

Appendix B

Traffic and Transport Impact Assessment Report

Agreement No. CE 79/2023 (GE)

**Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction**

**Traffic and Transport Impact Assessment Report (Final)
(Ref. B20b-03)**

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 Rock, principally as aggregates in concrete, is the most predominately used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing plants of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.
- 1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to having at least one new quarry to dovetail with the closure of Lam Tei Quarry.
- 1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long terms. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.
- 1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.
- 1.1.5 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan (CMP) jointly promulgated by CEDD and PlanD in 2017, was recommended to take forward.
- 1.1.6 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (“Pilot Study”) to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock import from the mainland China due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry related initiatives to maintain local rock supply.
- 1.1.7 Following the commencement of the IDC assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North in 2023.

- 1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the pilot study.
- 1.1.9 This Assignment aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction stages, in order to enable commencement of the underground quarrying tentatively targeted in 2027. These include various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing plants and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.
- 1.1.10 This Assignment will also look into any works potentially required by the quarry operators during the operation stage of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Assignment. Depending on the findings, it may call for work or tasks for which the Government may procure consultancy services separately during the operation stage.
- 1.1.11 AECOM Asia Co. Ltd. has been commissioned by the Civil Engineering and Development Department (CEDD) on 13 June 2024 to undertake Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction. It is targeted to commence construction in Year 2027.

1.2 Objectives of the Traffic and Transport Impact Assessment

- 1.2.1 According to Clause 6.15.1 of the Brief, a detailed Traffic and Transport Impact Assessment (TTIA) shall be carried out for the Development, with a view to forecasting future traffic and transport demand, identifying any adverse impacts on the existing, committed and planned road networks in the vicinity during construction and operation stages, and proposing improvement measures at the problematic areas identified, examining the adequacy of the existing and planned transport system, and the requirement for new road connections, capacity improvements or enhancement arising from quarrying and the ancillary operations.
- 1.2.2 The objectives of the TTIA are as follows:
- a) to review the findings and conclusions from the preliminary traffic and transport impact assessment (PTTIA) under the Underground Quarry Study such as temporary traffic arrangement, permanent changes (e.g. new roads, road diversions, road improvements, etc.) and mitigation/improvement measures for the Tsing Yi North Underground Quarry (TYNUQ);
 - b) to identify the elements of the community, existing traffic characteristics, possible interfacing projects, known transport proposals and future developments adjacent to TYNUQ which may also affect the surrounding traffic conditions during the span of the operation of the TYNUQ.
 - c) to incorporate any suggestions and address concerns from the relevant stakeholders/public obtained during the public consultation exercise;
 - d) to review and propose any necessary road widening and/or improvement measures in order to mitigate any traffic and transport impact on the existing/committed/planned road networks arising from the development and operation of the quarry with the consideration of other cumulative traffic effect from other planned/committed projects in the vicinity of the site;
 - e) to review whether there are other alternative access routes and propose such alternatives, if applicable, which may be in form of roads or new access road to be

constructed by-passing heavily trafficked roads/areas, residential areas, in order to avoid or minimise the traffic and transport impact arising during the development and operation of the quarry;

- f) to introduce a structured and systematic approach to identify, assess and mitigate potential adverse traffic and transport impacts, which might arise from the development and operation of the quarry;
- g) to identify, assess and specify methods, measures and standards to be included in the reference design of the quarry and its subsequent operation, which are necessary to mitigate these impacts and reduce them to acceptable levels;
- h) to propose and implement suitable traffic diversion, temporary traffic arrangement schemes and other mitigation/improvement measures to accommodate the additional traffic flow at the time of development and operation of the quarry so that any adverse traffic and transport impacts can be kept minimum and mitigated to acceptable levels;
- i) to enable an agreement in principle to be reached amongst the relevant government departments on the traffic diversion and arrangement schemes and road improvement proposal(s) for the development and operation of the quarry;
- j) to identify the anticipated public transport demand raised from the site and suggest transport mode for those demand, and needs for public transport facilities; and
- k) to demonstrate all mitigation/improvement measures to be introduced.

1.3 Purpose of this Report

- 1.3.1 The main purpose of this Traffic and Transport Impact Assessment (TTIA) Report is to assess the traffic impact to the nearby road network within the proposed area of influence (AOI) due to the proposed development, and the structure of this Report is outlined below.

1.4 Purpose of this Report

- 1.4.1 This Report is organized into 7 sections including this introductory section:-
- Section 1 - outlines the background, and sets out the objectives, purpose and structure of this Report;
 - Section 2 - reviews the existing traffic conditions within the area of influence including the site location, junction and road link capacity assessment;
 - Section 3 - describes the development proposal, requirements of parking and loading/unloading provision and public transport arrangement;
 - Section 4 - presents the approach, methodology and results of vehicular traffic demand forecasts, and junction and road link capacity assessment for the scenario of “Without” and “With” the proposed development for the design year during operation stage;
 - Section 5 - presents the sensitivity test scenario for alternative site access arrangements during operation stage;
 - Section 6 - presents the potential construction traffic impact due to the proposed development and traffic management measures to minimize the construction traffic impact if necessary; and
 - Section 7 - presents the summary of findings.

1.5 Nomenclature and Abbreviations

- 1.5.1 The following table lists out the abbreviations for expressions adopted in this Report.

Table 1.1 Abbreviations Adopted in this Report

Abbreviation	Full Expression
AOI	Area of Influence
ATC	Annual Traffic Census
BDTM	Base District Traffic Model
CEDD	Civil Engineering and Development Department
DEVB	Development Bureau
DFC	Design Flow/Capacity
FS	Feasibility Study
FSD	Fire Services Department
GIU	General Industrial Use
GMB	Green Minibus
GV	Goods Vehicle
HD	Housing Department
HKPSG	Hong Kong Planning Standards and Guidelines
HKSAR	Hong Kong Special Administrative Region
J/O	Junction
LATM	Local Area Traffic Model
L/UL	Loading/Unloading
NKW	Ngau Kok Wan
TPDEM	Territorial Population and Employment Data Matrix
TTIA	Traffic and Transport Impact Assessment
NMDS	Northern Metropolis Development Strategy
NWTYI	North West Tsing Yi Interchange
PCU	Passenger Car Units
PlanD	Planning Department
PLB	Public Light Bus
PT	Public Transport
PV	Private Vehicle
RC	Reserve Capacity
STM	Strategic Transport Model
TD	Transport Department
TFPD	Task Force Planning Dataset
TKSR	Tam Kon Shan Road
TPDM	Transport Planning and Design Manual
TPU	Tertiary Planning Unit
TGS2006	Trip Generation Survey 2006
TTA	Temporary Traffic Arrangement
TYNCR	Tsing Yi North Coastal Road
VC	Volume-to-Capacity Ratio
VOC	Vehicle Operating Cost
VOT	Value of Time
WENT	West New Territories

2 EXISTING TRAFFIC CONDITIONS

2.1 Existing Road Network

- 2.1.1 The Site is located in the northwest of Tsing Yi. It is bounded by Tsing Yi North Coastal Road (TYNCR) to the north, North West Tsing Yi Interchange (NWTYI) to the west, MTR Airport Express and Tung Chung Line to the south, and near Tam Kon Shan Interchange to the east. The existing road network surrounding the Site is shown in **Figure 2.1** and the existing junction layouts are illustrated from **Figure 2.2** to **Figure 2.4**.
- 2.1.2 Tsing Ma Bridge is a dual-3 expressway connecting the Cheung Tsing Highway to the east and Lantau Link to the west. This expressway is currently acting as the major corridor connecting the western end of Tsing Yi Island and Ma Wan / Lantau Island.
- 2.1.3 Tsing Long Highway (including Ting Kau Bridge) is a dual-3 expressway connecting Cheung Tsing Highway to the south and Tai Lam Tunnel to the north. It acts as the major north-south corridor connecting Tsing Yi Island and Shum Tseng via Ting Kau Bridge.
- 2.1.4 Cheung Tsing Highway is a dual 1/2 expressway near Tsing Yi Road West with increasing of traffic lanes after merging with Tsing Sha Highway which become a dual-4/5 carriageway near NWTYI to the west. It is an important corridor for the middle and southern parts of Tsing Yi Island connecting Kwai Chung via Cheung Tsing Tunnel and Lai Chi Kok via Nam Wan Tunnel to the east.
- 2.1.5 Tsing Yi North Coastal Road is a dual-2 district distributor connecting Tsing Tsuen Road to the east and Tsing Long Highway to the west. It serves as an important east west corridor for the northern part of Tsing Yi Island.
- 2.1.6 Tam Kon Shan Road (TKSR) is currently a single-2 carriageway and is classified as local distributor without stopping restrictions along the south side of the carriageway between the roundabout at the western end of the road and the slip road to TYNCR. Parking and loading/unloading activities of concrete trucks and heavy vehicles were observed.
- 2.1.7 Fung Shue Wo Road is in general a dual-2 local distributor connecting TKSR to the west and Tsing Yi Heung Sze Wui Road to the east which mainly serve the residential developments and schools along the carriageway.
- 2.1.8 Tsing Yi Road West is a single-4 district distributor (except for sections with central reserve near Fung Shue Wo Road, Ching Hong Road and Tsing Yi Road) which is a major north-south corridor stretching Fung Shue Wo Road to the north and Tsing Yi Road to the south in the middle of Tsing Yi Island.
- 2.1.9 Ching Hong Road is classified as a local distributor. It is a single-2 carriageway at the western section between Tsing Yi Road West and Ching Hong Road and becomes a dual-2 carriageway between Ching Hong Road and Tsing Yi Road at the eastern section of the road.

2.2 Area of Influence and Traffic Surveys

- 2.2.1 The proposed Area of Influence (AOI) of the development Site covers the surrounding road network with major road links connected to the development, as shown in **Figure 2.1**. With reference made to the Pilot Study within the proposed AOI, all key junctions (except free-flow junctions) and road links are included for assessment along the major ingress and egress routes from/to the site during operation phase, as shown in **Table 2.1** and **Table 2.2**.

Table 2.1 Identified Study Junctions

Index	Junction	Type
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority
J5	Tam Kon Shan Interchange	Roundabout
J6	Fung Shue Wo Road / Tsing Yi Road West	Signal

Index	Junction	Type
J7	Liu To Road / Tsing Yi Road West	Signal
J8	Ching Hong Road / Tsing Yi Road West	Signal
J9	Ching Hong Road / Chung Mei Road	Signal
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal

Table 2.2 Identified Study Road Links

Link Name	Direction	Capacity (pcu/hr)
L1 – Tsing Ma Bridge	EB	6,100
	WB	6,100
L2 – Ting Kau Bridge	NB	6,100
	SB	6,100
L3 - Unnamed access road near Lantau Link Visitors Centre	NB	500
	SB	500
L4 – Tam Kon Shan Road	EB	900
	WB	900
L5 - Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800
L6 - Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800
L7 – Tsing Yi North Coastal Road	EB	5,600
	WB	3,600
L8 – Cheung Tsing Tunnel	EB	5,400
	WB	5,400
L9 – Nam Wan Tunnel	EB	5,400
	WB	5,400
L10 – Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050
	SB	4,850
L11 - Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050
	SB	3,050
L12 - Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800
	SB	2,800
L13 – Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920
	WB	920
L14 - Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250
	WB	1,250
LL1 - NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000
LL2 - NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800
LL3 - NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800
LL4 - NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800
LL5 - NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700

Link Name	Direction	Capacity (pcu/hr)
LL6 - NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100
LL7 – NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600
LL8 - Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800
LL9 - NWTYI – Tsing Long Highway southbound	SB	1,900
LL10 - NWTYI - Slip Road connecting LL9 to LL1	SB	3,600
LL11 - NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100
LL12 - NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900
LL13 - NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900
LL 14(a) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200
LL 14(b) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000
LL 14(c) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	SB	4,000
LL 14(d) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	SB	8,200

- 2.2.2 Classified vehicular counts were conducted at road links and/or classified vehicular turning movement counts were carried out at junctions, in which both the above two types of vehicular counts were recorded in 15-minute interval. The volume of different types of vehicles recorded during the surveys were converted into passenger car unit (pcu) factors which are stipulated in Volume 2 of Transport Planning and Design Manual (TPDM) for traffic model development and assessment purposes. The highest consecutive 15-minute hourly pcu volumes were adopted as the peak hour traffic flows.
- 2.2.3 In order to identify the survey periods, a pilot site survey was conducted from 07:00 to 20:00 on 11 March 2025. Tsing Tuen Road (near Maritime Square) and Tsing Yi Road West (near Liu To Road) were selected as the locations for the pilot site survey since these locations connect both the strategic and local road network and also connect all the proposed study junctions and road links within the AOI.
- 2.2.4 Based on the results of the pilot site survey, an hourly traffic flow variation is produced in the below table throughout the survey period.

Table 2.3 Results of Pilot Site Survey

Time	2025 Observed Traffic Flows (pcu/hr)						
	Tsing Tsuen Road (near Maritime Square)			Tsing Yi Road West (near Liu To Road)			Tsing Tsuen Road and Tsing Yi Road West
	EB	WB	Total	NB	SB	Total	Grand Total
0700 – 0800	2,154	2,051	4,205	965	785	1,750	5,955
0715 – 0815	2,397	2,238	4,635	1,007	836	1,843	6,478
0730 – 0830	2,300	2,429	4,729	1,003	863	1,866	6,595
0745 – 0845	2,316	2,348	4,664	925	792	1,717	6,381
0800 – 0900	2,399	2,382	4,781	909	741	1,650	6,431
0815 – 0915	2,366	2,255	4,621	846	715	1,561	6,182
0830 – 0930	2,359	2,171	4,530	857	673	1,530	6,060
0845 – 0945	2,281	2,066	4,347	874	646	1,520	5,867
0900 – 1000	2,003	2,011	4,014	834	602	1,436	5,450

Time	2025 Observed Traffic Flows (pcu/hr)						
	Tsing Tsuen Road (near Maritime Square)			Tsing Yi Road West (near Liu To Road)			Tsing Tsuen Road and Tsing Yi Road West
	EB	WB	Total	NB	SB	Total	Grand Total
0915 – 1015	1,889	2,040	3,929	819	587	1,406	5,335
0930 – 1030	1,915	2,018	3,933	794	565	1,359	5,292
0945 – 1045	1,892	2,026	3,918	756	530	1,286	5,204
1000 – 1100	1,921	2,022	3,943	731	555	1,286	5,229
1015 – 1115	1,926	2,014	3,940	709	556	1,265	5,205
1030 – 1130	1,978	1,996	3,974	701	593	1,294	5,268
1045 – 1145	1,960	1,925	3,885	723	608	1,331	5,216
1100 – 1200	1,997	2,025	4,022	731	570	1,301	5,323
1115 – 1215	2,040	1,875	3,915	753	563	1,316	5,231
1130 – 1230	1,886	1,872	3,758	764	534	1,298	5,056
1145 – 1245	1,792	1,853	3,645	771	500	1,271	4,916
1200 – 1300	1,727	1,859	3,586	751	550	1,301	4,887
1215 – 1315	1,604	1,838	3,442	735	597	1,332	4,774
1230 – 1330	1,669	1,852	3,521	694	645	1,339	4,860
1245 – 1345	1,751	1,862	3,613	639	654	1,293	4,906
1300 – 1400	1,705	1,856	3,561	632	624	1,256	4,817
1315 – 1415	1,675	1,857	3,532	585	624	1,209	4,741
1330 – 1430	1,658	1,815	3,473	601	598	1,199	4,672
1345 – 1445	1,748	1,808	3,556	623	581	1,204	4,760
1400 – 1500	1,831	1,843	3,674	615	594	1,209	4,883
1415 – 1515	1,779	1,853	3,632	663	599	1,262	4,894
1430 – 1530	1,753	1,876	3,629	700	621	1,321	4,950
1445 – 1545	1,681	1,852	3,533	708	605	1,313	4,846
1500 – 1600	1,732	1,854	3,586	736	599	1,335	4,921
1515 – 1615	1,873	1,848	3,721	781	585	1,366	5,087
1530 – 1630	1,964	1,839	3,803	768	625	1,393	5,196
1545 – 1645	2,065	1,876	3,941	814	625	1,439	5,380
1600 – 1700	2,086	1,843	3,929	809	626	1,435	5,364
1615 – 1715	2,090	1,875	3,965	803	641	1,444	5,409
1630 – 1730	2,241	1,886	4,127	803	601	1,404	5,531
1645 – 1745	2,256	1,897	4,153	805	614	1,419	5,572
1700 – 1800	2,257	1,899	4,156	810	637	1,447	5,603
1715 – 1815	2,258	1,875	4,133	790	645	1,435	5,568
1730 – 1830	2,127	1,862	3,989	784	656	1,440	5,429
1745 – 1845	2,141	1,822	3,963	771	653	1,424	5,387
1800 – 1900	2,151	1,805	3,956	765	660	1,425	5,381
1815 – 1915	2,064	1,803	3,867	764	654	1,418	5,285
1830 – 1930	1,962	1,745	3,707	747	648	1,395	5,102
1845 – 1945	1,746	1,749	3,495	693	643	1,336	4,831
1900 – 2000	1,668	1,645	3,313	644	640	1,284	4,597

- 2.2.5 As shown in the above table, the AM peak, logistic peak and PM peak of Tsing Tsuen Road and Tsing Yi Road West range between 07:15 – 09:00, 11:00 – 13:45 and 17:00 – 19:00 respectively.
- 2.2.6 Supplemented with the findings of the survey results from the pilot site survey, vehicular traffic count surveys were conducted in April 2025 from 07:15 to 09:15, 11:00 to 14:00 and 17:00 to 19:00 on normal weekday(s). The locations of vehicular traffic count survey are the same as the location of study junctions and road links in **Figure 2.1**. The survey results indicated that the AM peak hour is between 07:30 and 08:30, the logistic peak hour is between 11:15 and 12:15 and the PM peak hour is between 17:00 and 18:00.

2.3 Assessment of Study Junctions and Road Links for Existing Year 2025

- 2.3.1 This TIA includes assessment of existing junction and road link performance by means of capacity analysis.
- 2.3.2 The performances of road links are evaluated with the volume to capacity ratio (V/C). The V/C ratio compares the peak hour flow of a road link with its design flows, with a V/C ratio up to 0.3 represents free-flow conditions. A V/C ratio between 0.3 and 0.5 means an easy flow conditions, with travel speeds close to free-flow speed. V/C ratio between 0.5 and 0.75 represents generally easy flow condition, with the travel speeds of the road link begins to be restricted by the traffic conditions. V/C ratio between 0.75 and 1.0 means well used flow conditions, with travel speeds reduced by increasing traffic volumes. V/C ratio between 1.0 and 1.2 means unstable flow conditions, with travel speeds substantially reduced and are highly variable and unpredictable. For new roads, it should be designed to attain the target performance at the design years with $V/C \leq 0.85$ wherever possible to allow adequate spare capacities catering for fluctuations during peak hours, natural growth of traffic demand and further developments in future years.
- 2.3.3 The performance of a signalised road junction is indicated by its reserve capacity (RC). A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded, resulting in traffic queues and longer delay time. For new junctions, a minimum provision of 25% RC should be provided wherever possible. For existing junctions, it is desirable to achieve an RC of $\geq 15\%$ as far as possible.
- 2.3.4 The performance of a roundabout and a priority junction is indicated by the design flow/capacity (DFC) ratio. A DFC ratio less than 1.0 indicates that the junction is operating within design capacity, while 0.85 is the acceptance criteria of DFC. A DFC ratio greater than 1.0 indicates that the junction is overloaded, resulting in traffic queues and longer delay time to the minor arm traffic. For existing roundabout and priority junction, DFC of ≤ 0.85 should be provided whenever possible, which indicates that queuing would theoretically be avoided in 85% of cases. For new roundabout and priority junction, DFC of ≤ 0.75 should be provided.
- 2.3.5 The study junctions and road links have been identified (**Figure 2.1** refers) and the existing performance of study junctions and road links were assessed based on the junction flow diagrams in **Figure 2.5**. The results are presented in **Table 2.4** and **Table 2.5** below and the details of the junction calculations are presented in **Appendix A**.

Table 2.4 Junction Capacity Assessment for Existing Year (2025)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logistic Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.42	0.37	0.39
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.26	0.32	0.31
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.18	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.21	0.13
J5	Tam Kon Shan Interchange	Roundabout	0.59	0.59	0.47
J6	Fung Shue Wo Road / Tsing Yi Road West	Signal	11%	13%	40%
J7	Liu To Road / Tsing Yi Road West	Signal	28%	30%	55%

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logistic Peak
J8	Ching Hong Road / Tsing Yi Road West	Signal	69%	95%	86%
J9	Ching Hong Road / Chung Mei Road	Signal	>100%	>100%	>100%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	66%	51%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	47%	69%	49%

2.3.6 The results in **Table 2.4** above show that the performance of all the study junctions is currently operating within sufficient capacity (i.e. $RC \geq 15\%$, $DFC \leq 0.85$) during AM, logistic peak and PM peak hours on weekday, except J6 during the commuting peak periods.

Table 2.5 Road Link Capacity Assessment for Existing Year (2025)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,370	0.55	4,460	0.73	3,780	0.62
		WB	6,100	4,445	0.73	3,175	0.52	3,430	0.56
L2	Ting Kau Bridge	NB	6,100	3,160	0.52	4,690	0.77	3,735	0.61
		SB	6,100	6,840	1.12	3,650	0.60	5,190	0.85
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	195	0.39	190	0.38	275	0.55
		SB	500	125	0.25	140	0.28	140	0.28
L4	Tam Kon Shan Road	EB	900	325	0.36	335	0.37	190	0.21
		WB	900	105	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	220	0.12	195	0.11	170	0.09
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	155	0.09	170	0.09	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,200	0.21	1,115	0.20	1,230	0.22
		WB	3,600	1,600	0.44	1,045	0.29	1,175	0.33
L8	Cheung Tsing Tunnel	EB	5,400	4,360	0.81	3,540	0.66	3,325	0.62
		WB	5,400	2,930	0.54	2,930	0.54	2,360	0.44
L9	Nam Wan Tunnel	EB	5,400	2,910	0.54	1,755	0.33	2,985	0.55
		WB	5,400	1,795	0.33	2,345	0.43	2,565	0.48
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,360	0.45	1,365	0.45	1,095	0.36
		SB	4,850	1,230	0.25	1,010	0.21	885	0.18
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,000	0.33	945	0.31	760	0.25
		SB	3,050	805	0.26	710	0.23	570	0.19
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	675	0.24	715	0.26	715	0.26
		SB	2,800	750	0.27	570	0.20	590	0.21
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	615	0.67	510	0.55	575	0.63
		WB	920	625	0.68	550	0.60	530	0.58
L14	Sai Tso Wan Road between Tsing Yi Road West and local	EB	1,250	490	0.39	615	0.49	805	0.64
		WB	1,250	790	0.63	575	0.46	710	0.57

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	access for Yiu Lian Dockyards Limited								
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	1,865	0.47	1,315	0.33	1,260	0.32
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	545	0.30	450	0.25	365	0.20
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	565	0.31	65	0.04	230	0.13
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,030	0.57	1,120	0.62	1,110	0.62
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	370	0.22	330	0.19	365	0.21
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	2,985	0.49	4,285	0.70	3,515	0.58
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,300	0.36	1,380	0.38	1,340	0.37
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	260	0.14	435	0.24	215	0.12
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,035	0.54	600	0.32	690	0.36
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,635	0.45	1,285	0.36	1,220	0.34
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,670	0.44	1,890	0.31	1,905	0.31
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	805	0.42	575	0.30	650	0.34
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	125	0.07	285	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,340	0.53	4,975	0.61	4,295	0.52

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,180	0.30	1,130	0.28	1,435	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,135	0.28	1,540	0.39	1,265	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,095	0.87	4,570	0.56	5,975	0.73

- 2.3.7 The assessment results in the above table show that the performance of all study road links are currently operating within its capacity, with the exception of Ting Kau Bridge southbound (L2) during AM peak hour, which indicates that this road link operates in unstable flow condition on weekday AM peak (v/c ratio between 1.0 and 1.2).

3 DEVELOPMENT PROPOSAL

3.1 Development Parameters

3.1.1 The Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (FS) was commissioned by CEDD and PlanD in 2019. The pilot study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North and it is envisioned as an integral part of the long-term local quarry strategy. The preliminary layout of the proposed underground quarrying-cum-cavern development is shown in **Figure 3.1**.

