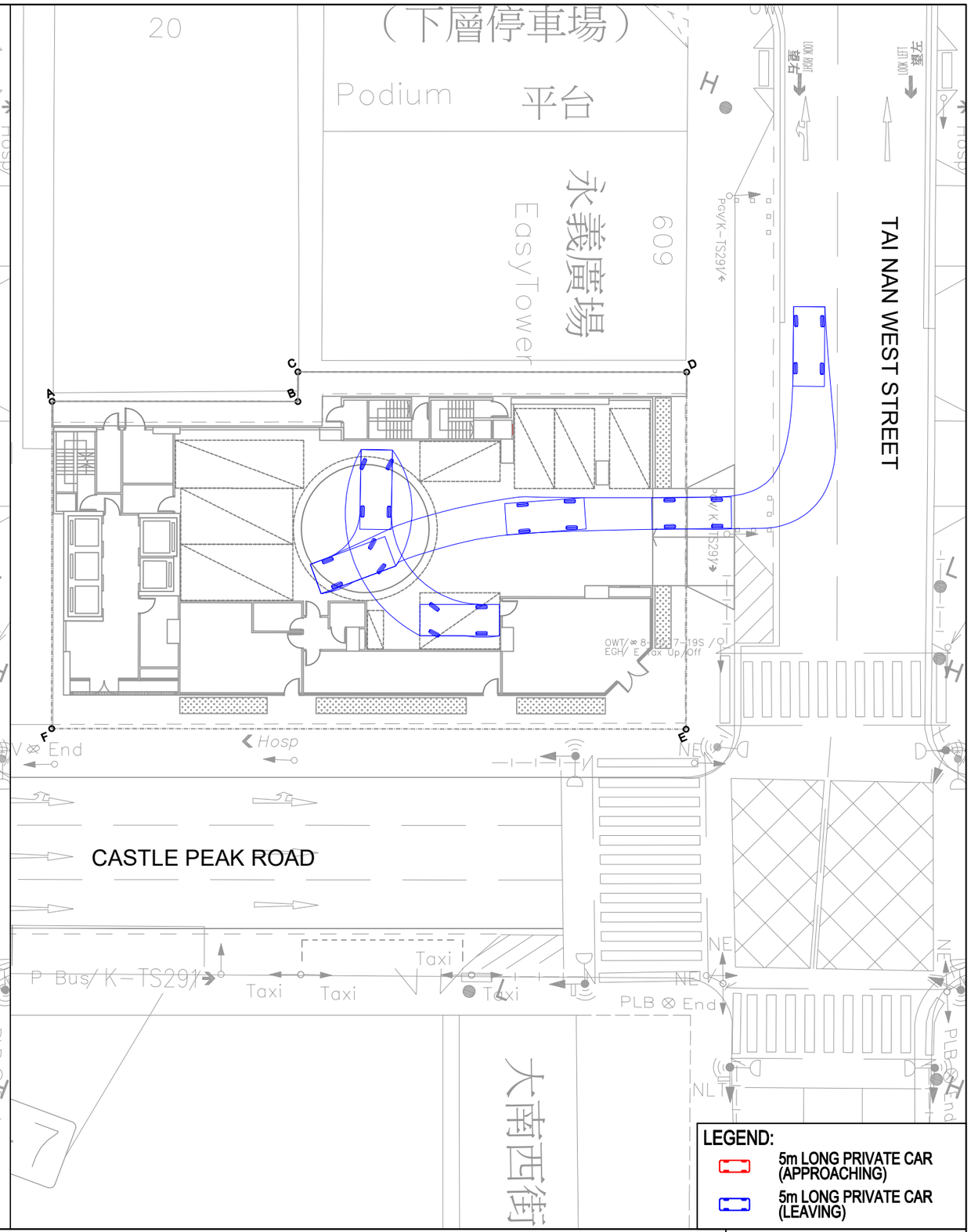




LEGEND:

- 5m LONG PRIVATE CAR (APPROACHING)
- 5m LONG PRIVATE CAR (LEAVING)

$TIME$
$DATE$
PRINTED BY: $USER$
FILE NAME : $FILE$

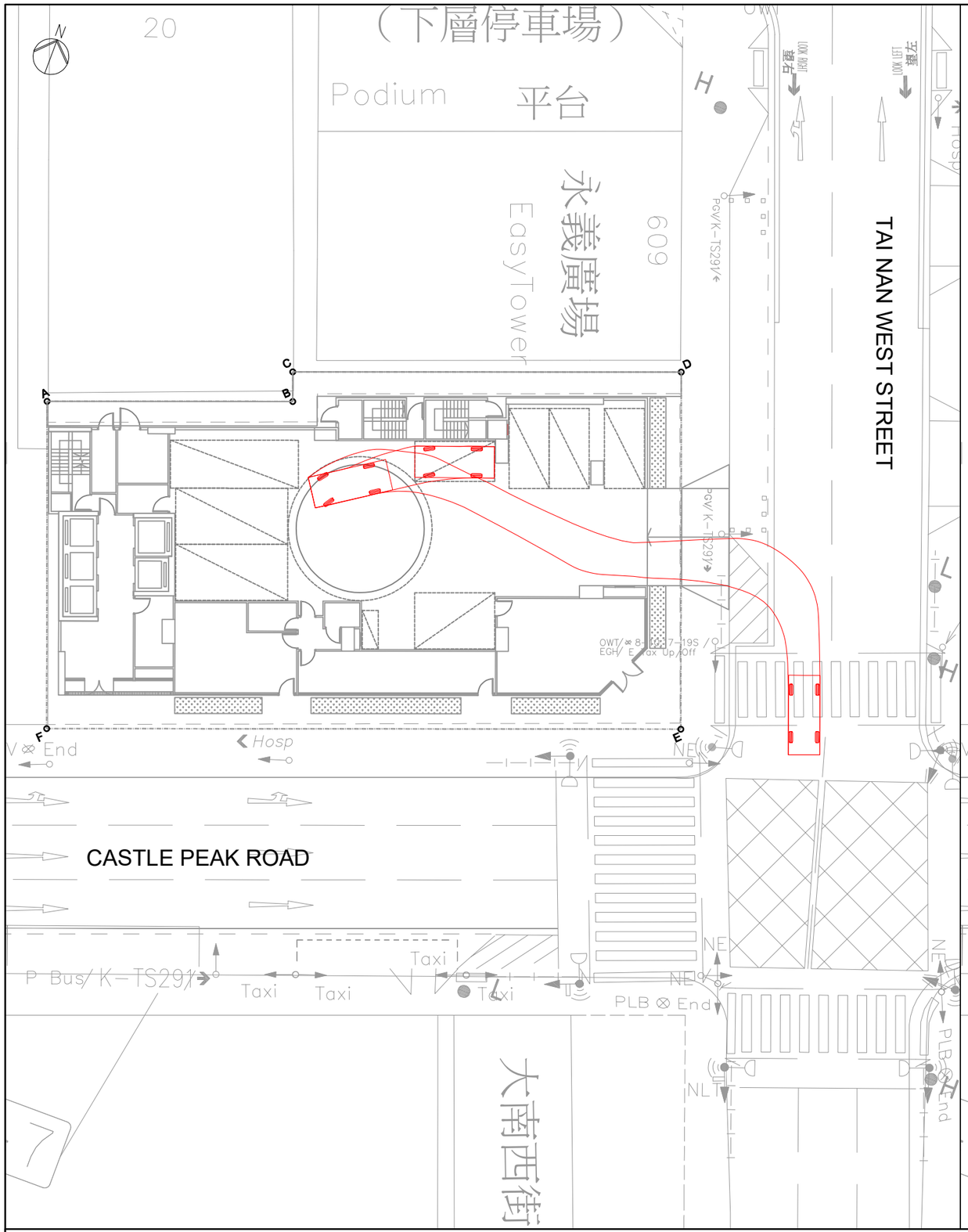
Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

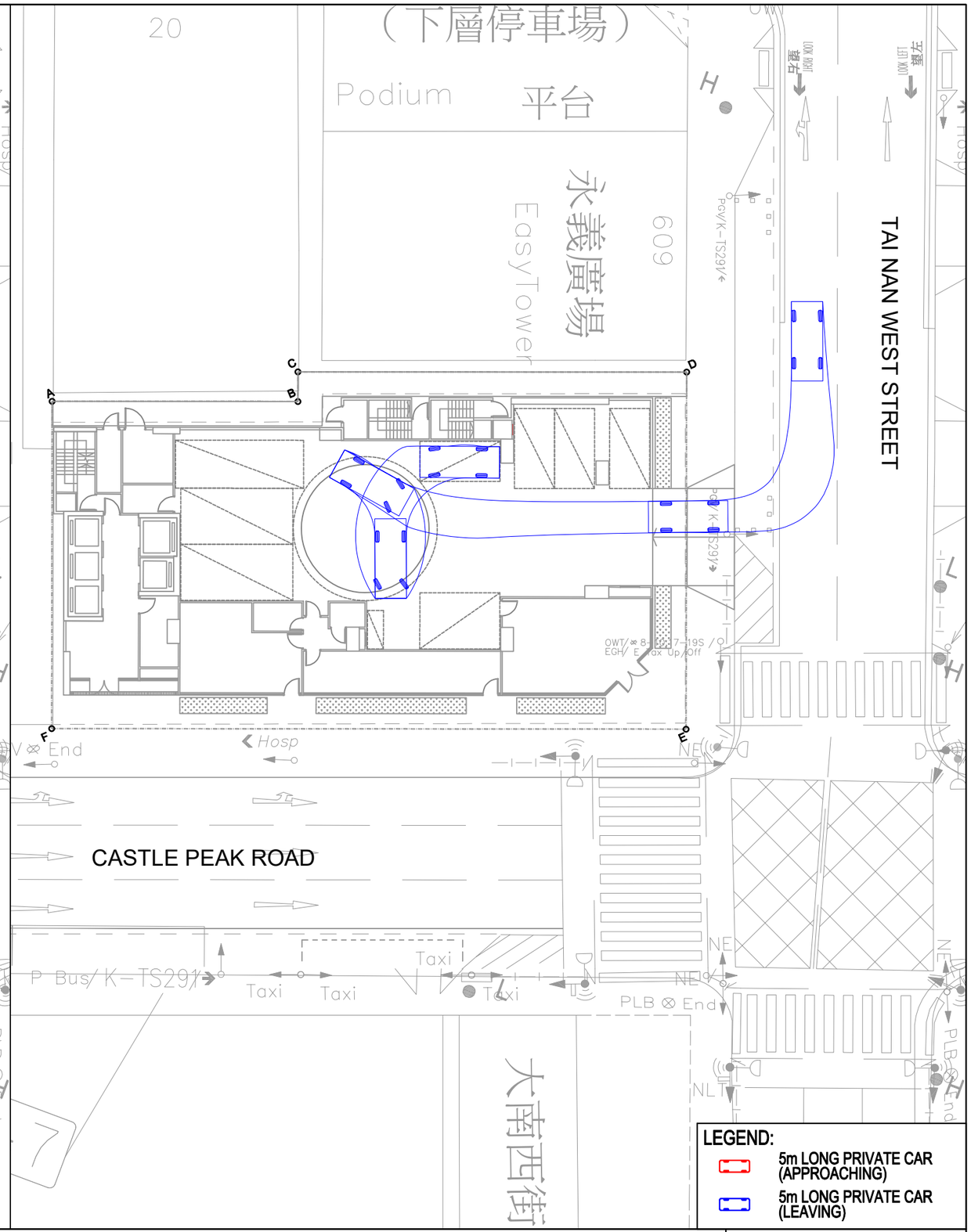
FIGURE 3.8

Date	Scale
22JUN26	1:300@A3
Drawn	Job No.
WLAC	315341-02

Drawing Title: SWEPT PATH ANALYSIS FOR 5m LONG PRIVATE CAR (APPROACHING/ LEAVING)

ARUP





LEGEND:

- 5m LONG PRIVATE CAR (APPROACHING)
- 5m LONG PRIVATE CAR (LEAVING)

Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON

FIGURE 3.9

Date	Scale
22JUN26	1:300@A3
Drawn	Job No.
WLAC	315341-02

Drawing Title: SWEPT PATH ANALYSIS FOR 5m LONG PRIVATE CAR (APPROACHING/ LEAVING)

ARUP

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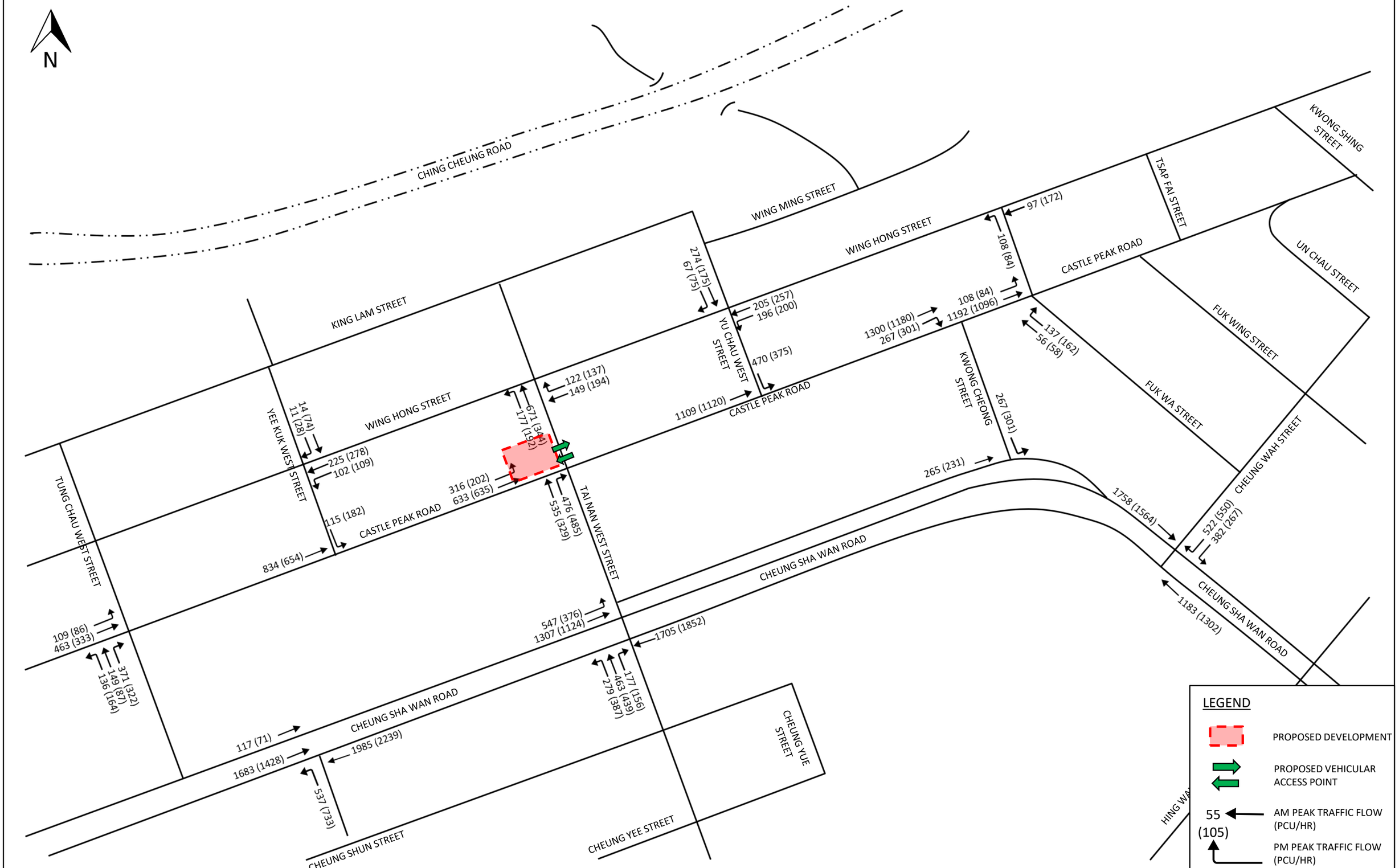
FILE NAME : $FILE$
$DATE$
$TIME$



Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON		FIGURE 4.1
Date: 6/2026	Scale: N.T.S.	Drawing Title: YEAR 2033 REFERENCE TRAFFIC FLOW
Drawn: CNC	Job No.: 315341-02	ARUP

N

CHING CHEUNG ROAD

WING MING STREET

KWONG SHING STREET

TSAP FAI STREET

UN CHAU STREET

FUK WING STREET

FUK WA STREET

CHEUNG WAH STREET

KING LAM STREET

WING HONG STREET

CASTLE PEAK ROAD

YU CHAU WEST STREET

YEE KUK WEST STREET

TUNG CHAU WEST STREET

TAI NAN WEST STREET

KWONG CHEONG STREET

CHEUNG SHA WAN ROAD

CHEUNG SHUN STREET

CHEUNG YUE STREET

CHEUNG YEE STREET

288 (175)
67 (75)

213 (267)
196 (200)

105 (182)

108 (84)

108 (84)
1206 (1107)

1314 (1191)
267 (301)

137 (162)
56 (58)

484 (375)

122 (137)
157 (204)

685 (341)
191 (214)

1123 (1131)

14 (74)
11 (28)

239 (289)
110 (130)

343 (235)
633 (646)

476 (485)
535 (329)

123 (203)

853 (677)

267 (301)

265 (231)

1758 (1564)

522 (550)
382 (267)

1183 (1302)

109 (86)
471 (343)

382 (335)
149 (87)
136 (164)

547 (376)
1307 (1124)

1705 (1852)

177 (156)
463 (439)
279 (387)

117 (71)

1683 (1428)

1985 (2239)

537 (733)

LEGEND

PROPOSED DEVELOPMENT

PROPOSED VEHICULAR ACCESS POINT

55 (105) AM PEAK TRAFFIC FLOW (PCU/HR)

PM PEAK TRAFFIC FLOW (PCU/HR)

Job Title: APPLICATION FOR PLANNING PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED HOTEL USE AND MINOR RELAXATION OF PLOT RATIO RESTRICTION AT "OTHER SPECIFIED USES" ANNOTATED "BUSINESS (1)" ZONE AT NO. 646-648A CASTLE PEAK ROAD, CHEUNG SHAN WAN, KOWLOON		FIGURE 4.2
Date: 6/2026	Scale: N.T.S.	Drawing Title: YEAR 2033 DESIGN TRAFFIC FLOW
Drawn: CNC	Job No.: 315341-02	ARUP

Junction Calculation Sheet

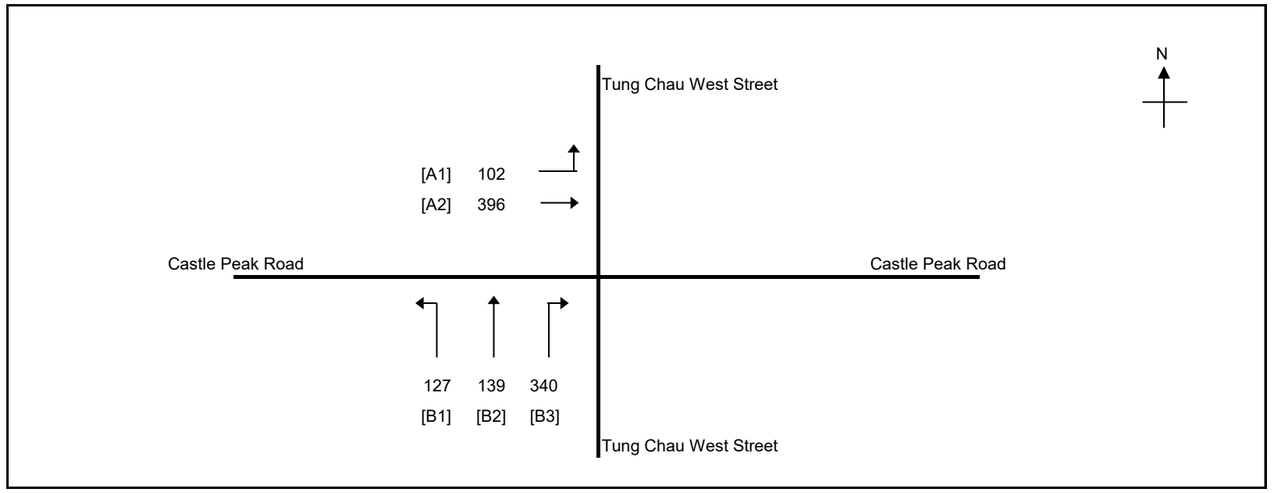
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

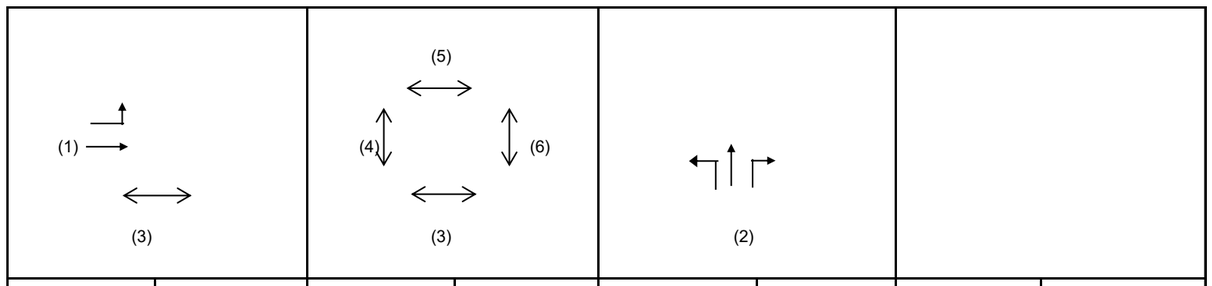
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 JUNCTION NO: J1

Tung Chau West Street / Castle Peak Road | Year 2026 Existing AM Peak | DATE : 23-Jun-26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.442
Loss time		L =	30 sec
Total Flow		=	1104.15 pcu
Co	= (1.5*L+5)/(1-Y)	=	89.6 sec
Cm	= L/(1-Y)	=	53.8 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	52.7 %
Cp	= 0.9*L/(0.9-Y)	=	59.0 sec
Ymax	= 1-L/C	=	0.750
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	53 %



STAGE 1	INT= 5	STAGE 2	INT= 0	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	10	5	3	8	67	3	8	OK
4	12	5	7	10	5	7	10	OK
5	11.7	5	7	10	5	7	10	OK
6	9.6	5	7	8	7	7	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradien %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1,A2	1	4.00	1	1	10		N	2015	102	396		498	0.20	1955			1955	0.255	0.255		52	52	0.589	57
										0														
B1,B2	3	3.30	2	1	10		N	1945	127	139		267	0.48	1815			1815	0.147	0.187		30	38	0.462	36
B3	3	3.30	2	1	10			2085			340	340	1.00	1813			1813	0.187			38	38	0.589	46
PED	2																			22				

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

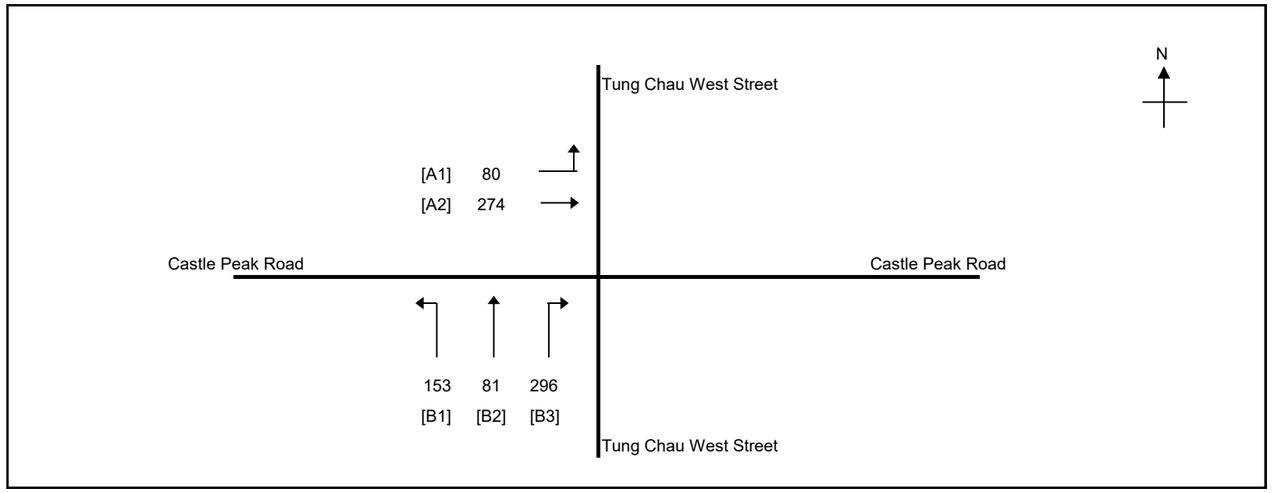
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

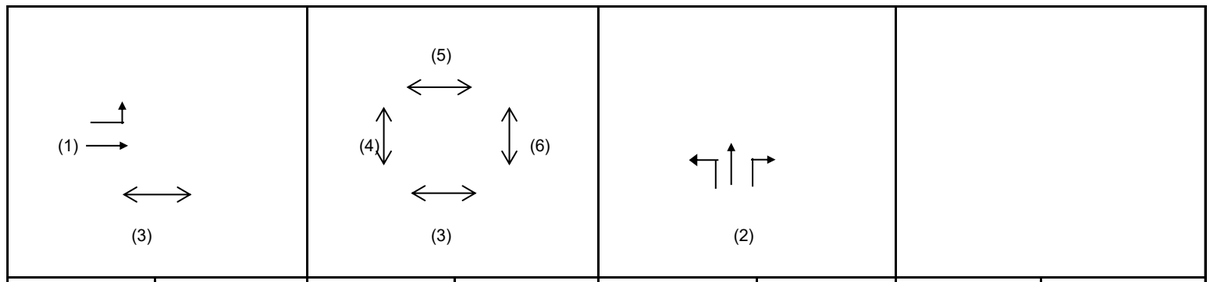
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 JUNCTION NO: J1

Tung Chau West Street / Castle Peak Road | Year 2026 Existing PM Peak | DATE : 23-Jun-26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.344
Loss time		L =	30 sec
Total Flow		=	882.7 pcu
Co	= (1.5*L+5)/(1-Y)	=	76.3 sec
Cm	= L/(1-Y)	=	45.8 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	96.0 %
Cp	= 0.9*L/(0.9-Y)	=	48.6 sec
Ymax	= 1-L/C	=	0.750
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	96 %



STAGE 1	INT= 5	STAGE 2	INT= 0	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	10	5	3	8	62	3	8	OK
4	12	5	7	10	5	7	10	OK
5	11.7	5	7	10	5	7	10	OK
6	9.6	5	7	8	7	7	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradien %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1,A2	1	4.00	1	1	10		N	2015	80	274		354	0.23	1949			1949	0.181	0.181		47	47	0.459	43
B1,B2	3	3.30	2	1	10		N	1945	153	81		234	0.65	1771			1771	0.132	0.163		34	43	0.371	30
B3	3	3.30	2	1	10			2085			296	296	1.00	1813			1813	0.163			43	43	0.459	38
PED	2																			22				

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

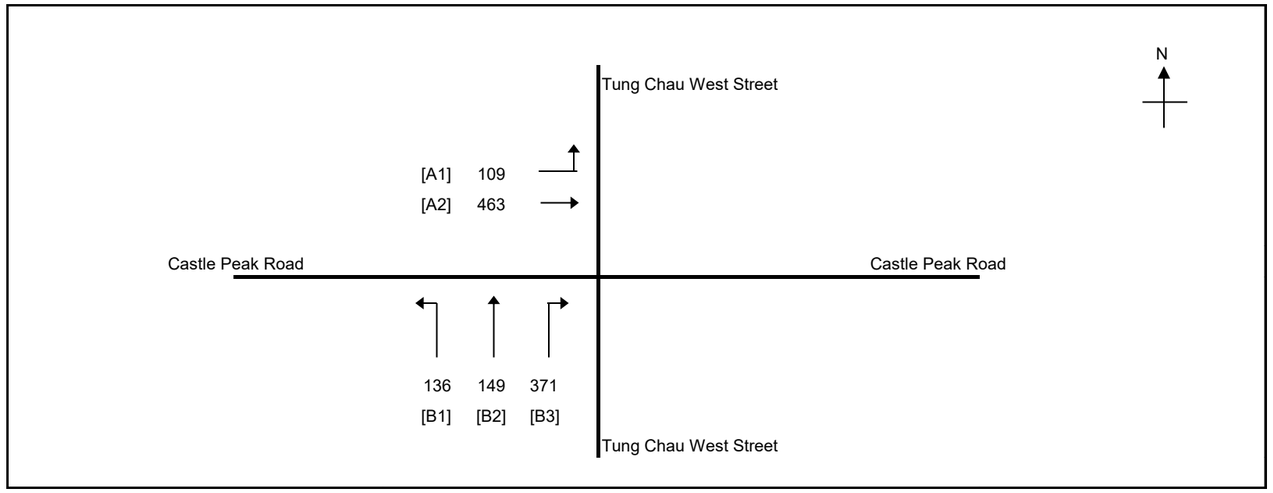
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

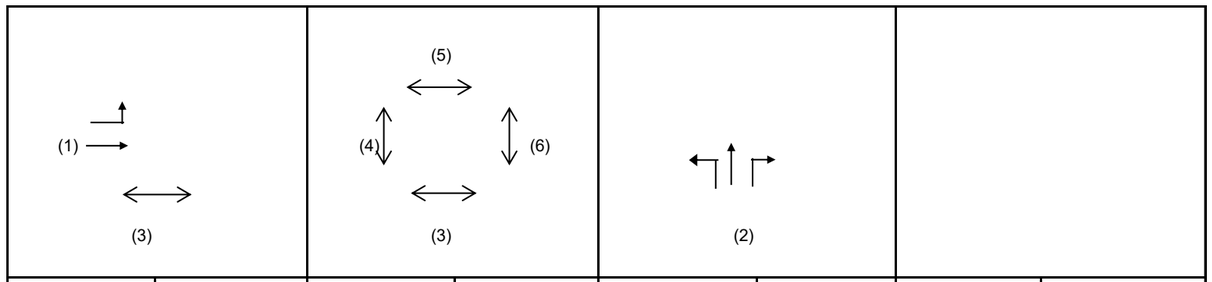
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 JUNCTION NO: J1