3.1.2 Below table summarizes the proposed development parameter of the Site.

Table 3.1 Proposed Development Parameters

Parameter	Description
Estimated Population during Operation Phase	Approximate 100 persons
Target Commission Year	2028 ⁽¹⁾

Remark:

(1) Tunnel to TKSR portal is anticipated to be commenced by 2031 tentatively

3.2 Site Assess Arrangement

3.2.1 The Site would only be accessible by private vehicles, as illustrated in **Figure 3.1**. Since the tunnel to TKSR portal and the Site access road connecting NWTYI would not permit pedestrians access, all staff and visitors would be required to access the Site solely by private vehicles during both construction and operation phases. As such, the impact on the existing public transport operations is not anticipated.

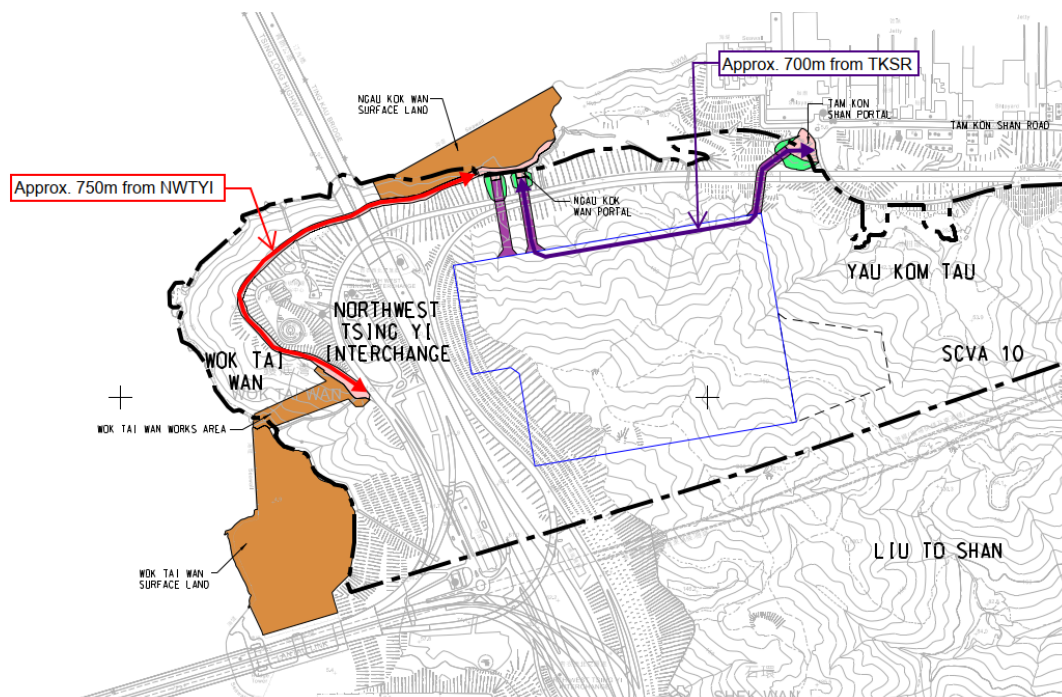
3.2.2 Concerning the junction at NWTYI (J2) where the site access connects to (Ngau Kok Wan portal), it is anticipated that the site traffic entering or leaving the unnamed access road would interfere with the traffic on the mainline of NWTYI. To mitigate this impact, a Temporary Traffic Arrangement (TTA) has been proposed at the intersection of the unnamed access road and NWTYI, as presented in **Figure 3.2**. “No objection in principle with conditions” on the schematic TTA at NWTYI access has been sought from TD and no adverse comments from other stakeholder. The contractor shall take these conditions into account and address any issues raised in the subsequent construction/operation phase. In addition, the TTA shall be modified after the tunnel to TKSR portal is implemented to facilitate the one-way outbound arrangement at the NKW (Ngau Kok Wan) portal, subject to the contractor’s operational need, if necessary.

3.2.3 Subsequent to the implementation of the tunnel to TKSR portal at the northeast of the Site in 2031, site access would be provided to the south of the existing roundabout (J3) at the western end of TKSR. The vehicular access, in term of run-in, leading to the tunnel to TKSR portal is proposed to be located at the off-slip of Tsing Yi North Coastal Road (TYNCR) WB. Furthermore, to further disperse the traffic demand generated by the development onto the nearby road network, the access near TKSR would serve ingress only, as the TKSR portal would operate as a one-way inbound route for private cars and goods vehicles accessing the Site. Meanwhile, the unnamed access road at NWTYI would also be converted into a one-way outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. Consequently, development traffic would no longer be permitted to access the Site via the NKW portal. The proposed run-in located at the off-slip of TYNCR WB is shown in **Figure 3.3**. The run-in would be operated under a TTA during construction and operation phases after the implementation of tunnel to TKSR portal, as presented in **Figure 3.3** and **Figure 3.4**. “No objection in principle” on the schematic TTA at TYNCR access has been sought from TD and no adverse comments from other stakeholder. Nevertheless, the detailed design of the TTA would subject to further investigation in subsequent construction/operation phases.

3.2.4 Given that there are approx. 750m and 700m (including tunnel section) of internal access road adjoining the NKW portal and TKSR portal respectively (see in-text drawing below), which could accommodate vehicle waiting and queuing without disrupting development operations,

it is deemed that any traffic queues from the Site extending to the public road (i.e. NWTYI and TKSR) is not anticipated.

Drawing 1 Possible Vehicle Waiting and Queuing Area



3.3 Trip generation and Attraction of Proposed Underground Quarrying Site

3.3.1 The anticipated trip generation and attraction assumptions on the proposed Underground Quarrying Site is presented in **Table 3.2**.

Table 3.2 Trip Generations and Attractions

Vehicle Type	Trip End (in pcu/hr)					
	AM Peak		PM Peak		Logistic Peak	
	Gen.	Att.	Gen.	Att.	Gen.	Att.
HGV-Concrete Truck ⁽¹⁾	125	125	125	125	125	125
HGV-Asphalt Truck ⁽²⁾	40	40	40	40	40	40
Private Car	4	4	4	4	4	4
LGV	3	3	3	3	3	3
HGV-Others ⁽³⁾ /Shuttle Service	5	5	5	5	5	5
Total	177	177	177	177	177	177

Remark:

- (1) Assuming the peak production of concrete
- (2) Assuming the peak production of asphalt
- (3) To facilitate operation such as tanker and waste disposal truck

3.3.2 It has been coordinated with the existing occupant of Ngau Kok Wan - Relocation of Sha Tin Sewage Treatment Works to Cavern Project that their existing rock processing facilities at Ngau Kok Wan would cease operation and they will hand over the site to this project upon commencement of the construction of TYNUQ. Consequently, no operational traffic from the existing facilities is anticipated during the construction and operation phases of this project.

3.4 Routing for Proposed Underground Quarrying Site Traffic

Routing for Operational Traffic in 2028-2031

(before the implementation of tunnel at TKSR portal)

- 3.4.1 The end-users of the rock products are distributed across various regions of Hong Kong, including Hong Kong Island, Kowloon, New Territories and Lantau Island. For the purpose of assessment, the traffic routings proposed for travel to these regions are detailed in the table below. As the tunnel to TKSR portal would be implemented in phases, operational traffic would continue to use the site access at NWTYI until the commissioning of the tunnel at TKSR portal.

Table 3.3 Routing for Operational Traffic in 2028-2031

Route	Outbound Traffic	Inbound Traffic
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB → Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB → NWTYI NB → Site Access at NWTYI

- 3.4.2 Routings for the operational traffic in 2028-2031 are also presented in **Figure 3.5** to **Figure 3.8**.
- 3.4.3 In addition, the percentage split and trip generation of the proposed Underground Quarrying Site presented in **Table 3.4** are adopted for the operation phase of design year 2031 before the implementation of TKSR portal.

Table 3.4 Trip Generation and Percentage Split of Traffic Operation Traffic in 2028-2031

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)
Route A1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route A2 (Ting Kau Bridge)	106	60%	106	60%
Route A3 (Tsing Tsuen Road)	35	20%	35	20%
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

Routing for Operation Traffic in 2031 and onward

(After the implementation of tunnel to TKSR portal)

- 3.4.4 Following the implementation of the tunnel to TKSR portal, ingress traffic would be directed to the off-slip of TYNCR WB for access, while the egress would be maintained at TYNCR. In addition, inbound of Routes B1, B2 and B4 shall be prohibited during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00) to mitigate further deterioration of traffic conditions at Tam

Kon Shan Interchange, which experiences heavy traffic during the commuting peak traffic periods. Under this restriction, inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel shall be rerouted via Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover to access the site. The proposed routing details are presented in the following table.

Table 3.5 Routing for Operational Traffic from 2031 and onwards

Route	Outbound Traffic	Inbound Traffic
Route B1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB → Cheung Tsing Tunnel EB	Cheung Tsing Tunnel / Nam Wan Tunnel → Cheung Tsing Highway → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR

3.4.5 Routings for the operation traffic from 2031 and onwards are also presented in **Figure 3.9** to **Figure 3.12**.

3.4.6 In addition, the percentage split and traffic demand of the proposed Underground Quarrying Site traffic presented in **Table 3.6** and **Table 3.7** are adopted for design year 2031 after the implementation of TKSR access.

Table 3.6 Trip Generation and Percentage Split of Traffic from 2031 and onwards (AM peak and PM peak)

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow (in pcu/hr)	Split of Route (in %)	Traffic Flow (in pcu/hr)	Split of Route (in %)
Route B1 (Tsing Ma Bridge Bound) ¹	18	10%	0	0
Route B2 (Ting Kau Bridge) ¹	106	60%	0	0
Route B3 (Tsing Tsuen Road)	35	20%	177	100%
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel) ¹	18	10%	0	0

Remark:

(1) Prohibition for inbound is proposed during AM and PM peaks, with the assumption that the traffic demand of the corresponding routes would be zero during these periods

Table 3.7 Trip Generation and Percentage Split of Traffic from 2031 and onwards (outside AM and PM peaks)

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow (in pcu/hr)	Split of Route (in %)	Traffic Flow (in pcu/hr)	Split of Route (in %)
Route B1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route B2 (Ting Kau Bridge)	106	60%	106	60%
Route B3 (Tsing Tsuen Road)	35	20%	35	20%
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

3.5 Traffic Management Plan to the Site Traffic

- 3.5.1 The Traffic Management Plan and traffic control proposals shall be prepared and submitted by the Contractor to minimize traffic impacts during both construction and operation phases.
- 3.5.2 The Contractor shall prepare and submit swept path analysis at critical turning locations to demonstrate sufficient space for vehicles maneuvering of the types of vehicles allowed within the development in the Traffic Management Plan.
- 3.5.3 In response to the public concern about traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange during peak hours, site traffic should be prohibited from accessing the Site via Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00). Site traffic would be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover. The details of the routing arrangement are provided in **Section 3.4**.
- 3.5.4 The percentage split of site traffic during construction and operation phases (presented in **Table 3.4** and **Table 3.6**) should be reviewed regularly by the Contractor. Traffic distributions and diversions involving Tsing Ma Bridge, Ting Kau Bridge, Tsing Tsuen Road and Cheung Tsing Tunnel / Nam Wan Tunnel should be monitored and adjusted based on prevailing traffic conditions. The Contractor shall monitor (i.e. GPS tracking, on-site random checking etc.) site traffic in real time and ensure strict adherence to the designated ingress and egress routes.
- 3.5.5 The Contractor shall submit a detailed Traffic Management Plan and traffic control proposals during construction/operation phases for review and approval. The Traffic Management Plan shall contain traffic control proposals on operation procedure, real-time positioning, site traffic queue and junction restriction measures.

3.6 Contingency Plan for Facilities Failure and Associated Mitigation Measures

- 3.6.1 The Contractor shall prepare a Contingency Plan for facilities failure, together with mitigation measures to minimize disruption and ensure safety. During the failure, excess site traffic shall be diverted to temporary waiting areas to maintain a controlled and efficient flow of operations.
- 3.6.2 The plan shall include the following elements:
- Activation criteria and procedures for the contingency plan
 - Temporary reassignment procedures for excess site traffic
 - Safety and traffic management measures, including traffic rerouting, continuous monitoring and communication protocols
 - Maintenance and repair response procedures
 - Evaluation of consequences and mitigation measures
 - Recovery procedures and resume normal operations

3.7 Non-Conformance, Incident Investigation and Auditing Mechanism for Traffic Management Plan and Traffic Control Requirements

- 3.7.1 The Contractor shall establish procedures to manage non-conformance, investigate incidents and conduct audits to ensure continuous compliance with the Traffic Management Plan and Contingency Plan.

Non-Conformance Management

- 3.7.2 Any deviation from established procedures shall be treated as a non-conformance and documented immediately using a standardized report form. The control center shall review reports, assign corrective actions, and ensure recurring issues are addressed through procedural updates or additional staff training.
- 3.7.3 Enforcement measures shall be applied for significant non-conformances or traffic violations to strengthen compliance and deter recurrence. In-house measures may include fines, contract penalty clauses, and other disciplinary actions as appropriate.
- 3.7.4 The enforcement mechanism leaves no ambiguity about the consequences of non-compliance and encourages all personnel and contractors to adhere strictly to the traffic rules in place.

Incident Investigation

- 3.7.5 In the event of an incident (e.g. near-miss, collision, or other safety-related events), the investigation process shall be initiated without delay. The investigation shall include immediate response, data collection, root cause analysis, implementation of corrective actions, and reporting.

Auditing Mechanism

- 3.7.6 Regular audits shall be conducted to ensure ongoing compliance and continuous improvement. Audit activities shall include scheduled audits, random inspections, audit reporting, feedback loops, and enforcement reviews.

3.8 Provision of Parking and Loading/Unloading Facilities

- 3.8.1 In consideration of ancillary parking and loading / unloading (L/UL) spaces, it should be in general provided as much as possible unless deemed infeasible by site constraints. In Hong Kong Planning Standards and Guidelines (HKPSG), there is no parking standard specifically for quarrying. Therefore, the proposed provision of ancillary parking and loading/unloading facilities on the Site referred to the standards for Industrial Use (I) under General Industrial Use (GIU).
- 3.8.2 **Table 3.8** summarizes the required number of parking and L/UL spaces with respect to the GFA of the Site.

Table 3.8 Provision of Parking and Loading/Unloading Facilities

Parking and L/UL Facilities	Standard ⁽¹⁾	Required Number of Parking and L/UL Provision	Proposed Number of Parking and L/UL Provision
Quarrying with concrete batching and asphalt production			
Parking Facilities			
Motorcycle	-	Nil	5 ⁽²⁾
Private Car (PC)	1 space per 1000 - 1200m ² GFA	8-10	10
Light Goods Vehicle (LGV) ²	1 goods vehicle bay per 700-900m2 GFA, 50% of which should be for parking of goods vehicles	4-5	5
Heavy Goods Vehicle (HGV) ⁽³⁾		2-3	3
L/UL Facilities			
Goods Vehicle	1 goods vehicle bay per 700-900m2 GFA, 50% of which should be for parking of goods vehicles	6-7	7
Container Vehicle Loading / Unloading Bay	1 container vehicle loading/unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m	1	1

Remark:

- (1) Parking standard refers to Industrial Use (I) under General Industrial Use (GIU) in Chapter 8, HKPSG (January 2024 Edition)
- (2) Additional provisions of motorcycle parking due to the remote location of the Site
- (3) Goods vehicle parking and loading/unloading provision is divided into 65% light goods vehicle and 35% medium/heavy goods vehicle

- 3.8.3 In addition to the above, parking and loading/unloading facilities for employee shuttle services (i.e. coach) are offered within the Site for delivery of an estimated 100 workers. With the above arrangement, no significant impact is anticipated on public transport services.

3.9 Public Transport Arrangement

- 3.9.1 Currently, only one GMB route (i.e. 88A) serves the area within a 500m catchment of the Site, operating from 09:00 to 19:00 on normal weekdays with additional morning service from 06:30 to 09:00. Since pedestrian access to the Site would not be permitted and employee shuttle services are anticipated to be provided, PT service is not considered necessary for the development. Nevertheless, the details and arrangement of shuttle services for employees are subject to operational needs of the contractor.

4 TRAFFIC IMPACT ASSESSMENT DURING OPERATION PHASE

4.1 Design Year

- 4.1.1 The commission year of the development is tentatively targeted in Year 2028. With reference to TD's TIA Guidelines of Department Circular 1/2011, the design year for the traffic forecast is proposed to be set at least 3 years after the planned commission of the development. Therefore, the proposed design year is 2031 for the TTIA.

4.2 Assessment Scenario

- 4.2.1 In view of the development nature (i.e. quarry), it is proposed the assessment scenario consists of AM peak, logistic peak and PM peak on normal Weekday, including:-
- Reference Case (without the proposed development);
 - **Design Case Scenario A** (with the proposed development, before implementation of the tunnel to TKSR portal); and
 - **Design Case Scenario B** (with the proposed development, after implementation of the tunnel to TKSR portal)

4.3 Vehicular Traffic Demand Forecasts

- 4.3.1 With reference to Clause 6.15 of the Brief, a traffic model has been developed. In order to produce robust traffic forecasts that would be responsive to dynamic changes in future land use and infrastructure development, a two-tier modelling approach is proposed. The two-tier model structure comprises a Strategic Transport Model (STM) in the upper tier and a Local Area Traffic Model (LATM) in the lower tier. The upper tier STM follows a 4-stage multi-modal modelling process to produce the vehicular cordoned matrices for input into the lower tier LATM.

Model Structure and Coverage

Strategic Transport Model (STM)

- 4.3.2 AECOM's in-house STM (in EMME platform) that covers the entire Hong Kong Special Administrative Region (HKSAR) has been applied. This model has the architecture of a conventional 4-stage transport model that involves the four basic stages of Trip Generation, Trip Distribution, Modal Split and Assignment.
- 4.3.3 For this Study, the STM incorporated the Task Force Planning Dataset (TFPD) consolidated by TD complying the proposed township developments under the Northern Metropolis Development Strategy (NMDS) and Kau Yi Chau Artificial Island development. The STM was validated to year 2023 traffic conditions based on Annual Traffic Census (ATC) 2023 for forecasting different scenarios in different design years. For future year traffic forecasting, the planning data, highway and railway network assumptions and other strategic planning assumptions were incorporated into the STM.

Local Area Traffic Model (LATM)

- 4.3.4 The latest NTW2 2019 Base District Traffic Model (BDTM) was adopted as a starting point to develop a modified LATM for this project. The zoning system primarily adopted the BDTM zoning system, but suitably adjusted and refined to reflect the newly planned developments in the vicinity. Subject to the model validation results and specific local requirements, the zoning system within the AOI was reviewed and refined to better replicate the local traffic movements and to improve the accuracy of the modelled results within the AOI. The traffic route choice patterns and any congestion or access issues in the relevant area were accounted for in the traffic assignment process.
- 4.3.5 The LATM was developed to validate the traffic conditions in base year and forecast the traffic conditions in design years representing the morning peak (AM) and afternoon peak (PM) in relation to the proposed AOI.
- 4.3.6 It is worth noting that BDTM only models traffic conditions in AM peak and PM peak on Weekday and therefore LATM also model AM peak and PM peak only. In this connection, the traffic forecast for logistic peak was estimated by growth factor method based on the traffic growth of the study road links from LATM.

Base Year Modelling Development

- 4.3.7 The STM was validated to year 2023 conditions as base year on the latest available input data, including land use and planning data, transport infrastructure, road network assumptions, socio-economic data, and other transport policy assumptions. For LATM development, year of traffic surveys (i.e. 2025) was adopted as the base year. The overall process for developing the base year model involves the following key steps:
- Collection of relevant data;
 - Validation of the STM for the year 2023;
 - Model run of the STM for the base year to obtain vehicular cordoned matrices for the LATM;
 - Aggregation of the cordoned matrices into two vehicle classes, i.e. private vehicles and goods vehicles, for LATM;
 - Disaggregation of matrices from STM zoning system (i.e. same as PDZ system) to LATM zoning system;
 - Update and refinement of LATM Network; and
 - Validation of the LATM for the base year.

Design Year Modelling Development

- 4.3.8 The STM was run to project the future transport demand for design years. Similarly, the initial vehicular cordoned matrices were prepared for inputted to LATM. The main tasks are summarized as follows:
- Updating STM highway and railway networks for design years by incorporating committed/planned new highway and railway infrastructure;
 - Preparation and full STM runs for design years;
 - Checking of STM assignments and results including whether it has selected the reasonable route choice and whether the amount of traffic volume on the major road links is within a reasonable range between various modelled scenarios;
 - Preparation of vehicular cordoned matrices from the respective design years of STMs for derivation of zone-to-zone traffic changes by user class (PV and GV) between base / design years;
 - Application of “changes” derived above to the validated LATM base year/design year matrices;
 - Preparation of LATM highway networks for design years by incorporating committed/planned new highway infrastructure and local traffic improvement schemes; and
 - Checking of LATM traffic assignments and results.

Model Validation Criteria

Strategic Transport Model (STM)

4.3.9 The base year STM has been validated to year 2023 observed vehicular flows across the major Annual Traffic Census (ATC) screenlines for the AM and PM peak periods as well as daily basis, see **Appendix C**. The validation of STM covers the ATC screenlines as listed below:

- Hong Kong External Cordon
- Hong Kong Internal Cordon
- Kowloon External Cordon
- Tsing Yi External Cordon
- Lantau External Cordon
- Shatin External Cordon
- Ma On Shan External Cordon
- TKO External Cordon
- Screenline A-A
- Screenline C-C
- Screenline F-F
- Screenline G-G
- Screenline H-H
- Screenline I-I
- Screenline K-K
- Screenline R-R
- Screenline S-S
- Screenline T-T
- Screenline Y-Y
- Cross Harbour

4.3.10 The 2023 validation data was based on the ATC traffic count data. The ATC count data provides breakdowns of total vehicle flows by direction, by hour and by vehicle classification. The validation guidelines for the STM are shown in **Table 4.1**.

Table 4.1 Validation Guidelines for Strategic Transport Model

Validation Parameter at Screenline	Mean Error		80% Error ⁽¹⁾		Max Error	
	1-way	2-way	1-way	2-way	1-way	2-way
Daily Total Vehicles	N/A ⁽²⁾	3%	N/A ⁽²⁾	8%	N/A ⁽²⁾	15%
AM Peak Total Vehicles	10%	5%	15%	10%	30%	20%
AM Peak Car	15%	10%	25%	15%	50%	30%
AM Peak Taxi	15%	10%	25%	15%	50%	30%
AM Peak GV ⁽³⁾	15%	10%	25%	15%	50%	30%
PM Peak Total Vehicles	10%	5%	15%	10%	30%	20%
PM Peak Car	15%	10%	25%	15%	50%	30%
PM Peak Taxi	15%	10%	25%	15%	50%	30%
PM Peak GV ⁽³⁾	15%	10%	25%	15%	50%	30%

Remark:

(1) - "80% error" - the difference of observed and synthesized volume of each screen line should be achieved within the specified value. The number of successful screen lines should achieve 80% of total number of screenline.

(2) - N/A stands for "not applicable"

(3) - GV include Light Van, Light Goods Vehicle, Medium Goods Vehicle, Heavy Goods Vehicle and Tractor Unit.

4.3.11 The STM synthesized PT passenger flows were also compared against major PT passenger statistics available to check that the model reasonably represents the overall trip generation and modal choice characteristics within the AOI. The validation guidelines for total daily boarding by broad PT mode and passenger screen line flows are shown in **Table 4.2** and **Table 4.3**.

Table 4.2 Validation Guidelines for Total Daily Boarding by Broad PT Mode

Public Transport Mode	Maximum Allowable Variation
Heavy Rail	±20%
Light Rail Transit / Tram	±20%
Bus (Franchised Bus and Residential Coach Service)	±20%
PLB (RMB and GMB)	±20%
Ferry	±20%
Total PT	±20%

Table 4.3 Validation Guidelines for Passenger Screen line Flows

Daily Screenline Flows	Mean Error	80% Error ⁽¹⁾	Maximum Error
Rail	±8%	±10%	±20%
Bus	±5%	±15%	±30%
PLB	±10%	±25%	±50%
PT	±3%	±8%	±15%

Note:

(1) - "80% error" - the difference of observed and synthesized volume of each screen line should be achieved within the specified value. The number of successful screen lines should achieve 80% of total number of screenline.

4.3.12 The 2023 validation performance of STM has been presented in the following **Tables 4.4 to 4.6**. It shows that the STM has fulfilled the validation criteria as specified in **Table 4.1 to Table 4.3**. Detailed validation results of STM are presented in **Appendix C**.

Table 4.4 STM Validation Performance

Validation Parameter at Screenline	Mean Error		80% Error		Max Error	
	1-way ⁽¹⁾	2-way ⁽¹⁾	1-way ⁽²⁾	2-way ⁽²⁾	1-way ⁽³⁾	2-way ⁽³⁾
Daily Total Vehicles		1%		85%		13%
AM Peak Total Vehicles	3%	3%	88%	90%	18%	14%
AM Peak Car	3%	3%	98%	100%	31%	15%
AM Peak Taxi	8%	7%	93%	80%	34%	29%
AM Peak GV	4%	3%	98%	90%	33%	17%
PM Peak Total Vehicles	3%	3%	95%	90%	21%	12%
PM Peak Car	5%	4%	98%	100%	28%	13%
PM Peak Taxi	6%	5%	93%	90%	29%	25%
PM Peak GV	5%	4%	93%	80%	34%	25%

Note:

(1) The numbers presented represent the mean difference between observed and synthesized screenline volumes.

(2) The numbers presented represent the percentages of screenlines satisfying the respective criteria.

(3) The numbers presented represent the maximum difference between observed and synthesized screenline volumes.

Table 4.5 Validation Performance for Total Daily Boarding by Broad PT Mode

Public Transport Mode	Daily Boardings (1,000)			
	Observed	Modelled	Mod/Obs	Accepted
Rail	4,918	4,944	1.01	Y
LRT/ Tram	580	638	1.10	Y
Ferry	113	121	1.07	Y
PLB	1,540	1,659	1.08	Y
Bus	4,297	4,438	1.03	Y
Total PT	11,448	11,800	1.03	Y

Table 4.6 Validation Performance for Passenger Screen Line Flows

Parameters	Daily Validation Performance								
	Mean Error			80% Error			Maximum Error		
	Target	(Mod-Obs)/Obs	Accepted?	Target	(Mod-Obs)/Obs	Accepted?	Target	(Mod-Obs)/Obs	Accepted?
Daily Rail Passengers	±8%	+1%	Y	±10%	95%	Y	±20	+11%	Y
Daily Bus Passengers	±5%	+4%	Y	±15%	85%	Y	±30	+21%	Y
Daily PLB Passengers	±10%	+5%	Y	±25%	90%	Y	±50	+28%	Y
Daily Total Passengers	±3%	+1%	Y	±8%	85%	Y	±15	+10%	Y

Note:

(1) The numbers presented represent the percentages of screenlines satisfying the respective criteria.

Local Area Traffic Model (LATM)

- 4.3.13 The LATM serves to facilitate the detailed traffic forecasts and assessments in the proposed AOI to be carried out under this Assignment. Hence, the base year LATM has to be validated against the observed traffic data comprising screenlines, road link and junction flows within AOI in two distinctive AM and PM peak hours.
- 4.3.14 The LATM validation guidelines adopted the same as the BDTM, as set out in **Table 4.7**. A combination of percentage difference and Geoffrey E. Havers (GEH) statistics is suggested for use to assess model validation. Validation summary is presented in **Table 4.8** and detailed results are attached in **Appendix C**.

Table 4.7 Validation Guidelines for Local Area Traffic Model

Validation Criteria	Validation Target
1. Screenline Link Flows	85% within ± 10% 100% within ± 20%
2. All Count Locations (including key road links and key junction entry/exit arm flows)	GEH of 5 or less on 85% of links GEH of 10 or less on 100% of links

- 4.3.15 Recognizing that percentage difference between the observed and modelled link flows only assesses relative error and can often be misleading due to numbers of relatively small magnitude, the GEH statistic is primarily employed to assess validation. GEH is a modified form of chi-square statistic defined as:

$$\sqrt{\frac{(V_2 - V_1)^2}{\frac{1}{2}(V_1 + V_2)}}$$

where V1 and V2 are the observed and modelled flows on a specific link. It is used in order to reflect importance of a difference based on the total volume on a link. If percentages alone are examined, then there is a risk of very large percentage differences in small flow volumes appearing important when they are not. Use of the GEH statistic would remove this risk by reducing the significance of relatively large percentage differences between two small numbers.

Table 4.8 Validation Summary for Local Area Traffic Model

Validation Criteria	Target Values	Percentage satisfying the Criteria	
		AM Peak	PM Peak
		Total (PV + GV +PT) ⁽¹⁾	
Percentage Difference between Observed and Modelled Screenline Link Flows			
% of links within ± 10%	85%	100%	99%
% of links within ± 20%	100%	100%	100%
Percentage of GEH Statistics for key road links and key junction entry/exit arm flows			
% of links with GEH 5 or less	85%	100%	99%
% of links with GEH 10 or less	100%	100%	100%

Note:

(1) PV stands for private vehicles, GV stands for goods vehicles, PT stands for public transport services.

Planning Data Assumptions

- 4.3.16 The TFPD was taken as the basis of the territorial planning data assumptions in the various design years for this Study. The TFPD has considered the major committed/planned developments near the development including:
- Public Housing Development at Ching Hong Road North;
 - Public Housing Development at Tsing Yi Road West.
- 4.3.17 Apart from the above, advice has been sought from PlanD for the other committed/planned developments within and near the AOI (i.e. not included in the TFPD) as listed below, to facilitate a conservative forecast of traffic flows for 2031 design year.
- Agreement No. CE 85/2017 (GE) – Technical Study on the Potential Quarry Sites at Tsing Yi Southwest – Feasibility Study (commissioned by CEDD)
 - Agreement No. CE 14/2016 (CE) – Study on Multi-Storey Complex for Container Storage and Cargo Handling in Tsing Yi – Feasibility Study (commissioned by CEDD)
 - Agreement No. CE WQ/216/22 – Traffic Impact Assessment (TIA) (Proposed Advanced Construction Industry Building commissioned by Development Bureau (DEVB))
 - Agreement No. FSD/ DLS/22 (70) – Traffic Impact Assessment (TIA) (Proposed Government Dangerous Goods Warehouse and a Government Owned Rental Dangerous Goods Warehouse to the Fire Services Department (FSD) commissioned by FSD)

Trip Generation/Attraction

- 4.3.18 The trip generation/attraction of planned/committed developments not included in the TFPD within and near the AOI followed TIA/traffic study reports of each project. In case such reports are not available, the additional traffic flows were estimated from the trip rates in TPDM, BDTM or Trip Generation Survey 2006 (TGS2006) by TD.
- 4.3.19 For the development itself, the main operation traffic of the Tsing Yi North Underground Quarry was suggested to be estimated by considering the hourly maximum daily production capacity of the ancillary operation and the capacity of truck (e.g. concrete truck and dump truck for concrete batching facilities and asphalt production facilities respectively).
- 4.3.20 Apart from the above, other operation traffic (e.g. private cars and light goods vehicles) was considered with reference to quarry site(s) with similar nature in terms of production scale and number of staff (e.g. Lam Tei Underground Quarry).

Planned and Committed Road and Rail Infrastructure Projects in the Vicinity

Highway Project

4.3.21 The highway network assumptions adopted are shown in **Table 4.9** below.

Table 4.9 Road Network Assumptions

Road Network Assumptions (in addition to 2023 network)	Configuration	To be Incorporated in Transport Model of Design Year in
Kowloon		
Route 6 – Central Kowloon Route	D3	2031
Route 6 – Trunk Road T2 (Kai Tak – Cha Kwo Ling Link)	D2	2031
New Territories		
Widening of section of Lin Ma Hang Road between Tsung Yuen Ha and Lin Ma Hang	S2	2031
Widening of Castle Peak Road (Castle Peak Bay Section)	D2	2031
Widening of Fuk Hang Tsuen Road	S2	2031
Improvement of Fan Kam Road	S2	2031
Widening of Tai Po Road (Sha Tin Section)	D3	2031
Fanling Bypass Eastern Section (under Fanling North NDA)	D2	2031
Flyover from Kwai Tsing Interchange Up Ramp to Kwai Chung Road	S1	2031
Upgrading of remaining sections of Kam Tin Road and Lam Kam Road	S2	2031
North Lantau Road P1 (Tung Chung east to Tai Ho Section)	D2	2031
Revised Trunk Road T4 in Sha Tin	D2	2031
Dualling of Hiram's Highway between Marina Cove and Sai Kung Town (Hiram's Highway Improvement Stage 2)	D2	2031
Fanling Bypass Western Section (under Fanling North NDA)	S2	2031
Improvement of Tai Tau Leng Roundabout and Fanling Highway (Kwu Tung Section)	D4	2031
North-South Link(s) as Alternative to So Kwun Po (Kai Leng) Roundabout	S1	2031
Slip Road connecting Lok Ma Chau Road to Fanling Highway Eastbound	S1	2031
Flyover connecting Lok Ma Chau Road to San Tin Highway Westbound	S1	2031
Road P2 for Kwu Tung North New Development Area	D2	2031
Road D2 for Kwu Tung North New Development Area	S4/S2	2031
Road D3 for Kwu Tung North New Development Area	S4/S2	2031
Road Improvement Works in Hung Shui Kiu New Development Area	Various	2031
Road Improvement Works in Yuen Long South Development	Various	2031
Widening of T6 Bridge of Tate's Cairn Highway	D3	2031
Lantau Road P1 between Tai Ho Interchange and Sunny Bay	D2	2031

Railway Project

4.3.22 The railway network assumptions adopted are shown in **Table 4.10** below.

Table 4.10 Railway Network Assumptions

Railway network assumptions (in addition to 2023 network)	To be Incorporated in Transport Model of Design Year in
Northern Link (NOL) Phase 1 Kwu Tung (KTU) Station	2031
Tung Chung Line (TCL) Extension	2031
Oyster Bay (OYB) Station	2031
Hung Shui Kiu (HSK) Station	2031
Tuen Mun South (TMS) Extension	2031

Traffic Growth of Study Road Link

4.3.23 As discussed in **para. 4.3.6**, the traffic forecast for logistic peak was estimated using the growth factor method based on the traffic growth of the study road links from LATM. The forecasted traffic flows of study road links for the design year 2031 are extracted from LATM and presented in the following table.

Table 4.11 Growth Factor of Study Road Links

Link Index	Link Name	Direction	AM Peak			PM Peak		
			2025 Obs ⁽¹⁾	2031 Mod ⁽¹⁾	Grow Factor	2025 Obs ⁽¹⁾	2031 Mod ⁽¹⁾	Grow Factor
			Flow (pcu/hr)		p.a.	Flow (pcu/hr)		p.a.
L1	Tsing Ma Bridge	EB	3,370	4,560	+5.2%	4,460	6,285	+5.9%
		WB	4,445	6,370	+6.2%	3,175	4,855	+7.3%
L2	Ting Kau Bridge	NB	3,160	4,480	+6.0%	4,690	5,660	+3.2%
		SB	6,840	7,175	+0.8%	3,650	4,325	+2.9%
L3	Unnamed access road near Lantau Link Visitors Centre	NB	195	0	-	190	0	-
		SB	125	0	-	140	0	-
L4	Tam Kon Shan Road	EB	325	450	+5.6%	335	460	+5.4%
		WB	105	105	0%	105	105	0%
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	220	345	+7.8%	195	320	+8.6%
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	155	280	+10.4%	170	295	+9.6%
L7	Tsing Yi North Coastal Road	EB	1,200	1,435	+3.0%	1,115	1,385	+3.7%
		WB	1,600	2,435	+7.3%	1,045	1,420	+5.2%
L8	Cheung Tsing Tunnel	EB	4,360	4,940	+2.1%	3,540	4,375	+3.6%
		WB	2,930	3,545	+3.2%	2,930	3,645	+3.7%
L9	Nam Wan Tunnel	EB	2,910	3,935	+5.2%	1,755	3,005	+9.2%
		WB	1,795	3,765	+13.1%	2,345	3,745	+8.1%
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	1,360	1,330	-0.4%	1,365	1,375	+0.1%
		SB	1,230	1,275	+0.6%	1,010	970	-0.7%
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	1,000	1,005	+0.1%	945	950	+0.1%
		SB	805	825	+0.4%	710	660	-1.2%

Link Index	Link Name	Direction	AM Peak			PM Peak		
			2025 Obs ⁽¹⁾	2031 Mod ⁽¹⁾	Grow Factor	2025 Obs ⁽¹⁾	2031 Mod ⁽¹⁾	Grow Factor
			Flow (pcu/hr)		p.a.	Flow (pcu/hr)		p.a.
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	675	660	-0.4%	715	720	+0.1%
		SB	750	805	+1.2%	570	560	-0.3%
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	615	625	+0.3%	510	515	+0.2%
		WB	625	685	+1.5%	550	570	+0.6%
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	490	470	-0.7%	615	585	-0.8%
		WB	790	780	-0.2%	575	570	-0.2%
Total Traffic Flow			42,075	52,280	+3.7%	37,405	47,355	+4.0%

Remark:

(1) – “Obs” denotes as observed flow, while “Mod” demotes as modelled flow extracted from LATM

- 4.3.24 **Table 4.11** details the growth factors for the study road links during the AM and PM peak periods respectively based on the LATM. The data reveal variable annual growth rates among the links. Collectively, the overall annual growth rate indicates an increase of 3.7% and 4.0% for AM and PM peak periods respectively.
- 4.3.25 Apart from the traffic growth of the study road links from LATM in AM and PM peak periods, reference has also been made to the TFPD to establish the growth rate. The average annual growth rates in terms of population and employment from 2019 to 2031 are tabulated in **Table 4.12**.

Table 4.12 Population and Employment of PDZ within AOI in TFPD

PDZ	Projection Year					
	2019		2026		2031	
	Population	Employment	Population	Employment	Population	Employment
152	25,450	2,200	25,400	2,300	25,427	3,377
153	37,250	7,950	35,500	7,400	34,392	7,236
155	50	3,250	50	2,600	52	2,103
359	3,050	600	2,700	650	2,307	542
428	50,400	5,350	49,750	5,500	50,016	7,177
450	33,450	5,850	34,750	5,600	35,126	6,293
Total	149,650	25,200	148,150	24,050	147,320	26,728
Annual Growth Rate			From 2019 to 2026: -0.22%		From 2026 to 2031: +0.21%	

- 4.3.26 As shown in **Table 4.12**, the projection planning data in TFPD suggest that the annual growth rates between 2019 and 2026 is -0.22% and between 2026 and 2031 is +0.21%.
- 4.3.27 For a conservative approach, it is recommended that a growth factor of +4.0% be applied to the logistic peak traffic flows observed in 2025 to forecast the corresponding flows for the 2031 design year.
- 4.3.28 Results of traffic forecast for the scenario of “Without” and “With” the proposed development are shown from **Figure 4.1** to **Figure 4.5** respectively.

Planned / Committed Traffic Improvement Scheme

4.3.29 The reference scenarios also considered the planned/ committed local traffic improvement schemes within the Study Area. The planned/ committed traffic improvement scheme is listed below whilst the scheme layout plan is provided in **Appendix D**.

- J6 - Fung Shue Wo Road / Tsing Yi Road West under Infrastructure Works for Public Housing developments at Ching Hong Road North, Tsing Yi

4.3.30 The above-mentioned traffic improvement scheme was included in the traffic impact assessment and the results are summarized in the following section.

4.4 Assessment of Study Junctions and Road Links for Design Year 2031

4.4.1 To gauge the traffic impact due to the development, performance of the study junctions and road links is assessed for design year 2031 according to the criteria from **paragraphs 2.3.2 to 2.3.4**. The results are summarized from **Table 4.13** to **Table 4.18** below.

Table 4.13 Junction Capacity Assessment for Design Year (2031) – Reference Case

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.36	0.30	0.36
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	_(1)	_(1)	_(1)
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.64
J6 ⁽²⁾	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:

- (1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.

Table 4.14 Road Link Capacity Assessment for Design Year (2031) - Reference Case

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,560	0.75	6,285	1.03	4,620	0.76
		WB	6,100	6,370	1.04	4,855	0.80	4,350	0.71
L2	Ting Kau Bridge	NB	6,100	4,480	0.73	5,660	0.93	4,740	0.78
		SB	6,100	7,175	1.18	4,325	0.71	6,405	1.05
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	_(1)	_(1)	_(1)	_(1)	0	0.00
		SB	500	_(1)	_(1)	_(1)	_(1)	0	0.00
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,435	0.26	1,385	0.25	1,385	0.25
		WB	3,600	2,435	0.68	1,420	0.39	1,490	0.41
L8	Cheung Tsing Tunnel	EB	5,400	4,940	0.91	4,375	0.81	4,220	0.78
		WB	5,400	3,545	0.66	3,645	0.68	2,990	0.55
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,765	0.70	3,745	0.69	3,250	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,560	0.64	1,660	0.42	1,665	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	335	0.19	340	0.19	210	0.12
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	165	0.09	65	0.04	290	0.16
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,100	0.61	1,275	0.71	1,240	0.69
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road	NB	1,700	330	0.19	240	0.14	285	0.17

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	near Lantau Link Visitors Centre								
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,230	0.69	5,020	0.82	4,460	0.73
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,400	0.39	1,500	0.42	1,525	0.42
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	250	0.14	415	0.23	270	0.15
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,040	0.55	615	0.32	695	0.37
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,330	0.65	1,520	0.42	1,545	0.43
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,370	0.55	2,130	0.35	2,235	0.37
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	810	0.43	470	0.25	575	0.30
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	475	0.25	130	0.07	360	0.19
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,755	0.70	6,070	0.74	5,445	0.66
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,900	0.96	5,660	0.69	7,575	0.92

Remark:

(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.

Design Case Scenario A

Table 4.15 Junction Capacity Assessment for Design Year (2031) – Design Case Scenario A

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.55	0.49	0.56

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.42	0.49	0.48
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.64
J6 ⁽²⁾	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:

- (1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
- (2) Taking into account the proposed junction improvement works under other projects.

Table 4.16 Road Link Capacity Assessment for Design Year (2031) – Design Case Scenario A

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,575	0.75	6,305	1.03	4,640	0.76
		WB	6,100	6,385	1.05	4,870	0.80	4,365	0.72
L2	Ting Kau Bridge	NB	6,100	4,585	0.75	5,765	0.95	4,845	0.79
		SB	6,100	7,285	1.19	4,430	0.73	6,510	1.07
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	175	0.35	175	0.35	175	0.35
		SB	500	175	0.35	175	0.35	175	0.35
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,470	0.26	1,420	0.25	1,420	0.25
		WB	3,600	2,470	0.69	1,455	0.40	1,525	0.42
L8	Cheung Tsing Tunnel	EB	5,400	4,960	0.92	4,395	0.81	4,235	0.78
		WB	5,400	3,555	0.66	3,655	0.68	3,000	0.56
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,775	0.70	3,755	0.70	3,260	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11		NB	3,050	1,005	0.33	950	0.31	965	0.32

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,580	0.65	1,680	0.42	1,680	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	585	0.33	590	0.33	460	0.26
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	180	0.10	85	0.05	305	0.17
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,120	0.62	1,295	0.72	1,255	0.70
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	485	0.29	400	0.24	445	0.26
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,335	0.71	5,125	0.84	4,565	0.75
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,580	0.44	1,675	0.47	1,700	0.47
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	395	0.22	555	0.31	410	0.23
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,150	0.61	720	0.38	800	0.42
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,505	0.70	1,695	0.47	1,720	0.48

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,655	0.60	2,415	0.40	2,520	0.41
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	1,075	0.57	735	0.39	840	0.44
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	490	0.26	150	0.08	380	0.20
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,770	0.70	6,090	0.74	5,460	0.67
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,920	0.97	5,675	0.69	7,590	0.93

Design Case Scenario B

Table 4.17 Junction Capacity Assessment for Design Year (2031) – Design Case Scenario B

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.44	0.37	0.53
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.40	0.46	0.45
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.43	0.42	0.33
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.75
J6 ⁽²⁾	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:

- (1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
- (2) Taking into account the proposed junction improvement works under other projects.

Table 4.18 Road Link Capacity Assessment for Design Year (2031) – Design Case Scenario B

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,560	0.75	6,285	1.03	4,640	0.76
		WB	6,100	6,385	1.05	4,870	0.80	4,365	0.72
L2	Ting Kau Bridge	NB	6,100	4,585	0.75	5,765	0.95	4,845	0.79
		SB	6,100	7,175	1.18	4,325	0.71	6,510	1.07
L3	Unnamed access road near Lantau Link Visitors Centre	SB	500	175	0.35	175	0.35	175	0.35
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,470	0.26	1,420	0.25	1,560	0.28
		WB	3,600	2,610	0.73	1,600	0.44	1,670	0.46
L8	Cheung Tsing Tunnel	EB	5,400	4,960	0.92	4,395	0.81	4,235	0.78
		WB	5,400	3,545	0.66	3,645	0.68	3,000	0.56
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,765	0.70	3,745	0.69	3,260	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,580	0.65	1,680	0.42	1,680	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	440	0.24	445	0.25	425	0.24
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway	NB	1,800	165	0.09	65	0.04	305	0.17

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	northbound to Tsing Yi Administration Building northbound								
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,100	0.61	1,275	0.71	1,255	0.70
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	330	0.19	240	0.14	410	0.24
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,335	0.71	5,125	0.84	4,565	0.75
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,580	0.44	1,675	0.47	1,845	0.51
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	395	0.22	555	0.31	410	0.23
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,040	0.55	615	0.32	800	0.42
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,470	0.69	1,660	0.46	1,685	0.47
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,515	0.58	2,275	0.37	2,485	0.41
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	935	0.49	595	0.31	805	0.42
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	490	0.26	150	0.08	380	0.20
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,755	0.70	6,070	0.74	5,460	0.67
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,920	0.97	5,675	0.69	7,590	0.93

- 4.4.2 The results in **Table 4.13** to **Table 4.18** above show that the performance of all study junctions and road links in Scenarios A and B would operate within capacity during AM, PM and logistic peak hours on weekdays for design year 2031, with the exceptions of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours. Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, it is anticipated that the completion of Tsing Yi - Lantau Link would further improve the traffic conditions at L1 and L2. The details of the junction capacity calculation can be found in **Appendix A**.
- 4.4.3 Since the traffic impact on J1 and J5 is considered to be most significant due to the location close to the access of the Site, the anticipated traffic queue at the approach arms of J1 and J5 were analysed. The extent of the queues for the commuting peaks and logistic peak under scenarios of 2031 reference, 2031 design case Scenario A and 2031 design case Scenario B are presented in **Table 4.19** to **4.22**.

Table 4.19 Queue Length Analysis for NWTYI Roundabout (J1) – Design Case Scenario A

Junction Arm	Approx. Buffer Distance ⁽¹⁾	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
NWTYI SB	145m	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾
NWTYI NB	70m	4	3	4	8	6	8

Notes:

- (1) Buffer distance refers to road distance to the upstream junction / mainline.
(2) The average queuing length is negligible.

Table 4.20 Queue Length Analysis for NWTYI Roundabout (J1) – Design Case Scenario B

Junction Arm	Approx. Buffer Distance ⁽¹⁾	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
NWTYI SB	145m	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾	0 ⁽²⁾
NWTYI NB	70m	4	3	4	5	7	4

Notes:

- (1) Buffer distance refers to road distance to the upstream junction / mainline.
(2) The average queuing length is negligible.

Table 4.21 Queue Length Analysis for Tam Kon Shan Interchange (J5)–Design Case Scenario A

Junction Arm	Approx. Buffer Distance ⁽¹⁾	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Tan Kon Shan Road SB	100m	7	4	8	7	4	8
Tsing King Road SB	165m	6	4	5	6	4	5
TYNCR WB	260m	4	3	6	4	3	6
Fung Shue Wo Road NB	180m	9	9	11	9	9	11

Junction Arm	Approx. Buffer Distance ⁽¹⁾	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
TYNCR EB	135m	11	5	8	11	5	8

Notes:

- (1) Buffer distance refers to road distance to the upstream junction / mainline.

Table 4.22 Queue Length Analysis for Tam Kon Shan Interchange (J5)–Design Case Scenario B

Junction Arm	Approx. Buffer Distance ⁽¹⁾	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Tan Kon Shan Road SB	100m	7	4	8	7	4	8
Tsing King Road SB	165m	6	4	5	6	4	6
TYNCR WB	260m	4	3	6	4	3	6
Fung Shue Wo Road NB	180m	9	9	11	9	9	12
TYNCR EB	135m	11	5	8	11	5	18

Notes:

- (1) Buffer distance refers to road distance to the upstream junction / mainline.

- 4.4.4 Based on the above, there is a low chance of traffic tailing back to the upstream junctions during both commuting peak and logistic peak hours at J1 and J5 in design case scenarios.