Tung Chau West Street / Castle Peak Road | Year 2033 Reference AM Peak | DATE : 23-Jun-26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.497
Loss time		L =	30 sec
Total Flow		=	1228.798 pcu
Co	= (1.5*L+5)/(1-Y)	=	99.3 sec
Cm	= L/(1-Y)	=	59.6 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	35.9 %
Cp	= 0.9*L/(0.9-Y)	=	66.9 sec
Ymax	= 1-L/C	=	0.750
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	36 %



STAGE 1	INT= 5	STAGE 2	INT= 0	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	10	5	3	8	68	3	8	OK
4	12	5	7	10	5	7	10	OK
5	11.7	5	7	10	5	7	10	OK
6	9.6	5	7	8	7	7	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradien %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1,A2	1	4.00	1	1	10		N	2015	109	463		572	0.19	1959			1959	0.292	0.292		53	53	0.662	64
B1,B2	3	3.30	2	1	10		N	1945	136	149		286	0.48	1815			1815	0.157	0.205		29	37	0.509	39
B3	3	3.30	2	1	10			2085			371	371	1.00	1813			1813	0.205			37	37	0.662	51
PED	2																			22				

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

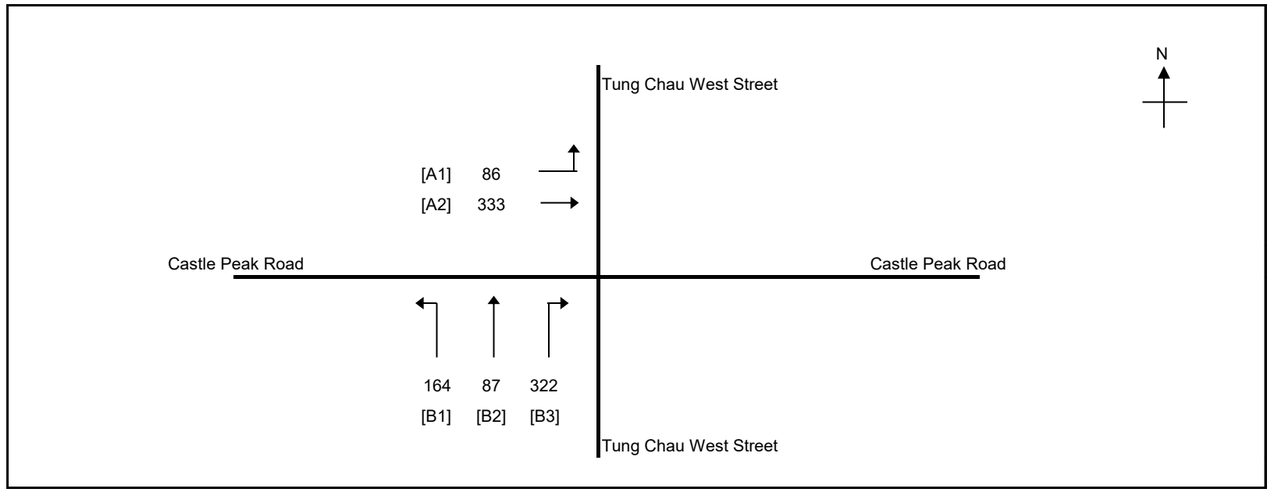
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

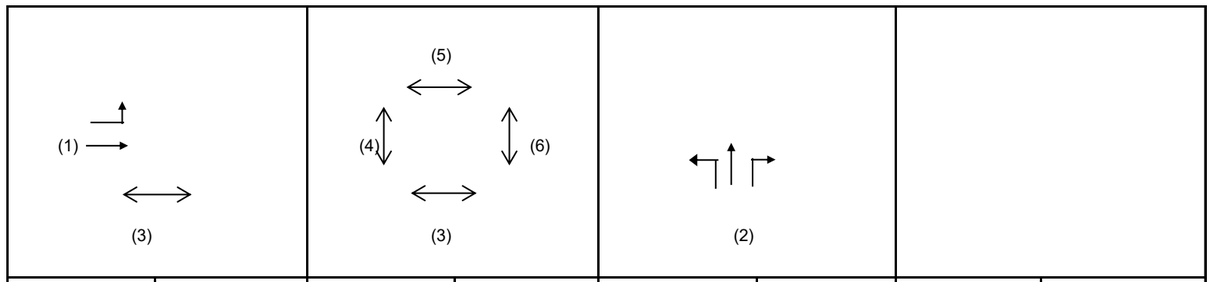
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 JUNCTION NO: J1

Tung Chau West Street / Castle Peak Road | Year 2033 Reference PM Peak | DATE : 23-Jun-26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.391
Loss time		L =	30 sec
Total Flow		=	990.3739 pcu
Co	= (1.5*L+5)/(1-Y)	=	82.2 sec
Cm	= L/(1-Y)	=	49.3 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	72.4 %
Cp	= 0.9*L/(0.9-Y)	=	53.1 sec
Ymax	= 1-L/C	=	0.750
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	72 %



STAGE 1	INT= 5	STAGE 2	INT= 0	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	10	5	3	8	64	3	8	OK
4	12	5	7	10	5	7	10	OK
5	11.7	5	7	10	5	7	10	OK
6	9.6	5	7	8	7	7	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradien %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1,A2	1	4.00	1	1	10		N	2015	86	333		418	0.20	1955			1955	0.214	0.214		49	49	0.522	49
B1,B2	3	3.30	2	1	10		N	1945	164	87		250	0.65	1771			1771	0.141	0.178		32	41	0.416	33
B3	3	3.30	2	1	10			2085			322	322	1.00	1813			1813	0.178			41	41	0.522	42
PED	2																			22				

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

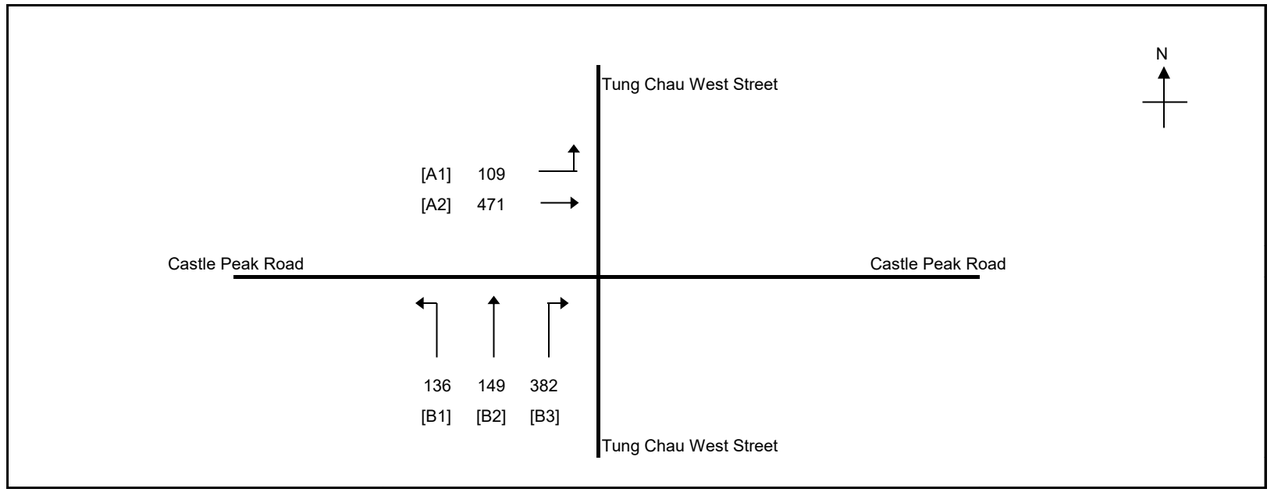
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

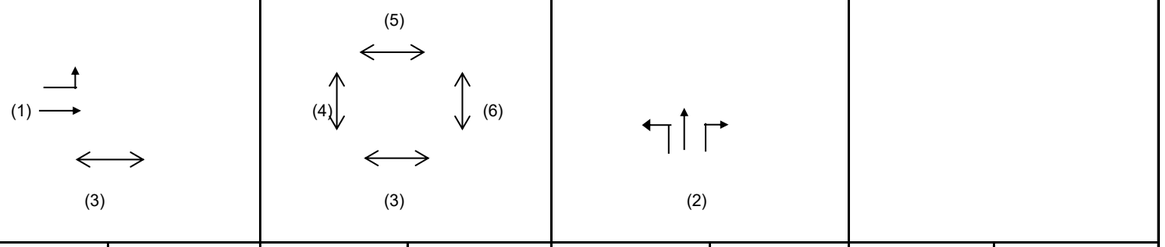
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 JUNCTION NO: J1

Tung Chau West Street / Castle Peak Road | Year 2033 Design AM Peak | DATE : 23-Jun-26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.507
Loss time		L =	30 sec
Total Flow		=	1247.798 pcu
Co	= (1.5*L+5)/(1-Y)	=	101.4 sec
Cm	= L/(1-Y)	=	60.8 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	33.2 %
Cp	= 0.9*L/(0.9-Y)	=	68.7 sec
Ymax	= 1-L/C	=	0.750
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	33 %



STAGE 1	INT= 5	STAGE 2	INT= 0	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	10	5	3	8	68	3	8	OK
4	12	5	7	10	5	7	10	OK
5	11.7	5	7	10	5	7	10	OK
6	9.6	5	7	8	7	7	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradien %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1,A2	1	4.00	1	1	10		N	2015	109	471		580	0.19	1960			1960	0.296	0.296		53	53	0.676	65
B1,B2	3	3.30	2	1	10		N	1945	136	149		286	0.48	1815			1815	0.157	0.211		28	37	0.505	39
B3	3	3.30	2	1	10			2085			382	382	1.00	1813			1813	0.211			37	37	0.676	53
PED	2																			22				

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

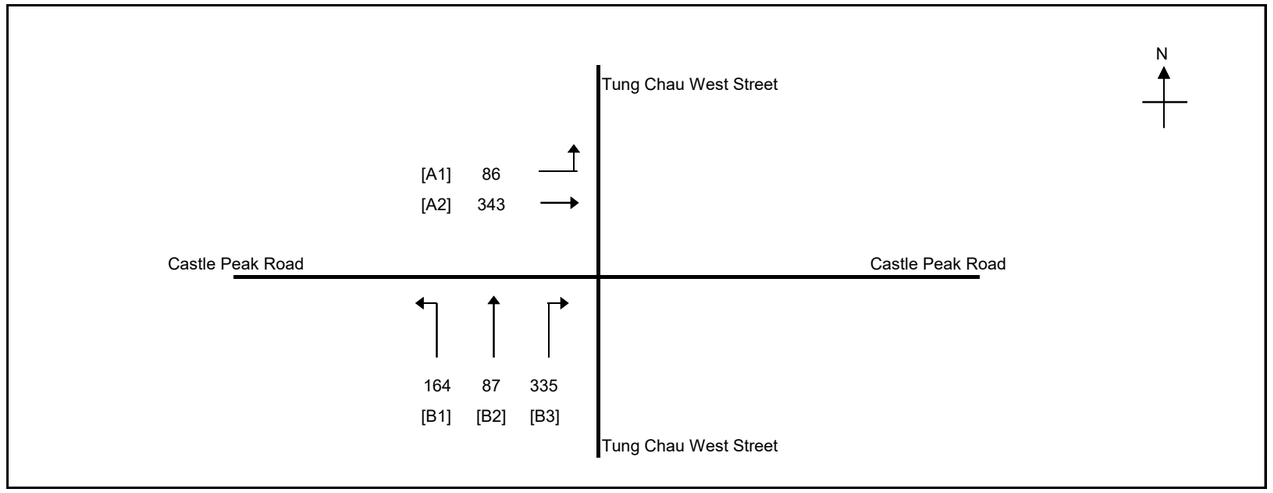
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

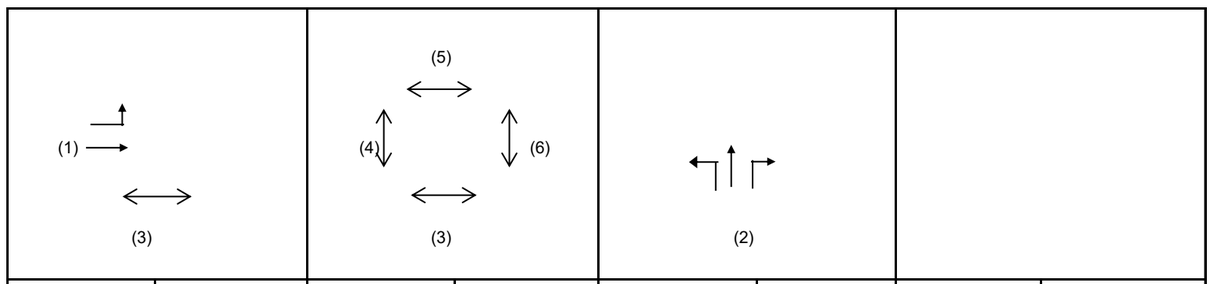
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 JUNCTION NO: J1

Tung Chau West Street / Castle Peak Road | Year 2033 Design PM Peak | DATE : 23-Jun-26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.404
Loss time		L =	30 sec
Total Flow		=	1013.374 pcu
Co	= (1.5*L+5)/(1-Y)	=	83.8 sec
Cm	= L/(1-Y)	=	50.3 sec
Yult		=	0.675
R.C.ult	= (Yult-Y)/Y*100%	=	67.3 %
Cp	= 0.9*L/(0.9-Y)	=	54.4 sec
Ymax	= 1-L/C	=	0.750
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	67 %



STAGE 1	INT= 5	STAGE 2	INT= 0	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	10	5	3	8	64	3	8	OK
4	12	5	7	10	5	7	10	OK
5	11.7	5	7	10	5	7	10	OK
6	9.6	5	7	8	7	7	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradien %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1,A2	1	4.00	1	1	10		N	2015	86	343		428	0.20	1956			1956	0.219	0.219		49	49	0.538	51
B1,B2	3	3.30	2	1	10		N	1945	164	87		250	0.65	1771			1771	0.141	0.185		32	41	0.412	33
B3	3	3.30	2	1	10			2085			335	335	1.00	1813			1813	0.185			41	41	0.538	44
PED	2																			22				

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

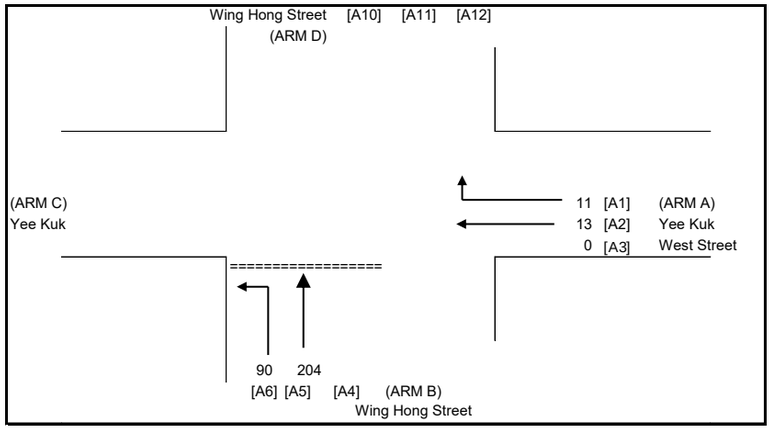
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J2

Wing Hong Street / Yee Kuk | Year 2026 Existing AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	6.00	(metres)		
W cr	=	0	(metres)	Y =	0.793

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	6.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	13	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	11	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.50	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.50	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	90	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	204	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.724	X a	=	1.144
X c	=	0.586	X d	=	0.533
Z b	=	0.816	Z d	=	0.586
M b	=	0.742	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	101.9	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	101.9	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	449	(pcu/hr)	Q d-c	=	286	(pcu/hr)
Q b-c	=	605	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	432	(pcu/hr)	Q a-d	=	852	(pcu/hr)
Ql b-d	=	460	(pcu/hr)	Ql d-b	=	331	(pcu/hr)
Qr b-d	=	449	(pcu/hr)	Qr d-b	=	331	(pcu/hr)

TOTAL FLOW = 317.4069 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1488
DFC c-b	=	0.0000
DFCl b-d	=	0.2215
DFCr b-d	=	0.2269
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0126
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.23

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

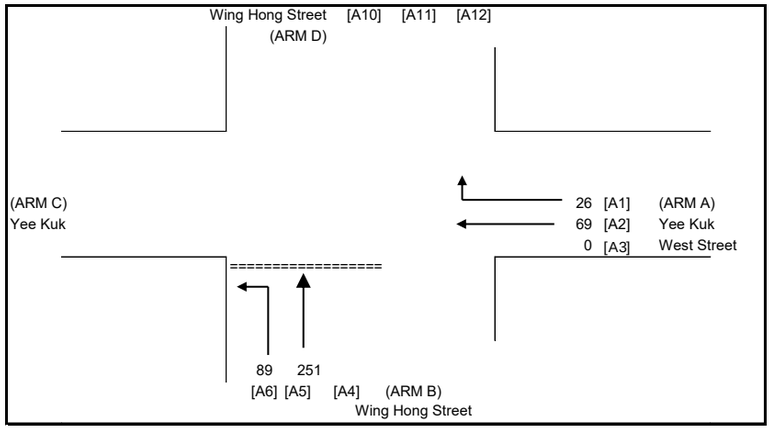
JUNCTION NO: J2

Wing Hong Street / Yee Kuk

Year 2026 Existing PM Peak

DATE : 23-Jun-26

FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	6.00	(metres)		
W cr	=	0	(metres)	Y =	0.793

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	6.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	69	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	26	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.50	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.50	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	89	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	251	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.724	X a	=	1.144
X c	=	0.586	X d	=	0.533
Z b	=	0.816	Z d	=	0.586
M b	=	0.742	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	125.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	125.3	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	434	(pcu/hr)	Q d-c	=	270	(pcu/hr)
Q b-c	=	591	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	419	(pcu/hr)	Q a-d	=	852	(pcu/hr)
Ql b-d	=	445	(pcu/hr)	Ql d-b	=	322	(pcu/hr)
Qr b-d	=	434	(pcu/hr)	Qr d-b	=	322	(pcu/hr)

TOTAL FLOW = 434.3015 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1511
DFC c-b	=	0.0000
DFCl b-d	=	0.2815
DFCr b-d	=	0.2886
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0303
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.29

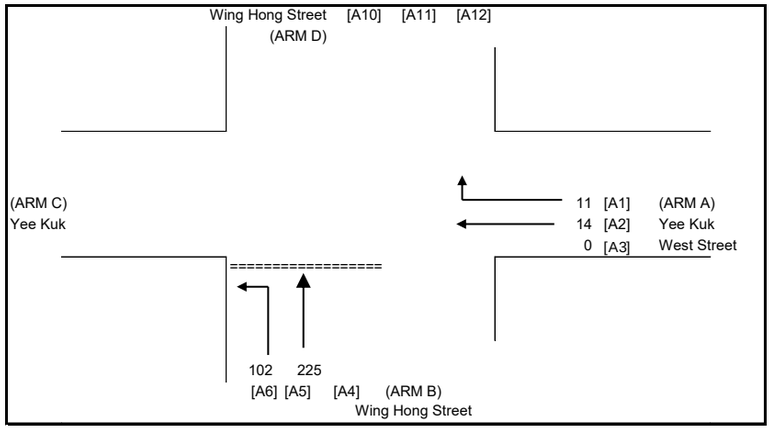
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J2

Wing Hong Street / Yee Kuk | Year 2033 Reference AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	6.00	(metres)		
W cr	=	0	(metres)	Y =	0.793

MAJOR ROAD (ARM A)

W a-d	=	6.00	(metres)		
Vr a-d	=	50	(metres)		
q a-b	=	0	(pcu/hr)		
q a-c	=	14	(pcu/hr)		
q a-d	=	11	(pcu/hr)		

MAJOR MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)		
Vr c-b	=	0	(metres)		
q c-a	=	0	(pcu/hr)		
q c-b	=	0	(pcu/hr)		
q c-d	=	0	(pcu/hr)		

MINOR ROAD (ARM B)

W b-a	=	2.50	(metres)		
W b-c	=	2.50	(metres)		
Vl b-a	=	0	(metres)		
Vr b-a	=	0	(metres)		
Vr b-c	=	25	(metres)		
q b-a	=	0	(pcu/hr)		
q b-c	=	102	(pcu/hr)		
q b-d	=	225	(pcu/hr)		

MINOR ROAD (ARM D)

W d-c	=	0.00	(metres)		
W d-a	=	0.00	(metres)		
Vl d-c	=	0	(metres)		
Vr d-c	=	0	(metres)		
Vr d-a	=	0	(metres)		
q d-c	=	0	(pcu/hr)		
q d-a	=	0	(pcu/hr)		
q d-b	=	0	(pcu/hr)		

GEOMETRIC FACTORS :

X b	=	0.724		X a	=	1.144	
X c	=	0.586		X d	=	0.533	
Z b	=	0.816		Z d	=	0.586	
M b	=	0.742		M d	=	0.533	

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	112.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	112.3	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	449	(pcu/hr)	Q d-c	=	280	(pcu/hr)
Q b-c	=	604	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	431	(pcu/hr)	Q a-d	=	852	(pcu/hr)
Ql b-d	=	460	(pcu/hr)	Ql d-b	=	330	(pcu/hr)
Qr b-d	=	449	(pcu/hr)	Qr d-b	=	330	(pcu/hr)

TOTAL FLOW = 351.3031 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1681
DFC c-b	=	0.0000
DFCl b-d	=	0.2440
DFCr b-d	=	0.2500
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0135
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.25

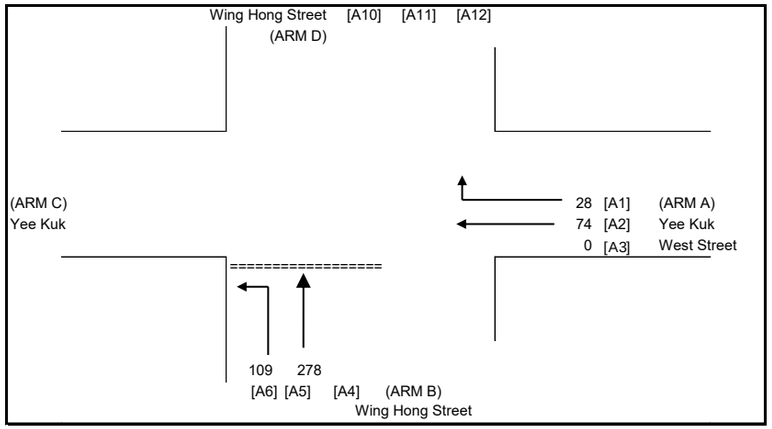
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J2

Wing Hong Street / Yee Kuk | Year 2033 Reference PM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	6.00	(metres)		
W cr	=	0	(metres)	Y =	0.793

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	6.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	74	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	28	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.50	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.50	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	109	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	278	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.724	X a	=	1.144
X c	=	0.586	X d	=	0.533
Z b	=	0.816	Z d	=	0.586
M b	=	0.742	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	138.8	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	138.8	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	433	(pcu/hr)	Q d-c	=	262	(pcu/hr)
Q b-c	=	590	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	417	(pcu/hr)	Q a-d	=	852	(pcu/hr)
Ql b-d	=	444	(pcu/hr)	Ql d-b	=	321	(pcu/hr)
Qr b-d	=	433	(pcu/hr)	Qr d-b	=	321	(pcu/hr)

TOTAL FLOW = 487.63 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1843
DFC c-b	=	0.0000
DFCl b-d	=	0.3126
DFCr b-d	=	0.3206
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0324
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.32

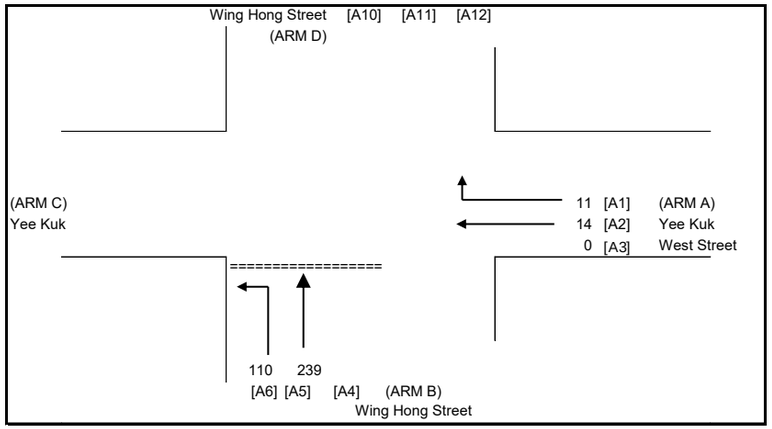
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J2

Wing Hong Street / Yee Kuk | Year 2033 Design AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	6.00	(metres)		
W cr	=	0	(metres)	Y =	0.793

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	6.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	14	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	11	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.50	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.50	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	110	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	239	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.724	X a	=	1.144
X c	=	0.586	X d	=	0.533
Z b	=	0.816	Z d	=	0.586
M b	=	0.742	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	119.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	119.3	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	449	(pcu/hr)	Q d-c	=	277	(pcu/hr)
Q b-c	=	604	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	431	(pcu/hr)	Q a-d	=	852	(pcu/hr)
Ql b-d	=	460	(pcu/hr)	Ql d-b	=	330	(pcu/hr)
Qr b-d	=	449	(pcu/hr)	Qr d-b	=	330	(pcu/hr)

TOTAL FLOW = 373.3031 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

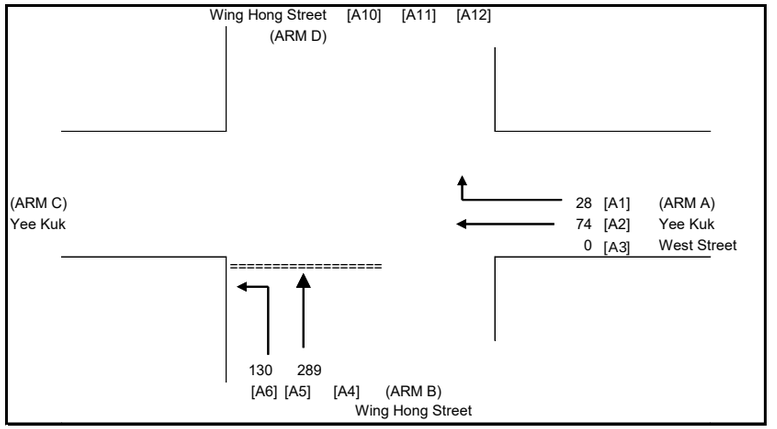
DFC b-a	=	0.0000
DFC b-c	=	0.1814
DFC c-b	=	0.0000
DFCl b-d	=	0.2592
DFCr b-d	=	0.2656
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0135
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.27

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon	PROJECT NO: 315341-02	JUNCTION NO: J2
Wing Hong Street / Yee Kuk	Year 2033 Design PM Peak	DATE : 23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	6.00	(metres)			
W cr	=	0	(metres)	Y	=	0.793

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	6.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	74	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	28	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.50	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.50	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	130	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	289	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.724		X a	=	1.144
X c	=	0.586		X d	=	0.533
Z b	=	0.816		Z d	=	0.586
M b	=	0.742		M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	144.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	144.3	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	433	(pcu/hr)	Q d-c	=	257	(pcu/hr)
Q b-c	=	590	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	417	(pcu/hr)	Q a-d	=	852	(pcu/hr)
Ql b-d	=	444	(pcu/hr)	Ql d-b	=	321	(pcu/hr)
Qr b-d	=	433	(pcu/hr)	Qr d-b	=	321	(pcu/hr)

TOTAL FLOW = 519.63 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.2198
DFC c-b	=	0.0000
DFCl b-d	=	0.3250
DFCr b-d	=	0.3333
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0324
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.33

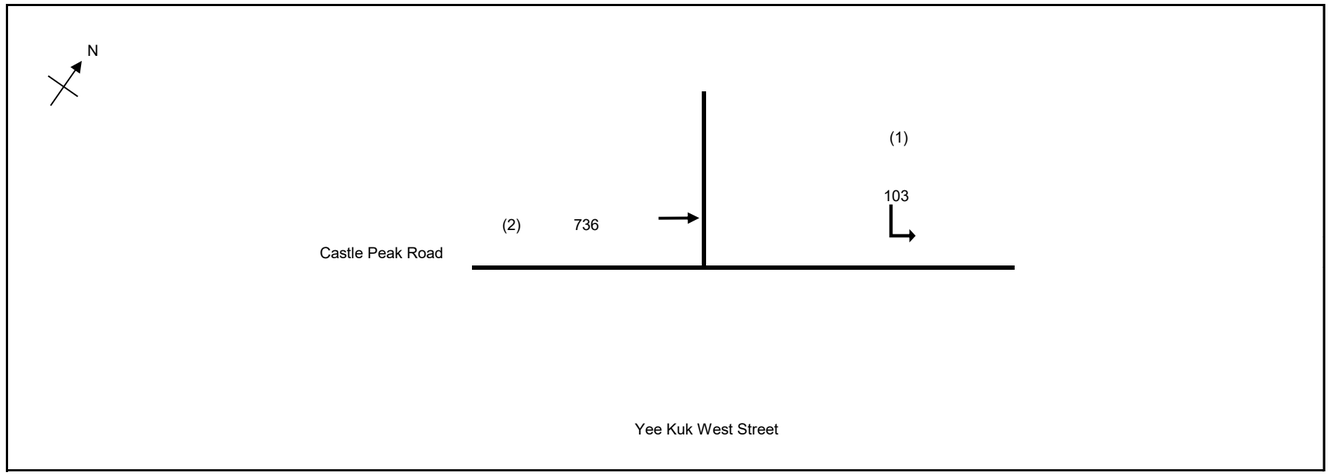
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