5 SENSITIVITY TEST SCENARIO

5.1 Alternative Site Access Arrangements

- 5.1.1 As noted in **para. 3.2.3**, the proposed site access would be relocated from NWTYI to the slip road of TYNCR near the existing TKSR roundabout (J3) once the tunnel to the TKSR portal is implemented in 2031 tentatively. Concurrently, the unnamed access road at NWTYI would be converted into a one-way outbound road, requiring all development traffic to reroute to the TKSR portal to enter the Site.
- 5.1.2 Relocating vehicular access to the TKSR portal forces inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel to detour. Outside of AM and PM peak periods, these traffic must route via Tsing Yi North Coastal Road and turn around at Tam Kon Shan Interchange before reaching the TKSR portal. Moreover, during the commuting peaks, inbound traffic from these bounds shall be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover due to proposed access restriction for site traffic at Tam Kon Shan Interchange and Tsuen Tsing Interchange. While these routings (under Design Case Scenario B) are technically acceptable regarding road link and junction performances as presented in **Section 4.4**, the longer travel distance may reduce operational efficiency. Therefore, subject to the contractor's operational needs, an alternative site access arrangement in operation phase is explored. This alternative maintains both ingress and egress at the NKW portal, even after the tunnel leading to TKSR portal is implemented, to minimize the traffic detours.
- 5.1.3 A sensitivity test scenario was developed to evaluate traffic conditions using this alternative site access arrangement for the design year 2031.
- 5.1.4 Under this alternative site access arrangement, the ingress and egress at NWTYI would remain open and the new run-in near TKSR roundabout would operate simultaneously to further disperse traffic demand. The anticipated routing details are summarized in **Table 5.1** below.

Table 5.1 Routing for Alternative Site Access Arrangement

Route	Outbound Traffic	Inbound Traffic	Reference Figure
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI	Figure 3.1
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI	Figure 3.2
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR	Figure 3.11
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB → Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB → NWTYI NB → Site Access at NWTYI	Figure 3.4

- 5.1.5 As shown in **Table 5.1**, the alternative access routings are primarily based on Design Case Scenario A. Because the NKW portal provides shorter ingress routes, traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel bounds would likely utilize the NKW portal for accessing the Site (Route A1, Route A2 and Route A4). Nevertheless, traffic from Tsing Tsuen Road benefits from a more direct path via the TKSR portal, therefore, it is anticipated to use the TKSR portal access and its associated route (Route B3).
- 5.1.6 Trip generation and percentage splits for each route remain identical to Design Cases Scenarios A and B, as the end-user origins/destinations and total traffic volumes are unchanged. These assumptions are detailed in **Table 5.2**.

Table 5.2 Trip Generation and Percentage Split of Routing for Alternative Site Access Arrangement

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)
Route A1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route A2 (Ting Kau Bridge)	106	60%	106	60%
Route B3 (Tsing Tsuen Road)	35	20%	35	20%
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

- 5.1.7 Compared to Design Case Scenario A, the only routing deviation is inbound traffic from Tsing Tsuen Road. This traffic will shift to Route B3 (entering via the TKSR portal run-in) instead of using Route A3 (entering via the NKW portal). Routes and traffic volumes for all other approaches (Routes A1, A2 and A4) remain exactly as modeled in Design Case Scenario A. Thus, the traffic impact of this sensitivity test can be evaluated solely by swapping Route A3 for Route B3.
- 5.1.8 Shifting Tsing Tsuen Road bound traffic to Route B3 eliminates its need to traverse NWTYI and NWTYI Roundabout (J1), providing direct access from TYNCR instead. This could reduce traffic loads at NWTYI and its roundabout, positively impacting their performance. Since all other routes (Routes A1, A2 and A4) are unchanged, no other assessed junctions or road links from Design Case Scenario A would be affected.
- 5.1.9 Based on this analysis, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Design Case Scenario A.
- 5.1.10 Nevertheless, in order to address public concerns regarding congestion, peak period access restrictions (i.e. 07:00 to 09:30 and 17:00 to 19:00) for development traffic at Tam Kon Shan and Tsuen Tsing Interchanges should be maintained under this alternative site access arrangement.
- 5.1.11 Consistent with the arrangements in **Section 3.4**, the Contractor shall regularly review site traffic percentage splits. Traffic distributions and diversion across Tsing Ma Bridge, Ting Kau Bridge, Tsing Tsuen Road and Cheung Tsing Tunnel / Nam Wan Tunnel should be monitored and adjusted based on prevailing traffic conditions. These proposed routing arrangements should be explicitly detailed in the Traffic Management Plan and traffic control proposals for review and approval.

6 CONSTRUCTION TRAFFIC IMPACT ASSESSMENT

6.1 Peak Construction Year and Estimation of Construction Traffic

- 6.1.1 Construction vehicles are expected to travel to the development via the unnamed local access road and NWTYI during the construction phase. To be conservative, peak construction year (i.e. 2028) was adopted for subsequent road links and junction capacity assessment.
- 6.1.2 With reference to the construction works and preliminary construction programme, the estimation of construction traffic during the peak construction year (i.e. 2028) is shown in **Table 6.1** below.

Table 6.1 Estimation of Construction Traffic

Construction Traffic Routings	Number of Vehicles	
	Generation	Attraction
Via Tsing Ma Bridge	2	2
Via Ting Kau Bridge	2	2
Via Tsing Tsuen Road	4	4

Remark:

- (1) Assuming 25% of traffic to/from Tuen Mun Area 38 Fill Bank or NENT via Tsing Ma Bridge
- (2) Assuming 25% of traffic to/from Tuen Mun Area 38 Fill Bank or NENT via Ting Kau Bridge
- (3) Assuming 50% of excavated material from TKS Portal Site Formation

- 6.1.3 Based on the latest information, it is proposed that the excavated materials would generally be transported to North East New Territories (NENT) Landfill and Tuen Mun Area 38 Fill Bank via Lantau Link, Tsing Long Highway and Tsing Tsuen Road. Construction materials (e.g. concrete and steel) are also assumed using Lantau Link, Tsing Long Highway and Tsing Tsuen Road to be transported to the Site.
- 6.1.4 As for vehicular traffic demand forecast for construction traffic impact assessment, it is expected that future traffic condition (i.e. 2028) of local road network surrounding the development would not explicate dynamic changes due to no major transport infrastructure works is anticipated to be completed within and near Tsing Yi. Therefore, the background traffic forecasts for 2028 design year were derived by applying a traffic growth rate to the surveyed traffic flows, excluding PT flows which considered to be operated on the same schedule, to project the traffic flows for reference case scenario (i.e. without construction traffic). With reference to the population and employment projection of TFPD, a total growth rate of 1.51% (from 11,771,500 in Year 2025 to 11,949,800 in Year 2028) is proposed. Construction traffic was then be assigned on top of the reference traffic flows according to the routings in **Table 5.1** to produce the traffic flows for design case scenario (i.e. with construction traffic).

6.2 Assessment of Study Junctions and Road Links for Design Year 2028

- 6.2.1 To gauge the construction traffic impact due to the development, performance of the concerned junctions and road links along the construction traffic routings has been assessed for peak construction year 2028 according to the criteria from **paragraphs 2.3.2 to 2.3.4**.
- 6.2.2 Assessment results of junctions and road links along the construction traffic routings are presented in **Tables 6.2 to 6.5** below.

Table 6.2 Junction Capacity Assessment for Design Year (2028) – Reference Case (Without Construction Traffic)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.36	0.32	0.29
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	_(1)	_(1)	_(1)
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.19	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.13

Remark:

(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.

Table 6.3 Road Link Capacity Assessment for Design Year (2028) – Reference Case (Without Construction Traffic)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,300	0.54	4,415	0.72	3,700	0.61
		WB	6,100	4,505	0.74	3,195	0.52	3,480	0.57
L2	Ting Kau Bridge	NB	6,100	3,205	0.53	4,760	0.78	3,790	0.62
		SB	6,100	6,865	1.13	3,630	0.60	5,125	0.84
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	_(1)	_(1)	_(1)	_(1)	_(1)	_(1)
		SB	500	_(1)	_(1)	_(1)	_(1)	_(1)	_(1)
L4	Tam Kon Shan Road	EB	900	330	0.37	340	0.38	195	0.22
		WB	900	110	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	225	0.13	200	0.11	175	0.10
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	160	0.09	175	0.10	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,100	0.20	1,020	0.18	1,105	0.20
		WB	3,600	1,625	0.45	1,065	0.30	1,195	0.33
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,025	0.51	1,320	0.33	1,330	0.33
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	335	0.19	365	0.20	170	0.09
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi	NB	1,800	165	0.09	70	0.04	230	0.13

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	Administration Building northbound								
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	930	0.52	1,025	0.57	990	0.55
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	300	0.18	255	0.15	230	0.14
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	3,030	0.50	4,350	0.71	3,570	0.59
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,195	0.33	1,260	0.35	1,220	0.34
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	255	0.14	415	0.23	215	0.12
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	970	0.51	535	0.28	555	0.29
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,650	0.46	1,280	0.36	1,235	0.34
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,625	0.43	1,815	0.30	1,790	0.29
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	600	0.32	495	0.26	460	0.24
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	130	0.07	290	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,405	0.54	5,050	0.62	4,360	0.53
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,200	0.30	1,145	0.29	1,455	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,155	0.29	1,565	0.39	1,285	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,205	0.88	4,635	0.57	6,065	0.74

Remark:

(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist

Table 6.4 Junction Capacity Assessment for Design Year (2028) – Design Case (With Construction Traffic)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.38	0.33	0.31
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.04	0.04	0.04
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.19	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.13

Table 6.5 Road Link Capacity Assessment for Design Year (2028) – Design Case (With Construction Traffic)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,305	0.54	4,420	0.72	3,705	0.61
		WB	6,100	4,510	0.74	3,200	0.52	3,485	0.57
L2	Ting Kau Bridge	NB	6,100	3,210	0.53	4,765	0.78	3,795	0.62
		SB	6,100	6,870	1.13	3,635	0.60	5,130	0.84
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	20	0.04	20	0.04	20	0.04
		SB	500	20	0.04	20	0.04	20	0.04
L4	Tam Kon Shan Road	EB	900	330	0.37	340	0.38	195	0.22
		WB	900	110	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	225	0.13	200	0.11	175	0.10
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	160	0.09	175	0.10	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,110	0.20	1,030	0.18	1,115	0.20
		WB	3,600	1,635	0.45	1,075	0.30	1,205	0.33
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,030	0.51	1,325	0.33	1,335	0.33
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	355	0.20	385	0.21	190	0.11
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	165	0.09	70	0.04	230	0.13
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	935	0.52	1,030	0.57	995	0.55

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	315	0.19	270	0.16	245	0.14
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	3,035	0.50	4,355	0.71	3,575	0.59
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,215	0.34	1,280	0.36	1,240	0.34
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	265	0.15	425	0.24	225	0.13
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	975	0.51	540	0.28	560	0.29
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,670	0.46	1,300	0.36	1,255	0.35
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,650	0.43	1,840	0.30	1,815	0.30
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	620	0.33	515	0.27	480	0.25
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	130	0.07	290	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,405	0.54	5,050	0.62	4,360	0.53
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,200	0.30	1,145	0.29	1,455	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,155	0.29	1,565	0.39	1,285	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,205	0.88	4,635	0.57	6,065	0.74

6.2.3 The results in **Table 6.2** to **Table 6.5** above show that the performance of all study junctions and road links along construction traffic routings would be operating within capacity during AM, PM and logistic peak hours on normal weekdays for construction peak year 2028, with the exception of Ting Kau Bridge southbound (L2) during AM peak. Nevertheless, it is considered the traffic impact induced by the construction traffic at the concerned road link is insignificant given that the V/C ratio remains unchanged compared to the reference case scenario.

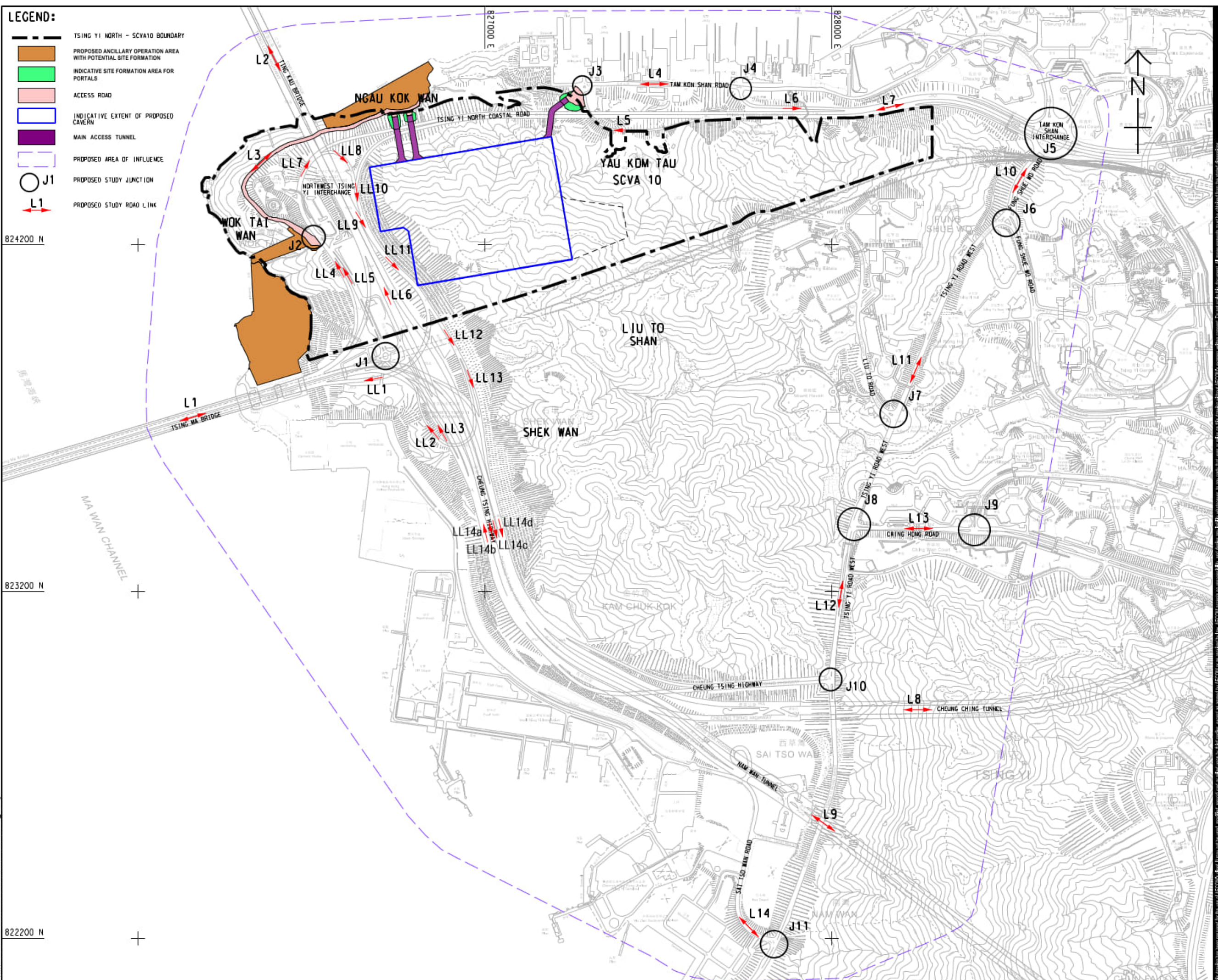
7 SUMMARY OF FINDINGS

- 7.1.1 This Assignment presents the findings of a Traffic and Transport Impact Assessment (TTIA) for the proposed underground quarry at Tsing Yi North.
- 7.1.2 At present, the performance of all the study junctions and road links are currently operating within sufficient capacity during AM, PM and logistic peak hours on weekdays, with the exception of J/O Fung Shue Wo Road / Tsing Yi Road West (J6) and Ting Kau Bridge southbound (L2). The V/C ratio between 1.0 to 1.2 indicates that L2 SB operates in unstable flow condition during AM peak hour on weekday.
- 7.1.3 The proposed development would be an underground quarry. Vehicular access to the portal area would be provided at NWTYI or the off-slip of TYNCR WB which is considered acceptable from traffic engineering point of view in terms of location and access arrangement.
- 7.1.4 Since there are no parking standards specifically for quarrying in HKPSG, the provision of the ancillary parking and L/UL facilities is proposed to follow the requirements for Industrial Use development stipulated in HKPSG (January 2024 Edition).
- 7.1.5 Since the tunnel to TKSR portal and the Site access road connecting NWTYI would not permit pedestrians access, all staffs and visitors would be required to access the Site solely by private vehicles during both construction and operation phases. As such, the impact on the existing public transport operations is not anticipated.
- 7.1.6 A TTA has been proposed at the intersection of the unnamed access road and NWTYI to facilitate the development traffic entering and leaving the Site. In addition, the proposed run-in leading to TKSR portal will be relocated to the off-slip of TYNCR WB after the implementation of the tunnel to TKSR portal. Meanwhile, the unnamed access road at NWTYI would be converted into a one-way outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. Following the implementation of the tunnel to TKSR portal, development traffic would be directed to the off-slip of TYNCR WB for access.
- 7.1.7 To mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the site traffic would be prohibited from traveling through Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00).
- 7.1.8 The Traffic Management Plan and traffic control proposals shall be prepared to minimize traffic impacts during both construction and operation phases. The contractor shall submit a detailed Traffic Management Plan, Contingency Plan, and Non-Conformance, Incident Investigation and Auditing Mechanism during construction/operation phases to TD for review and approval.
- 7.1.9 Future year traffic conditions have been forecasted for the scenario of “With” and “Without” the development during operation and construction phases. The traffic forecast results have been used for the assessment of the traffic impacts arising from the development of the Site.
- 7.1.10 During operation phase, the performance of all the study junctions and road links would be operating within capacity during AM and PM peak hours on Weekday for design year 2031, with the exceptions of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours.
- 7.1.11 Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, it is anticipated that the completion of Tsing Yi - Lantau Link would further improve the traffic conditions at Tsing Ma Bridge and Ting Kau Bridge.
- 7.1.12 The results of queue length assessment illustrated that there is a low chance of traffic tailing back to the upstream junctions during both commuting peak and logistic peak hours at J1 and J5 in design case scenarios.
- 7.1.13 Subject to the contractor’s operational needs, alternative site access arrangement was explored to further minimize traffic detours due to the relocation of vehicular access to the TKSR portal upon the implementation of tunnel leading to the TKSR portal. Under this alternative arrangement, the ingress and egress at NWTYI would remain open, while the new run-in near TKSR roundabout would operate simultaneously to disperse the development traffic.

- 7.1.14 The sensitivity test scenario for the alternative site access arrangement demonstrated that, compared to Design Case Scenario A, the only routing deviation is inbound traffic from Tsing Tsuen Road. This traffic will shift to Route B3 (entering via the TKSR portal run-in) instead of using Route A3 (entering via the NKW portal). Hence, this arrangement could reduce traffic loads at NWTYI and its roundabout. Since all other routes are unchanged, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Design Case Scenario A.
- 7.1.15 Construction vehicles are expected to travel to the Site during the construction phase. The performance of all junctions and road links along construction traffic routings would be operating within capacity during AM, PM and logistic peak hours on normal weekdays for construction peak year 2028, with the exception of Ting Kau Bridge southbound (L2) during AM peak. Nevertheless, it is considered the traffic impact induced by the construction traffic at the concerned road links are insignificant given that the V/C ratio remains unchanged compared to the reference case scenario.
- 7.1.16 In view of the minimal effect on the critical road links and sufficient capacity of all other study junctions and road links during both the operation and construction phases of the proposed underground quarry at Tsing Yi North, the traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.