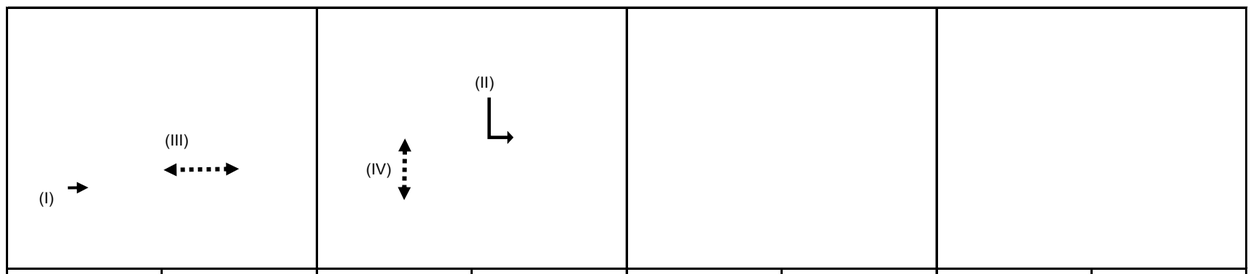
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J3

Castle Peak Road / Yee Kuk West Street | Year 2026 Existing AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	2	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.252	
Loss time	L =	10	sec
Total Flow	=	839	pcu
Co = (1.5*L+5)/(1-Y)	=	26.8	sec
Cm = L/(1-Y)	=	13.4	sec
Yult	=	0.825	
R.C.ult = (Yult-Y)/Y*100%	=	226.8	%
Cp = 0.9*L/(0.9-Y)	=	13.9	sec
Ymax = 1-L/C	=	0.919	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	228	%



Stage A	Int = 6	Stage B	Int = 6	Stage C	Int =	Stage D	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	1	8	73	1	8	OK
IV	8	5	1	7	24	1	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
2	A	3.30	I	2			N	4030		736		736	0.00	4030			4030	0.183	0.183		82	82	0.275	25
1	B	3.00	II	1	5		N	1915	103			103	1.00	1473			1473	0.070	0.070		32	32	0.275	16

*Assuming pedestrain stage is activated

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

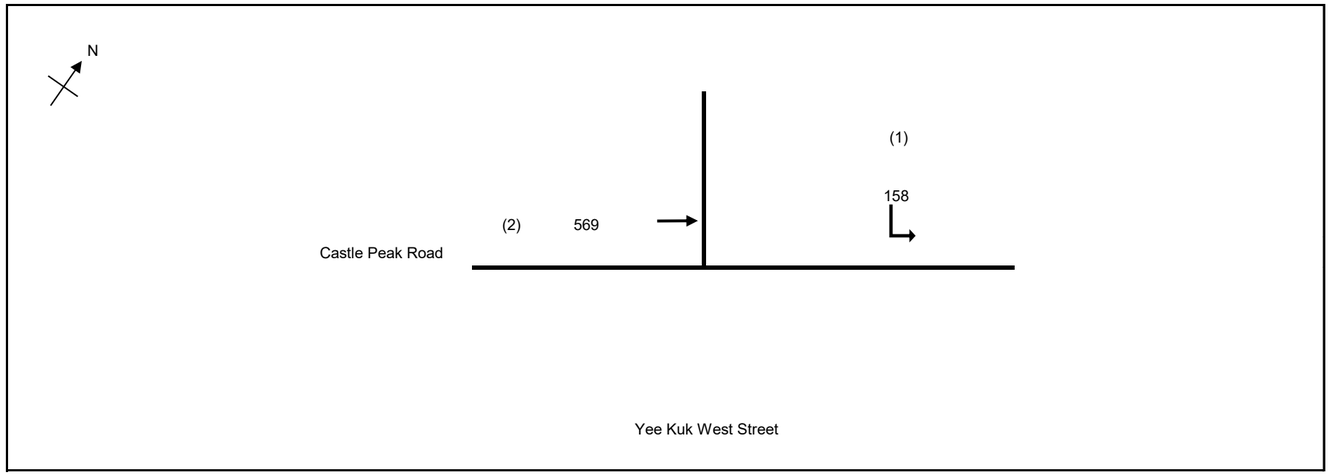
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

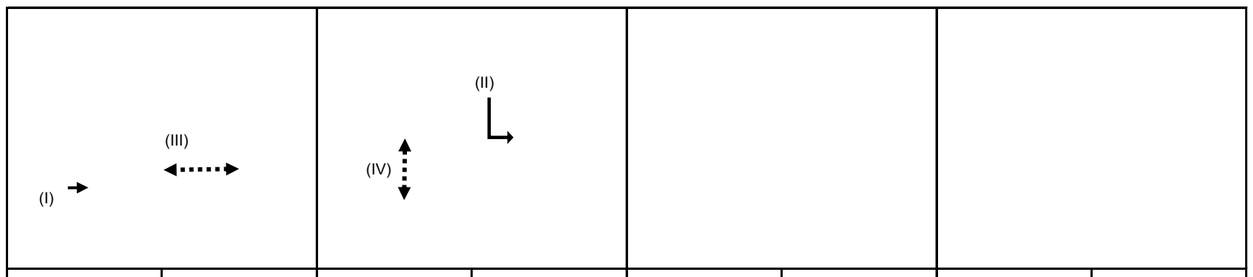
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J3

Castle Peak Road / Yee Kuk West Street | Year 2026 Existing PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	2	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.249	
Loss time	L =	10	sec
Total Flow	=	727	pcu
Co = (1.5*L+5)/(1-Y)	=	26.6	sec
Cm = L/(1-Y)	=	13.3	sec
Yult	=	0.825	
R.C.ult = (Yult-Y)/Y*100%	=	232.0	%
Cp = 0.9*L/(0.9-Y)	=	13.8	sec
Ymax = 1-L/C	=	0.919	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	233	%



Stage A	Int = 6	Stage B	Int = 6	Stage C	Int =	Stage D	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	1	8	56	1	8	OK
IV	8	5	1	7	41	1	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
2	A	3.30	I	2			N	4030		569		569	0.00	4030			4030	0.141	0.141		65	65	0.270	28
1	B	3.00	II	1	5		N	1915	158			158	1.00	1473			1473	0.107	0.107		49	49	0.270	20

*Assuming pedestrain stage is activated

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

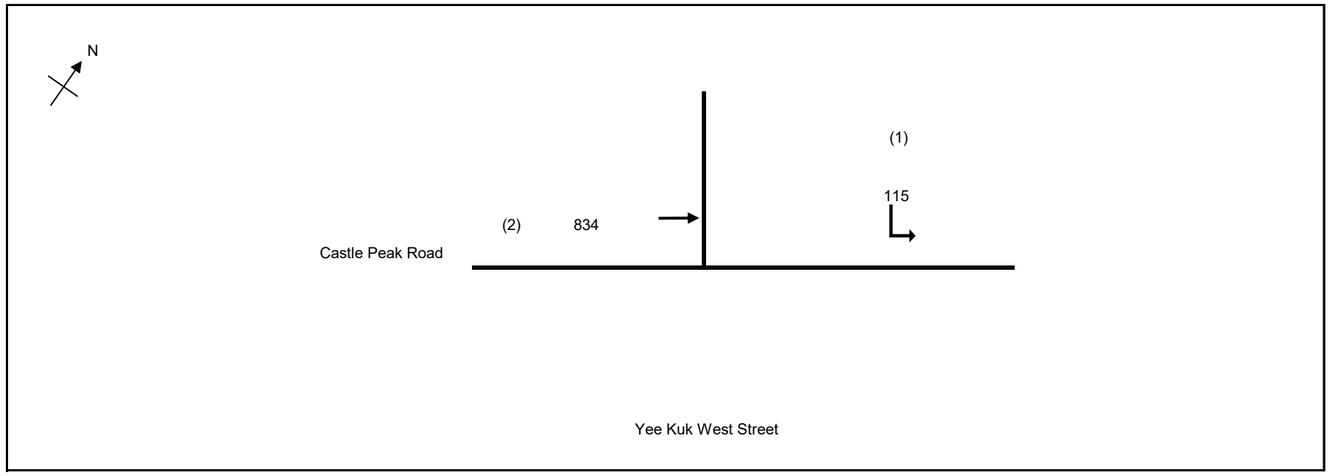
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

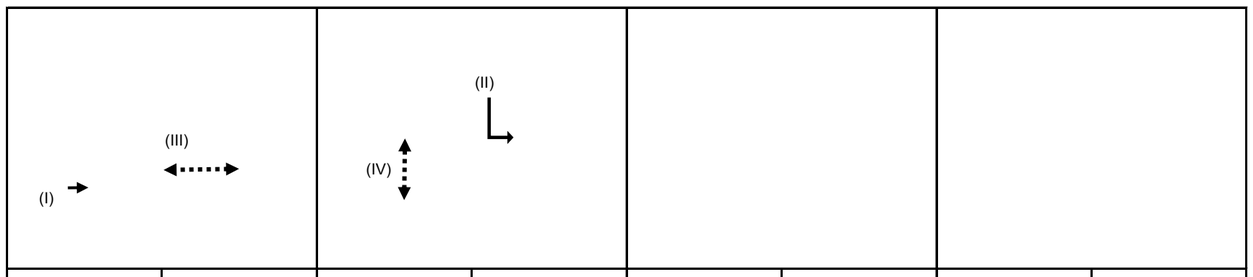
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J3

Castle Peak Road / Yee Kuk West Street | Year 2033 Reference AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	2	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.285	
Loss time	L =	10	sec
Total Flow	=	949	pcu
Co = (1.5*L+5)/(1-Y)	=	28.0	sec
Cm = L/(1-Y)	=	14.0	sec
Yult	=	0.825	
R.C.ult = (Yult-Y)/Y*100%	=	189.3	%
Cp = 0.9*L/(0.9-Y)	=	14.6	sec
Ymax = 1-L/C	=	0.919	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	190	%



Stage A	Int = 6	Stage B	Int = 6	Stage C	Int =	Stage D	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	1	8	74	1	8	OK
IV	8	5	1	7	23	1	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
2	A	3.30	I	2			N	4030		834		834	0.00	4030			4030	0.207	0.207		83	83	0.310	29
1	B	3.00	II	1	5		N	1915	115			115	1.00	1473			1473	0.078	0.078		31	31	0.310	18

*Assuming pedestrain stage is activated

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

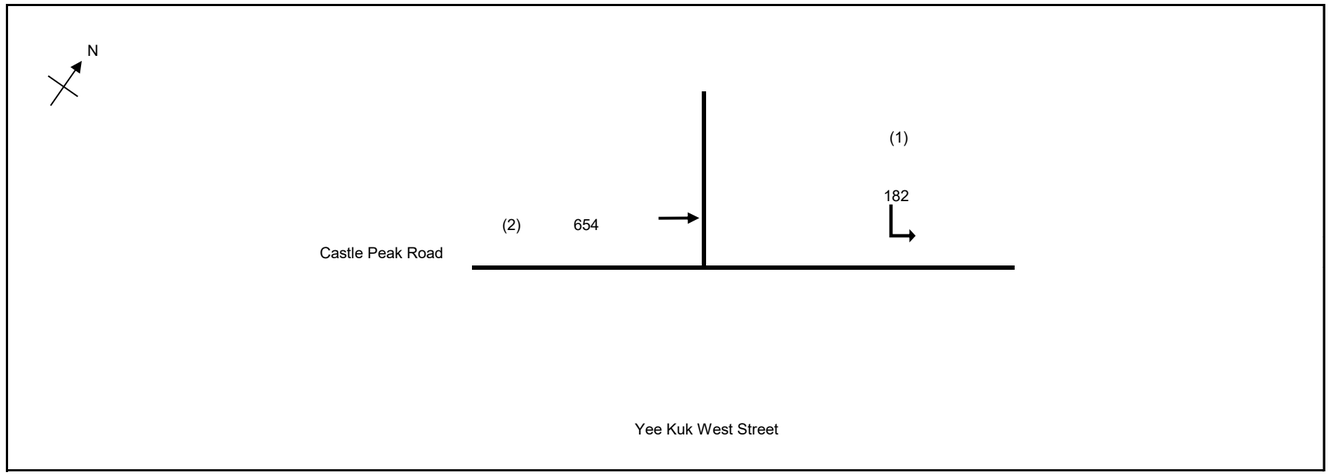
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

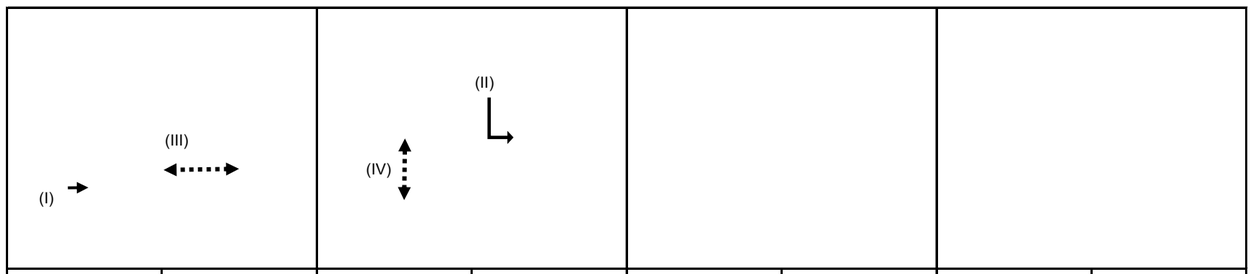
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J3

Castle Peak Road / Yee Kuk West Street | Year 2033 Reference PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	2	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.286	
Loss time	L =	10	sec
Total Flow	=	837	pcu
Co = (1.5*L+5)/(1-Y)	=	28.0	sec
Cm = L/(1-Y)	=	14.0	sec
Yult	=	0.825	
R.C.ult = (Yult-Y)/Y*100%	=	188.3	%
Cp = 0.9*L/(0.9-Y)	=	14.7	sec
Ymax = 1-L/C	=	0.919	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	189	%



Stage A	Int = 6	Stage B	Int = 6	Stage C	Int =	Stage D	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	1	8	56	1	8	OK
IV	8	5	1	7	41	1	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
2	A	3.30	I	2			N	4030		654		654	0.00	4030			4030	0.162	0.162		65	65	0.311	32
1	B	3.00	II	1	5		N	1915	182			182	1.00	1473			1473	0.124	0.124		49	49	0.311	23

*Assuming pedestrain stage is activated

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

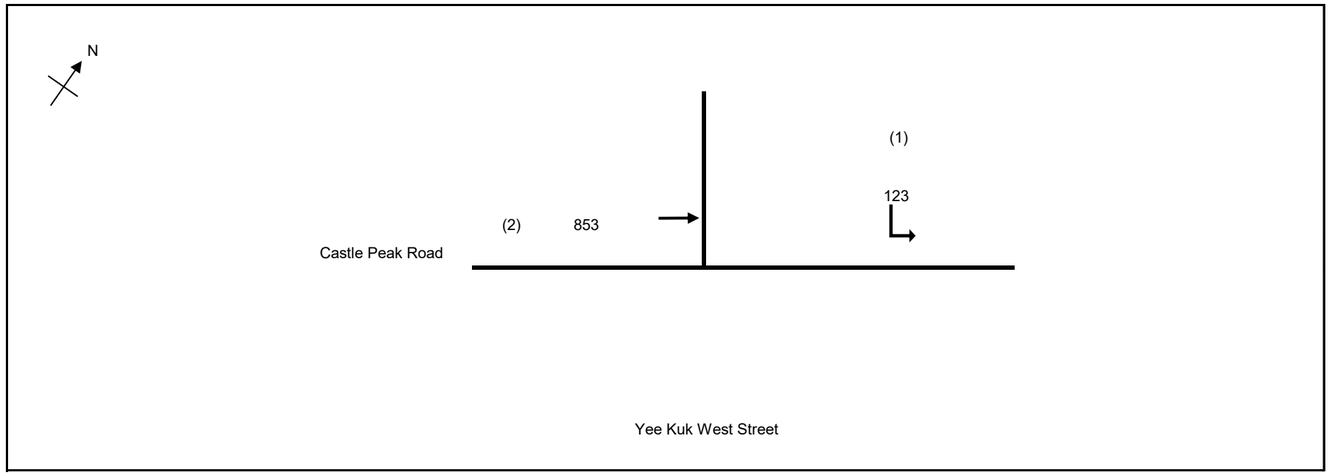
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

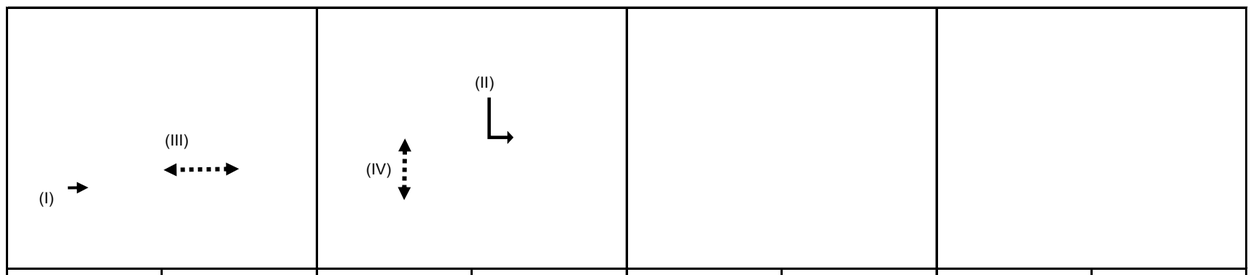
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J3

Castle Peak Road / Yee Kuk West Street | Year 2033 Design AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	2	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.295	
Loss time	L =	10	sec
Total Flow	=	976	pcu
Co = (1.5*L+5)/(1-Y)	=	28.4	sec
Cm = L/(1-Y)	=	14.2	sec
Yult	=	0.825	
R.C.ult = (Yult-Y)/Y*100%	=	179.3	%
Cp = 0.9*L/(0.9-Y)	=	14.9	sec
Ymax = 1-L/C	=	0.919	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	180	%



Stage A	Int = 6	Stage B	Int = 6	Stage C	Int =	Stage D	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	1	8	73	1	8	OK
IV	8	5	1	7	24	1	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
2	A	3.30	I	2			N	4030		853		853	0.00	4030			4030	0.212	0.212		82	82	0.321	30
1	B	3.00	II	1	5		N	1915	123			123	1.00	1473			1473	0.084	0.084		32	32	0.321	19

*Assuming pedestrain stage is activated

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

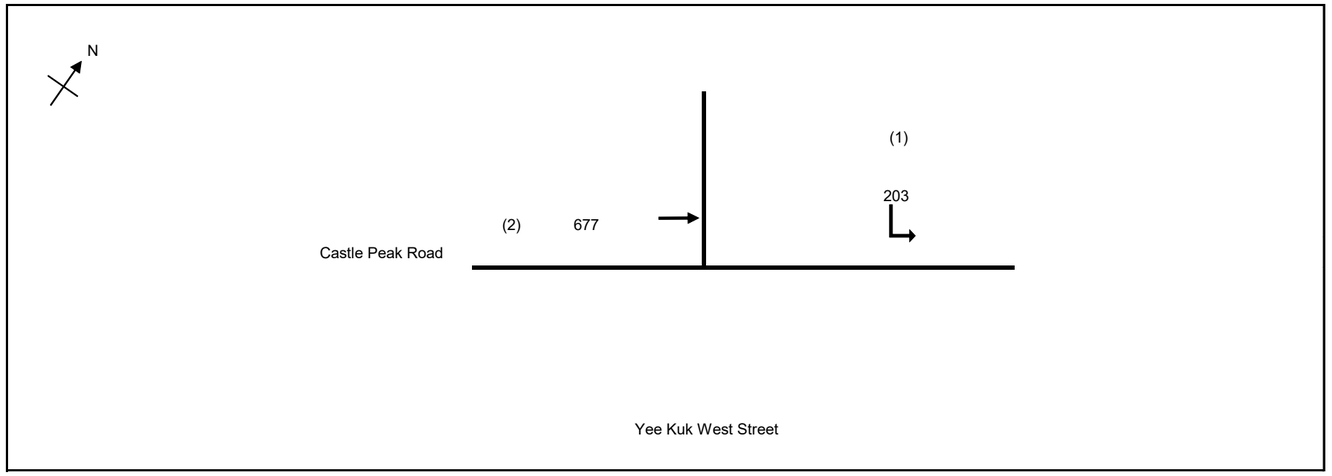
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

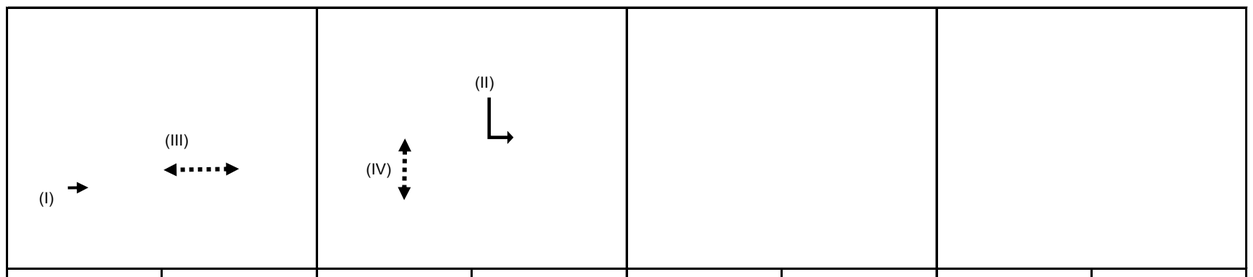
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J3

Castle Peak Road / Yee Kuk West Street | Year 2033 Design PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	2	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.306	
Loss time	L =	10	sec
Total Flow	=	881	pcu
Co = (1.5*L+5)/(1-Y)	=	28.8	sec
Cm = L/(1-Y)	=	14.4	sec
Yult	=	0.825	
R.C.ult = (Yult-Y)/Y*100%	=	169.5	%
Cp = 0.9*L/(0.9-Y)	=	15.2	sec
Ymax = 1-L/C	=	0.919	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	170	%



Stage A	Int = 6	Stage B	Int = 6	Stage C	Int =	Stage D	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	1	8	54	1	8	OK
IV	8	5	1	7	43	1	7	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
2	A	3.30	I	2			N	4030		677		677	0.00	4030			4030	0.168	0.168		63	63	0.333	35
1	B	3.00	II	1	5		N	1915	203			203	1.00	1473			1473	0.138	0.138		51	51	0.333	25

*Assuming pedestrain stage is activated

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

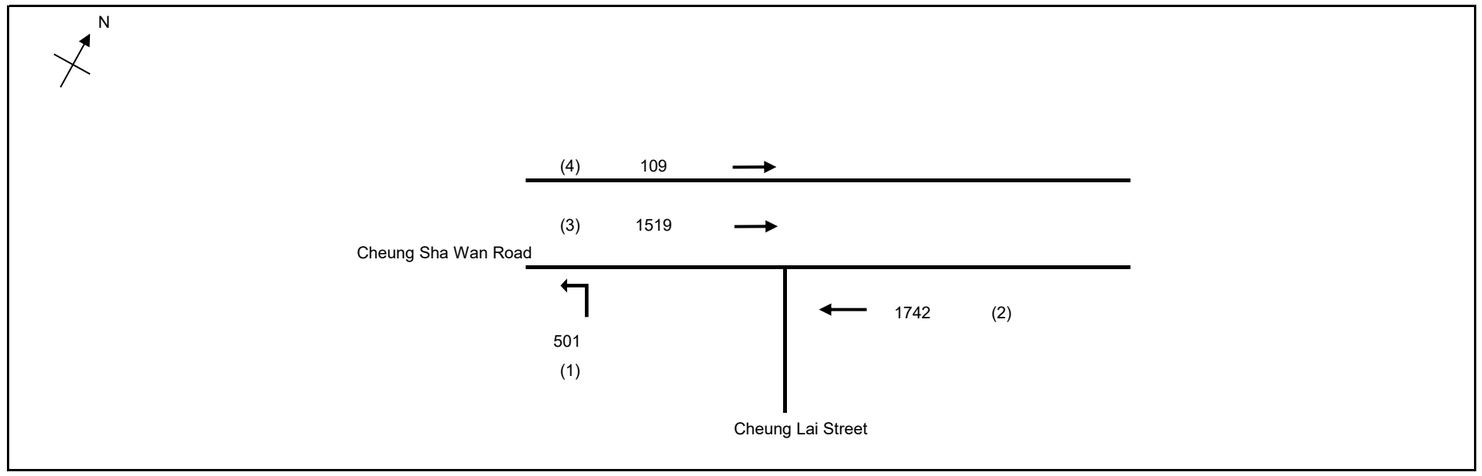
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

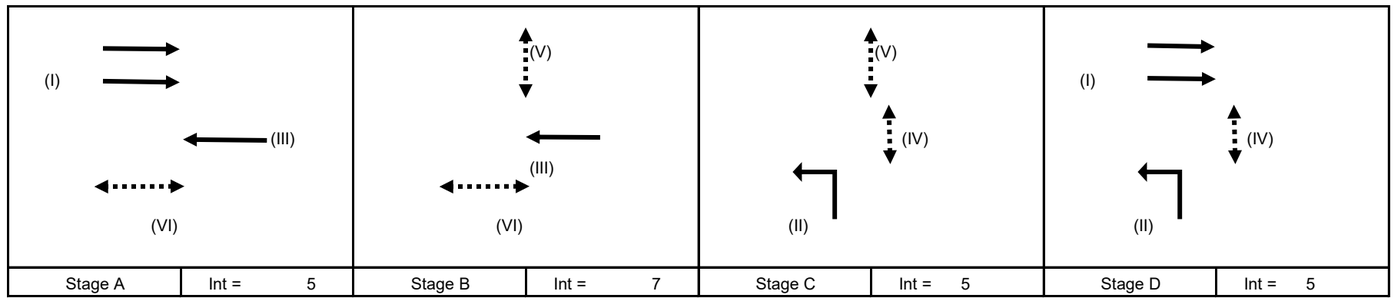
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J4

Cheung Sha Wan Road / Cheung Lai Street | Year 2026 Existing AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	118 sec
Sum(y)	Y =	0.375
Loss time	L =	10 sec
Total Flow	=	3871 pcu
Co = (1.5*L+5)/(1-Y)	=	32.0 sec
Cm = L/(1-Y)	=	16.0 sec
Yult	=	0.825
R.C.ult = (Yult-Y)/Y*100%	=	119.8 %
Cp = 0.9*L/(0.9-Y)	=	17.2 sec
Ymax = 1-L/C	=	0.915
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	119 %



Stage A	Int = 5	Stage B	Int = 7	Stage C	Int = 5	Stage D	Int = 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	10	5	2	8	21	2	8	OK
V	12	10	2	9	32	2	9	OK
VI	16	7	2	13	72	2	13	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
4	D,A	3.50	I	1			N	1965		109		109	0.00	1965			1965	0.056			16	71	0.093	9
3	D,A	3.50	I	3			N	6175		1519		1519	0.00	6175			6175	0.246			71	71	0.410	40
1	C,D	3.50	II	3	10		N	6175	501			501	1.00	5370			5370	0.093	0.093		27	27	0.410	25
2	A,B	3.50	III	3			N	6175		1742		1742	0.00	6175			6175	0.282	0.282		81	81	0.410	36

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

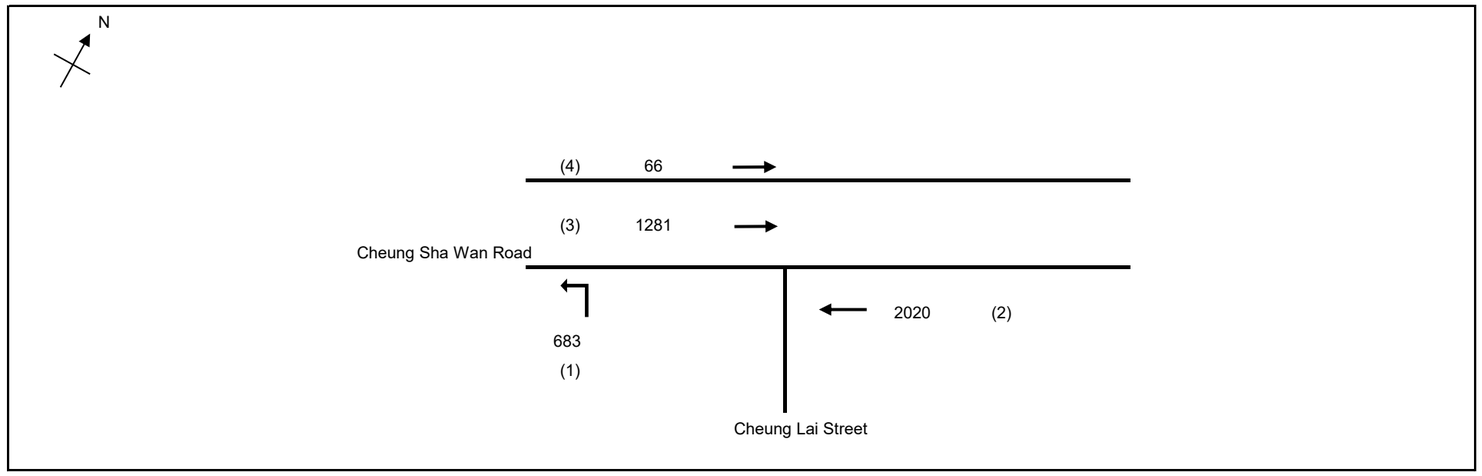
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