Figures

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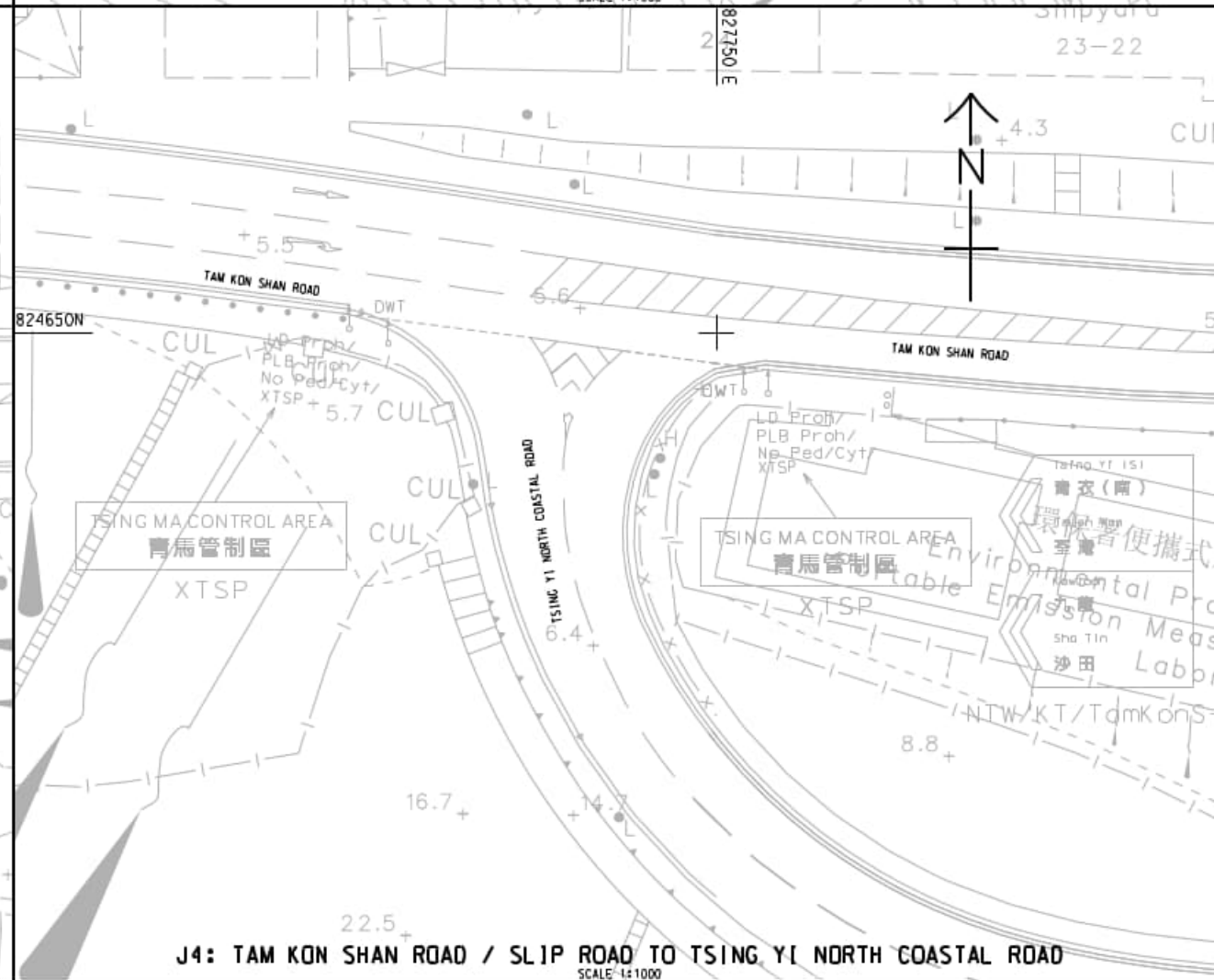
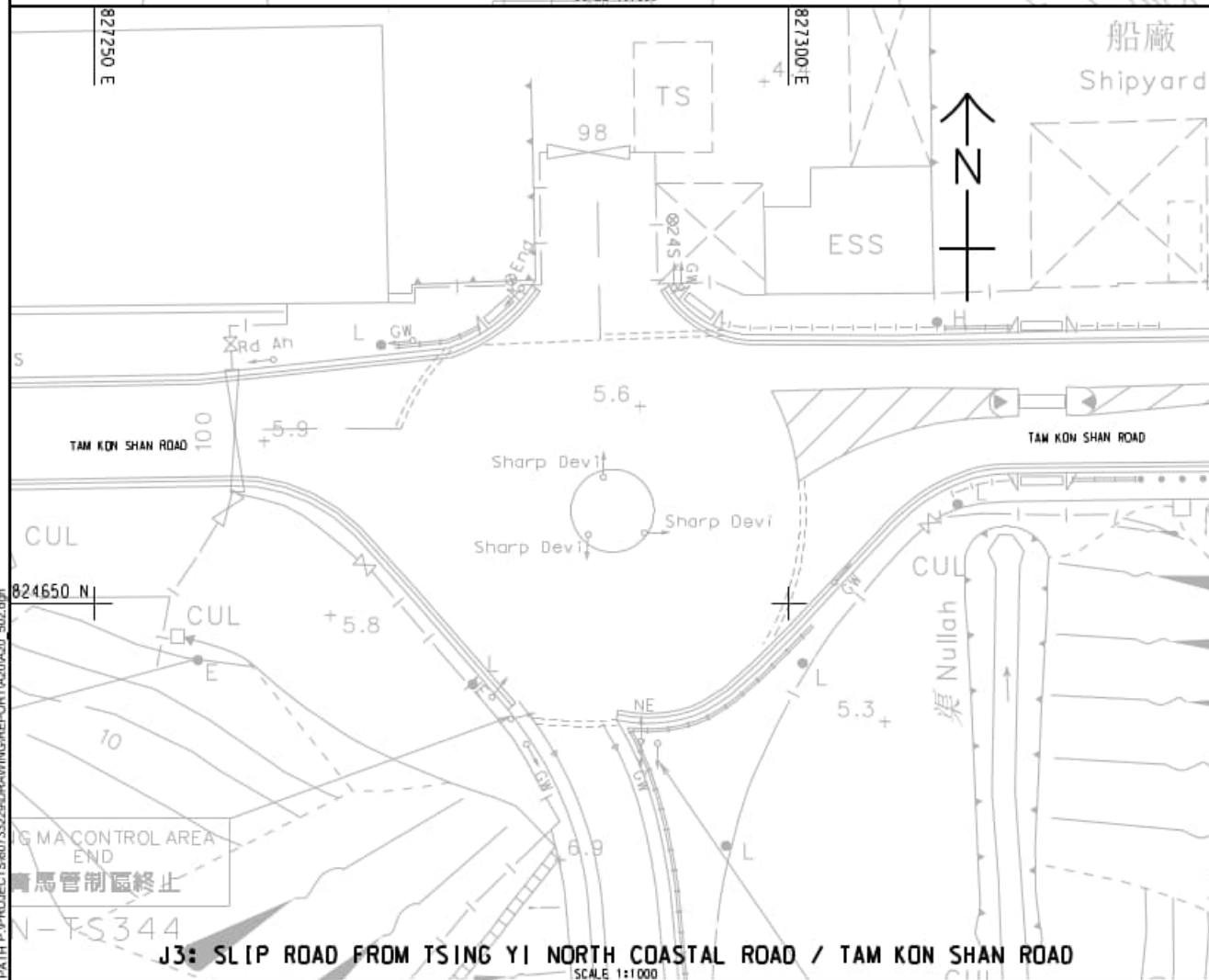
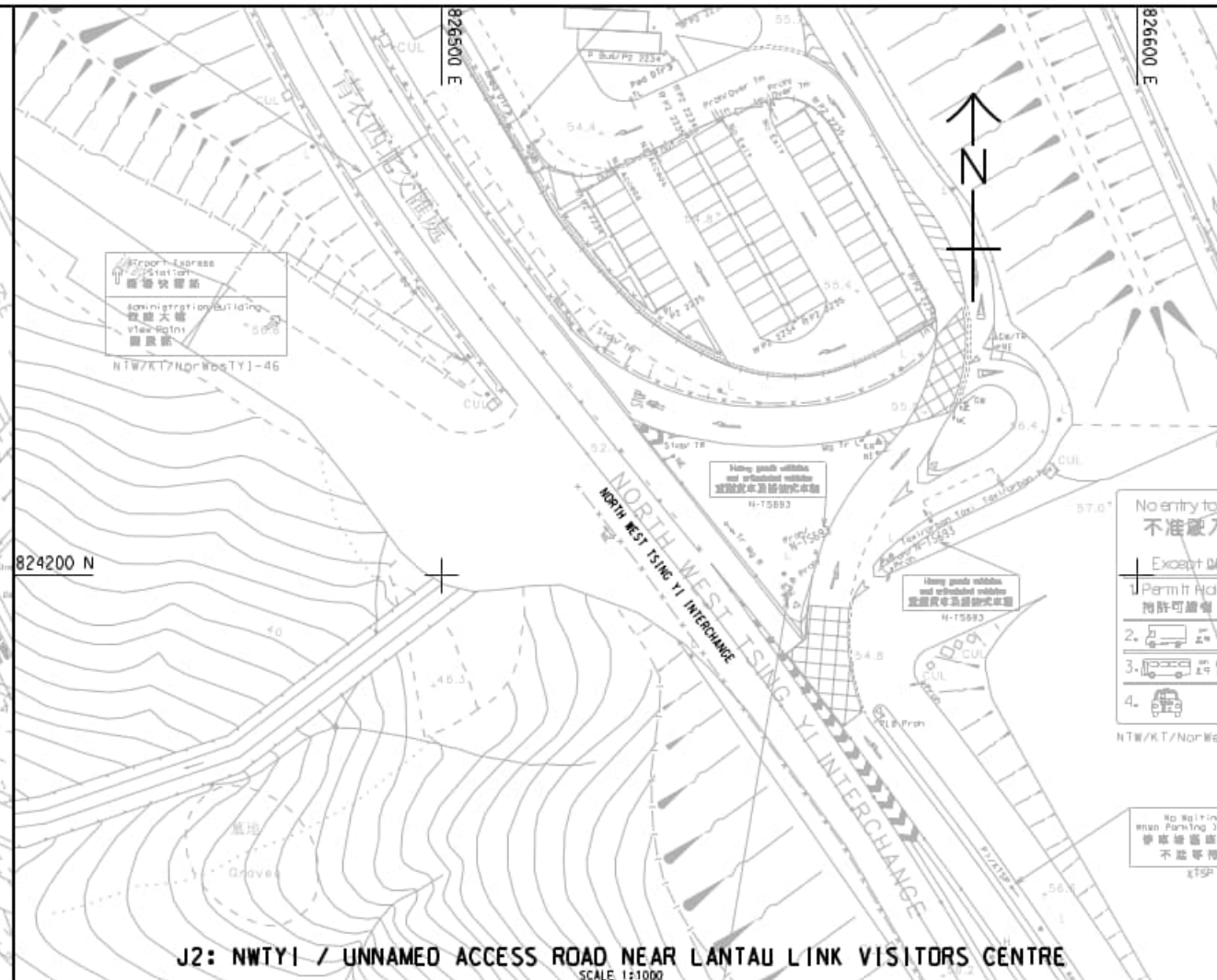
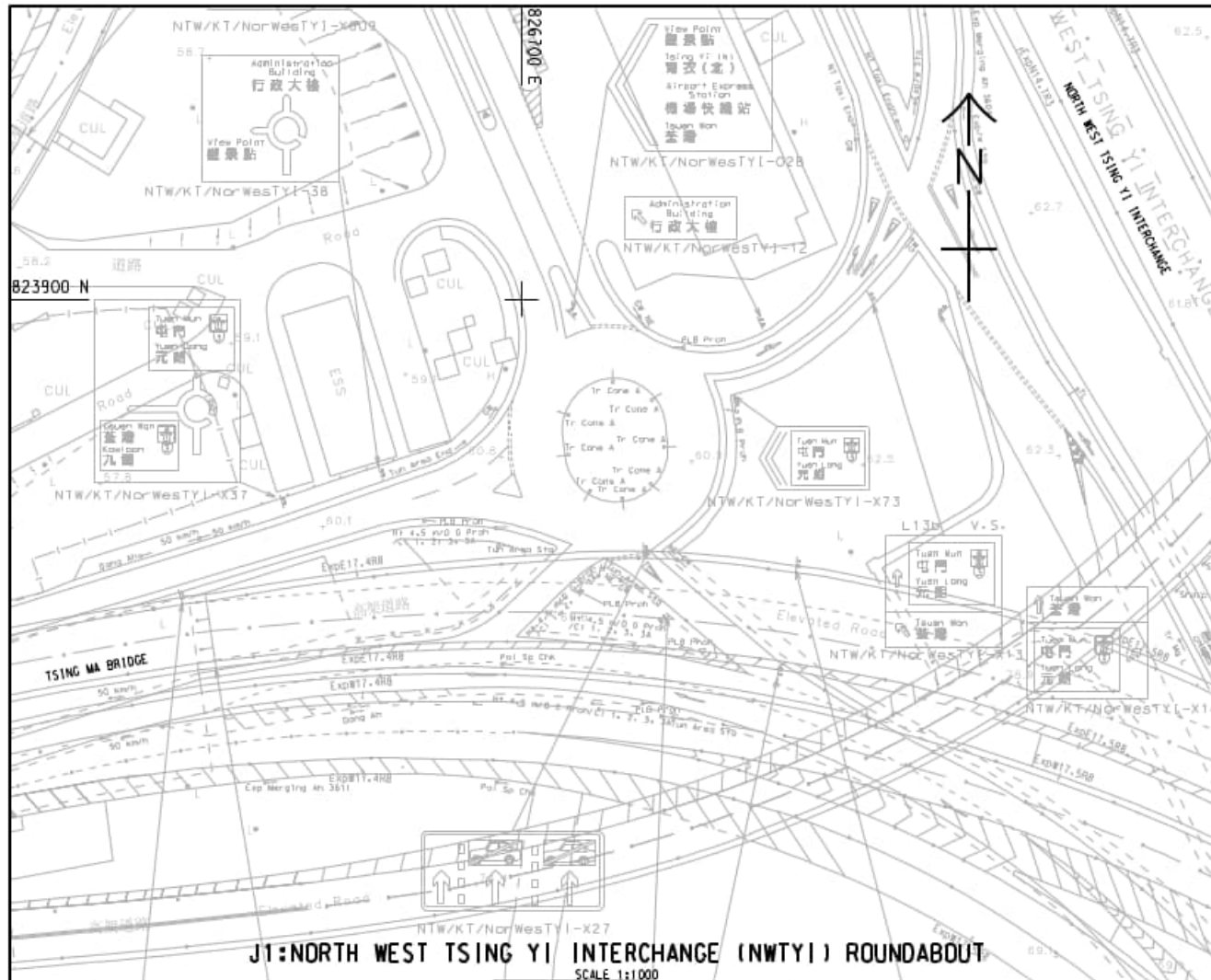
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PROJECT NO.
60733229
AGREEMENT NO.
CE 79/2023 (GE)
SHEET TITLE
LOCATION OF STUDY JUNCTIONS
AND ROAD LINKS
SHEET NUMBER
60733229/A20/Figure 2.1

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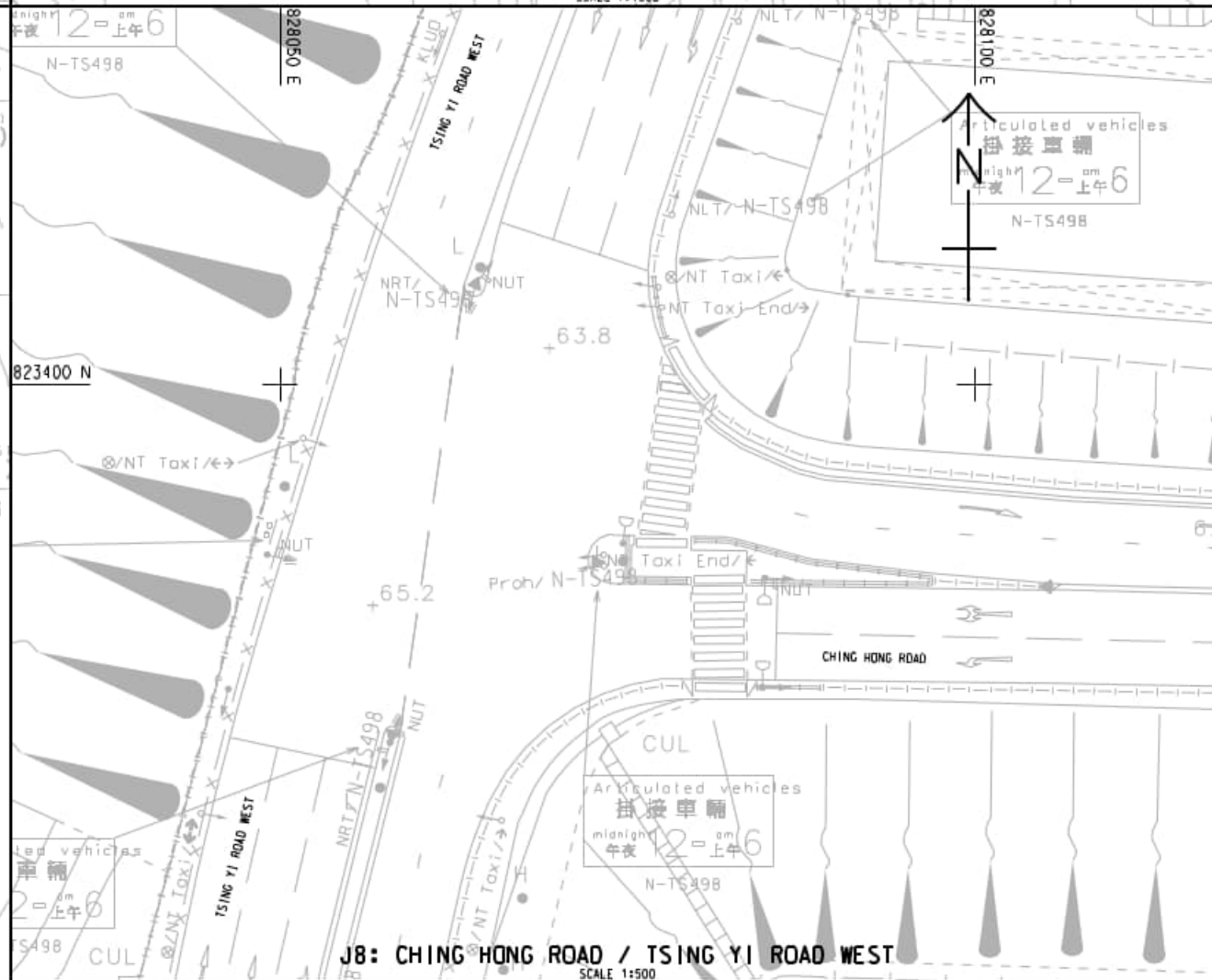
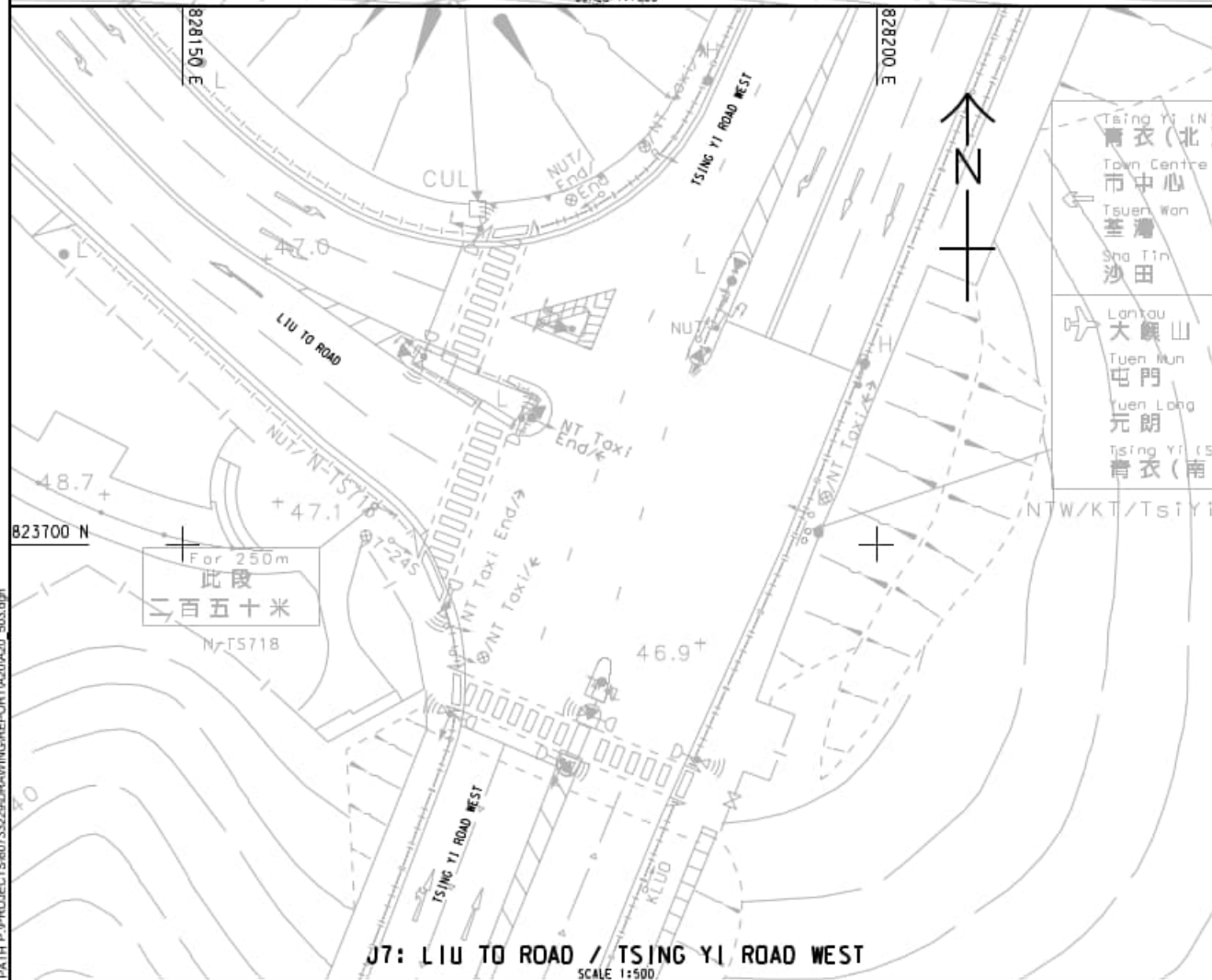
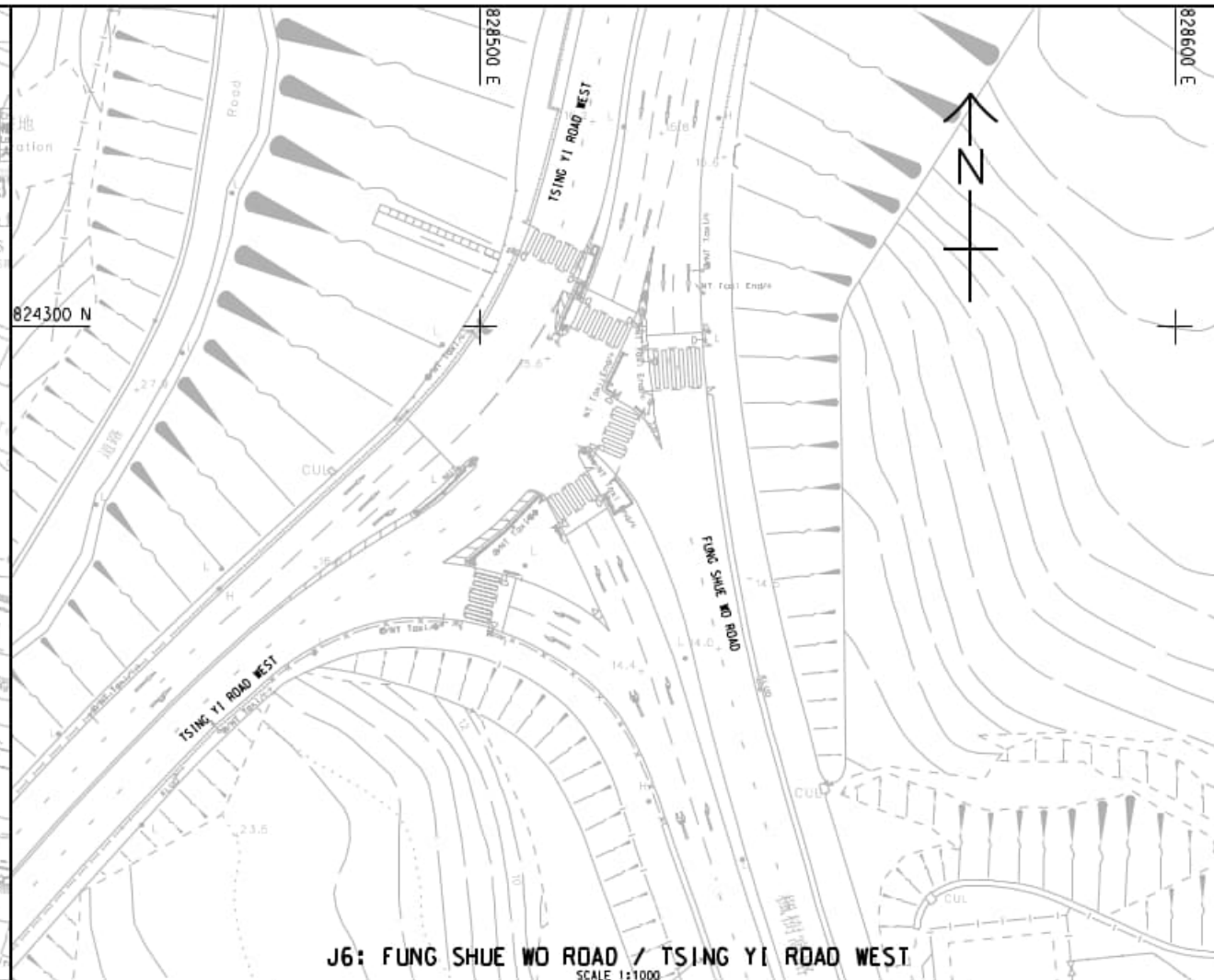
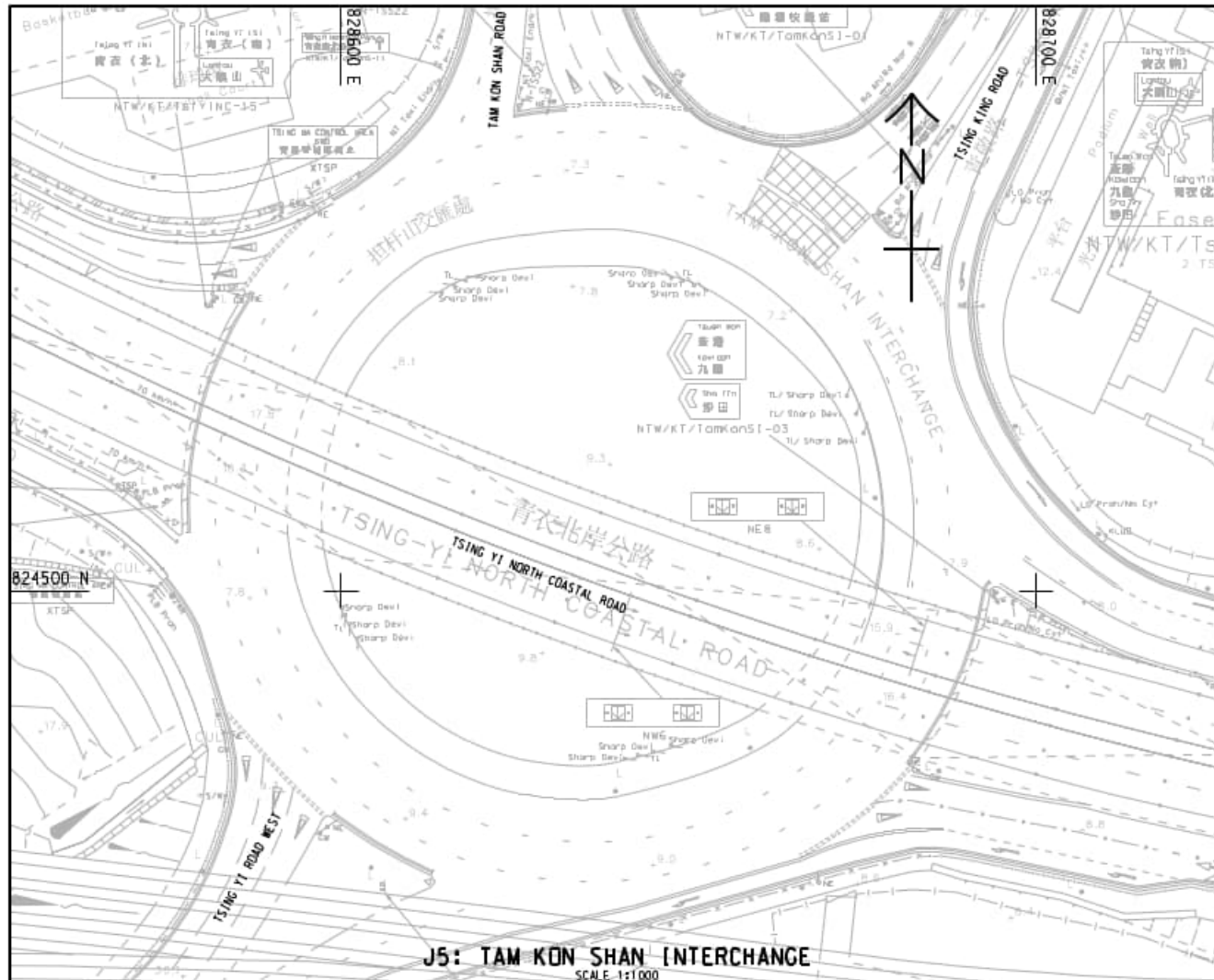
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EXISTING JUNCTION LAYOUTS

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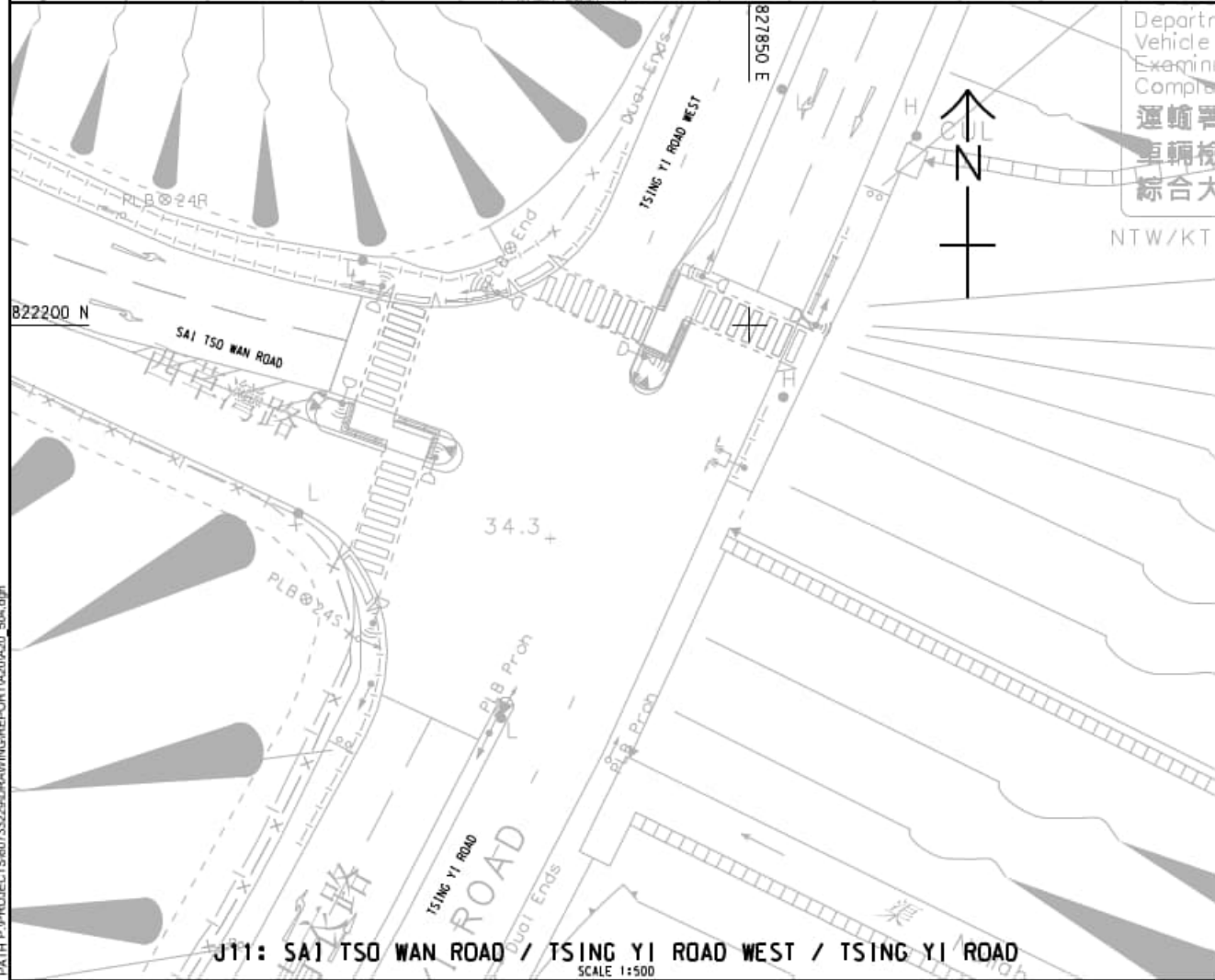
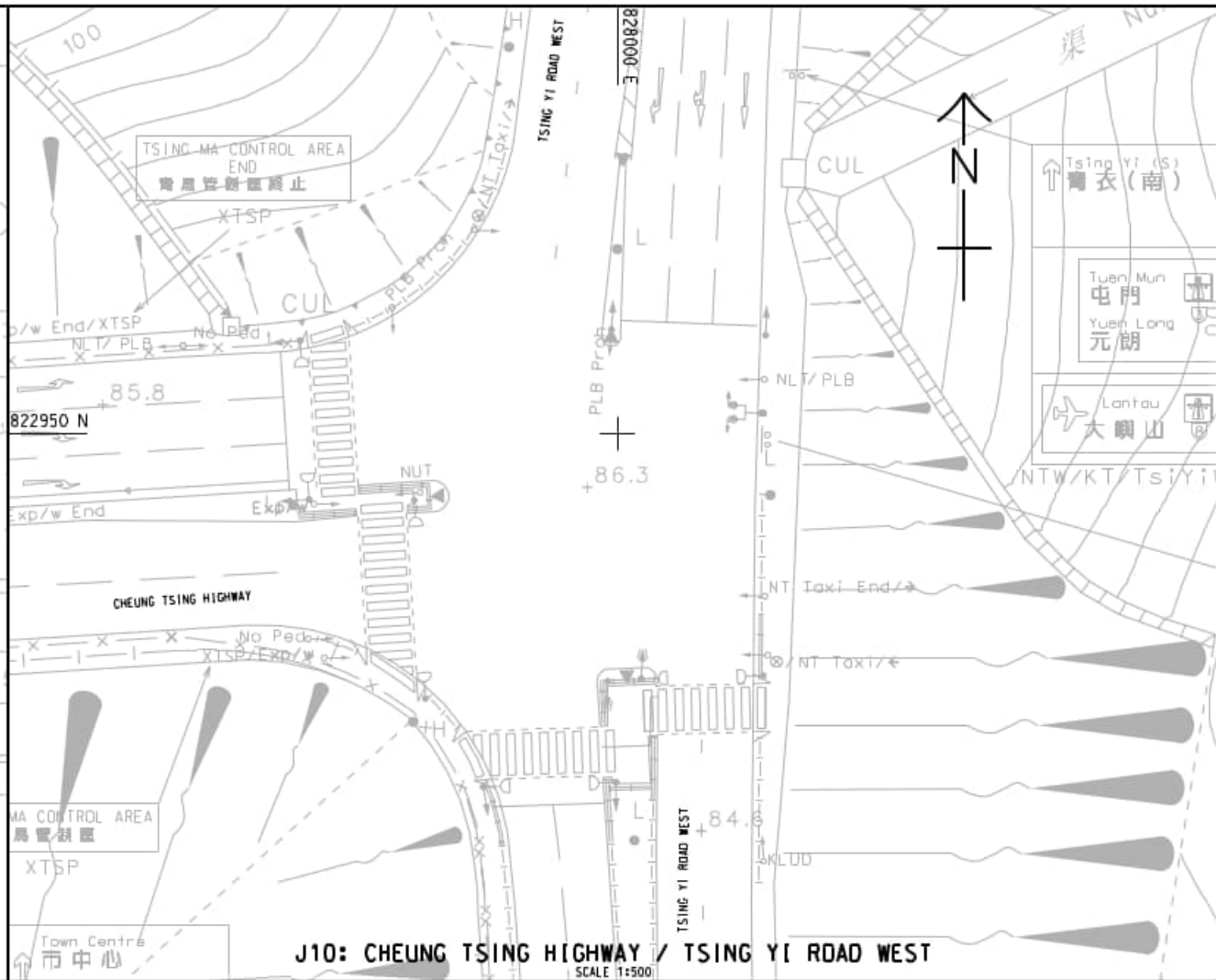
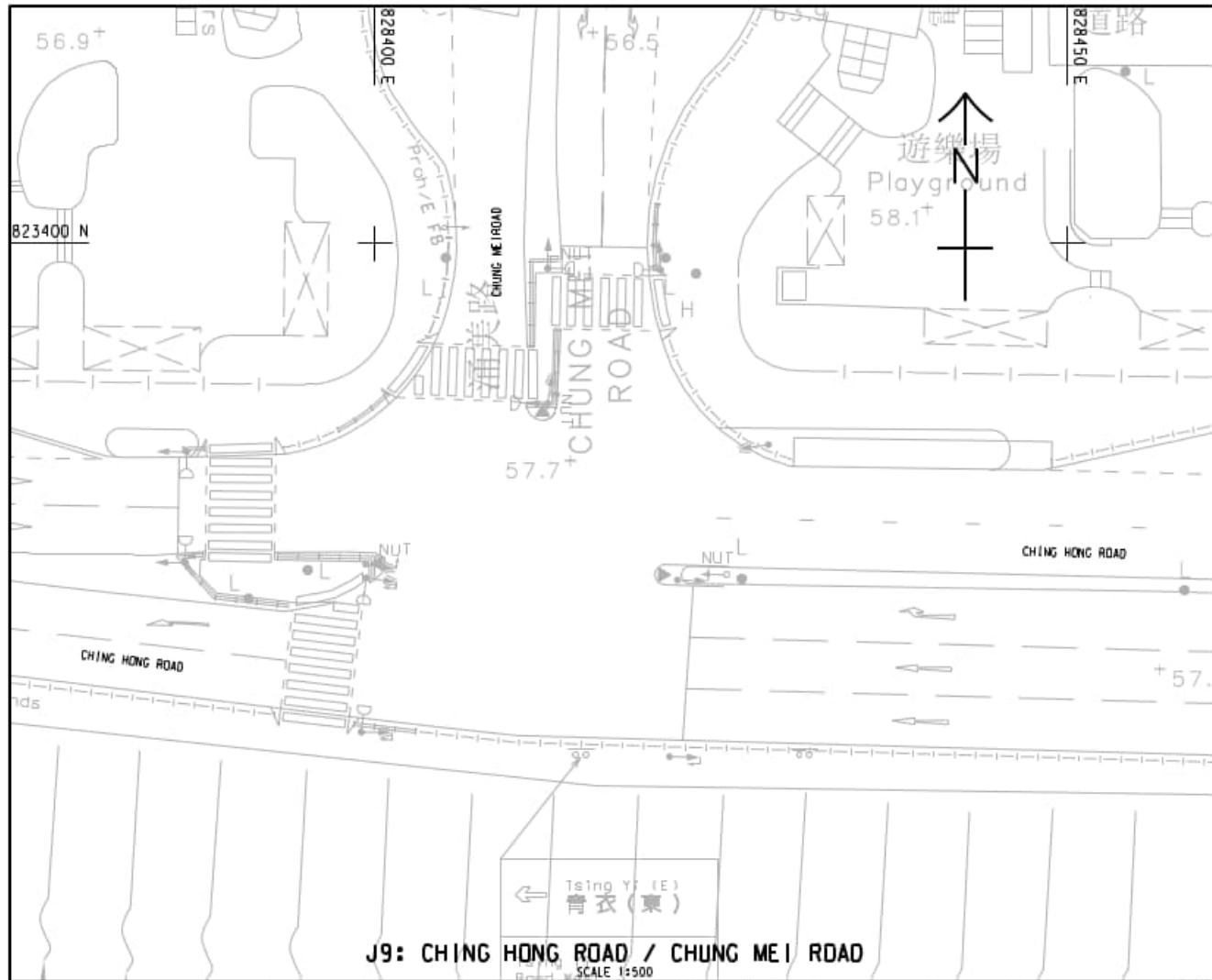
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03	11/06/2023	Issue for Design	01
04	11/06/2023	Issue for Design	01
05	11/06/2023	Issue for Design	01
06	11/06/2023	Issue for Design	01
07	11/06/2023	Issue for Design	01
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10	11/06/2023	Issue for Design	01

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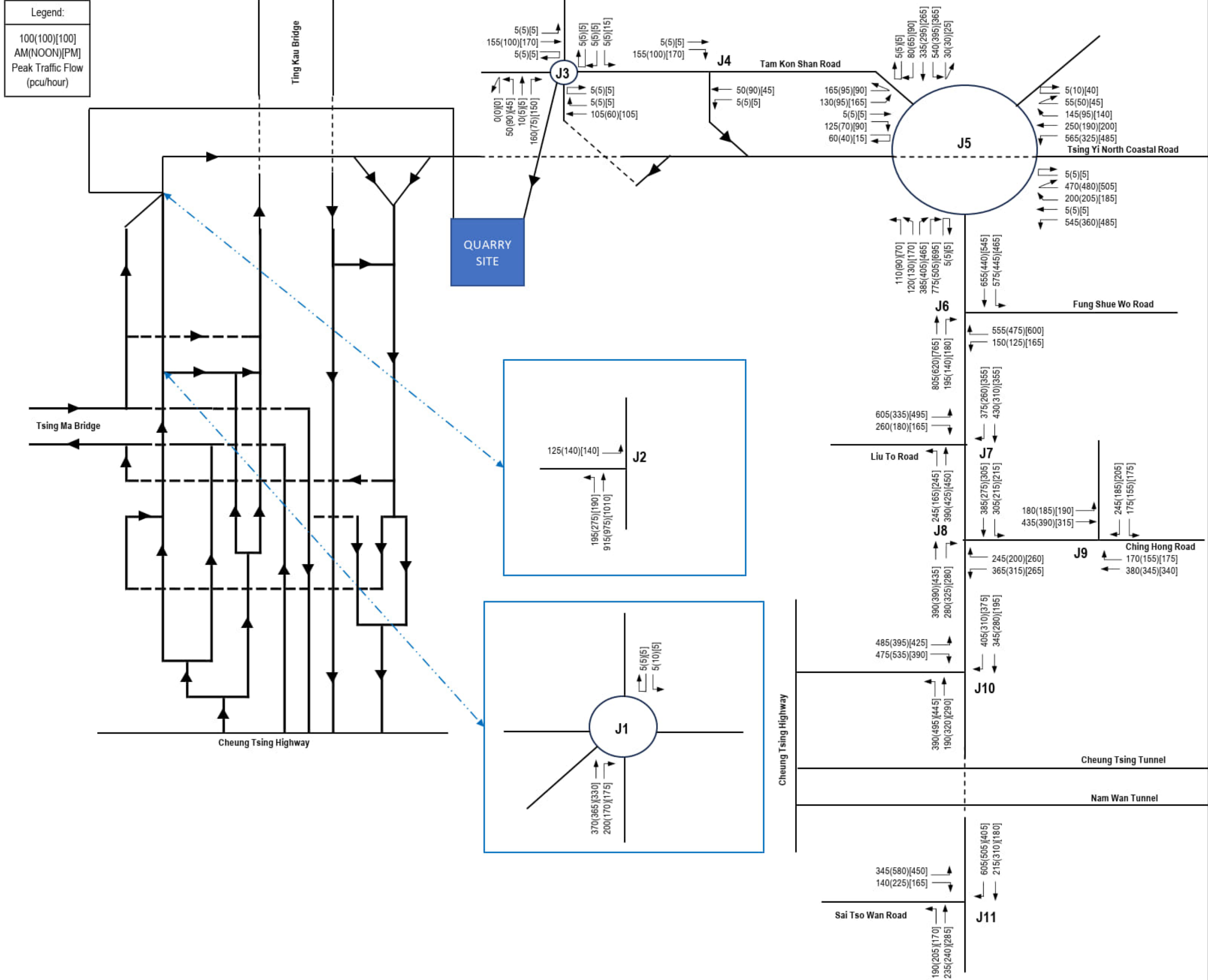
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Sheet 3 of 3

Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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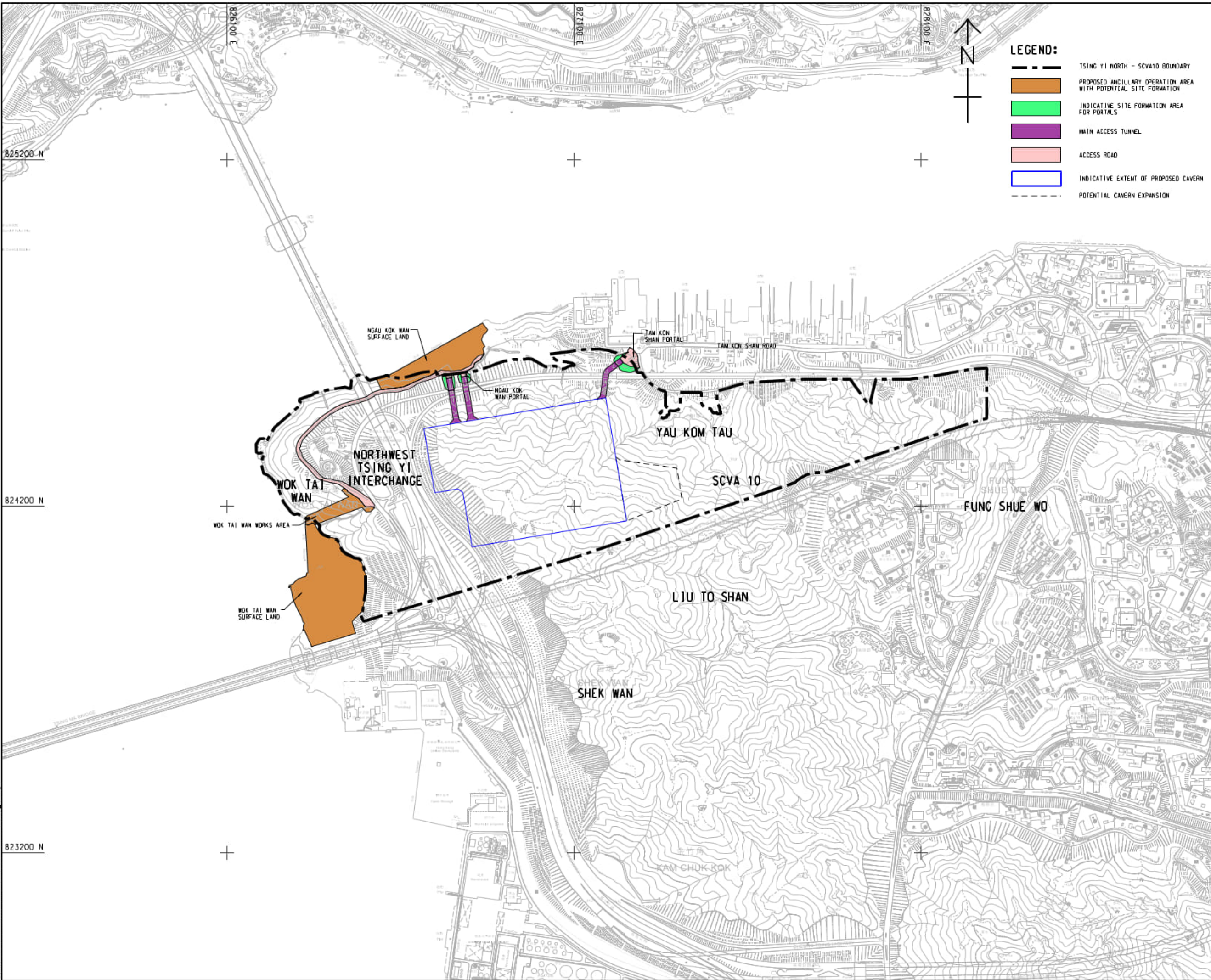
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2025 OBSERVED TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 2.5

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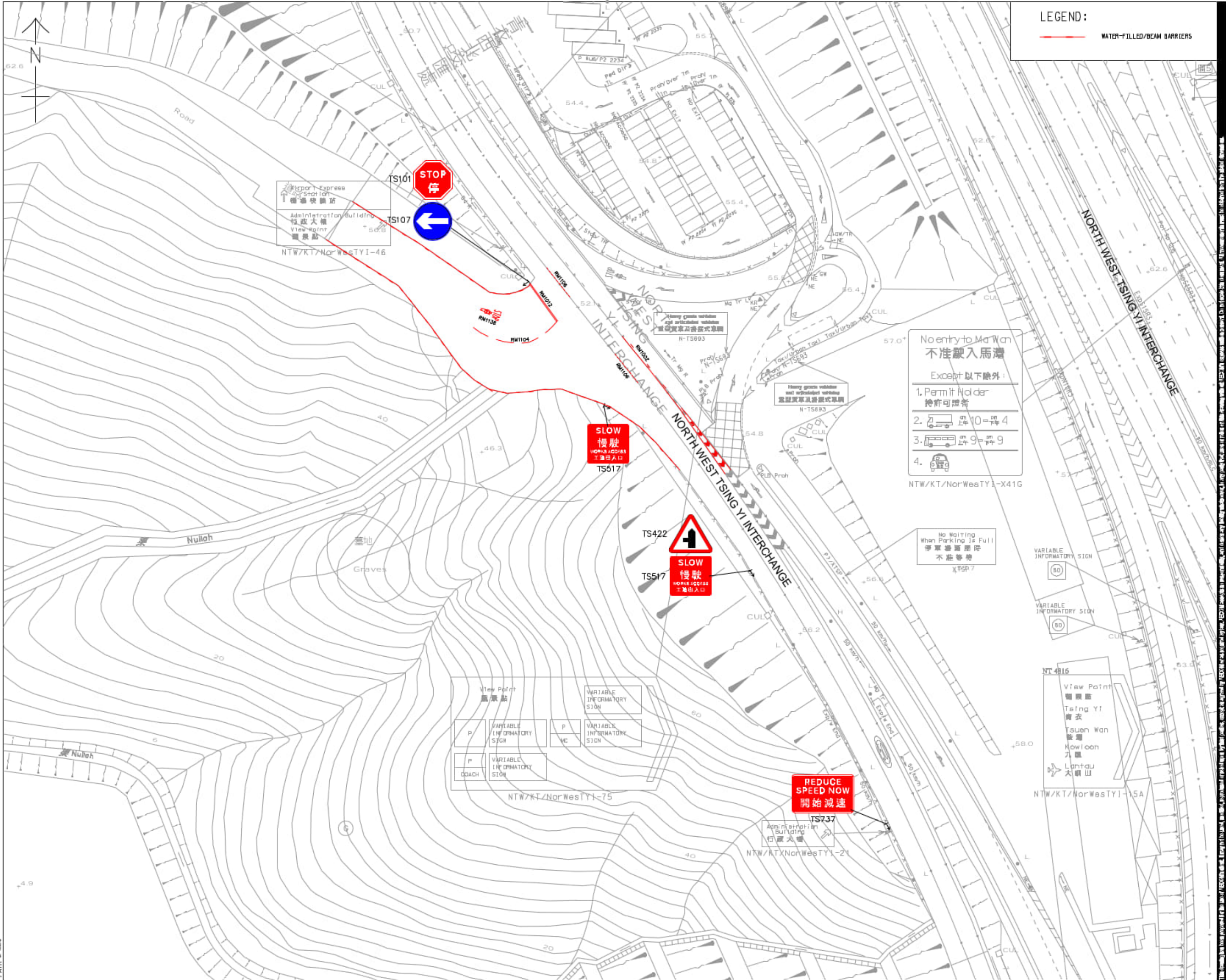
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CE 79/2023 (GE)