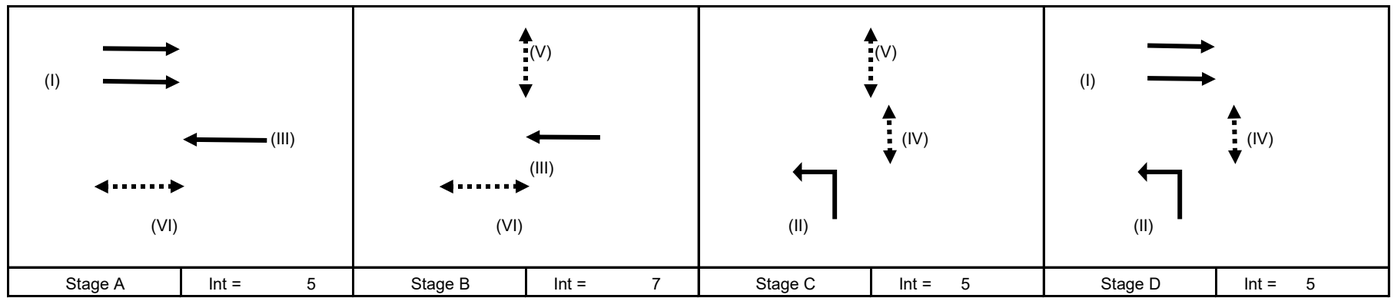
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J4

Cheung Sha Wan Road / Cheung Lai Street | Year 2026 Existing PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.454
Loss time	L =	10 sec
Total Flow	=	4050 pcu
Co = (1.5*L+5)/(1-Y)	=	36.7 sec
Cm = L/(1-Y)	=	18.3 sec
Yult	=	0.825
R.C.ult = (Yult-Y)/Y*100%	=	81.6 %
Cp = 0.9*L/(0.9-Y)	=	20.2 sec
Ymax = 1-L/C	=	0.919
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	82 %



Stage A	Int = 5	Stage B	Int = 7	Stage C	Int = 5	Stage D	Int = 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	10	5	2	8	26	2	8	OK
V	12	10	2	9	57	2	9	OK
VI	16	7	2	13	73	2	13	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
4	D,A	3.50	I	1			N	1965		66		66	0.00	1965			1965	0.034			8	52	0.080	8
3	D,A	3.50	I	3			N	6175		1281		1281	0.00	6175			6175	0.207			52	52	0.494	51
1	C,D	3.50	II	3	10		N	6175	683			683	1.00	5370			5370	0.127	0.127		32	32	0.494	35
2	A,B	3.50	III	3			N	6175		2020		2020	0.00	6175			6175	0.327	0.327		82	82	0.494	47

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

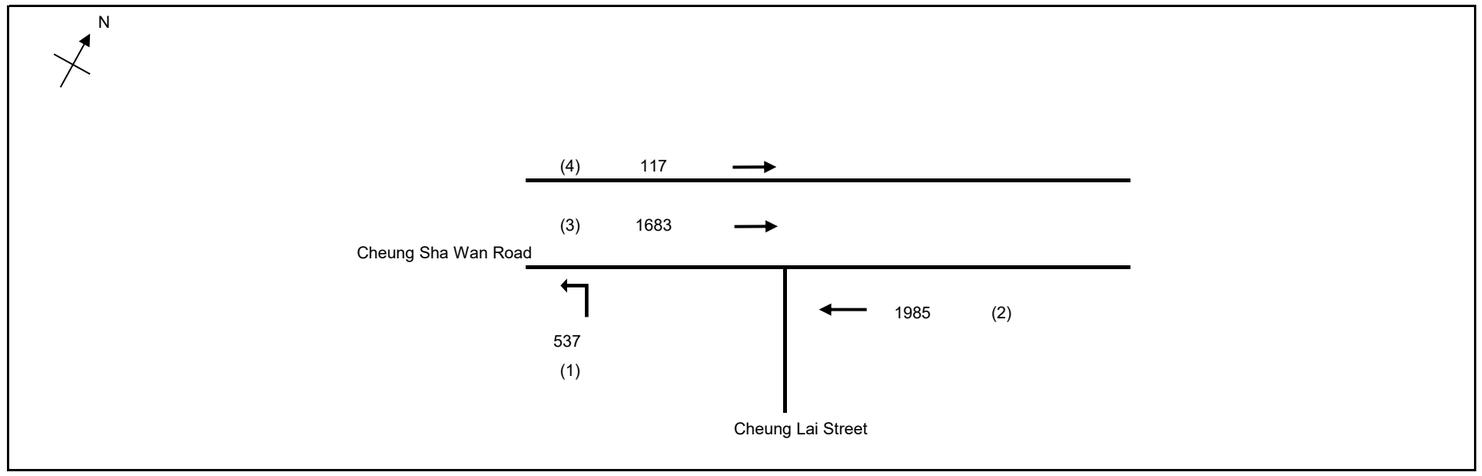
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

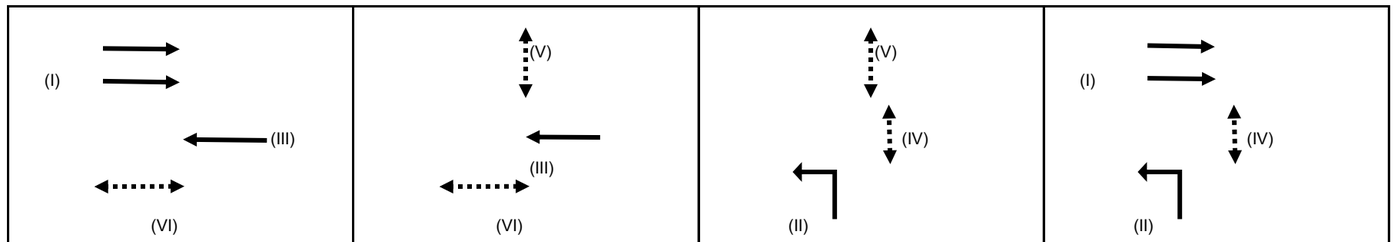
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J4

Cheung Sha Wan Road / Cheung Lai Street | Year 2033 Reference AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	118 sec
Sum(y)		Y =	0.421
Loss time		L =	10 sec
Total Flow		=	4322 pcu
Co	= (1.5*L+5)/(1-Y)	=	34.6 sec
Cm	= L/(1-Y)	=	17.3 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	95.8 %
Cp	= 0.9*L/(0.9-Y)	=	18.8 sec
Ymax	= 1-L/C	=	0.915
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	96 %



Stage A	Int = 5	Stage B	Int = 7	Stage C	Int = 5	Stage D	Int = 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	10	5	2	8	20	2	8	OK
V	12	10	2	9	33	2	9	OK
VI	16	7	2	13	73	2	13	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
4	D,A	3.50	I	1			N	1965		117		117	0.00	1965			1965	0.060			15	70	0.101	9
3	D,A	3.50	I	3			N	6175		1683		1683	0.00	6175			6175	0.273			70	70	0.460	45
1	C,D	3.50	II	3	10		N	6175	537			537	1.00	5370			5370	0.100	0.100		26	26	0.460	28
2	A,B	3.50	III	3			N	6175		1985		1985	0.00	6175			6175	0.321	0.321		82	82	0.460	39

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

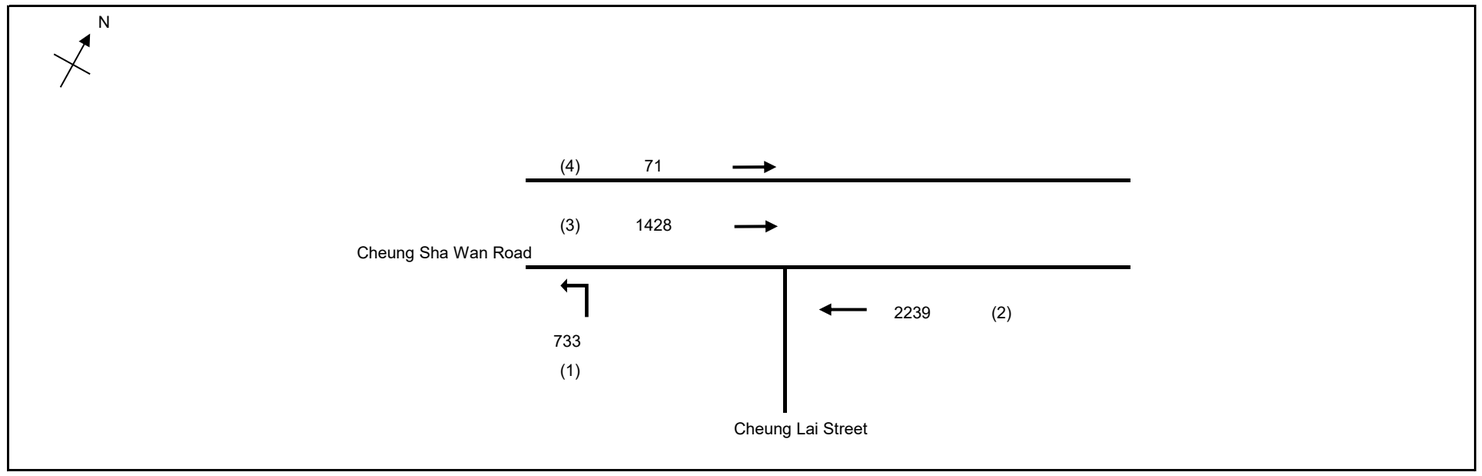
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

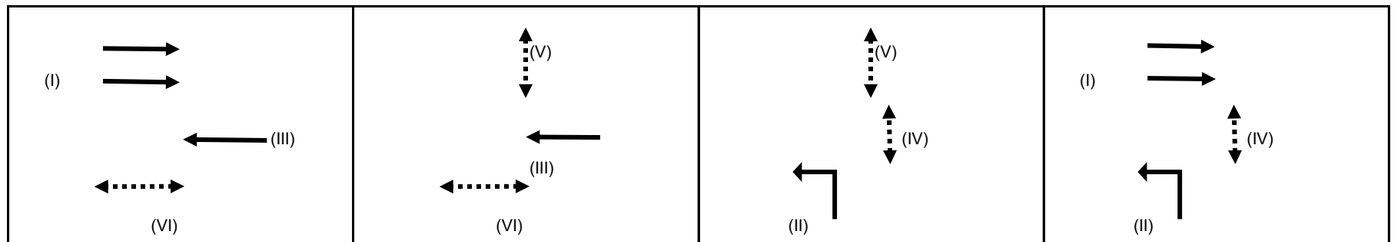
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J4

Cheung Sha Wan Road / Cheung Lai Street | Year 2033 Reference PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	124 sec
Sum(y)		Y =	0.499
Loss time		L =	10 sec
Total Flow		=	4471 pcu
Co	= (1.5*L+5)/(1-Y)	=	39.9 sec
Cm	= L/(1-Y)	=	20.0 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	65.3 %
Cp	= 0.9*L/(0.9-Y)	=	22.4 sec
Ymax	= 1-L/C	=	0.919
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	66 %



Stage A	Int = 5	Stage B	Int = 7	Stage C	Int = 5	Stage D	Int = 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	10	5	2	8	25	2	8	OK
V	12	10	2	9	56	2	9	OK
VI	16	7	2	13	74	2	13	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
4	D,A	3.50	I	1			N	1965		71		71	0.00	1965			1965	0.036			8	53	0.085	8
3	D,A	3.50	I	3			N	6175		1428		1428	0.00	6175			6175	0.231			53	53	0.543	56
1	C,D	3.50	II	3	10		N	6175	733			733	1.00	5370			5370	0.136	0.136		31	31	0.543	38
2	A,B	3.50	III	3			N	6175		2239		2239	0.00	6175			6175	0.363	0.363		83	83	0.543	51

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

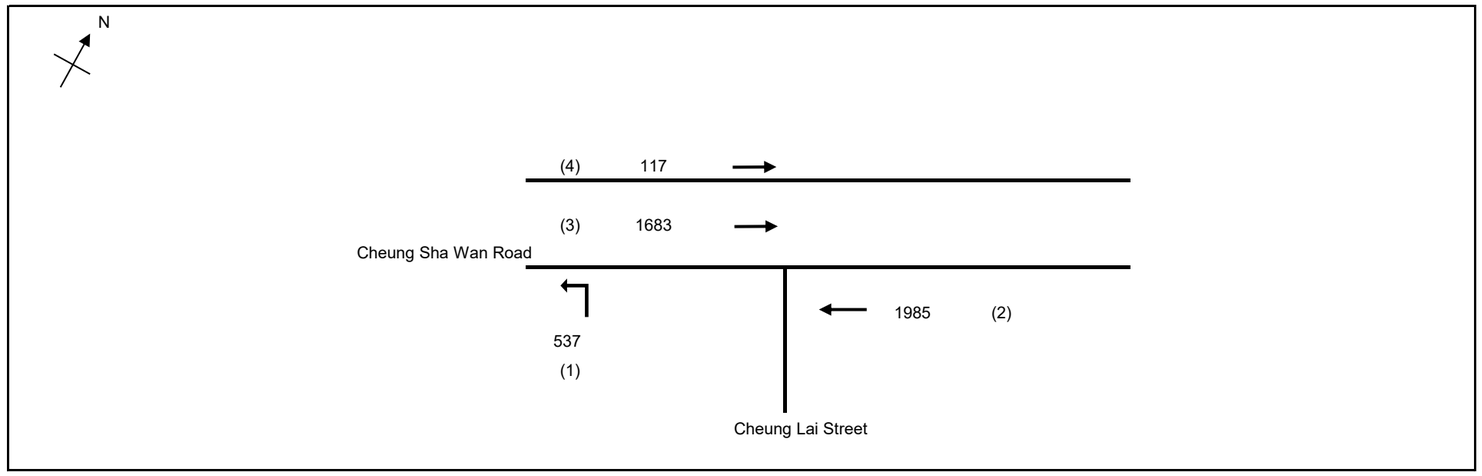
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

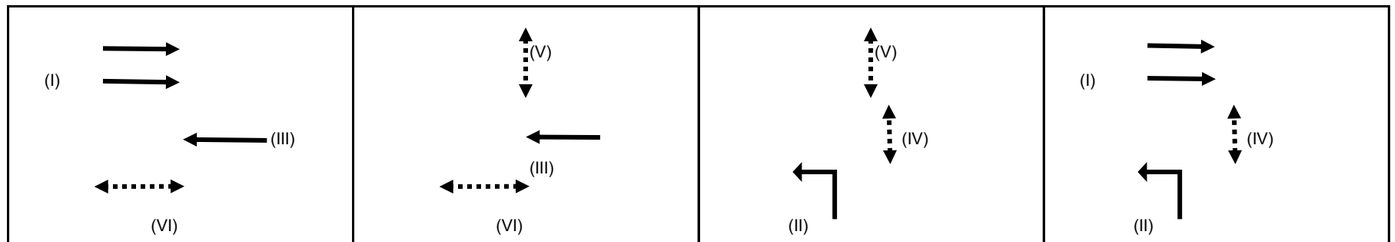
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J4

Cheung Sha Wan Road / Cheung Lai Street | Year 2033 Design AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	118 sec
Sum(y)		Y =	0.421
Loss time		L =	10 sec
Total Flow		=	4322 pcu
Co	= (1.5*L+5)/(1-Y)	=	34.6 sec
Cm	= L/(1-Y)	=	17.3 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	95.8 %
Cp	= 0.9*L/(0.9-Y)	=	18.8 sec
Ymax	= 1-L/C	=	0.915
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	96 %



Stage A	Int = 5	Stage B	Int = 7	Stage C	Int = 5	Stage D	Int = 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	10	5	2	8	20	2	8	OK
V	12	10	2	9	33	2	9	OK
VI	16	7	2	13	73	2	13	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
4	D,A	3.50	I	1			N	1965		117		117	0.00	1965			1965	0.060			15	70	0.101	9
3	D,A	3.50	I	3			N	6175		1683		1683	0.00	6175			6175	0.273			70	70	0.460	45
1	C,D	3.50	II	3	10		N	6175	537			537	1.00	5370			5370	0.100	0.100		26	26	0.460	28
2	A,B	3.50	III	3			N	6175		1985		1985	0.00	6175			6175	0.321	0.321		82	82	0.460	39

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

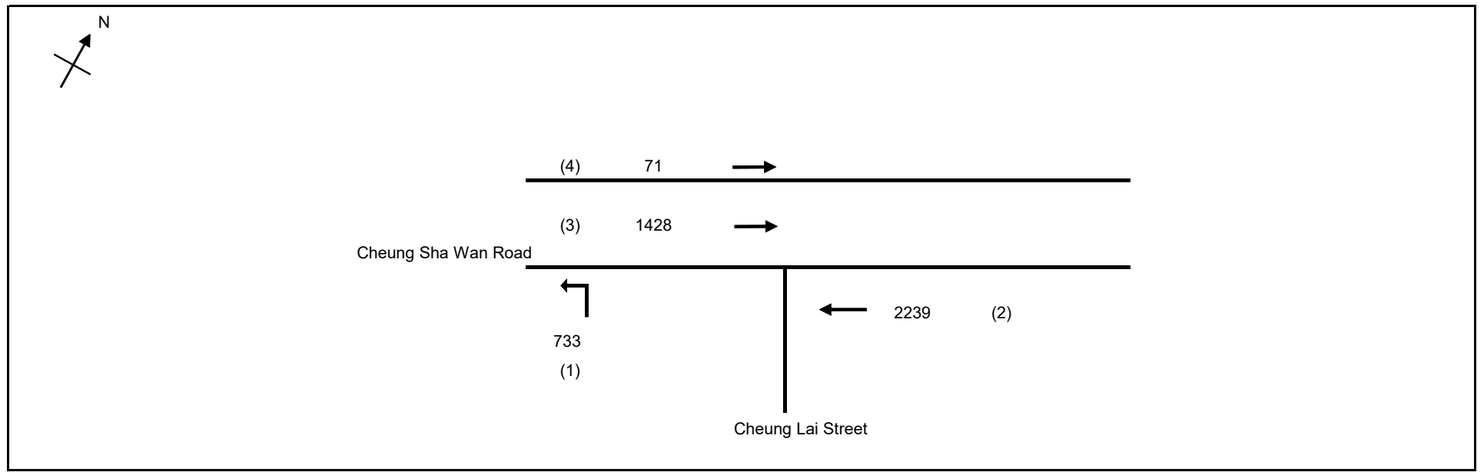
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

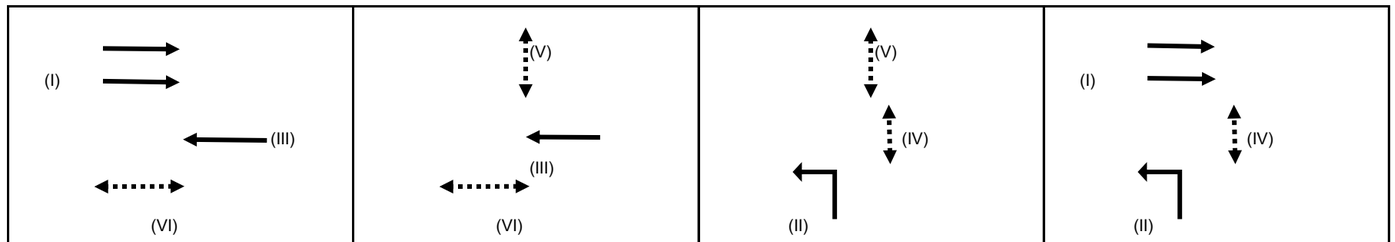
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J4

Cheung Sha Wan Road / Cheung Lai Street | Year 2033 Design PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	124 sec
Sum(y)		Y =	0.499
Loss time		L =	10 sec
Total Flow		=	4471 pcu
Co	= (1.5*L+5)/(1-Y)	=	39.9 sec
Cm	= L/(1-Y)	=	20.0 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	65.3 %
Cp	= 0.9*L/(0.9-Y)	=	22.4 sec
Ymax	= 1-L/C	=	0.919
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	66 %



Stage A	Int = 5	Stage B	Int = 7	Stage C	Int = 5	Stage D	Int = 5

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	10	5	2	8	25	2	8	OK
V	12	10	2	9	56	2	9	OK
VI	16	7	2	13	74	2	13	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
4	D,A	3.50	I	1			N	1965		71		71	0.00	1965			1965	0.036			8	53	0.085	8
3	D,A	3.50	I	3			N	6175		1428		1428	0.00	6175			6175	0.231			53	53	0.543	56
1	C,D	3.50	II	3	10		N	6175	733			733	1.00	5370			5370	0.136	0.136		31	31	0.543	38
2	A,B	3.50	III	3			N	6175		2239		2239	0.00	6175			6175	0.363	0.363		83	83	0.543	51

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

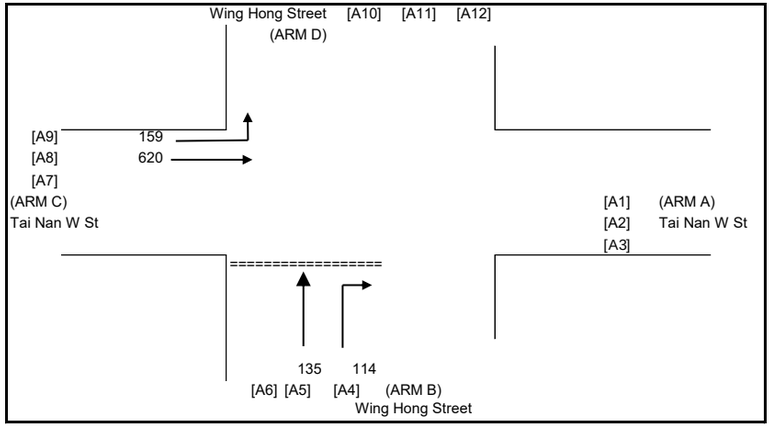
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J5

Wing Hong Street / Tai Nan W St | Year 2026 Existing AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	10.30	(metres)		
W cr	=	0	(metres)	Y =	0.64465

MAJOR ROAD (ARM A)

W a-d	=	0.00	(metres)
Vr a-d	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	0	(pcu/hr)
q a-d	=	0	(pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	620	(pcu/hr)
q c-b	=	0	(pcu/hr)
q c-d	=	159	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	0	(metres)
q b-a	=	114	(pcu/hr)
q b-c	=	0	(pcu/hr)
q b-d	=	135	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	0.00	(metres)
W d-a	=	0.00	(metres)
Vl d-c	=	0	(metres)
Vr d-c	=	0	(metres)
Vr d-a	=	0	(metres)
q d-c	=	0	(pcu/hr)
q d-a	=	0	(pcu/hr)
q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.744	X a	=	0.586
X c	=	0.586	X d	=	0.533
Z b	=	0.754	Z d	=	0.586
M b	=	0.708	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.506		r d-c	=	0.000	
ql b-d	=	101.4	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	33.31	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	398	(pcu/hr)	Q d-c	=	225	(pcu/hr)
Q b-c	=	491	(pcu/hr)	Q d-a	=	343	(pcu/hr)
Q c-b	=	437	(pcu/hr)	Q a-d	=	329	(pcu/hr)
Ql b-d	=	363	(pcu/hr)	Ql d-b	=	249	(pcu/hr)
Qr b-d	=	381	(pcu/hr)	Qr d-b	=	249	(pcu/hr)

TOTAL FLOW = 1027.6 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

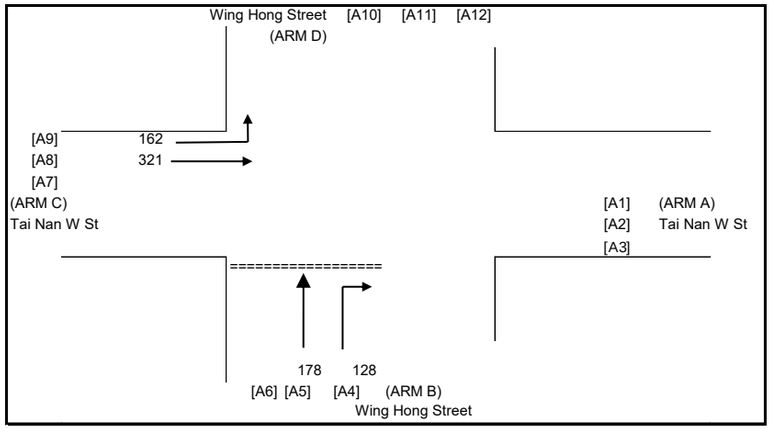
DFC b-a	=	0.2858
DFC b-c	=	0.0000
DFC c-b	=	0.0000
DFCl b-d	=	0.2794
DFCr b-d	=	0.0874
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.29

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon	PROJECT NO:	315341-02	JUNCTION NO: J5
Wing Hong Street / Tai Nan W St	Year 2026 Existing PM Peak	DATE :	23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	10.30	(metres)				
W cr	=	0	(metres)	Y	=	0.64465	

MAJOR ROAD (ARM A)

W a-d	=	0.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	0	(metres)	Vr c-b	=	0	(metres)
q a-b	=	0	(pcu/hr)	q c-a	=	321	(pcu/hr)
q a-c	=	0	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	0	(pcu/hr)	q c-d	=	162	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	50	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	50	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	0	(metres)	Vr d-a	=	0	(metres)
q b-a	=	128	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	0	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	178	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.744		X a	=	0.586	
X c	=	0.586		X d	=	0.533	
Z b	=	0.754		Z d	=	0.586	
M b	=	0.708		M d	=	0.533	

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.501		r d-c	=	0.000	
ql b-d	=	133.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	44.35	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	431	(pcu/hr)	Q d-c	=	256	(pcu/hr)
Q b-c	=	491	(pcu/hr)	Q d-a	=	384	(pcu/hr)
Q c-b	=	437	(pcu/hr)	Q a-d	=	370	(pcu/hr)
Ql b-d	=	394	(pcu/hr)	Ql d-b	=	286	(pcu/hr)
Qr b-d	=	414	(pcu/hr)	Qr d-b	=	286	(pcu/hr)

TOTAL FLOW = 788.75 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2973
DFC b-c	=	0.0000
DFC c-b	=	0.0000
DFCl b-d	=	0.3382
DFCr b-d	=	0.1071
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.34

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

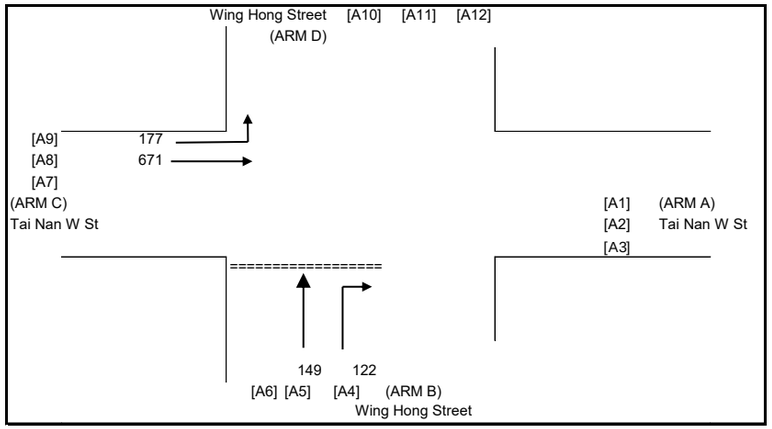
JUNCTION NO: J5

Wing Hong Street / Tai Nan W St

Year 2033 Reference AM Peak

DATE : 23-Jun-26

FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	10.30	(metres)		
W cr	=	0	(metres)	Y =	0.64465

MAJOR ROAD (ARM A)

W a-d	=	0.00	(metres)
Vr a-d	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	0	(pcu/hr)
q a-d	=	0	(pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	671	(pcu/hr)
q c-b	=	0	(pcu/hr)
q c-d	=	177	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	0	(metres)
q b-a	=	122	(pcu/hr)
q b-c	=	0	(pcu/hr)
q b-d	=	149	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	0.00	(metres)
W d-a	=	0.00	(metres)
Vl d-c	=	0	(metres)
Vr d-c	=	0	(metres)
Vr d-a	=	0	(metres)
q d-c	=	0	(pcu/hr)
q d-a	=	0	(pcu/hr)
q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.744	X a	=	0.586
X c	=	0.586	X d	=	0.533
Z b	=	0.754	Z d	=	0.586
M b	=	0.708	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.567		r d-c	=	0.000	
ql b-d	=	117.1	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	32.34	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	393	(pcu/hr)	Q d-c	=	215	(pcu/hr)
Q b-c	=	482	(pcu/hr)	Q d-a	=	335	(pcu/hr)
Q c-b	=	437	(pcu/hr)	Q a-d	=	320	(pcu/hr)
Ql b-d	=	356	(pcu/hr)	Ql d-b	=	242	(pcu/hr)
Qr b-d	=	374	(pcu/hr)	Qr d-b	=	242	(pcu/hr)

TOTAL FLOW = 1118.726 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3103
DFC b-c	=	0.0000
DFC c-b	=	0.0000
DFCl b-d	=	0.3290
DFCr b-d	=	0.0865
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.33

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

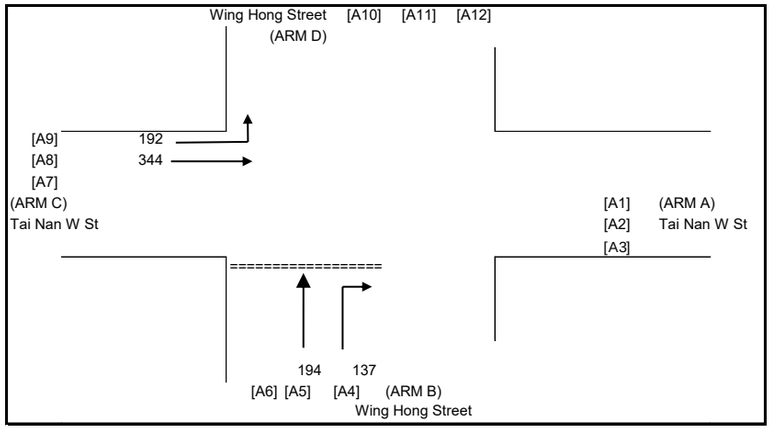
JUNCTION NO: J5

Wing Hong Street / Tai Nan W St

Year 2033 Reference PM Peak

DATE : 23-Jun-26

FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	10.30	(metres)		
W cr	=	0	(metres)	Y =	0.64465

MAJOR ROAD (ARM A)

W a-d	=	0.00	(metres)
Vr a-d	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	0	(pcu/hr)
q a-d	=	0	(pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	344	(pcu/hr)
q c-b	=	0	(pcu/hr)
q c-d	=	192	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	0	(metres)
q b-a	=	137	(pcu/hr)
q b-c	=	0	(pcu/hr)
q b-d	=	194	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	0.00	(metres)
W d-a	=	0.00	(metres)
Vl d-c	=	0	(metres)
Vr d-c	=	0	(metres)
Vr d-a	=	0	(metres)
q d-c	=	0	(pcu/hr)
q d-a	=	0	(pcu/hr)
q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.744	X a	=	0.586
X c	=	0.586	X d	=	0.533
Z b	=	0.754	Z d	=	0.586
M b	=	0.708	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.552		r d-c	=	0.000	
ql b-d	=	150.8	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	43.57	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	429	(pcu/hr)	Q d-c	=	249	(pcu/hr)
Q b-c	=	484	(pcu/hr)	Q d-a	=	379	(pcu/hr)
Q c-b	=	437	(pcu/hr)	Q a-d	=	363	(pcu/hr)
Ql b-d	=	388	(pcu/hr)	Ql d-b	=	282	(pcu/hr)
Qr b-d	=	408	(pcu/hr)	Qr d-b	=	282	(pcu/hr)

TOTAL FLOW = 867.6468 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3203
DFC b-c	=	0.0000
DFC c-b	=	0.0000
DFCl b-d	=	0.3888
DFCr b-d	=	0.1068
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.39

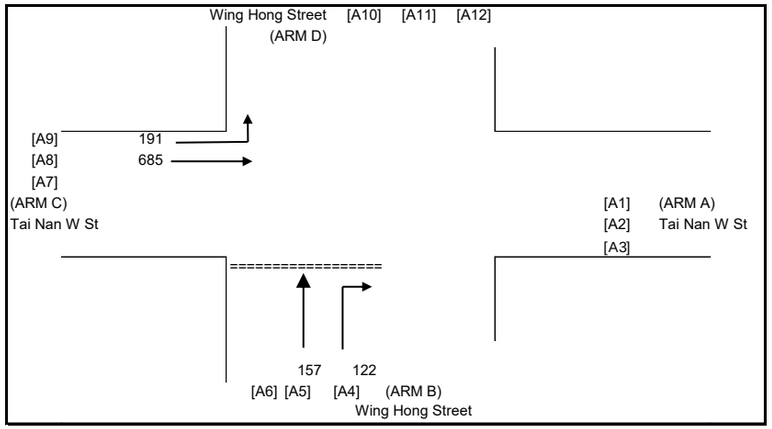
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J5

Wing Hong Street / Tai Nan W St | Year 2033 Design AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	10.30	(metres)		
W cr	=	0	(metres)	Y =	0.64465

MAJOR ROAD (ARM A)

W a-d	=	0.00	(metres)
Vr a-d	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	0	(pcu/hr)
q a-d	=	0	(pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	685	(pcu/hr)
q c-b	=	0	(pcu/hr)
q c-d	=	191	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	0	(metres)
q b-a	=	122	(pcu/hr)
q b-c	=	0	(pcu/hr)
q b-d	=	157	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	0.00	(metres)
W d-a	=	0.00	(metres)
Vl d-c	=	0	(metres)
Vr d-c	=	0	(metres)
Vr d-a	=	0	(metres)
q d-c	=	0	(pcu/hr)
q d-a	=	0	(pcu/hr)
q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.744	X a	=	0.586
X c	=	0.586	X d	=	0.533
Z b	=	0.754	Z d	=	0.586
M b	=	0.708	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.575		r d-c	=	0.000	
ql b-d	=	124	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	33.44	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	391	(pcu/hr)	Q d-c	=	212	(pcu/hr)
Q b-c	=	481	(pcu/hr)	Q d-a	=	332	(pcu/hr)
Q c-b	=	437	(pcu/hr)	Q a-d	=	316	(pcu/hr)
Ql b-d	=	353	(pcu/hr)	Ql d-b	=	239	(pcu/hr)
Qr b-d	=	370	(pcu/hr)	Qr d-b	=	239	(pcu/hr)

TOTAL FLOW = 1154.726 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3119
DFC b-c	=	0.0000
DFC c-b	=	0.0000
DFCl b-d	=	0.3514
DFCr b-d	=	0.0904
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.35

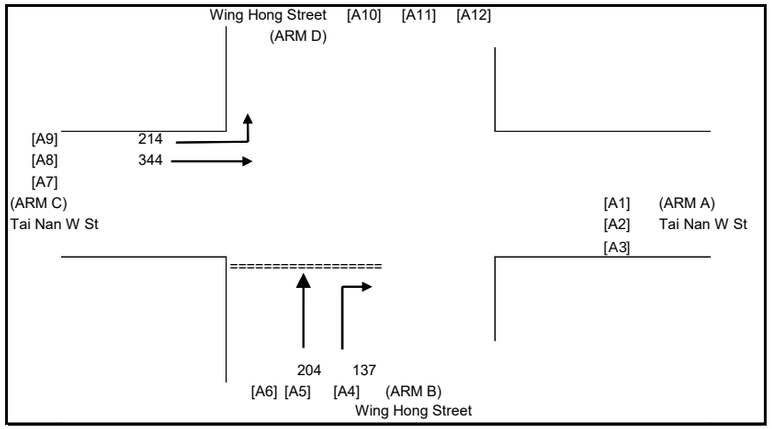
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J5

Wing Hong Street / Tai Nan W St | Year 2033 Design PM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	10.30	(metres)		
W cr	=	0	(metres)	Y =	0.64465

MAJOR ROAD (ARM A)

W a-d	=	0.00	(metres)
Vr a-d	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	0	(pcu/hr)
q a-d	=	0	(pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	344	(pcu/hr)
q c-b	=	0	(pcu/hr)
q c-d	=	214	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	0	(metres)
q b-a	=	137	(pcu/hr)
q b-c	=	0	(pcu/hr)
q b-d	=	204	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	0.00	(metres)
W d-a	=	0.00	(metres)
Vl d-c	=	0	(metres)
Vr d-c	=	0	(metres)
Vr d-a	=	0	(metres)
q d-c	=	0	(pcu/hr)
q d-a	=	0	(pcu/hr)
q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.744	X a	=	0.586
X c	=	0.586	X d	=	0.533
Z b	=	0.754	Z d	=	0.586
M b	=	0.708	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.556		r d-c	=	0.000	
ql b-d	=	159.1	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	45.35	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	429	(pcu/hr)	Q d-c	=	247	(pcu/hr)
Q b-c	=	483	(pcu/hr)	Q d-a	=	378	(pcu/hr)
Q c-b	=	437	(pcu/hr)	Q a-d	=	360	(pcu/hr)
Ql b-d	=	386	(pcu/hr)	Ql d-b	=	281	(pcu/hr)
Qr b-d	=	405	(pcu/hr)	Qr d-b	=	281	(pcu/hr)

TOTAL FLOW = 899.6468 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3203
DFC b-c	=	0.0000
DFC c-b	=	0.0000
DFCl b-d	=	0.4121
DFCr b-d	=	0.1120
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.41

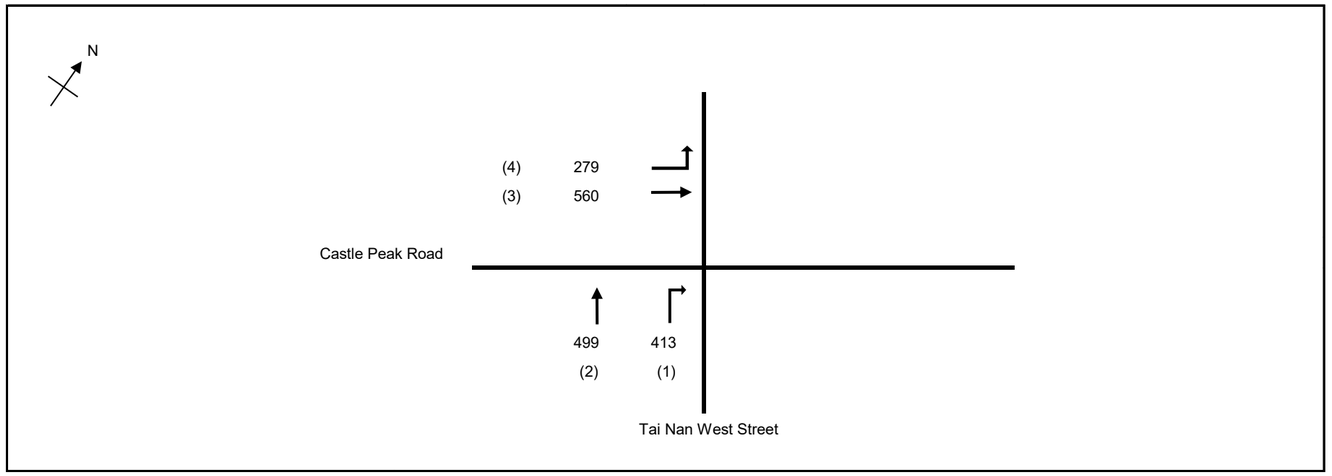
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

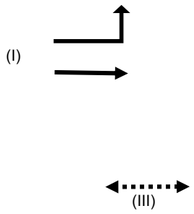
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J6

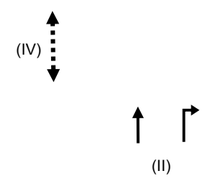
Castle Peak Road / Tai Nan West Street | Year 2026 Existing AM Peak | DATE : 23/Jun/26 | FILENAME :



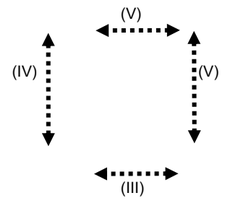
No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.432	
Loss time	L =	31	sec
Total Flow	=	1750	pcu
Co = (1.5*L+5)/(1-Y)	=	90.7	sec
Cm = L/(1-Y)	=	54.6	sec
Yult	=	0.668	
R.C.ult = (Yult-Y)/Y*100%	=	54.5	%
Cp = 0.9*L/(0.9-Y)	=	59.6	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	56	%



Stage A | Int = 6



Stage B | Int = 7



Stage C | Int = 0

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	11	5	2	9	65	2	9	OK
IV	12	5	3	10	26	3	10	OK
V	13	6	3	11	6	3	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
3,4	A	3.30	I	1	5		N	1945	279	0		279	1.00	1496			1496	0.186	0.186		40	40	0.576	39
3	A	3.30	I	2			N	4030		560		560	0.00	4030			4030	0.139			30	40	0.429	39
1,2	B	3.50	II	1	8			2105		499	15	514	0.03	2094			2094	0.245	0.246		53	53	0.575	61
1	B	3.50	II	1	5			2105			398	398	1.00	1619			1619	0.246			53	53	0.576	47
PED	C		VII																	20				

*Assuming pedestrain stage is activated

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

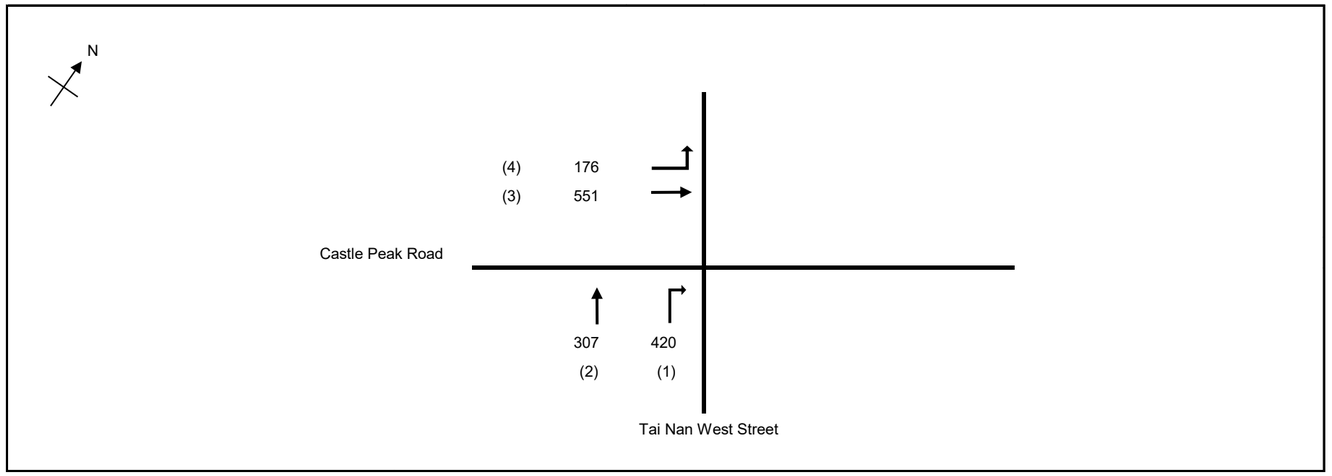
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

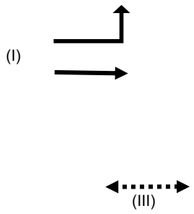
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J6

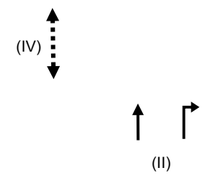
Castle Peak Road / Tai Nan West Street | Year 2026 Existing PM Peak | DATE : 23/Jun/26 | FILENAME :



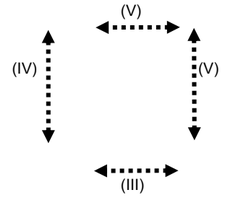
No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.329	
Loss time	L =	31	sec
Total Flow	=	1453	pcu
Co = (1.5*L+5)/(1-Y)	=	76.8	sec
Cm = L/(1-Y)	=	46.2	sec
Yult	=	0.668	
R.C.ult = (Yult-Y)/Y*100%	=	102.8	%
Cp = 0.9*L/(0.9-Y)	=	48.9	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	105	%



Stage A | Int = 6



Stage B | Int = 7



Stage C | Int = 0

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	11	5	2	9	62	2	9	OK
IV	12	5	3	10	26	3	10	OK
V	13	6	3	11	6	3	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
3,4	A	3.50	I	1	5		N	1965	176	25		201	0.88	1556			1556	0.129	0.129		37	37	0.439	29
3	A	3.50	I	2			N	4070		526		526	0.00	4070			4070	0.129			37	37	0.439	38
1,2	B	3.50	II	1	8			2105		307	96	403	0.24	2015			2015	0.200	0.200		56	56	0.439	45
1	B	3.50	II	1	5			2105			324	324	1.00	1619			1619	0.200			56	56	0.439	36
PED	C		VII																	20				

*Assuming pedestrain stage is activated

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

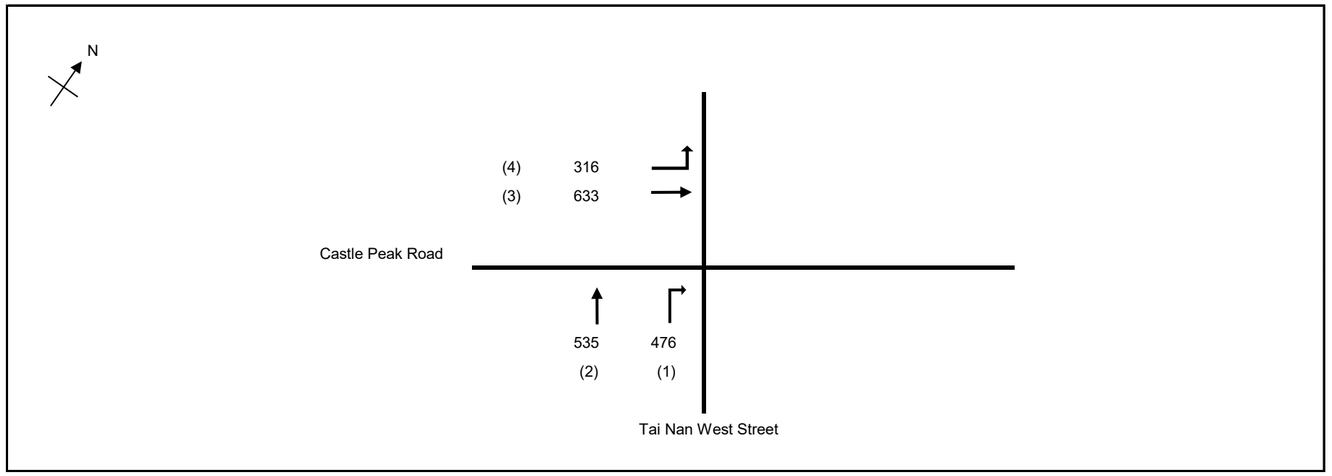
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

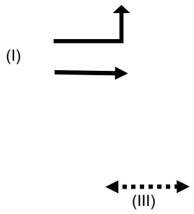
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J6

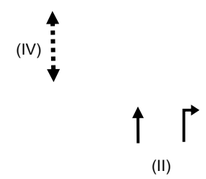
Castle Peak Road / Tai Nan West Street | Year 2033 Reference AM Peak | DATE : 23/Jun/26 | FILENAME :



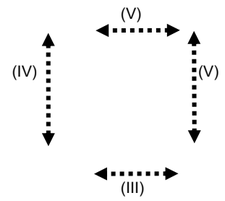
No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.482	
Loss time	L =	31	sec
Total Flow	=	1959	pcu
Co = (1.5*L+5)/(1-Y)	=	99.5	sec
Cm = L/(1-Y)	=	59.9	sec
Yult	=	0.668	
R.C.ult = (Yult-Y)/Y*100%	=	38.4	%
Cp = 0.9*L/(0.9-Y)	=	66.8	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	40	%



Stage A | Int = 6



Stage B | Int = 7



Stage C | Int = 0

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	11	5	2	9	65	2	9	OK
IV	12	5	3	10	26	3	10	OK
V	13	6	3	11	6	3	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
3,4	A	3.50	I	1	5		N	1965	316	0		316	1.00	1512			1512	0.209	0.209		40	40	0.643	44
3	A	3.50	I	2			N	4070		633		633	0.00	4070			4070	0.156			30	40	0.479	44
1,2	B	3.50	II	1	8			2105		535	34	569	0.06	2082			2082	0.273	0.273		53	53	0.643	68
1	B	3.50	II	1	5			2105			442	442	1.00	1619			1619	0.273			53	53	0.642	52
PED	C		VII																	20				

*Assuming pedestrain stage is activated

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

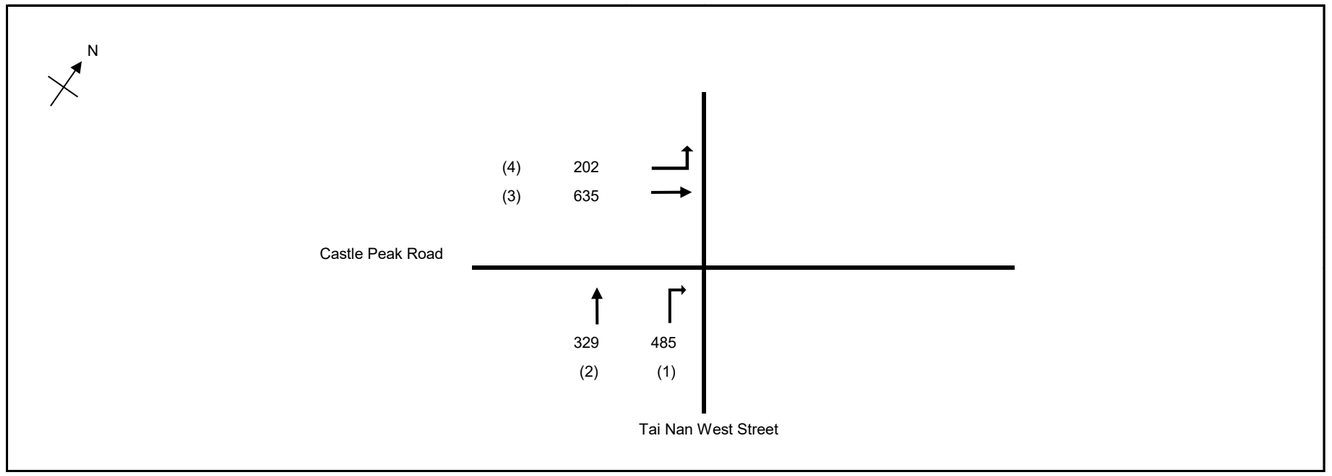
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

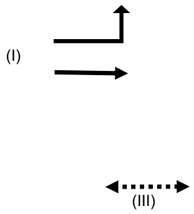
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J6

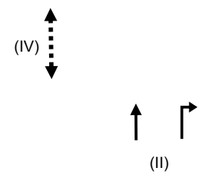
Castle Peak Road / Tai Nan West Street | Year 2033 Reference PM Peak | DATE : 23/Jun/26 | FILENAME :



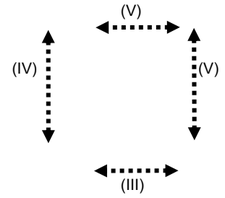
No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.373	
Loss time	L =	31	sec
Total Flow	=	1650	pcu
Co = (1.5*L+5)/(1-Y)	=	82.2	sec
Cm = L/(1-Y)	=	49.5	sec
Yult	=	0.668	
R.C.ult = (Yult-Y)/Y*100%	=	78.7	%
Cp = 0.9*L/(0.9-Y)	=	53.0	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	81	%



Stage A | Int = 6



Stage B | Int = 7



Stage C | Int = 0

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	11	5	2	9	62	2	9	OK
IV	12	5	3	10	26	3	10	OK
V	13	6	3	11	6	3	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
3,4	A	3.50	I	1	5		N	1965	202	30		232	0.87	1558			1558	0.149	0.149		37	37	0.498	34
3	A	3.50	I	2			N	4070		605		605	0.00	4070			4070	0.149			37	37	0.497	44
1,2	B	3.50	II	1	8			2105		329	121	450	0.27	2004			2004	0.224	0.225		56	56	0.497	51
1	B	3.50	II	1	5			2105			364	364	1.00	1619			1619	0.225			56	56	0.498	41
PED	C		VII																	20				

*Assuming pedestrain stage is activated

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

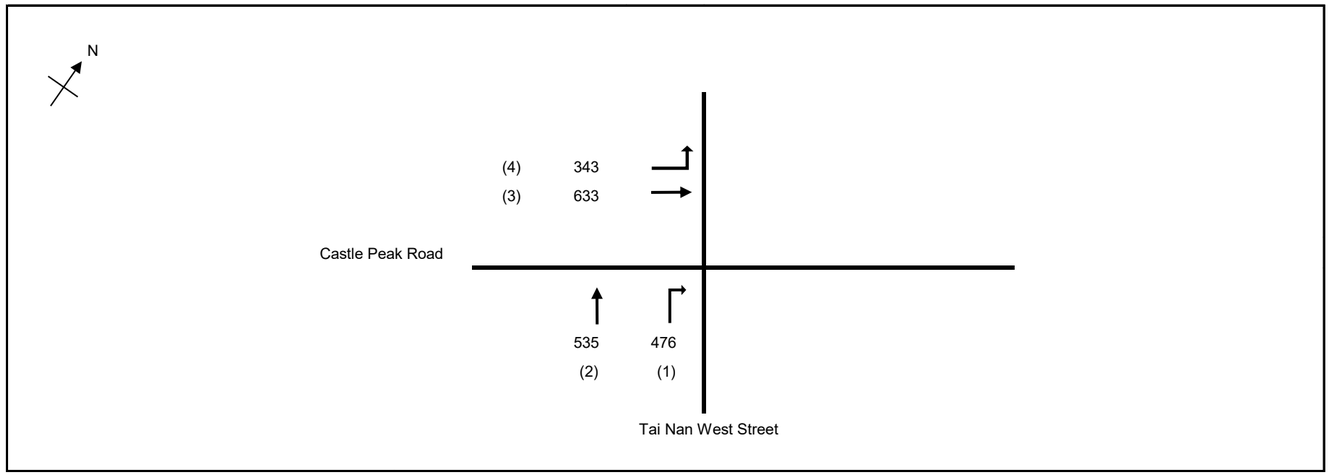
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

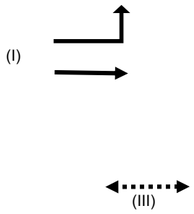
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J6

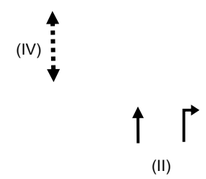
Castle Peak Road / Tai Nan West Street | Year 2033 Design AM Peak | DATE : 23/Jun/26 | FILENAME :



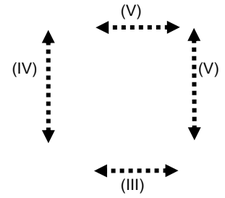
No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.500	
Loss time	L =	31	sec
Total Flow	=	1986	pcu
Co = (1.5*L+5)/(1-Y)	=	103.0	sec
Cm = L/(1-Y)	=	62.0	sec
Yult	=	0.668	
R.C.ult = (Yult-Y)/Y*100%	=	33.5	%
Cp = 0.9*L/(0.9-Y)	=	69.8	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	35	%



Stage A | Int = 6



Stage B | Int = 7



Stage C | Int = 0

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	11	5	2	9	67	2	9	OK
IV	12	5	3	10	26	3	10	OK
V	13	6	3	11	6	3	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
3,4	A	3.50	I	1	5		N	1965	343	0		343	1.00	1512			1512	0.227	0.227		42	42	0.667	47
3	A	3.50	I	2			N	4070		633		633	0.00	4070			4070	0.156			29	42	0.457	43
1,2	B	3.50	II	1	8			2105		535	34	569	0.06	2082			2082	0.273	0.273		51	51	0.667	69
1	B	3.50	II	1	5			2105			442	442	1.00	1619			1619	0.273			51	51	0.666	54
PED	C		VII																	20				

*Assuming pedestrain stage is activated

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

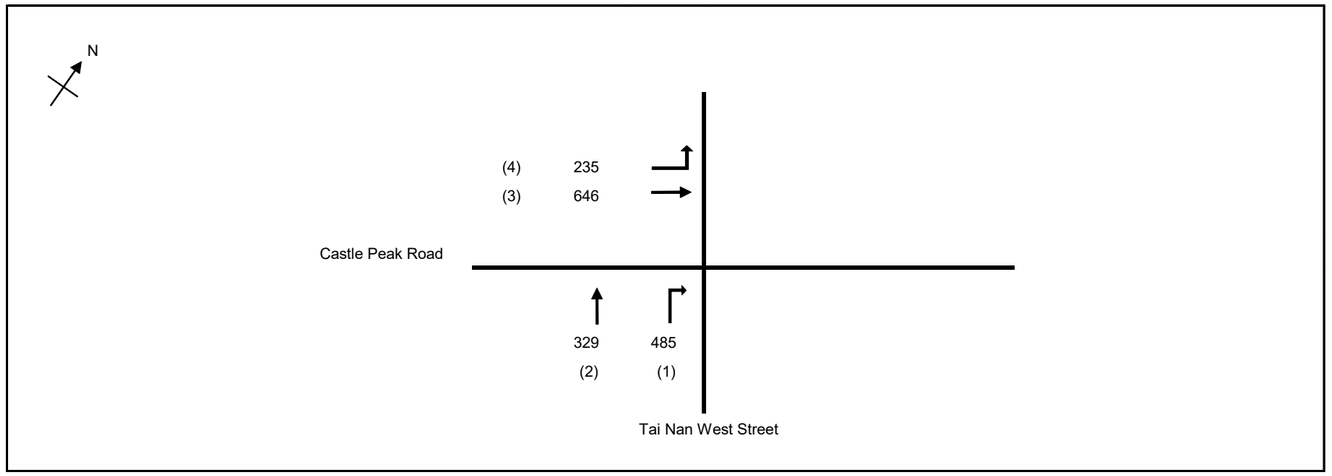
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

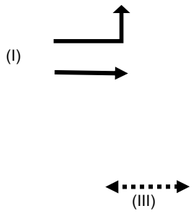
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J6

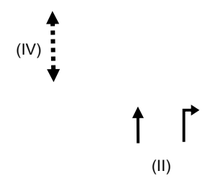
Castle Peak Road / Tai Nan West Street | Year 2033 Design PM Peak | DATE : 23/Jun/26 | FILENAME :



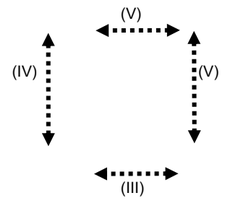
No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.382	
Loss time	L =	31	sec
Total Flow	=	1694	pcu
Co = (1.5*L+5)/(1-Y)	=	83.4	sec
Cm = L/(1-Y)	=	50.2	sec
Yult	=	0.668	
R.C.ult = (Yult-Y)/Y*100%	=	74.6	%
Cp = 0.9*L/(0.9-Y)	=	53.9	sec
Ymax = 1-L/C	=	0.750	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	77	%



Stage A | Int = 6



Stage B | Int = 7



Stage C | Int = 0

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	11	5	2	9	63	2	9	OK
IV	12	5	3	10	26	3	10	OK
V	13	6	3	11	6	3	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
3,4	A	3.50	I	1	5		N	1965	235	4		239	0.98	1517			1517	0.157	0.158		38	38	0.509	34
3	A	3.50	I	2			N	4070		642		642	0.00	4070			4070	0.158			38	38	0.510	46
1,2	B	3.50	II	1	8			2105		329	121	450	0.27	2004			2004	0.224	0.225		55	55	0.509	52
1	B	3.50	II	1	5			2105			364	364	1.00	1619			1619	0.225			55	55	0.510	42
PED	C		VII																	20				