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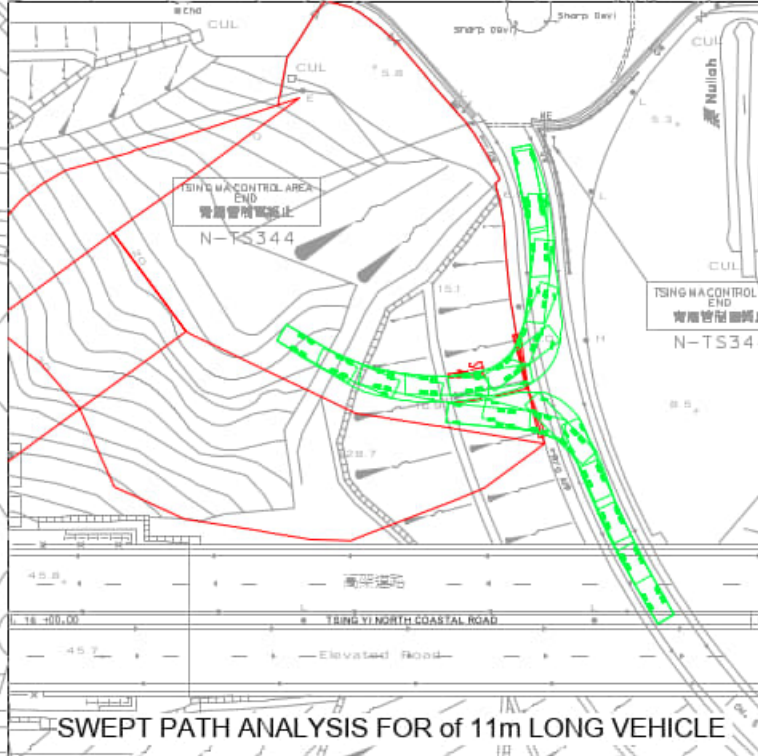
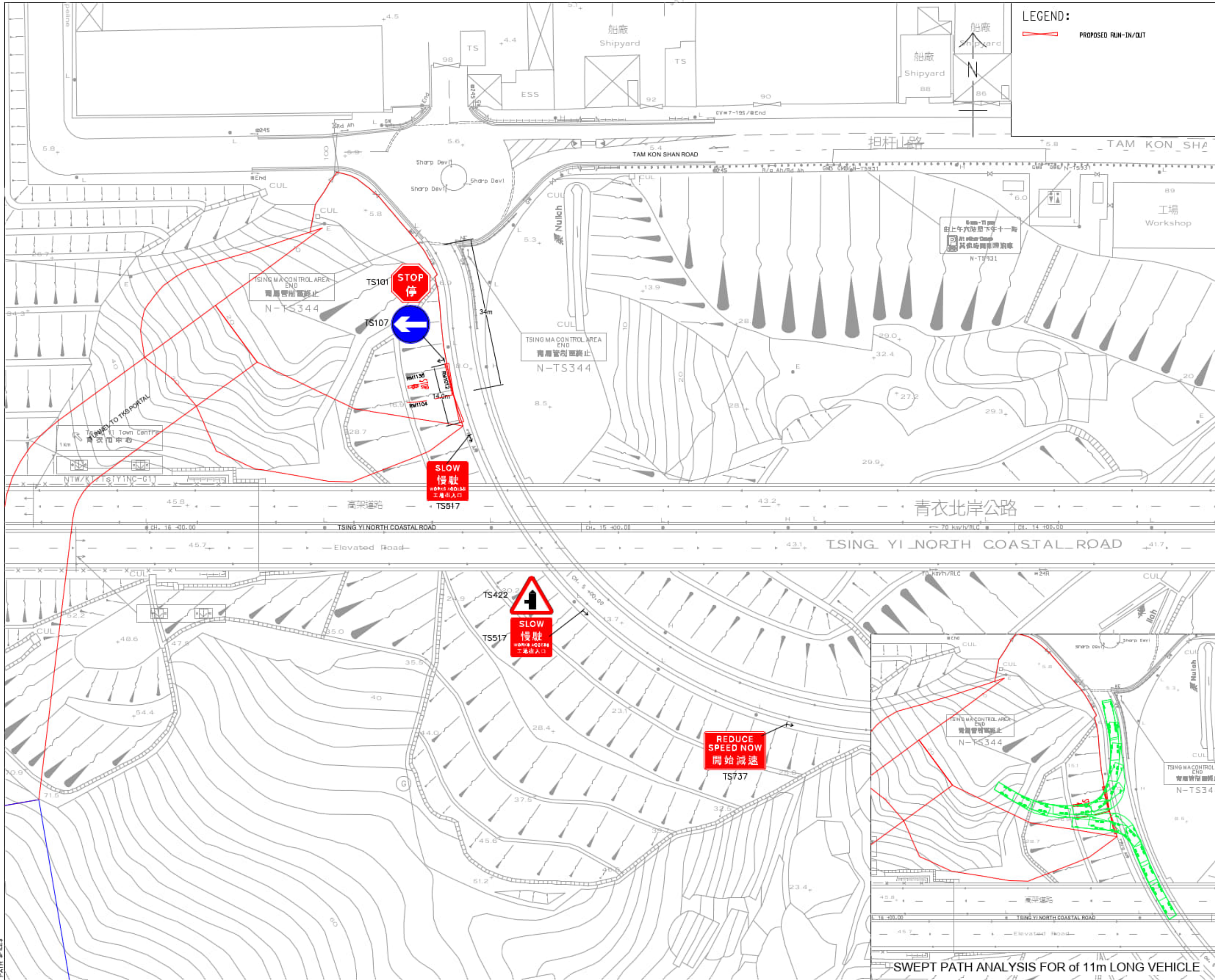
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TEMPORARY TRAFFIC ARRANGMENT
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LANTAU LINK VISITORS CENTRE
(J2)

SHEET NUMBER

60733229/A20/Figure 3.2

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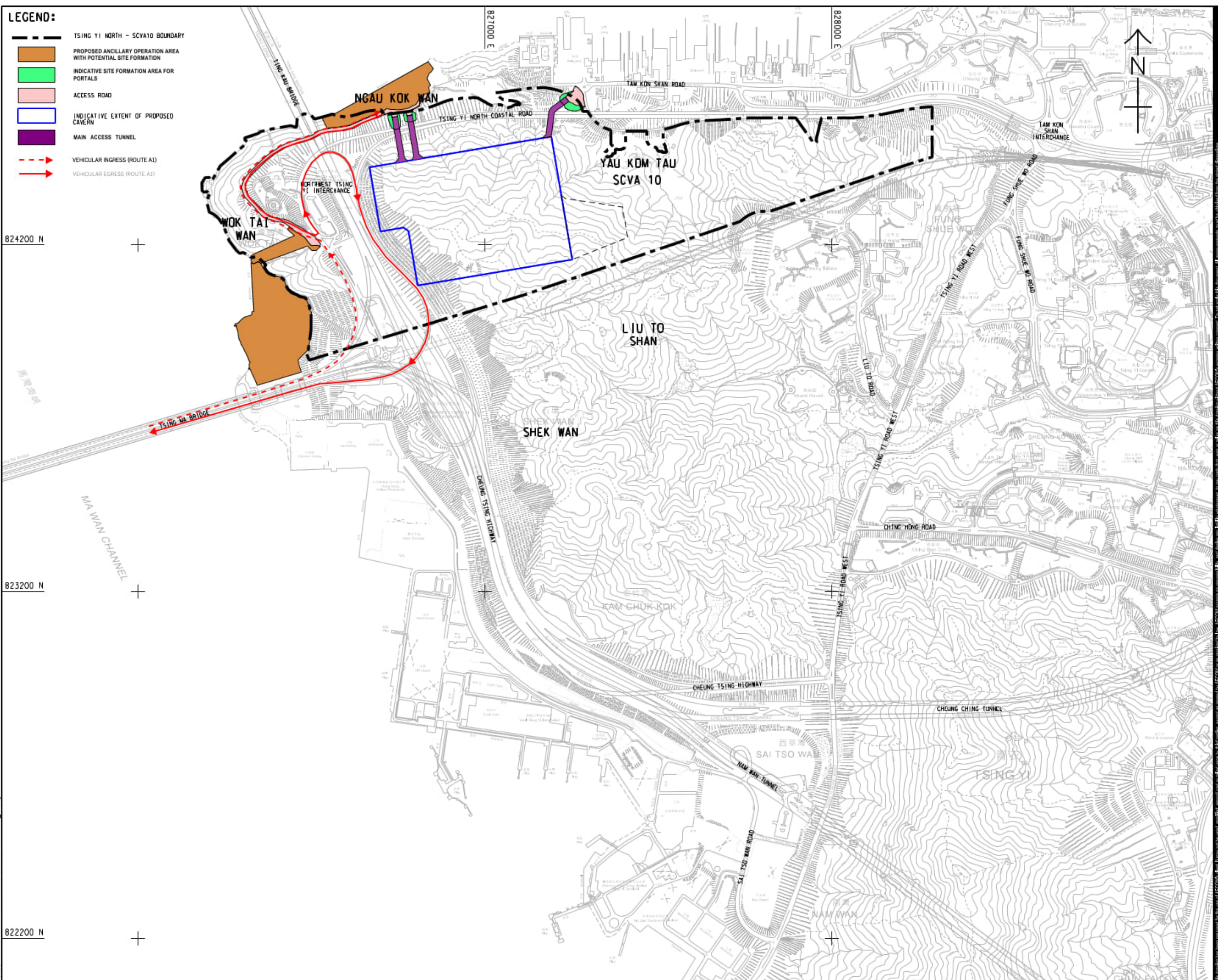
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(CONSTRUCTION PHASE OF TUNNEL TO
TKSR PORTAL)

SHEET NUMBER

60733229/A20/Figure 3.3

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 - INDICATIVE SITE FORMATION AREA FOR PORTALS
 - ACCESS ROAD
 - INDICATIVE EXTENT OF PROPOSED CAVERN
 - MAIN ACCESS TUNNEL
 - VEHICULAR INGRESS (ROUTE A1)
 - VEHICULAR EGRESS (ROUTE A1)

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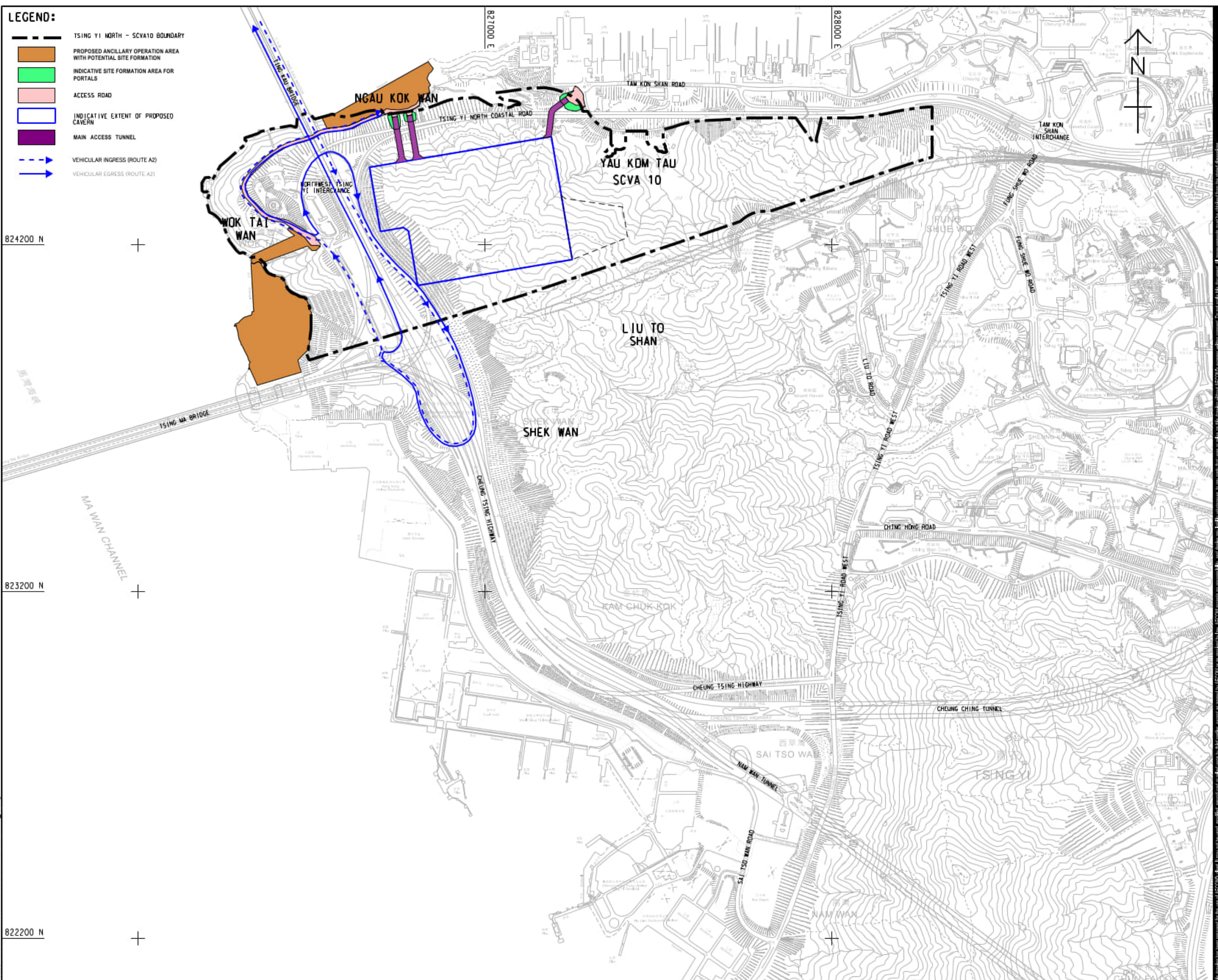
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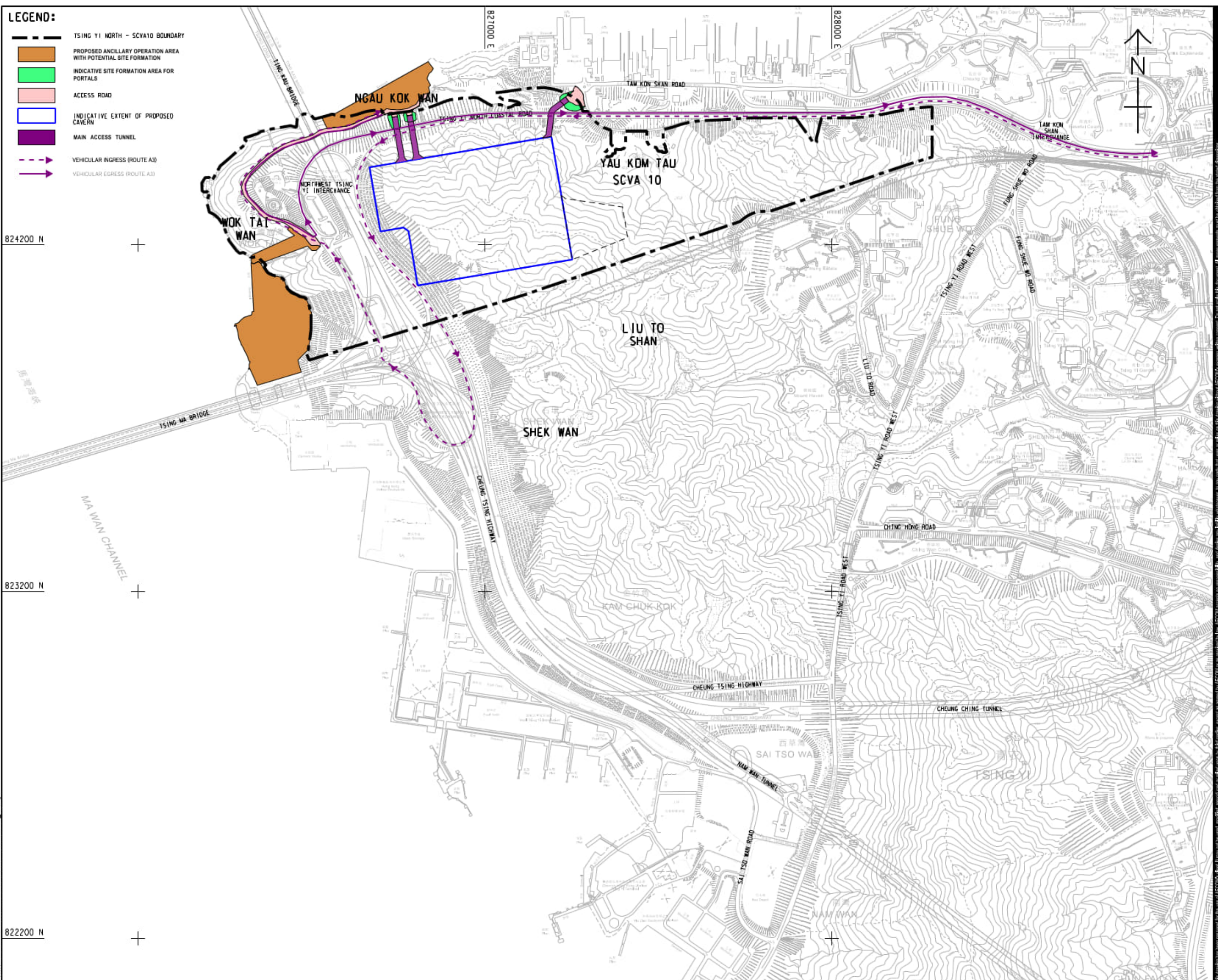
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(ROUTE A2)
SHEET NUMBER
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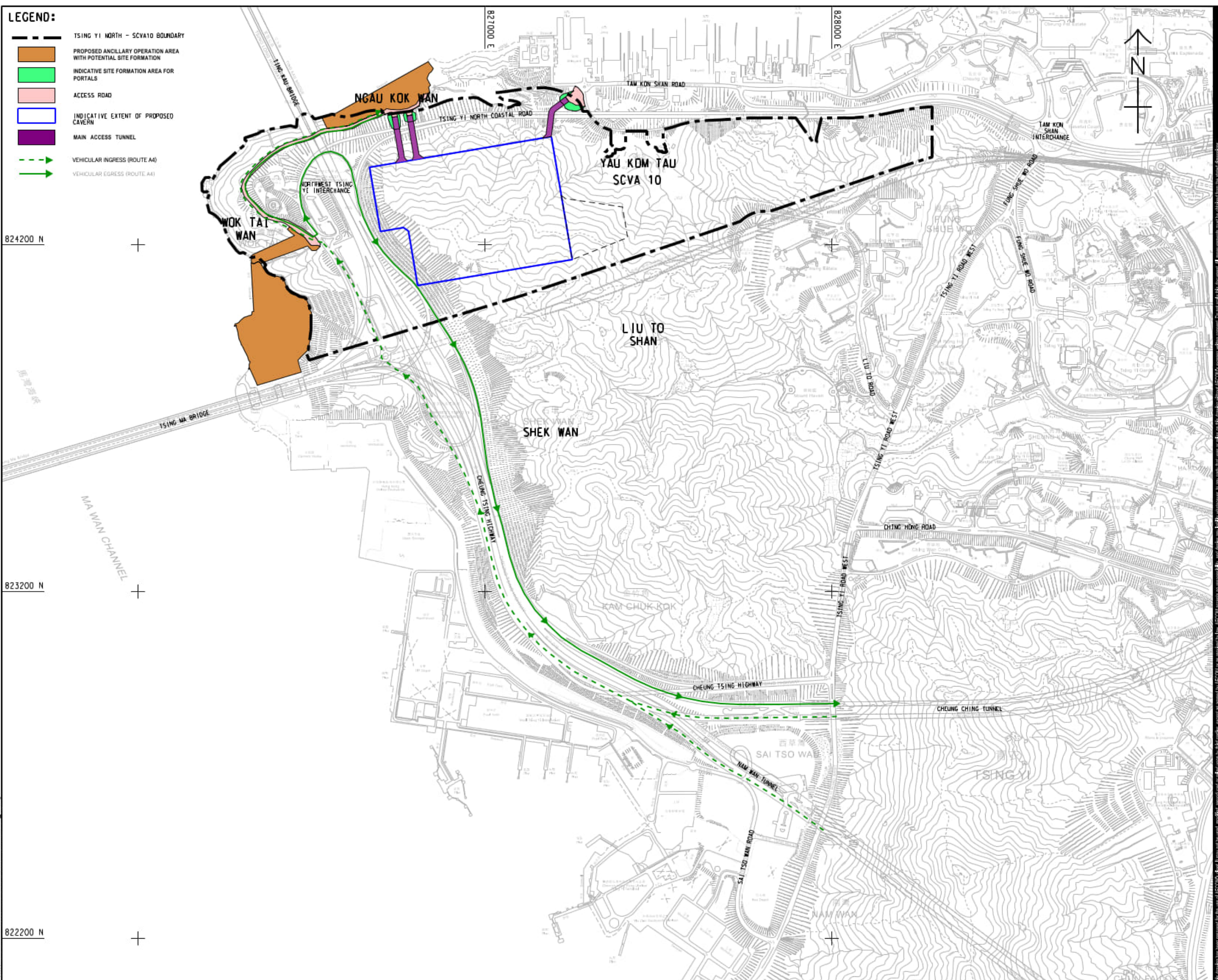
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(ROUTE A3)
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 - PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
 - INDICATIVE SITE FORMATION AREA FOR PORTALS
 - ACCESS ROAD
 - INDICATIVE EXTENT OF PROPOSED CAVERN
 - MAIN ACCESS TUNNEL
 - VEHICULAR INGRESS (ROUTE A4)
 - VEHICULAR EGRESS (ROUTE A4)

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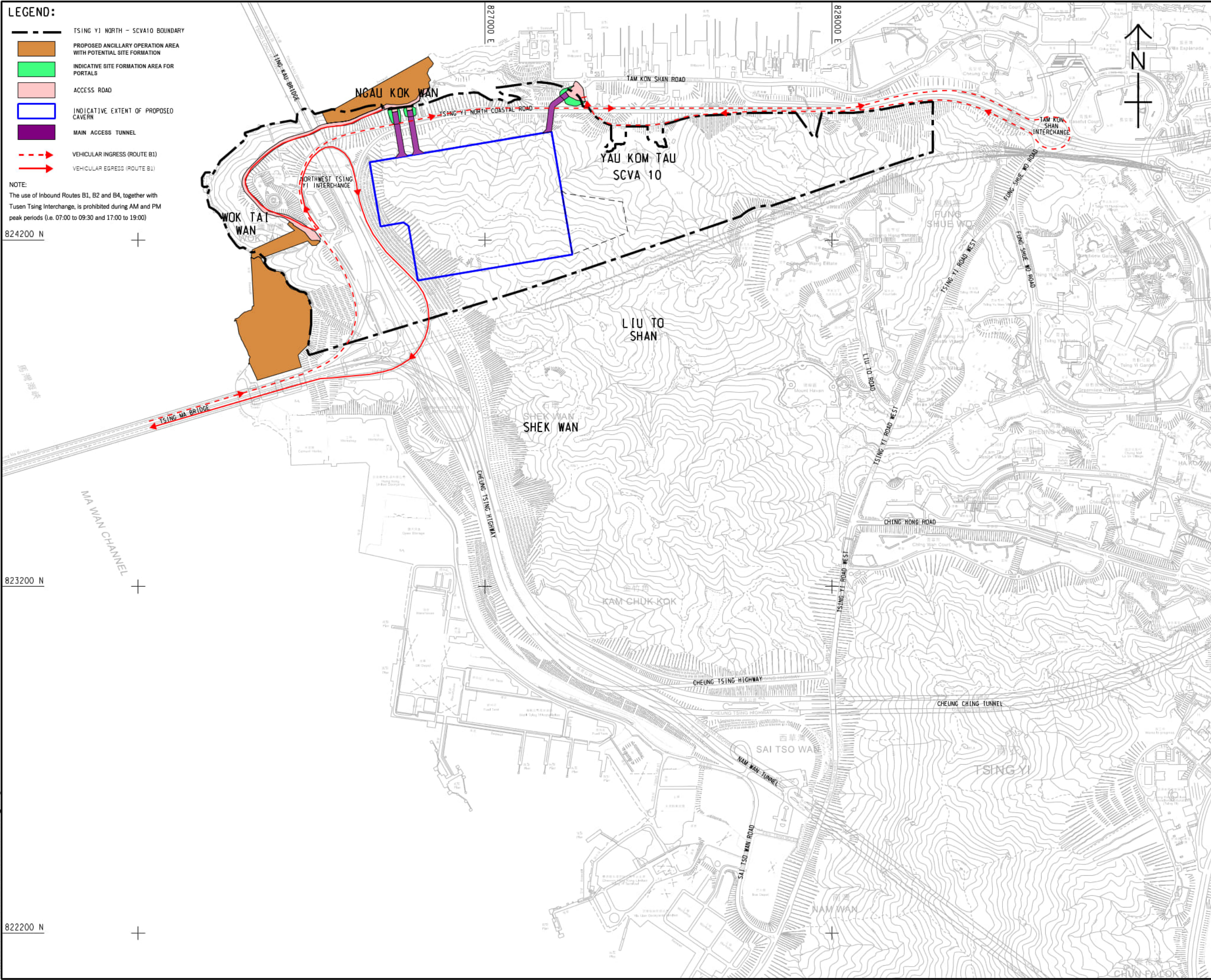
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- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B1)
- VEHICULAR EGRESS (ROUTE B1)