*Assuming pedestrain stage is activated

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

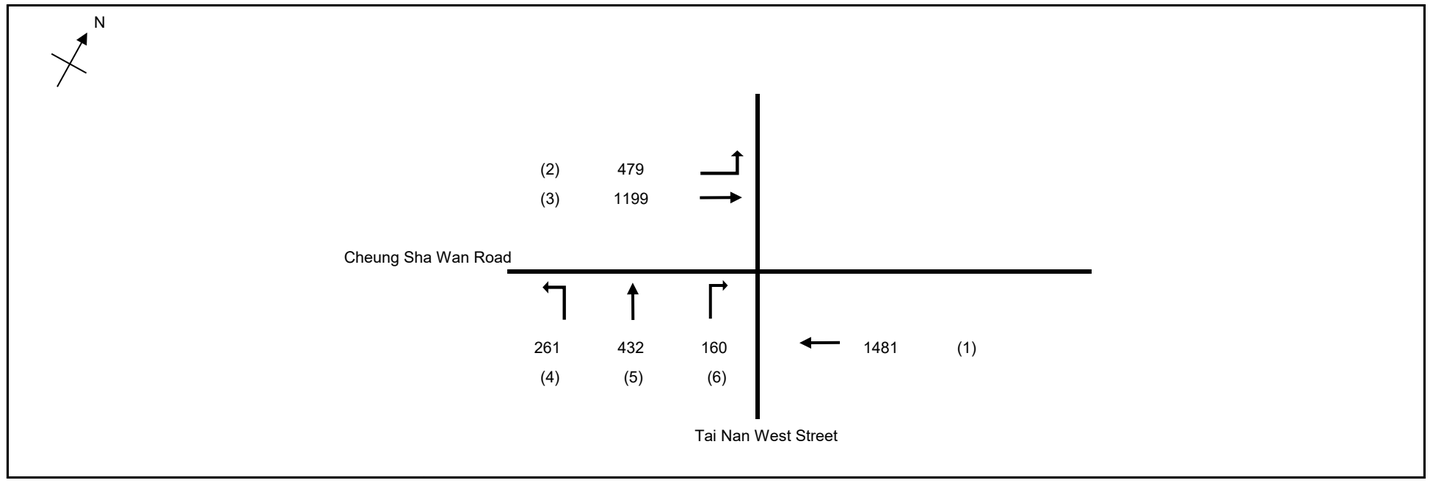
JUNCTION NO: J7

Cheung Sha Wan Road / Tai Nan West Street

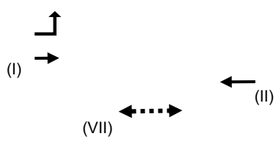
Year 2026 Existing AM Peak

DATE : 23/Jun/26

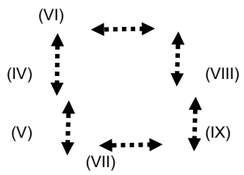
FILENAME :



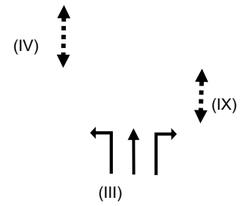
No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.436
Loss time	L =	34 sec
Total Flow	=	4012 pcu
Co = (1.5*L+5)/(1-Y)	=	99.3 sec
Cm = L/(1-Y)	=	60.3 sec
Yult	=	0.645
R.C.ult = (Yult-Y)/Y*100%	=	47.9 %
Cp = 0.9*L/(0.9-Y)	=	66.0 sec
Ymax = 1-L/C	=	0.726
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	50 %



Stage A | Int = 7



Stage B | Int = 0



Stage C | Int = 5

(0)

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	12	5	2	10	42	2	10	OK
V	10	5	7	8	9	7	8	OK
VI	13	6	7	11	6	7	11	OK
VII	12	5	3	10	87	3	10	OK
VIII	13	6	6	11	7	6	11	OK
IX	10	5	3	8	43	3	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1	A	3.00	II	1	10		N	1915		466		466	0.00	1915			1915	0.243			50	61	0.491	49
1	A	3.30	II	2				4170		1015		1015	0.00	4170			4170	0.244			50	61	0.492	53
2,3	A	3.00	I	1	10		N	1915	479	0		479	1.00	1665			1665	0.288	0.288		59	59	0.601	52
3	A	3.00	I	3				6165		1199		1199	0.00	6165			6165	0.194			40	59	0.406	43
4	C	3.00	III	1	10		N	1915	247			247	1.00	1665			1665	0.148	0.148		31	31	0.601	0
4,5	C	3.50	III	1	13			2105	14	296		310	0.04	2094			2094	0.148			30	31	0.599	0
5,6	C	3.50	III	1	15			2105		136	160	296	0.54	1997			1997	0.148			31	31	0.600	0
PED	B		VI																	24				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

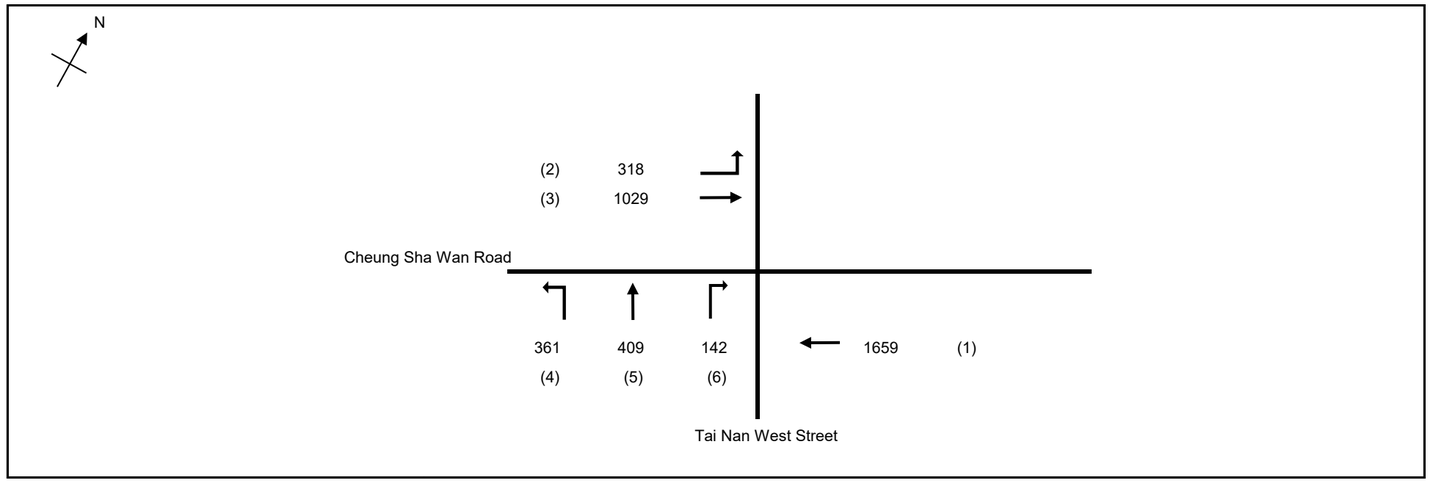
JUNCTION NO: J7

Cheung Sha Wan Road / Tai Nan West Street

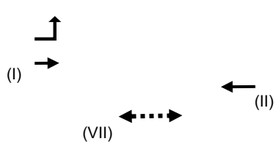
Year 2026 Existing PM Peak

DATE : 23/Jun/26

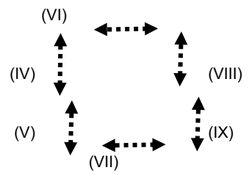
FILENAME :



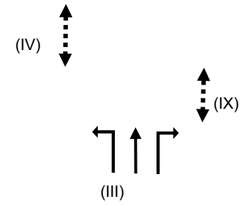
No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.432
Loss time	L =	32 sec
Total Flow	=	3917 pcu
Co = (1.5*L+5)/(1-Y)	=	93.4 sec
Cm = L/(1-Y)	=	56.4 sec
Yult	=	0.660
R.C.ult = (Yult-Y)/Y*100%	=	52.6 %
Cp = 0.9*L/(0.9-Y)	=	61.6 sec
Ymax = 1-L/C	=	0.742
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	54 %



Stage A | Int = 5



Stage B | Int = 0



Stage C | Int = 5

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	12	5	2	10	45	2	10	OK
V	10	5	7	8	9	7	8	OK
VI	13	6	7	11	6	7	11	OK
VII	12	5	3	10	87	3	10	OK
VIII	13	6	6	11	7	6	11	OK
IX	10	5	3	8	46	3	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.00	II	1	10		N	1915		522		522	0.00	1915			1915	0.273	0.273		58	58	0.583	57
1	A	3.30	II	2				4170		1137		1137	0.00	4170			4170	0.273			58	58	0.583	63
2,3	A	3.00	I	1	10		N	1915	318	0		318	1.00	1665			1665	0.191			41	58	0.408	35
3	A	3.00	I	3				6165		1029		1029	0.00	6165			6165	0.167			36	58	0.357	38
4	C	3.00	III	1	10		N	1915	266			266	1.00	1665			1665	0.160	0.160		34	34	0.583	0
4,5	C	3.50	III	1	13			2105	95	230		325	0.29	2036			2036	0.160			34	34	0.582	0
5,6	C	3.50	III	1	15			2105		179	142	321	0.44	2016			2016	0.159			34	34	0.581	0
PED	B		V																	24				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

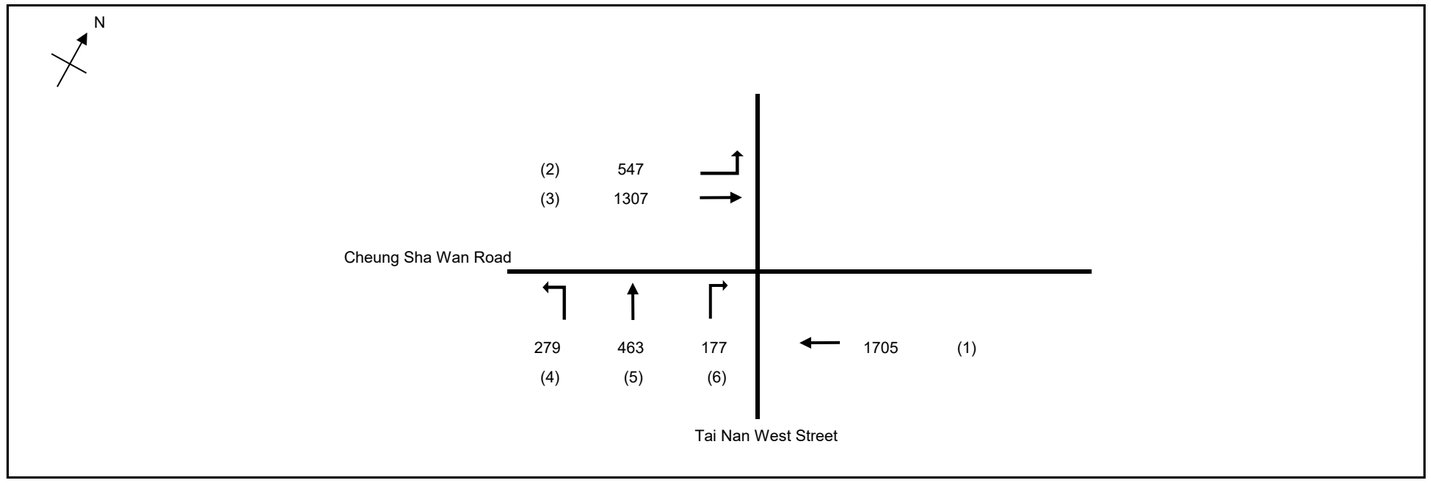
JUNCTION NO: J7

Cheung Sha Wan Road / Tai Nan West Street

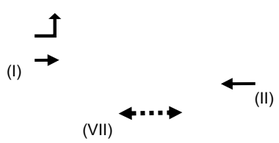
Year 2033 Reference AM Peak

DATE : 23/Jun/26

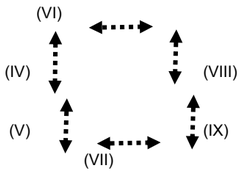
FILENAME :



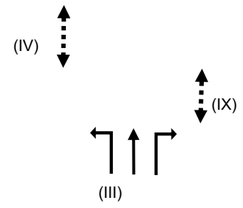
No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.492
Loss time	L =	34 sec
Total Flow	=	4479 pcu
Co = (1.5*L+5)/(1-Y)	=	110.1 sec
Cm = L/(1-Y)	=	66.9 sec
Yult	=	0.645
R.C.ult = (Yult-Y)/Y*100%	=	31.2 %
Cp = 0.9*L/(0.9-Y)	=	74.9 sec
Ymax = 1-L/C	=	0.726
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	33 %



Stage A | Int = 7



Stage B | Int = 0



Stage C | Int = 5

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	12	5	2	10	41	2	10	OK
V	10	5	7	8	9	7	8	OK
VI	13	6	7	11	6	7	11	OK
VII	12	5	3	10	87	3	10	OK
VIII	13	6	6	11	7	6	11	OK
IX	10	5	3	8	42	3	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1	A	3.00	II	1	10		N	1915		551		551	0.00	1915			1915	0.288			53	62	0.574	57
1	A	3.30	II	2				4170		1154		1154	0.00	4170			4170	0.277			51	62	0.552	59
2,3	A	3.00	I	1	10		N	1915	547	0		547	1.00	1665			1665	0.328	0.328		60	60	0.677	58
3	A	3.00	I	3				6165		1307		1307	0.00	6165			6165	0.212			39	60	0.437	46
4	C	3.00	III	1	10		N	1915	271			271	1.00	1665			1665	0.163	0.163		30	30	0.676	0
4,5	C	3.50	III	1	13			2105	8	334		342	0.02	2099			2099	0.163			30	30	0.677	0
5,6	C	3.50	III	1	15			2105		129	177	306	0.58	1990			1990	0.154			28	30	0.639	0
PED	B		V																	24				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

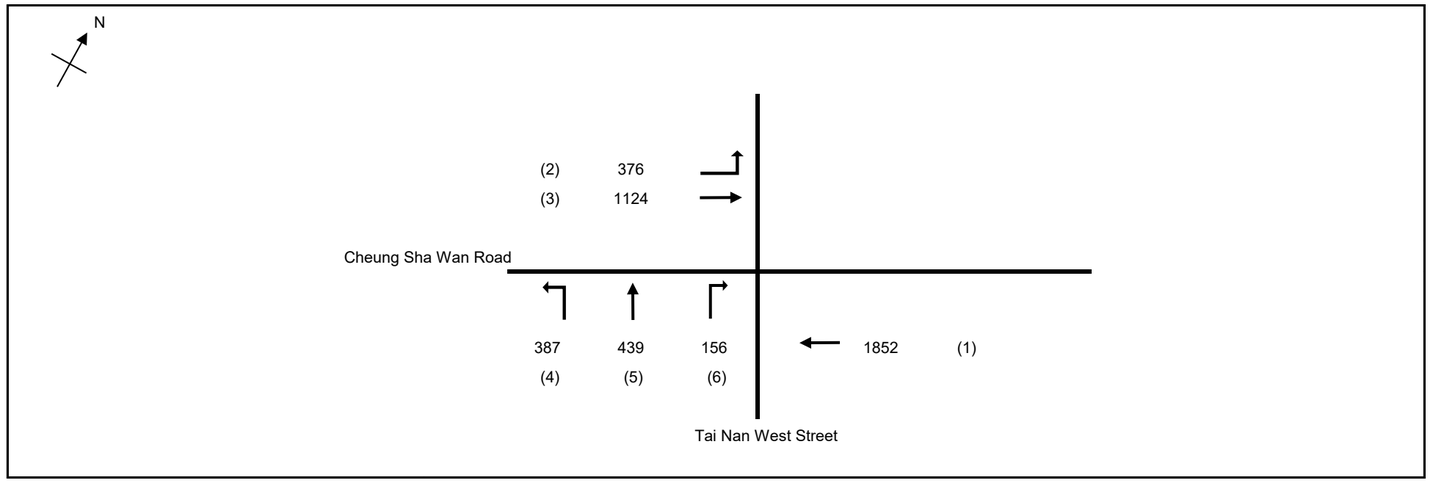
JUNCTION NO: J7

Cheung Sha Wan Road / Tai Nan West Street

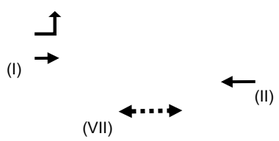
Year 2033 Reference PM Peak

DATE : 23/Jun/26

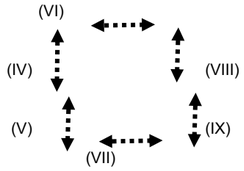
FILENAME :



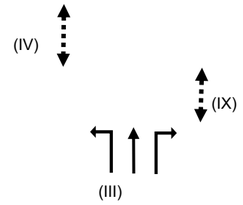
No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.482
Loss time	L =	32 sec
Total Flow	=	4333 pcu
Co = (1.5*L+5)/(1-Y)	=	102.3 sec
Cm = L/(1-Y)	=	61.7 sec
Yult	=	0.660
R.C.ult = (Yult-Y)/Y*100%	=	37.0 %
Cp = 0.9*L/(0.9-Y)	=	68.9 sec
Ymax = 1-L/C	=	0.742
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	39 %



Stage A | Int = 5



Stage B | Int = 0



Stage C | Int = 5

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	12	5	2	10	44	2	10	OK
V	10	5	7	8	9	7	8	OK
VI	13	6	7	11	6	7	11	OK
VII	12	5	3	10	87	3	10	OK
VIII	13	6	6	11	7	6	11	OK
IX	10	5	3	8	45	3	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.00	II	1	10		N	1915		589		589	0.00	1915			1915	0.308	0.308		59	59	0.649	64
1	A	3.30	II	2				4170		1263		1263	0.00	4170			4170	0.303			58	59	0.639	69
2,3	A	3.00	I	1	10		N	1915	376	0		376	1.00	1665			1665	0.226			43	59	0.476	41
3	A	3.00	I	3				6165		1124		1124	0.00	6165			6165	0.182			35	59	0.385	41
4	C	3.00	III	1	10		N	1915	290			290	1.00	1665			1665	0.174	0.174		33	33	0.649	0
4,5	C	3.50	III	1	13			2105	97	258		355	0.27	2041			2041	0.174			33	33	0.649	0
5,6	C	3.50	III	1	15			2105		181	156	337	0.46	2012			2012	0.167			32	33	0.624	0
PED	B		V																	24				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

JUNCTION NO: J7

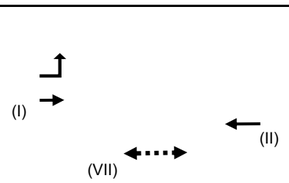
Cheung Sha Wan Road / Tai Nan West Street

Year 2033 Design AM Peak

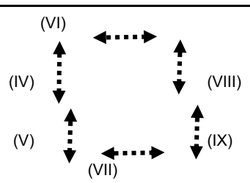
DATE : 23/Jun/26

FILENAME :

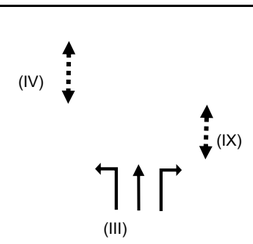
No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.492
Loss time	L =	34 sec
Total Flow	=	4479 pcu
Co = (1.5*L+5)/(1-Y)	=	110.2 sec
Cm = L/(1-Y)	=	66.9 sec
Yult	=	0.645
R.C.ult = (Yult-Y)/Y*100%	=	31.1 %
Cp = 0.9*L/(0.9-Y)	=	75.0 sec
Ymax = 1-L/C	=	0.726
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	33 %



Stage A | Int = 7



Stage B | Int = 0



Stage C | Int = 5

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	12	5	2	10	41	2	10	OK
V	10	5	7	8	9	7	8	OK
VI	13	6	7	11	6	7	11	OK
VII	12	5	3	10	87	3	10	OK
VIII	13	6	6	11	7	6	11	OK
IX	10	5	3	8	42	3	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1	A	3.00	II	1	10		N	1915		551		551	0.00	1915			1915	0.288			53	62	0.574	57
1	A	3.30	II	2				4170		1154		1154	0.00	4170			4170	0.277			51	62	0.553	60
2,3	A	3.00	I	1	10		N	1915	547	0		547	1.00	1665			1665	0.328	0.328		60	60	0.678	58
3	A	3.00	I	3				6165		1307		1307	0.00	6165			6165	0.212			39	60	0.437	46
4	C	3.00	III	1	10		N	1915	272			272	1.00	1665			1665	0.163	0.163		30	30	0.678	0
4,5	C	3.50	III	1	13			2105	7	335		342	0.02	2100			2100	0.163			30	30	0.676	0
5,6	C	3.50	III	1	15			2105		128	177	305	0.58	1989			1989	0.153			28	30	0.637	0
PED	B		V																	24				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02

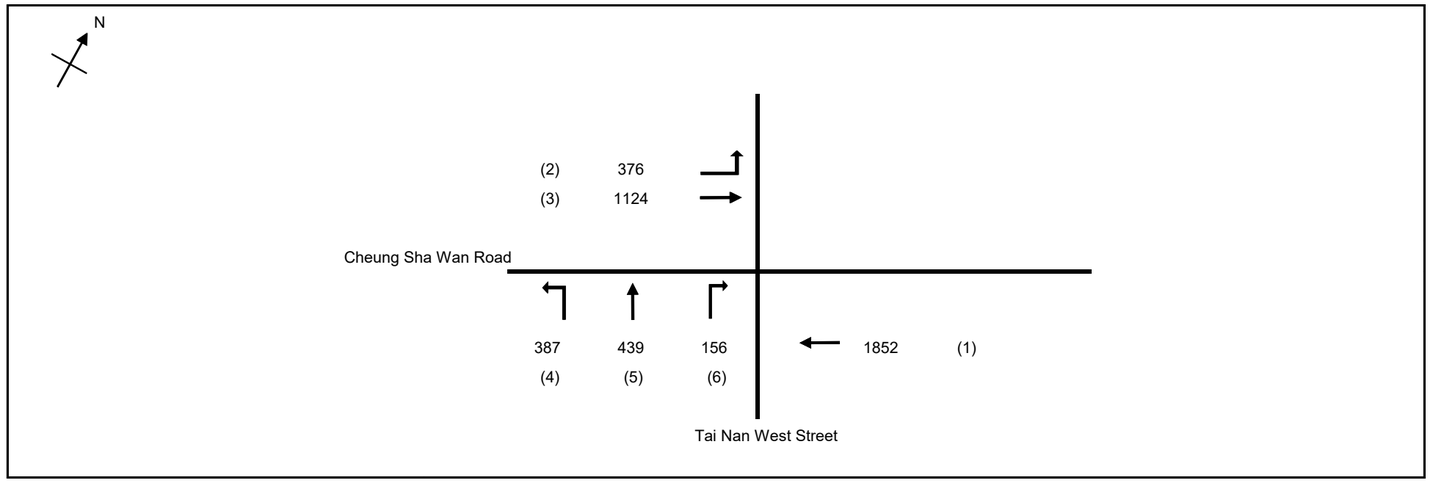
JUNCTION NO: J7

Cheung Sha Wan Road / Tai Nan West Street

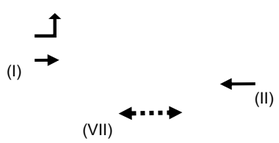
Year 2033 Design PM Peak

DATE : 23/Jun/26

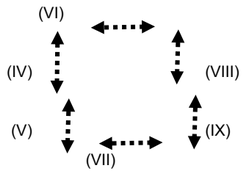
FILENAME :



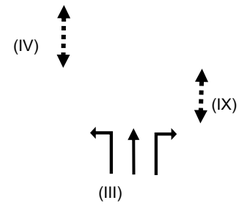
No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.482
Loss time	L =	32 sec
Total Flow	=	4333 pcu
Co = (1.5*L+5)/(1-Y)	=	102.3 sec
Cm = L/(1-Y)	=	61.7 sec
Yult	=	0.660
R.C.ult = (Yult-Y)/Y*100%	=	37.0 %
Cp = 0.9*L/(0.9-Y)	=	68.9 sec
Ymax = 1-L/C	=	0.742
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	39 %



Stage A | Int = 5



Stage B | Int = 0



Stage C | Int = 5

Stage D | Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
IV	12	5	2	10	44	2	10	OK
V	10	5	7	8	9	7	8	OK
VI	13	6	7	11	6	7	11	OK
VII	12	5	3	10	87	3	10	OK
VIII	13	6	6	11	7	6	11	OK
IX	10	5	3	8	45	3	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.00	II	1	10		N	1915		589		589	0.00	1915			1915	0.308	0.308		59	59	0.649	64
1	A	3.30	II	2				4170		1263		1263	0.00	4170			4170	0.303			58	59	0.639	69
2,3	A	3.00	I	1	10		N	1915	376	0		376	1.00	1665			1665	0.226			43	59	0.476	41
3	A	3.00	I	3				6165		1124		1124	0.00	6165			6165	0.182			35	59	0.385	41
4	C	3.00	III	1	10		N	1915	290			290	1.00	1665			1665	0.174	0.174		33	33	0.649	0
4,5	C	3.50	III	1	13			2105	97	258		355	0.27	2041			2041	0.174			33	33	0.649	0
5,6	C	3.50	III	1	15			2105		181	156	337	0.46	2012			2012	0.167			32	33	0.624	0
PED	B		V																	24				

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

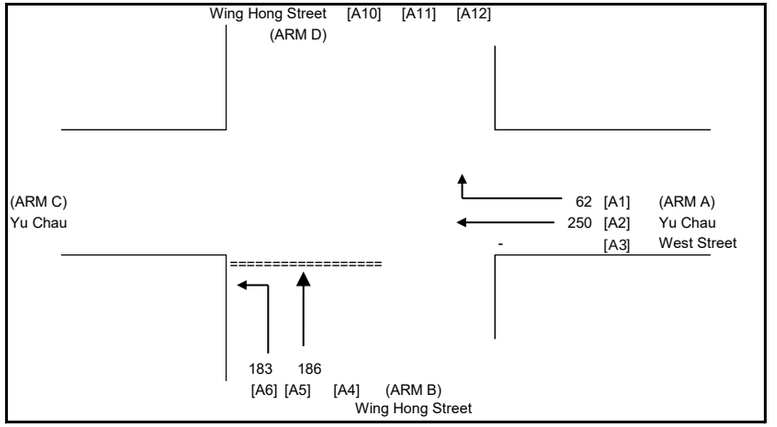
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J8

Wing Hong Street / Yu Chau | Year 2026 Existing AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	4.00	(metres)		
W cr	=	0	(metres)	Y =	0.862

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	4.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	-	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	250	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	62	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	183	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	186	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.686	X a	=	0.968
X c	=	0.586	X d	=	0.533
Z b	=	0.773	Z d	=	0.586
M b	=	0.703	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	93.19	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	93.19	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	363	(pcu/hr)	Q d-c	=	231	(pcu/hr)
Q b-c	=	515	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	374	(pcu/hr)	Q a-d	=	721	(pcu/hr)
Ql b-d	=	372	(pcu/hr)	Ql d-b	=	293	(pcu/hr)
Qr b-d	=	363	(pcu/hr)	Qr d-b	=	293	(pcu/hr)

TOTAL FLOW = 681.35 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3556
DFC c-b	=	0.0000
DFCl b-d	=	0.2505
DFCr b-d	=	0.2567
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0862
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.36

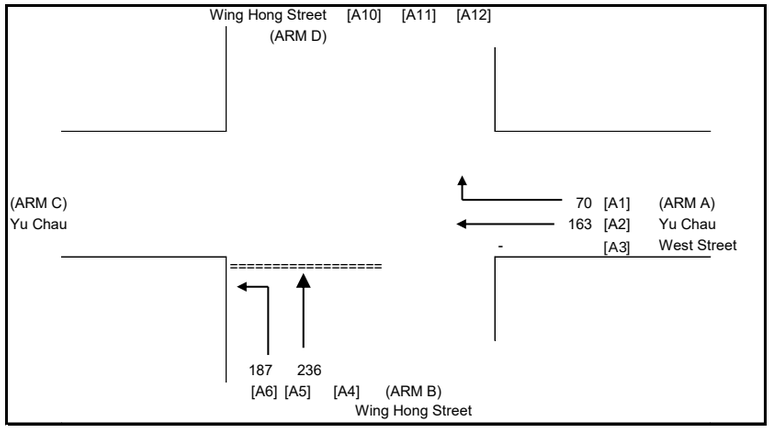
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J8

Wing Hong Street / Yu Chau | Year 2026 Existing PM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	4.00	(metres)				
W cr	=	0	(metres)	Y	=	0.862	

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	4.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	-	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	163	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	70	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	187	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	236	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.686	X a	=	0.968
X c	=	0.586	X d	=	0.533
Z b	=	0.773	Z d	=	0.586
M b	=	0.703	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	117.8	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	117.8	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	380	(pcu/hr)	Q d-c	=	230	(pcu/hr)
Q b-c	=	536	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	388	(pcu/hr)	Q a-d	=	721	(pcu/hr)
Ql b-d	=	389	(pcu/hr)	Ql d-b	=	300	(pcu/hr)
Qr b-d	=	380	(pcu/hr)	Qr d-b	=	300	(pcu/hr)

TOTAL FLOW = 655.7 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3480
DFC c-b	=	0.0000
DFCl b-d	=	0.3028
DFCr b-d	=	0.3100
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0973
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.35

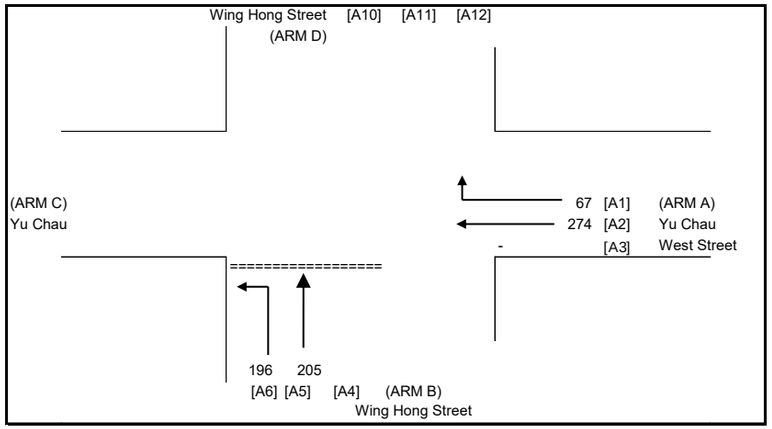
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J8

Wing Hong Street / Yu Chau | Year 2033 Reference AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	4.00	(metres)		
W cr	=	0	(metres)	Y =	0.862

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	4.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	-	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	274	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	67	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	196	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	205	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.686	X a	=	0.968
X c	=	0.586	X d	=	0.533
Z b	=	0.773	Z d	=	0.586
M b	=	0.703	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	102.4	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	102.4	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	357	(pcu/hr)	Q d-c	=	222	(pcu/hr)
Q b-c	=	509	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	369	(pcu/hr)	Q a-d	=	721	(pcu/hr)
Ql b-d	=	366	(pcu/hr)	Ql d-b	=	290	(pcu/hr)
Qr b-d	=	357	(pcu/hr)	Qr d-b	=	290	(pcu/hr)

TOTAL FLOW = 741.4994 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3858
DFC c-b	=	0.0000
DFCl b-d	=	0.2798
DFCr b-d	=	0.2869
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0924
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.39

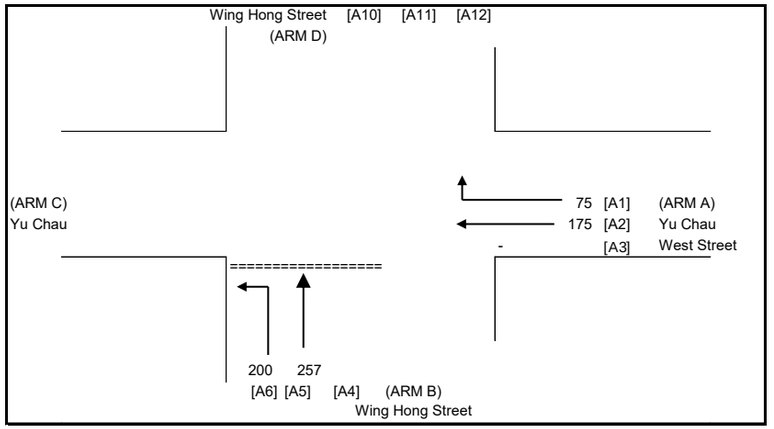
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J8

Wing Hong Street / Yu Chau | Year 2033 Reference PM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	4.00	(metres)		
W cr	=	0	(metres)	Y =	0.862

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	4.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	-	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	175	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	75	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	200	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	257	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.686	X a	=	0.968
X c	=	0.586	X d	=	0.533
Z b	=	0.773	Z d	=	0.586
M b	=	0.703	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	128.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	128.3	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	376	(pcu/hr)	Q d-c	=	222	(pcu/hr)
Q b-c	=	533	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	385	(pcu/hr)	Q a-d	=	721	(pcu/hr)
Ql b-d	=	386	(pcu/hr)	Ql d-b	=	298	(pcu/hr)
Qr b-d	=	376	(pcu/hr)	Qr d-b	=	298	(pcu/hr)

TOTAL FLOW = 706.9992 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3752
DFC c-b	=	0.0000
DFCl b-d	=	0.3323
DFCr b-d	=	0.3412
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.1044
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.38

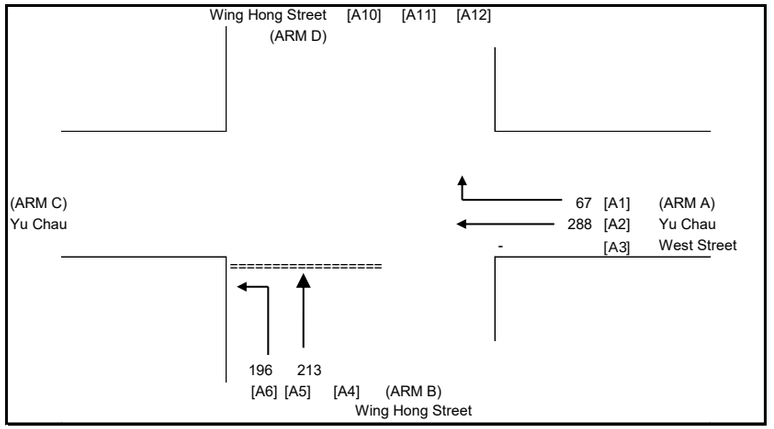
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J8

Wing Hong Street / Yu Chau | Year 2033 Design AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	4.00	(metres)				
W cr	=	0	(metres)	Y	=	0.862	

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	4.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	-	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	288	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	67	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	196	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	213	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.686	X a	=	0.968
X c	=	0.586	X d	=	0.533
Z b	=	0.773	Z d	=	0.586
M b	=	0.703	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	106.4	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	106.4	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	354	(pcu/hr)	Q d-c	=	220	(pcu/hr)
Q b-c	=	506	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	366	(pcu/hr)	Q a-d	=	721	(pcu/hr)
Ql b-d	=	363	(pcu/hr)	Ql d-b	=	288	(pcu/hr)
Qr b-d	=	354	(pcu/hr)	Qr d-b	=	288	(pcu/hr)

TOTAL FLOW = 763.4994 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3880
DFC c-b	=	0.0000
DFCl b-d	=	0.2931
DFCr b-d	=	0.3006
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0924
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.39

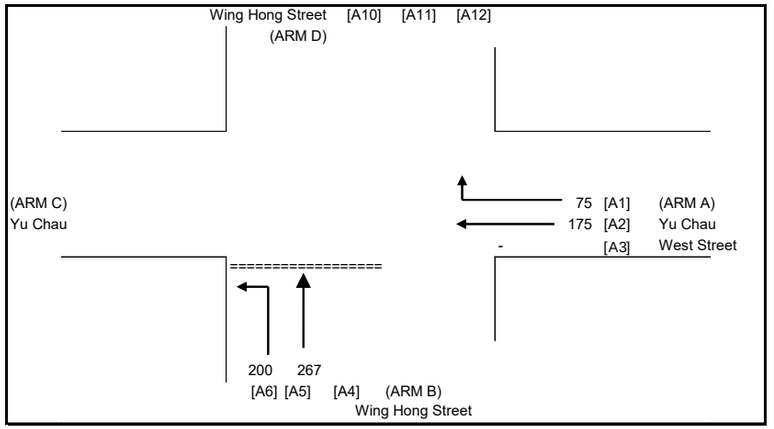
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J8

Wing Hong Street / Yu Chau | Year 2033 Design PM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

GENERAL

W	=	4.00	(metres)		
W cr	=	0	(metres)	Y =	0.862

MAJOR ROAD (ARM A)				MAJOR MAJOR ROAD (ARM C)			
W a-d	=	4.00	(metres)	W c-b	=	0.00	(metres)
Vr a-d	=	50	(metres)	Vr c-b	=	0	(metres)
q a-b	=	-	(pcu/hr)	q c-a	=	0	(pcu/hr)
q a-c	=	175	(pcu/hr)	q c-b	=	0	(pcu/hr)
q a-d	=	75	(pcu/hr)	q c-d	=	0	(pcu/hr)

MINOR ROAD (ARM B)				MINOR ROAD (ARM D)			
W b-a	=	2.00	(metres)	W d-c	=	0.00	(metres)
W b-c	=	2.00	(metres)	W d-a	=	0.00	(metres)
Vl b-a	=	0	(metres)	Vl d-c	=	0	(metres)
Vr b-a	=	0	(metres)	Vr d-c	=	0	(metres)
Vr b-c	=	25	(metres)	Vr d-a	=	0	(metres)
q b-a	=	0	(pcu/hr)	q d-c	=	0	(pcu/hr)
q b-c	=	200	(pcu/hr)	q d-a	=	0	(pcu/hr)
q b-d	=	267	(pcu/hr)	q d-b	=	0	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.686	X a	=	0.968
X c	=	0.586	X d	=	0.533
Z b	=	0.773	Z d	=	0.586
M b	=	0.703	M d	=	0.533

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.000	
ql b-d	=	133.3	(pcu/hr)	ql d-b	=	0	(pcu/hr)
qr b-d	=	133.3	(pcu/hr)	qr d-b	=	0	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	376	(pcu/hr)	Q d-c	=	220	(pcu/hr)
Q b-c	=	533	(pcu/hr)	Q d-a	=	437	(pcu/hr)
Q c-b	=	385	(pcu/hr)	Q a-d	=	721	(pcu/hr)
Ql b-d	=	386	(pcu/hr)	Ql d-b	=	298	(pcu/hr)
Qr b-d	=	376	(pcu/hr)	Qr d-b	=	298	(pcu/hr)

TOTAL FLOW = 716.9992 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

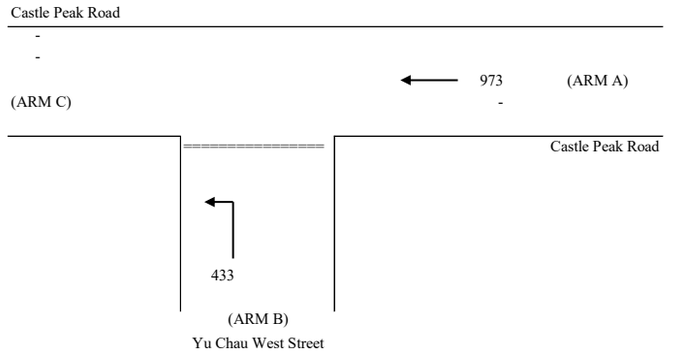
DFC b-a	=	0.0000
DFC b-c	=	0.3752
DFC c-b	=	0.0000
DFCl b-d	=	0.3453
DFCr b-d	=	0.3545
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.1044
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.38

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon		PROJECT NO: 315341-02	JUNCTION NO: J9
Yu Chau West Street / Castle Peak Road	Year 2026 Existing AM Peak	DATE : 23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.80	(metres)
W cr	=	0	(metres)
q a-b	=	-	(pcu/hr)
q a-c	=	973	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	12.80	(metres)
Vr c-b	=	0	(metres)
q c-a	=	-	(pcu/hr)
q c-b	=	-	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.50	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	50	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	433	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.5332189
E	=	1.2761003
F	=	1.6592092
Y	=	0.5584

THE CAPACITY OF MOVEMENT :

Q b-a	=	229
Q b-c	=	698
Q c-b	=	908
Q b-ac	=	698

TOTAL FLOW = 1405.5 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

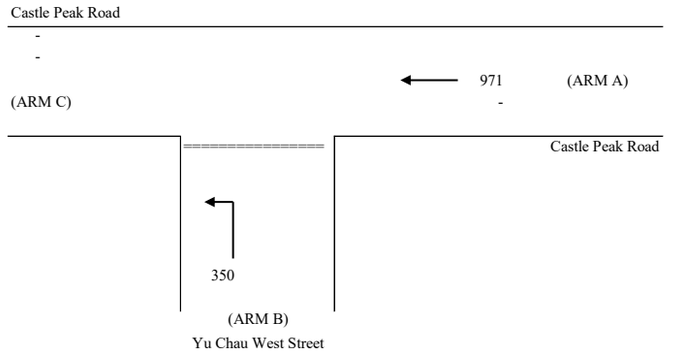
DFC b-a	=	0.0000
DFC b-c	=	0.6201
DFC c-b	=	0.0000
DFC b-ac	=	0.6201

CRITICAL DFC = 0.62

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon		PROJECT NO: 315341-02	JUNCTION NO: J9
Yu Chau West Street / Castle Peak Road	Year 2026 Existing PM Peak	DATE : 23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.80	(metres)
W cr	=	0	(metres)
q a-b	=	-	(pcu/hr)
q a-c	=	971	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	12.80	(metres)
Vr c-b	=	0	(metres)
q c-a	=	-	(pcu/hr)
q c-b	=	-	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.50	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	50	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	350	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.5332189
E	=	1.2761003
F	=	1.6592092
Y	=	0.5584

THE CAPACITY OF MOVEMENT :

Q b-a	=	229
Q b-c	=	699
Q c-b	=	909
Q b-ac	=	699

TOTAL FLOW = 1320.55 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.5006
DFC c-b	=	0.0000
DFC b-ac	=	0.5006

CRITICAL DFC = 0.50

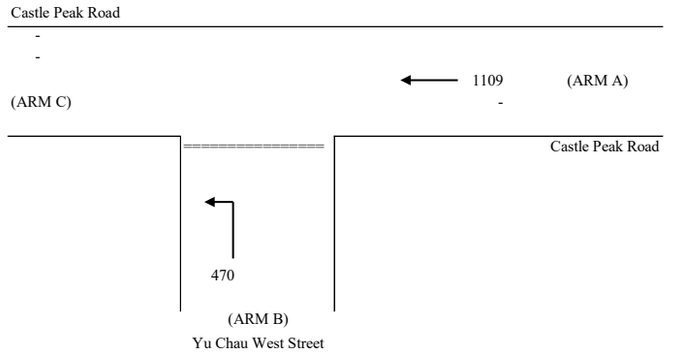
OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J9

Yu Chau West Street / Castle Peak Road | Year 2033 Reference AM Peak | DATE : 23-Jun-26 | FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.80	(metres)
W cr	=	0	(metres)
q a-b	=	-	(pcu/hr)
q a-c	=	1109	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	12.80	(metres)
Vr c-b	=	0	(metres)
q c-a	=	-	(pcu/hr)
q c-b	=	-	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.50	(metres)
Vl b-a	=		(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	50	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	470	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.5332189
E	=	1.2761003
F	=	1.6592092
Y	=	0.5584

THE CAPACITY OF MOVEMENT :

Q b-a	=	214
Q b-c	=	663
Q c-b	=	862
Q b-ac	=	663

TOTAL FLOW = 1579 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

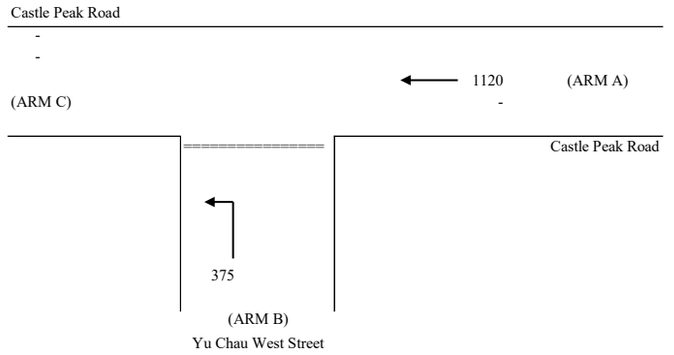
DFC b-a	=	0.0000
DFC b-c	=	0.7090
DFC c-b	=	0.0000
DFC b-ac	=	0.7090

CRITICAL DFC = 0.71

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon		PROJECT NO: 315341-02	JUNCTION NO: J9
Yu Chau West Street / Castle Peak Road	Year 2033 Reference PM Peak	DATE : 23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.80	(metres)
W cr	=	0	(metres)
q a-b	=	-	(pcu/hr)
q a-c	=	1120	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	12.80	(metres)
Vr c-b	=	0	(metres)
q c-a	=	-	(pcu/hr)
q c-b	=	-	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.50	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	50	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	375	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.5332189
E	=	1.2761003
F	=	1.6592092
Y	=	0.5584

THE CAPACITY OF MOVEMENT :

Q b-a	=	213
Q b-c	=	660
Q c-b	=	859
Q b-ac	=	660

TOTAL FLOW = 1495 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

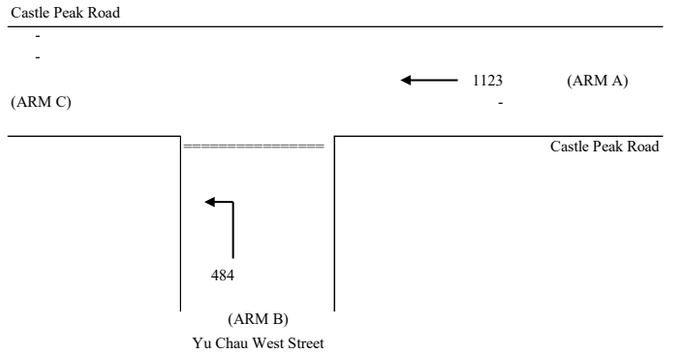
DFC b-a	=	0.0000
DFC b-c	=	0.5685
DFC c-b	=	0.0000
DFC b-ac	=	0.5685

CRITICAL DFC = 0.57

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon		PROJECT NO: 315341-02	JUNCTION NO: J9
Yu Chau West Street / Castle Peak Road	Year 2033 Design AM Peak	DATE : 23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.80	(metres)
W cr	=	0	(metres)
q a-b	=	-	(pcu/hr)
q a-c	=	1123	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	12.80	(metres)
Vr c-b	=	0	(metres)
q c-a	=	-	(pcu/hr)
q c-b	=	-	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.50	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	50	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	484	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.5332189
E	=	1.2761003
F	=	1.6592092
Y	=	0.5584

THE CAPACITY OF MOVEMENT :

Q b-a	=	213
Q b-c	=	659
Q c-b	=	857
Q b-ac	=	659

TOTAL FLOW = 1607 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

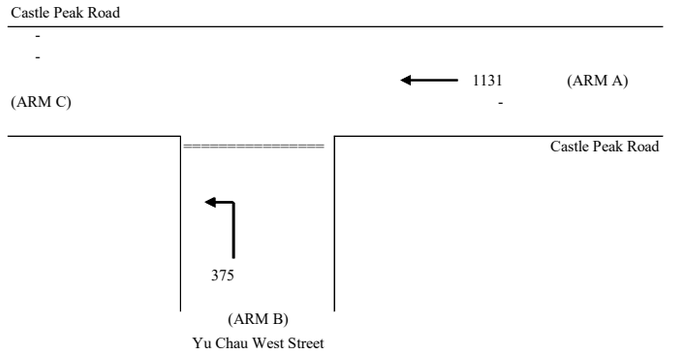
DFC b-a	=	0.0000
DFC b-c	=	0.7346
DFC c-b	=	0.0000
DFC b-ac	=	0.7346

CRITICAL DFC = 0.73

OVE ARUP & PARTNERS

PRIORITY JUNCTION CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon		PROJECT NO: 315341-02	JUNCTION NO: J9
Yu Chau West Street / Castle Peak Road	Year 2033 Design PM Peak	DATE : 23-Jun-26	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

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

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	12.80	(metres)
W cr	=	0	(metres)
q a-b	=	-	(pcu/hr)
q a-c	=	1131	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	12.80	(metres)
Vr c-b	=	0	(metres)
q c-a	=	-	(pcu/hr)
q c-b	=	-	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.50	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	50	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	375	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.5332189
E	=	1.2761003
F	=	1.6592092
Y	=	0.5584

THE CAPACITY OF MOVEMENT :

Q b-a	=	212
Q b-c	=	657
Q c-b	=	855
Q b-ac	=	657

TOTAL FLOW = 1506 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.5711
DFC c-b	=	0.0000
DFC b-ac	=	0.5711

CRITICAL DFC = 0.57

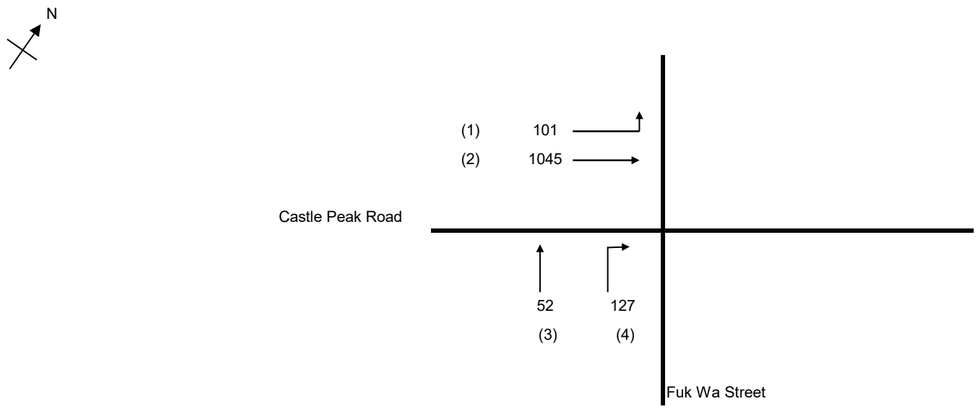
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

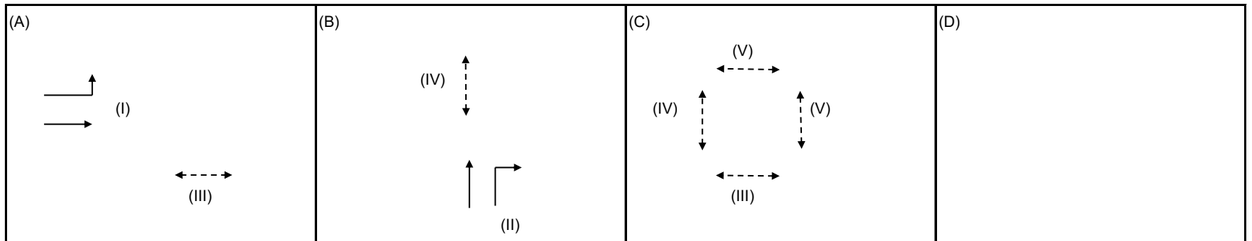
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J10

Castle Peak Road / Fuk Wa Street | Year 2026 Existing AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	114	sec
Sum(y)	Y =	0.346	
Loss time	L =	29	sec
Total Flow	=	1325	pcu
Co = (1.5*L+5)/(1-Y)	=	74.2	sec
Cm = L/(1-Y)	=	44.3	sec
Yult	=	0.683	
R.C.ult = (Yult-Y)/Y*100%	=	97.2	%
Cp = 0.9*L/(0.9-Y)	=	47.1	sec
Ymax = 1-L/C	=	0.746	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	94	%



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 0	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	2	8	80	2	8	OK
IV	12	5	2	10	17	2	10	OK
V	12	5	3	10	5	3	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1,2	A	3.50	I	1	8		N	1965	101	467		568	0.18	1902			1902	0.299	0.299		73	73	0.464	38
2	A	3.20	I	1			N	1935		578		578	0.00	1935			1935	0.299			73	73	0.464	39
3,4	B	3.70	II	1	10		N	1985		52	36	88	0.41	1870			1870	0.047	0.047		12	12	0.462	15
4	B	3.70	II	1	15			2125			91	91	1.00	1932			1932	0.047			12	12	0.464	16
PED	C		V																	18				

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

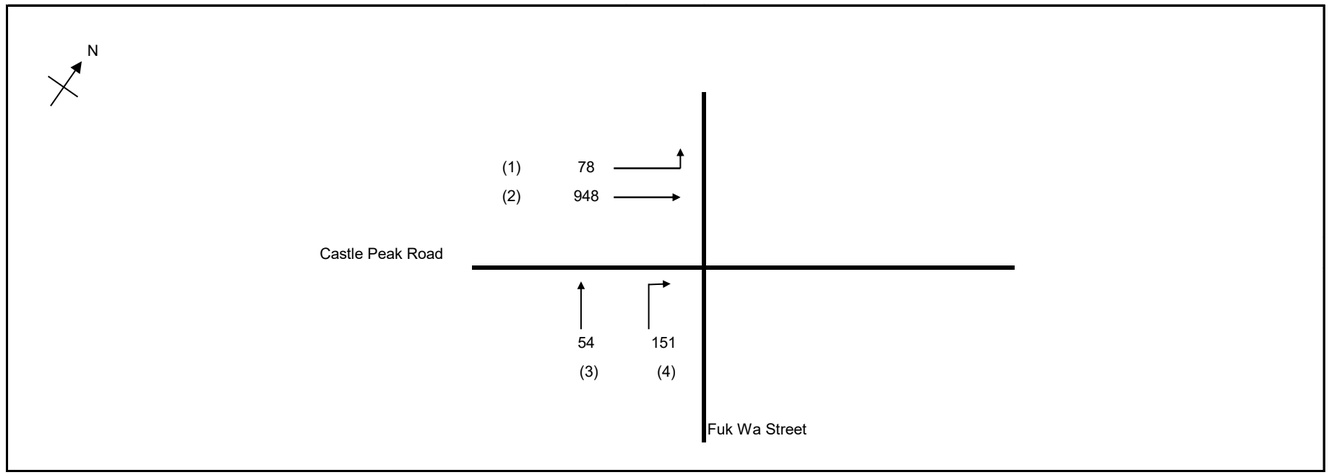
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

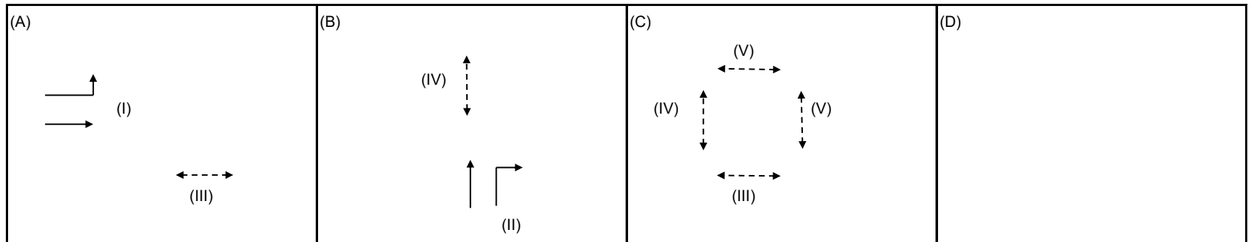
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J10

Castle Peak Road / Fuk Wa Street | Year 2026 Existing PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.322	
Loss time	L =	29	sec
Total Flow	=	1232	pcu
Co = (1.5*L+5)/(1-Y)	=	71.5	sec
Cm = L/(1-Y)	=	42.7	sec
Yult	=	0.683	
R.C.ult = (Yult-Y)/Y*100%	=	112.2	%
Cp = 0.9*L/(0.9-Y)	=	45.1	sec
Ymax = 1-L/C	=	0.766	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	114	%



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 0	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	2	8	86	2	8	OK
IV	12	5	2	10	21	2	10	OK
V	12	5	3	10	5	3	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1,2	A	3.50	I	1	8		N	1965	78	432		510	0.15	1910			1910	0.267	0.267		79	79	0.420	38
2	A	3.20	I	1			N	1935		516		516	0.00	1935			1935	0.267			79	79	0.419	39
3,4	B	3.70	II	1	10		N	1985		54	47	101	0.47	1855			1855	0.054	0.054		16	16	0.420	18
4	B	3.70	II	1	15			2125			104	104	1.00	1932			1932	0.054			16	16	0.417	19
PED	C		V																	18				

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

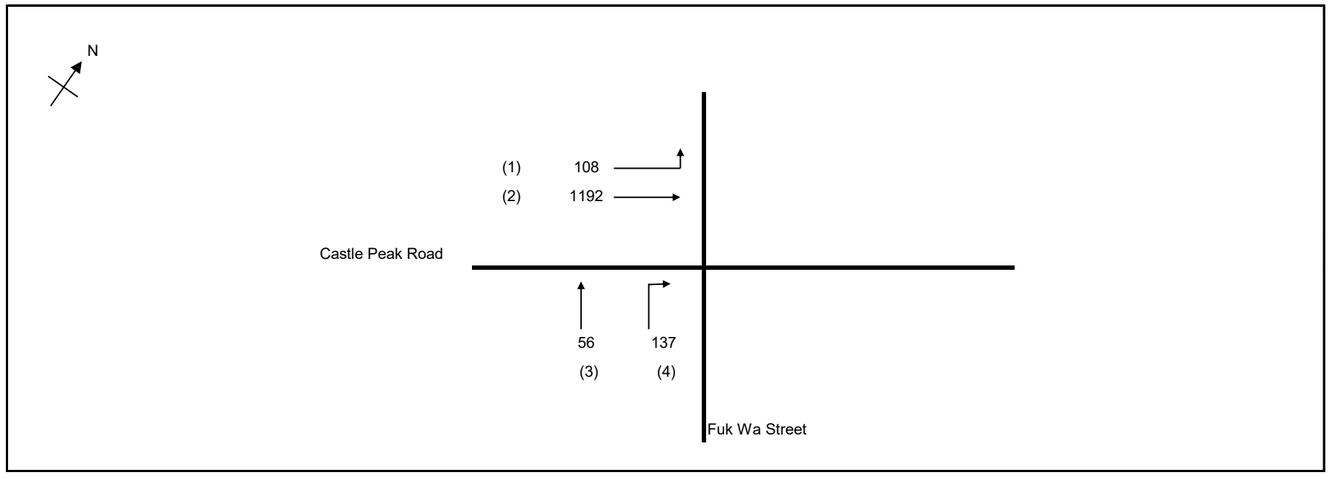
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

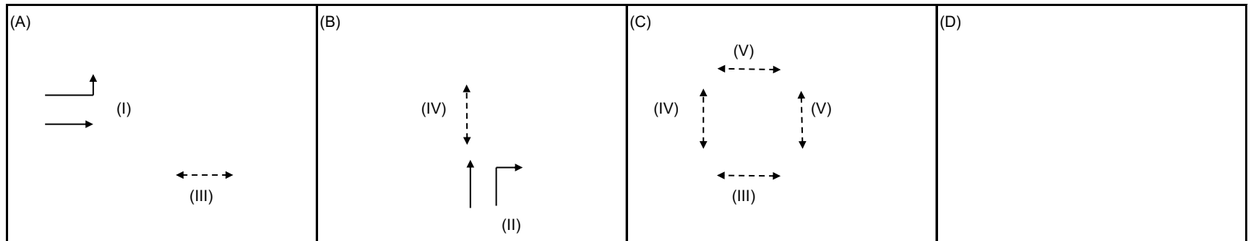
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J10

Castle Peak Road / Fuk Wa Street | Year 2033 Reference AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	114	sec
Sum(y)	Y =	0.391	
Loss time	L =	29	sec
Total Flow	=	1493	pcu
Co = (1.5*L+5)/(1-Y)	=	79.6	sec
Cm = L/(1-Y)	=	47.6	sec
Yult	=	0.683	
R.C.ult = (Yult-Y)/Y*100%	=	74.6	%
Cp = 0.9*L/(0.9-Y)	=	51.3	sec
Ymax = 1-L/C	=	0.746	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	72	%



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 0	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	2	8	81	2	8	OK
IV	12	5	2	10	16	2	10	OK
V	12	5	3	10	5	3	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1,2	A	3.50	I	1	8		N	1965	108	534		642	0.17	1905			1905	0.337	0.340		73	74	0.520	43
2	A	3.20	I	1			N	1935		658		658	0.00	1935			1935	0.340			74	74	0.524	44
3,4	B	3.70	II	1	10		N	1985		56	39	95	0.41	1870			1870	0.051	0.051		11	11	0.524	16
4	B	3.70	II	1	15			2125			98	98	1.00	1932			1932	0.051			11	11	0.521	17
PED	C		V																	18				

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

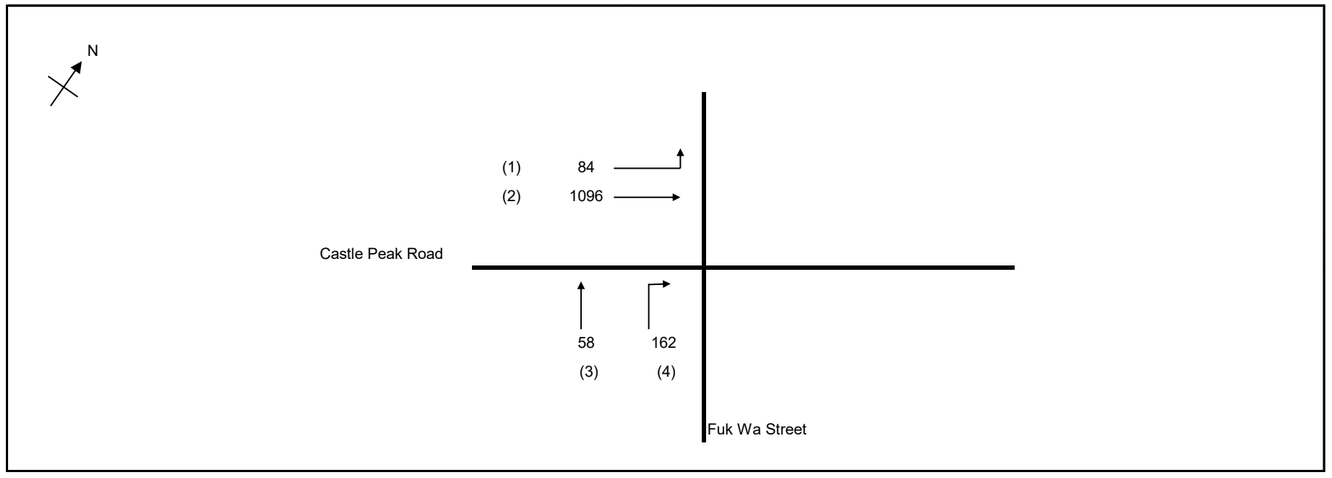
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

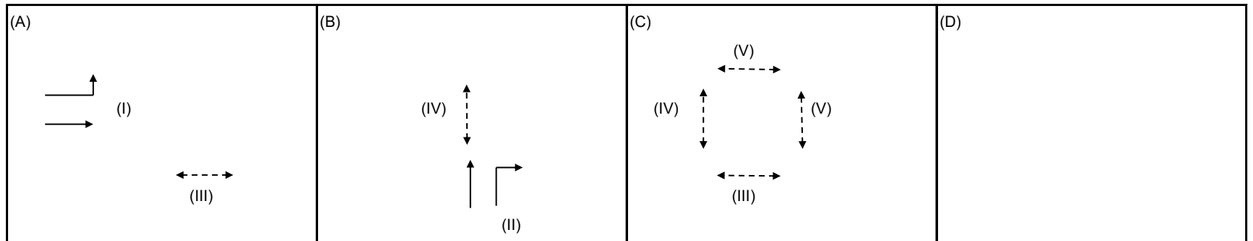
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J10

Castle Peak Road / Fuk Wa Street | Year 2033 Reference PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.367	
Loss time	L =	29	sec
Total Flow	=	1400	pcu
Co = (1.5*L+5)/(1-Y)	=	76.6	sec
Cm = L/(1-Y)	=	45.8	sec
Yult	=	0.683	
R.C.ult = (Yult-Y)/Y*100%	=	85.9	%
Cp = 0.9*L/(0.9-Y)	=	49.0	sec
Ymax = 1-L/C	=	0.766	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	88	%



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 0	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	2	8	87	2	8	OK
IV	12	5	2	10	20	2	10	OK
V	12	5	3	10	5	3	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1,2	A	3.50	I	1	8		N	1965	84	498		582	0.14	1913			1913	0.304	0.309		79	80	0.472	43
2	A	3.20	I	1			N	1935		598		598	0.00	1935			1935	0.309			80	80	0.479	44
3,4	B	3.70	II	1	10		N	1985		58	50	108	0.46	1856			1856	0.058	0.058		15	15	0.479	20
4	B	3.70	II	1	15			2125			112	112	1.00	1932			1932	0.058			15	15	0.479	20
PED	C		V																	18				

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

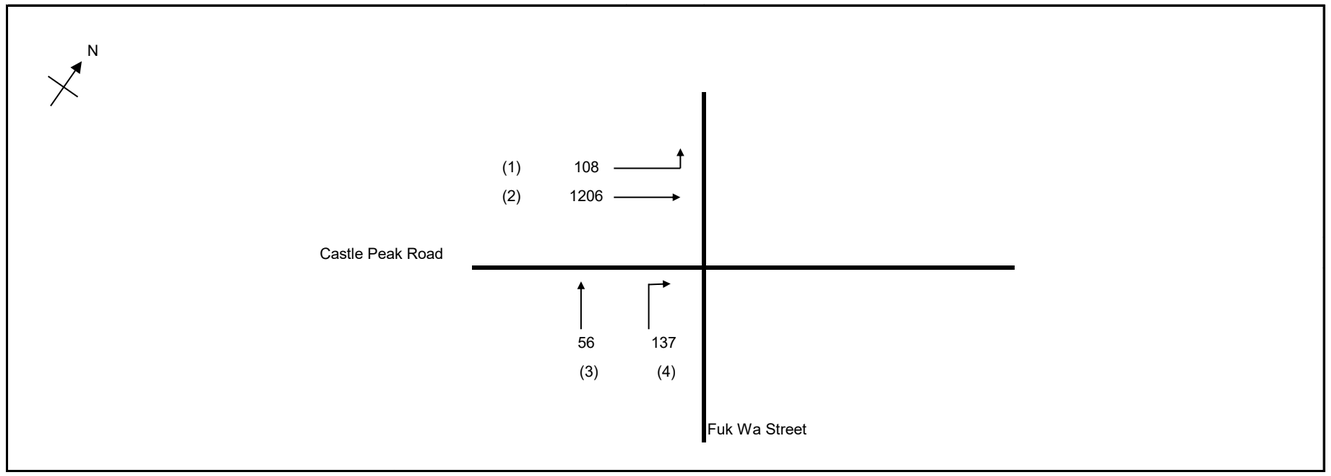
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

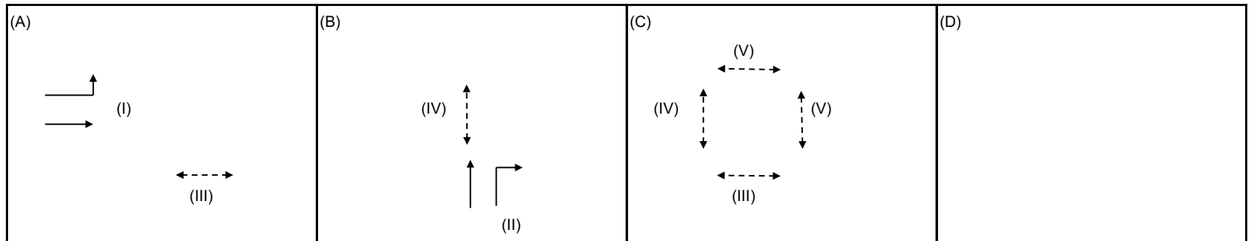
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J10

Castle Peak Road / Fuk Wa Street | Year 2033 Design AM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	114	sec
Sum(y)	Y =	0.393	
Loss time	L =	29	sec
Total Flow	=	1507	pcu
Co = (1.5*L+5)/(1-Y)	=	79.9	sec
Cm = L/(1-Y)	=	47.8	sec
Yult	=	0.683	
R.C.ult = (Yult-Y)/Y*100%	=	73.6	%
Cp = 0.9*L/(0.9-Y)	=	51.5	sec
Ymax = 1-L/C	=	0.746	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	71	%



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 0	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	2	8	81	2	8	OK
IV	12	5	2	10	16	2	10	OK
V	12	5	3	10	5	3	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1,2	A	3.50	I	1	8		N	1965	108	544		652	0.17	1906			1906	0.342	0.342		74	74	0.527	43
2	A	3.20	I	1			N	1935		662		662	0.00	1935			1935	0.342			74	74	0.527	44
3,4	B	3.70	II	1	10		N	1985		56	39	95	0.41	1870			1870	0.051	0.051		11	11	0.527	16
4	B	3.70	II	1	15			2125			98	98	1.00	1932			1932	0.051			11	11	0.524	17
PED	C		V																	18				

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

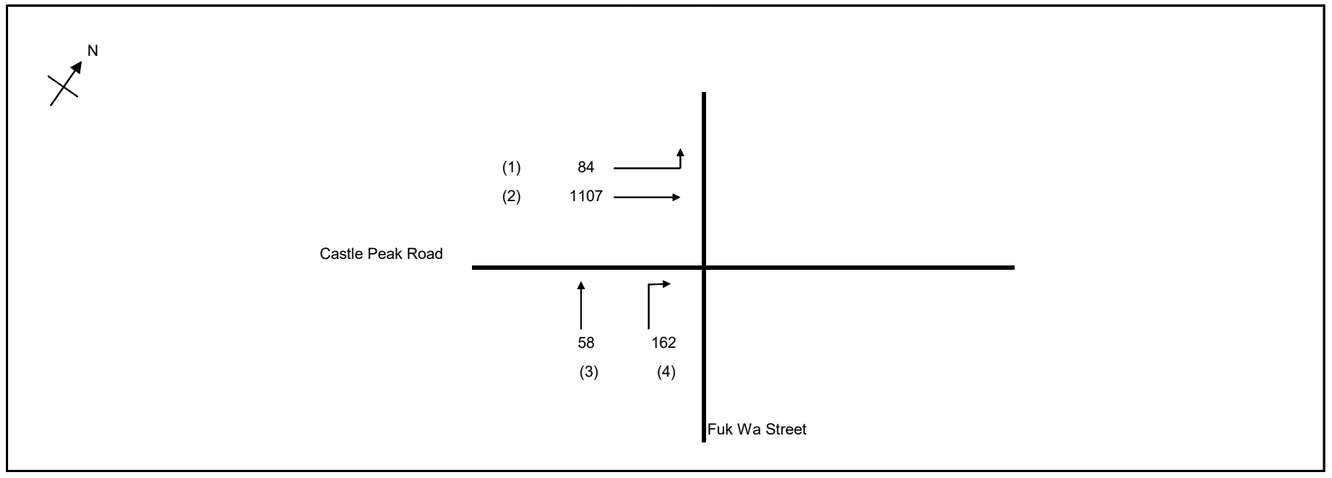
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

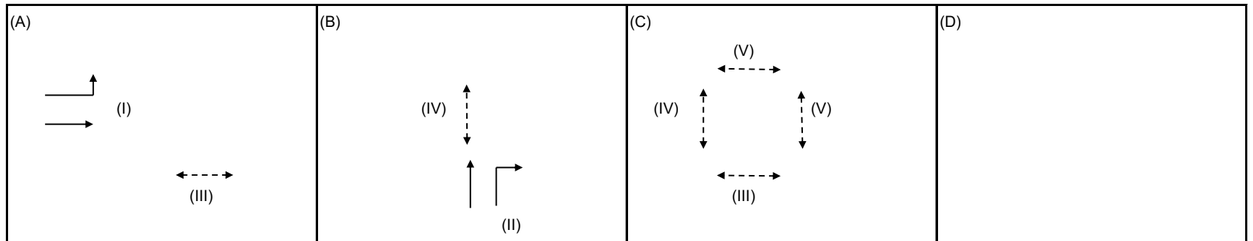
Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

PROJECT NO: 315341-02 | JUNCTION NO: J10

Castle Peak Road / Fuk Wa Street | Year 2033 Design PM Peak | DATE : 23/Jun/26 | FILENAME :



No. of stages per cycle	N =	3	
No. of stage using for calculation	N =	2	
Cycle time	C =	124	sec
Sum(y)	Y =	0.368	
Loss time	L =	29	sec
Total Flow	=	1411	pcu
Co = (1.5*L+5)/(1-Y)	=	76.7	sec
Cm = L/(1-Y)	=	45.9	sec
Yult	=	0.683	
R.C.ult = (Yult-Y)/Y*100%	=	85.7	%
Cp = 0.9*L/(0.9-Y)	=	49.0	sec
Ymax = 1-L/C	=	0.766	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	88	%



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 0	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
III	10	5	2	8	87	2	8	OK
IV	12	5	2	10	20	2	10	OK
V	12	5	3	10	5	3	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1,2	A	3.50	I	1	8		N	1965	84	508		592	0.14	1914			1914	0.309	0.309		80	80	0.480	43
2	A	3.20	I	1			N	1935		599		599	0.00	1935			1935	0.309			80	80	0.480	44
3,4	B	3.70	II	1	10		N	1985		58	50	108	0.46	1856			1856	0.058	0.058		15	15	0.479	20
4	B	3.70	II	1	15			2125			112	112	1.00	1932			1932	0.058			15	15	0.480	20
PED	C		V																	18				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

JUNCTION NO. : J11

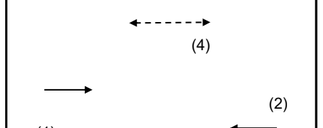
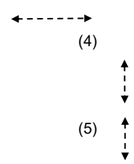
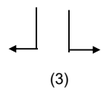
Cheung Sha Wan Road / Cheung Wah Street

Year 2026 Existing AM Peak

DATE : 23/Jun/26

FILENAME :

No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.369
Loss time	L =	35 sec
Total Flow	=	3375 pcu
Co = (1.5*L+5)/(1-Y)	=	91.1 sec
Cm = L/(1-Y)	=	55.5 sec
Yult	=	0.638
R.C.ult = (Yult-Y)/Y*100%	=	72.8 %
Cp = 0.9*L/(0.9-Y)	=	59.3 sec
Ymax = 1-L/C	=	0.718
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	75.1 %

(A)	(B)	(C)	(D)
			
Stage 1 Int = 8	Stage 2 Int = 0	Stage 3 Int = 6	Stage 4 Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P4	12	5	2	10	74	2	10	OK
P5	13	11	2	10	11	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
1	A	3.50	1	1			N	1965		515		515	0.00	1965			1965	0.262	0.262		63	63	0.514	52
1	A	3.50	1	2				4210		1103		1103	0.00	4210			4210	0.262			63	63	0.514	56
2	A	3.50	2	1			N	1965		337		337	0.00	1965			1965	0.172			41	63	0.336	34
2	A	3.50	2	2				4210		723		723	0.00	4210			4210	0.172			41	63	0.337	37
4	C	3.50	3	1	25			2105			212	212	1.00	1986			1986	0.107	0.107		26	26	0.514	35
4	C	3.50	3	1	20			2105			209	209	1.00	1958			1958	0.107			26	26	0.514	34
3	C	3.50	3	1	15			2105	146			146	1.00	1914			1914	0.076			18	26	0.367	24
3	C	3.50	3	1	10		N	1965	130			130	1.00	1709			1709	0.076			18	26	0.365	0
PED	B		P5																	23				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

JUNCTION NO. : J11

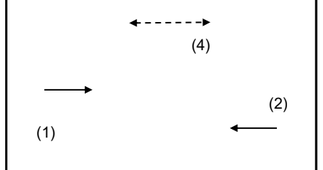
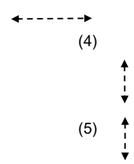
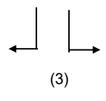
Cheung Sha Wan Road / Cheung Wah Street

Year 2026 Existing PM Peak

DATE : 23/Jun/26

FILENAME :

No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.357
Loss time	L =	35 sec
Total Flow	=	3313 pcu
Co = (1.5*L+5)/(1-Y)	=	89.4 sec
Cm = L/(1-Y)	=	54.4 sec
Yult	=	0.638
R.C.ult = (Yult-Y)/Y*100%	=	78.7 %
Cp = 0.9*L/(0.9-Y)	=	58.0 sec
Ymax = 1-L/C	=	0.718
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	81.1 %

(A)	(B)	(C)	(D)
			
Stage 1 Int = 8	Stage 2 Int = 0	Stage 3 Int = 6	Stage 4 Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P4	12	5	2	10	70	2	10	OK
P5	13	11	2	10	11	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
1	A	3.50	1	1			N	1965		464		464	0.00	1965			1965	0.236	0.236		59	59	0.497	50
1	A	3.50	1	2				4210		995		995	0.00	4210			4210	0.236			59	59	0.497	54
2	A	3.50	2	1			N	1965		377		377	0.00	1965			1965	0.192			48	59	0.404	41
2	A	3.50	2	2				4210		809		809	0.00	4210			4210	0.192			48	59	0.404	44
4	C	3.50	3	1	25			2105			238	238	1.00	1986			1986	0.120	0.120		30	30	0.495	37
4	C	3.50	3	1	20			2105			236	236	1.00	1958			1958	0.120			30	30	0.497	37
3	C	3.50	3	1	15			2105	103			103	1.00	1914			1914	0.054			13	30	0.222	16
3	C	3.50	3	1	10		N	1965	92			92	1.00	1709			1709	0.054			13	30	0.222	0
PED	B		P5																	23				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

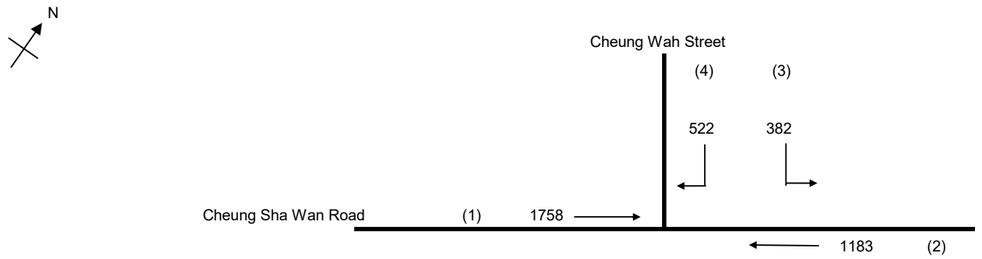
JUNCTION NO. : J11

Cheung Sha Wan Road / Cheung Wah Street

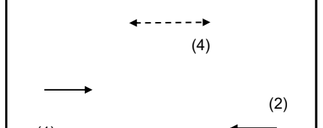
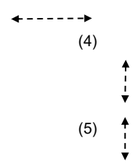
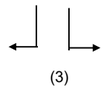
Year 2033 Reference AM Peak

DATE : 23/Jun/26

FILENAME :



No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.417
Loss time	L =	35 sec
Total Flow	=	3844 pcu
Co = (1.5*L+5)/(1-Y)	=	98.7 sec
Cm = L/(1-Y)	=	60.1 sec
Yult	=	0.638
R.C.ult = (Yult-Y)/Y*100%	=	52.7 %
Cp = 0.9*L/(0.9-Y)	=	65.3 sec
Ymax = 1-L/C	=	0.718
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	54.8 %

(A)	(B)	(C)	(D)
			
Stage 1 Int = 8	Stage 2 Int = 0	Stage 3 Int = 6	Stage 4 Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P4	12	5	2	10	72	2	10	OK
P5	13	11	2	10	11	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
1	A	3.50	1	1			N	1965		560		560	0.00	1965			1965	0.285	0.285		61	61	0.582	59
1	A	3.50	1	2				4210		1198		1198	0.00	4210			4210	0.285			61	61	0.581	63
2	A	3.50	2	1			N	1965		377		377	0.00	1965			1965	0.192			41	61	0.392	40
2	A	3.50	2	2				4210		806		806	0.00	4210			4210	0.191			41	61	0.391	42
4	C	3.50	3	1	25			2105			263	263	1.00	1986			1986	0.132	0.132		28	28	0.582	42
4	C	3.50	3	1	20			2105			259	259	1.00	1958			1958	0.132			28	28	0.580	41
3	C	3.50	3	1	15			2105	202			202	1.00	1914			1914	0.106			23	28	0.464	32
3	C	3.50	3	1	10		N	1965	180			180	1.00	1709			1709	0.105			22	28	0.462	0
PED	B		P5																	23				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

JUNCTION NO. : J11

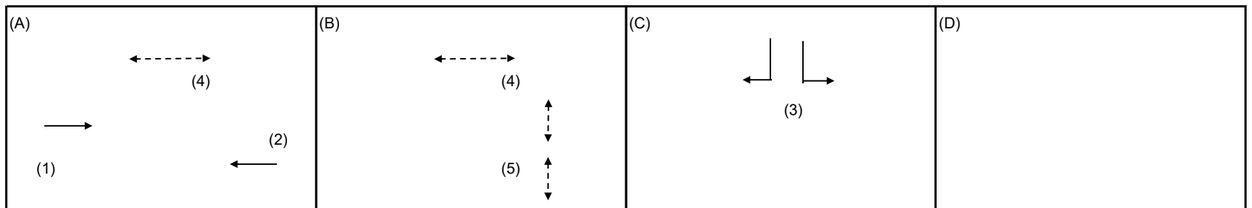
Cheung Sha Wan Road / Cheung Wah Street

Year 2033 Reference PM Peak

DATE : 23/Jun/26

FILENAME :

No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	124 sec
Sum(y)		Y =	0.393
Loss time		L =	35 sec
Total Flow		=	3684 pcu
Co	= (1.5*L+5)/(1-Y)	=	94.7 sec
Cm	= L/(1-Y)	=	57.7 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	62.2 %
Cp	= 0.9*L/(0.9-Y)	=	62.1 sec
Ymax	= 1-L/C	=	0.718
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	64.4 %



Stage 1	Int = 8	Stage 2	Int = 0	Stage 3	Int = 6	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P4	12	5	2	10	68	2	10	OK
P5	13	11	2	10	11	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
1	A	3.50	1	1			N	1965		498		498	0.00	1965			1965	0.253	0.253		57	57	0.547	55
1	A	3.50	1	2				4210		1066		1066	0.00	4210			4210	0.253			57	57	0.547	59
2	A	3.50	2	1			N	1965		415		415	0.00	1965			1965	0.211			48	57	0.456	46
2	A	3.50	2	2				4210		887		887	0.00	4210			4210	0.211			48	57	0.455	49
4	C	3.50	3	1	25			2105			277	277	1.00	1986			1986	0.139	0.139		32	32	0.547	43
4	C	3.50	3	1	20			2105			273	273	1.00	1958			1958	0.139			32	32	0.547	42
3	C	3.50	3	1	15			2105	141			141	1.00	1914			1914	0.074			17	32	0.289	22
3	C	3.50	3	1	10		N	1965	126			126	1.00	1709			1709	0.074			17	32	0.290	0
PED	B		P5																	23				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

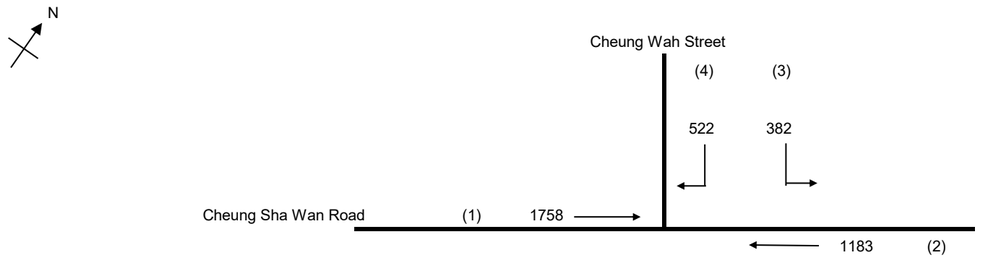
JUNCTION NO. : J11

Cheung Sha Wan Road / Cheung Wah Street

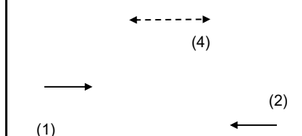
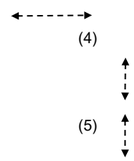
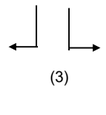
Year 2033 Design AM Peak

DATE : 23/Jun/26

FILENAME :



No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.417
Loss time	L =	35 sec
Total Flow	=	3844 pcu
Co = (1.5*L+5)/(1-Y)	=	98.7 sec
Cm = L/(1-Y)	=	60.1 sec
Yult	=	0.638
R.C.ult = (Yult-Y)/Y*100%	=	52.7 %
Cp = 0.9*L/(0.9-Y)	=	65.3 sec
Ymax = 1-L/C	=	0.718
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	54.8 %

(A)	(B)	(C)	(D)
			
(4) (2) (1)	(4) (5)	(3)	
Stage 1 Int = 8	Stage 2 Int = 0	Stage 3 Int = 6	Stage 4 Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P4	12	5	2	10	72	2	10	OK
P5	13	11	2	10	11	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
1	A	3.50	1	1			N	1965		560		560	0.00	1965			1965	0.285	0.285		61	61	0.582	59
1	A	3.50	1	2				4210		1198		1198	0.00	4210			4210	0.285			61	61	0.581	63
2	A	3.50	2	1			N	1965		377		377	0.00	1965			1965	0.192			41	61	0.392	40
2	A	3.50	2	2				4210		806		806	0.00	4210			4210	0.191			41	61	0.391	42
4	C	3.50	3	1	25			2105			263	263	1.00	1986			1986	0.132	0.132		28	28	0.582	42
4	C	3.50	3	1	20			2105			259	259	1.00	1958			1958	0.132			28	28	0.580	41
3	C	3.50	3	1	15			2105	202			202	1.00	1914			1914	0.106			23	28	0.464	32
3	C	3.50	3	1	10		N	1965	180			180	1.00	1709			1709	0.105			22	28	0.462	0
PED	B		P5																	23				

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

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

Application for Planning Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Hotel Use and Minor Relaxation of Plot Ratio Restriction at "Other Specified Uses" Annotated "Business (1)" Zone at No. 646-648A Castle Peak Road, Cheung Shan Wan, Kowloon

JUNCTION NO. : J11

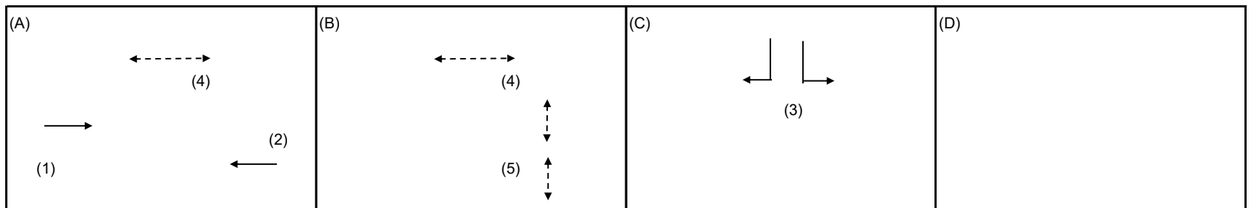
Cheung Sha Wan Road / Cheung Wah Street

Year 2033 Design PM Peak

DATE : 23/Jun/26

FILENAME :

No. of stages per cycle	N =	3
No. of stage using for calculation	N =	2
Cycle time	C =	124 sec
Sum(y)	Y =	0.393
Loss time	L =	35 sec
Total Flow	=	3684 pcu
Co = (1.5*L+5)/(1-Y)	=	94.7 sec
Cm = L/(1-Y)	=	57.7 sec
Yult	=	0.638
R.C.ult = (Yult-Y)/Y*100%	=	62.2 %
Cp = 0.9*L/(0.9-Y)	=	62.1 sec
Ymax = 1-L/C	=	0.718
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	64.4 %



Stage 1	Int = 8	Stage 2	Int = 0	Stage 3	Int = 6	Stage 4	Int =

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
P4	12	5	2	10	68	2	10	OK
P5	13	11	2	10	11	2	10	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
1	A	3.50	1	1			N	1965		498		498	0.00	1965			1965	0.253	0.253		57	57	0.547	55
1	A	3.50	1	2				4210		1066		1066	0.00	4210			4210	0.253			57	57	0.547	59
2	A	3.50	2	1			N	1965		415		415	0.00	1965			1965	0.211			48	57	0.456	46
2	A	3.50	2	2				4210		887		887	0.00	4210			4210	0.211			48	57	0.455	49
4	C	3.50	3	1	25			2105			277	277	1.00	1986			1986	0.139	0.139		32	32	0.547	43
4	C	3.50	3	1	20			2105			273	273	1.00	1958			1958	0.139			32	32	0.547	42
3	C	3.50	3	1	15			2105	141			141	1.00	1914			1914	0.074			17	32	0.289	22
3	C	3.50	3	1	10		N	1965	126			126	1.00	1709			1709	0.074			17	32	0.290	0
PED	B		P5																	23				

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