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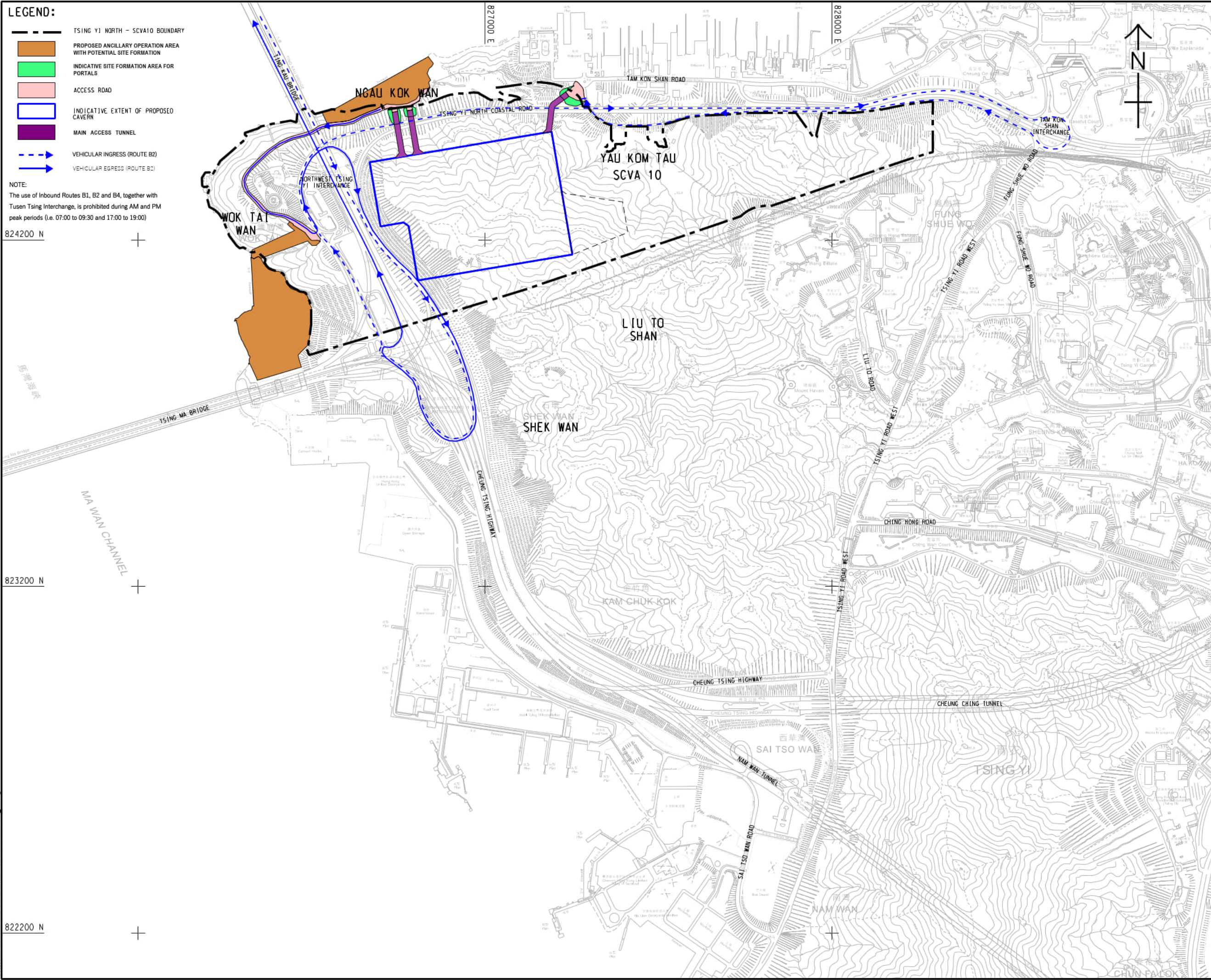
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(ROUTE B1)

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- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B2)
- VEHICULAR EGRESS (ROUTE B2)

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824200 N

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UNDERGROUND QUARRYING AT TSING YI NORTH - INVESTIGATION, DESIGN AND CONSTRUCTION

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CEDD 土木工程拓展署
Civil Engineering and Development Department

CONSULTANT

AECOM Asia Company Ltd.
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ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE

1:10000

DIMENSION UNIT

METRES

KEY PLAN

PROJECT NO.

60733229

AGREEMENT NO.

CE 79/2023 (GE)

SHEET TITLE

SITE ACCESS ARRANGEMENT (ROUTE B2)

SHEET NUMBER

60733229/A20/Figure 3.10

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

LEGEND:

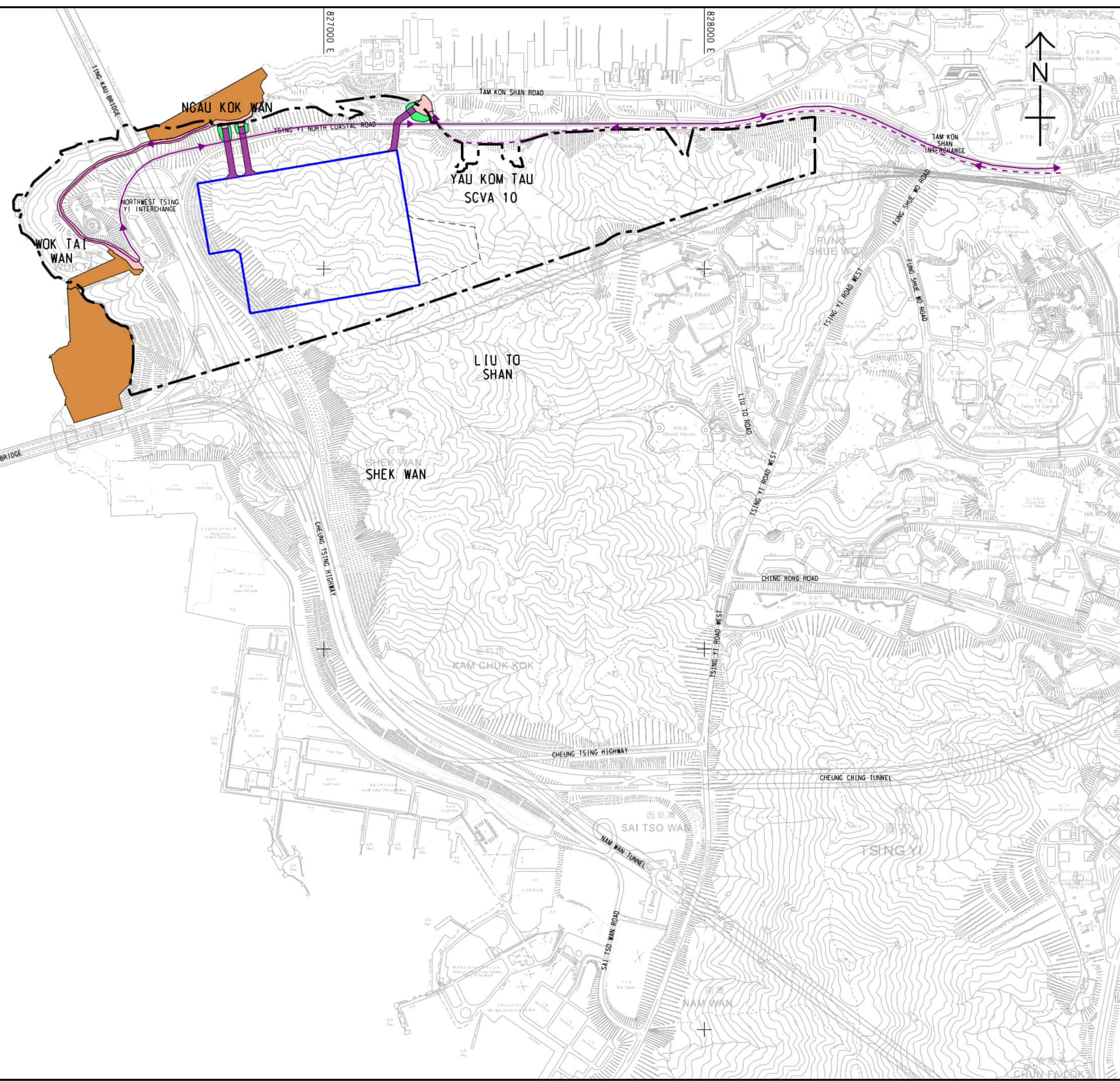
- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B3)
- VEHICULAR EGRESS (ROUTE B3)

NOTE:
The use of Inbound Routes B1, B2 and B4, together with Tuen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

824200 N

823200 N

822200 N



AECOM

PROJECT
1611
UNDERGROUND QUARRYING AT TSING YI NORTH - INVESTIGATION, DESIGN AND CONSTRUCTION

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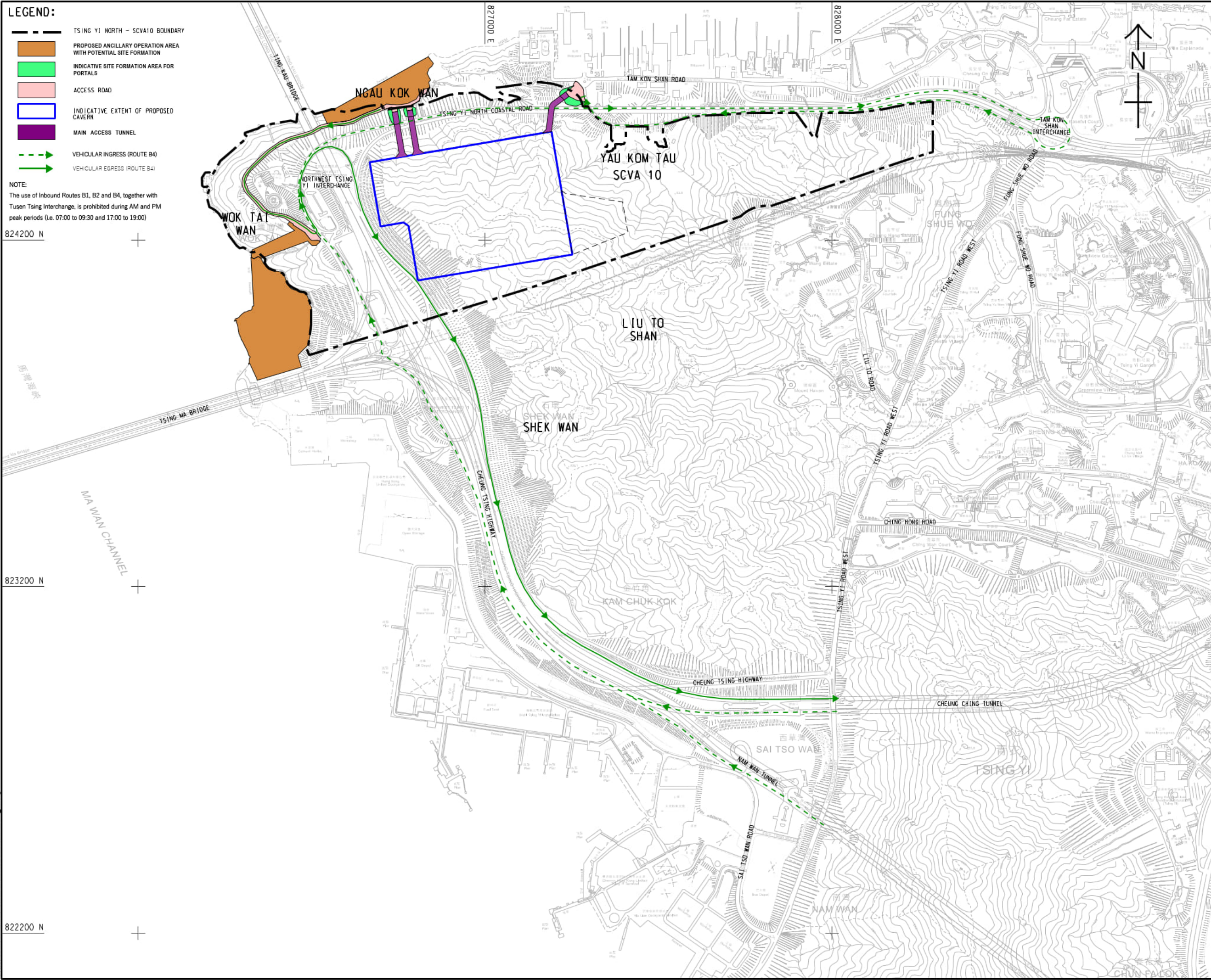
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KEY PLAN

PROJECT NO.	AGREEMENT NO.
60733229	CE 79/2023 (GE)
SHEET TITLE	
SITE ACCESS ARRANGEMENT (ROUTE B3)	
SHEET NUMBER	
60733229/A20/Figure 3.11	

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LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B4)
- VEHICULAR EGRESS (ROUTE B4)

NOTE:
The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

PROJECT
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I/R	DATE	DESCRIPTION	CHK.

STATUS

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DIMENSION UNIT
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KEY PLAN

PROJECT NO.
60733229

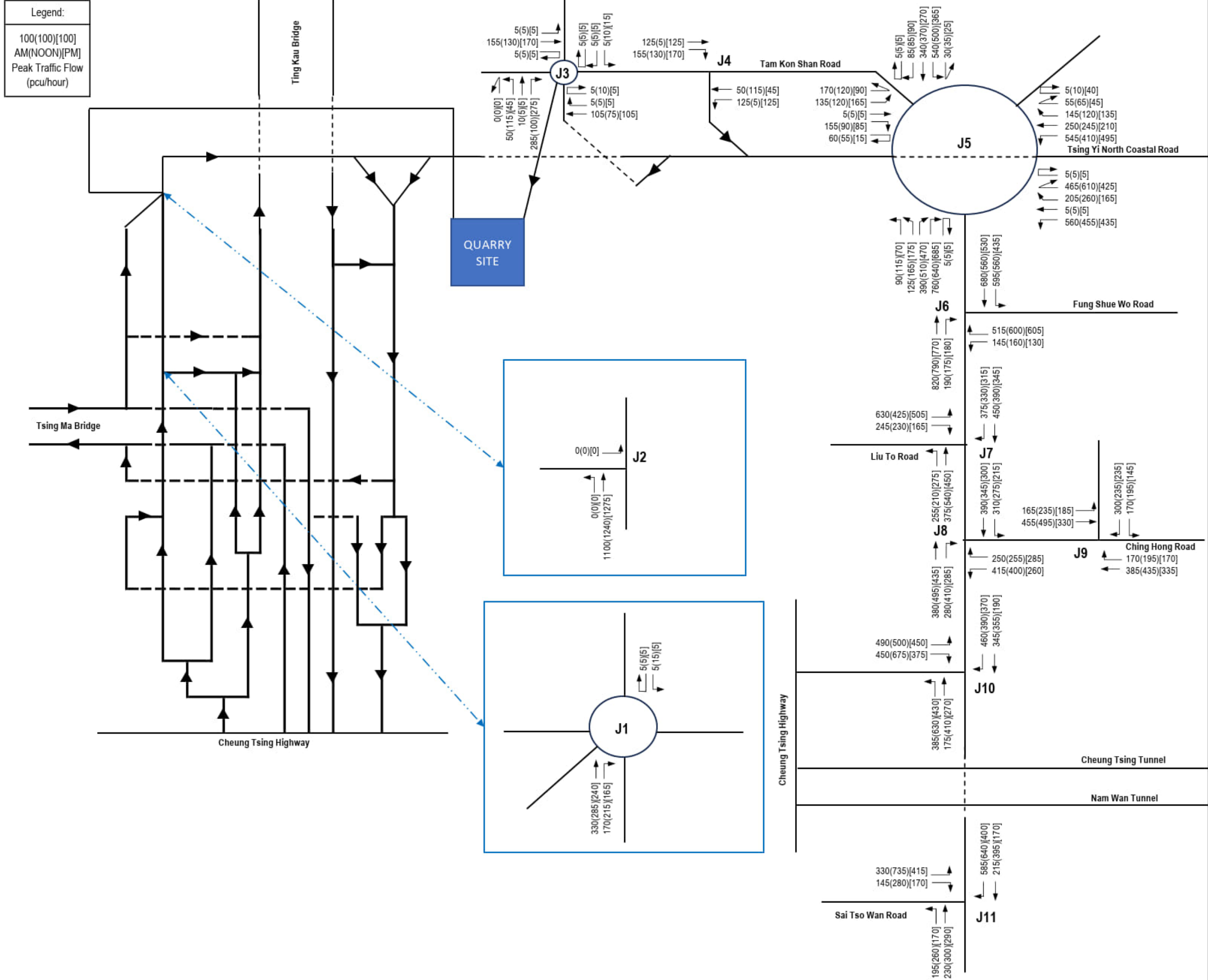
AGREEMENT NO.
CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE B4)

SHEET NUMBER
60733229/A20/Figure 3.12

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Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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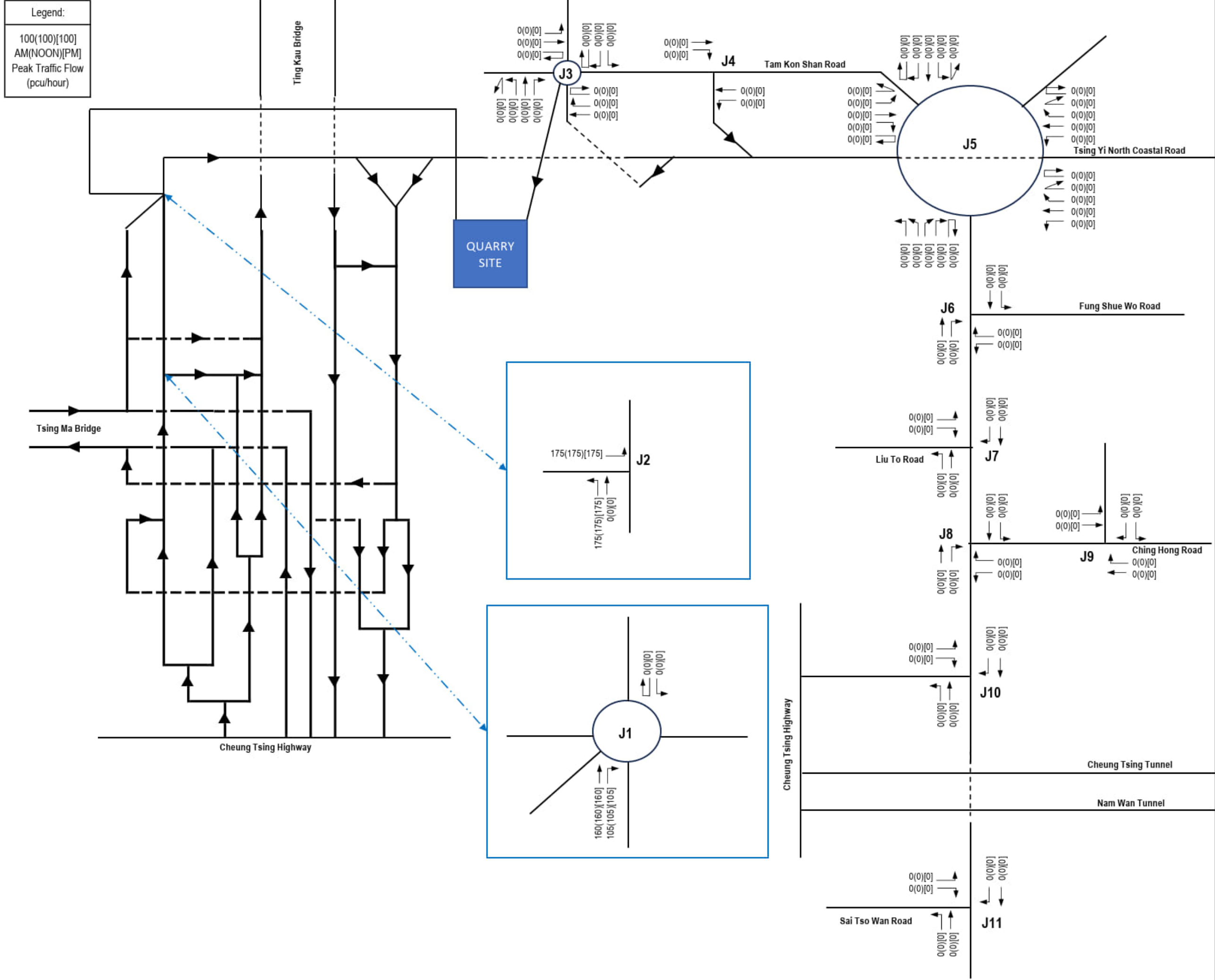
KEY PLAN

PROJECT NO. CONTRACT NO.
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 REFERENCE SCENARIO
TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 4.1

Legend:
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Peak Traffic Flow
(pcu/hour)



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DIMENSION UNIT

KEY PLAN

PROJECT NO.

60733229

CONTRACT NO.

CE 79/2023 (GE)

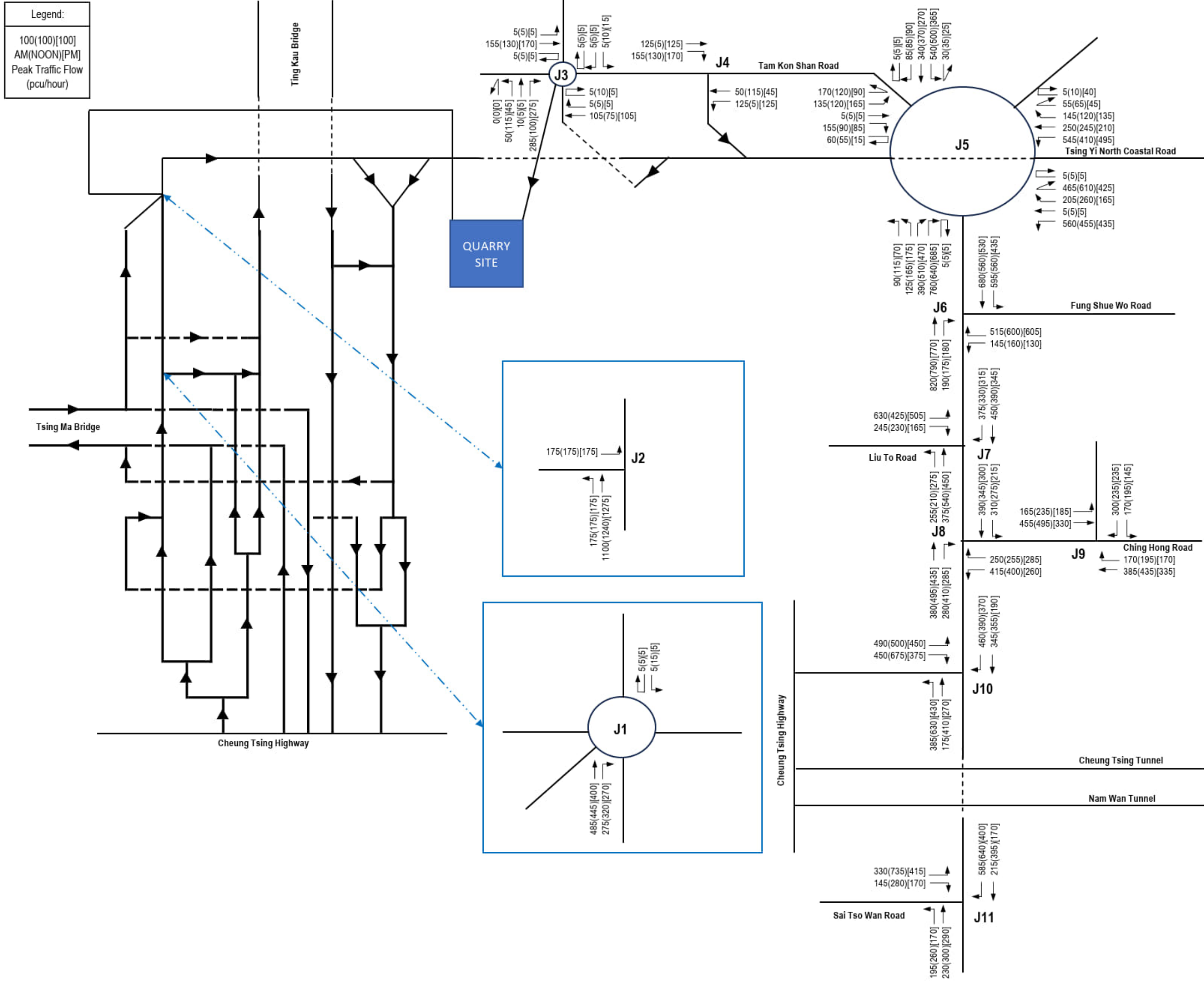
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2031 DEVELOPMENT TRAFFIC FLOWS – SCENARIO A (BEFORE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER

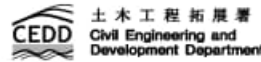
60733229/A20/Figure 4.2

Legend:
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AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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KEY PLAN

PROJECT NO. CONTRACT NO.
60733229 CE 79/2023 (GE)

SHEET TITLE

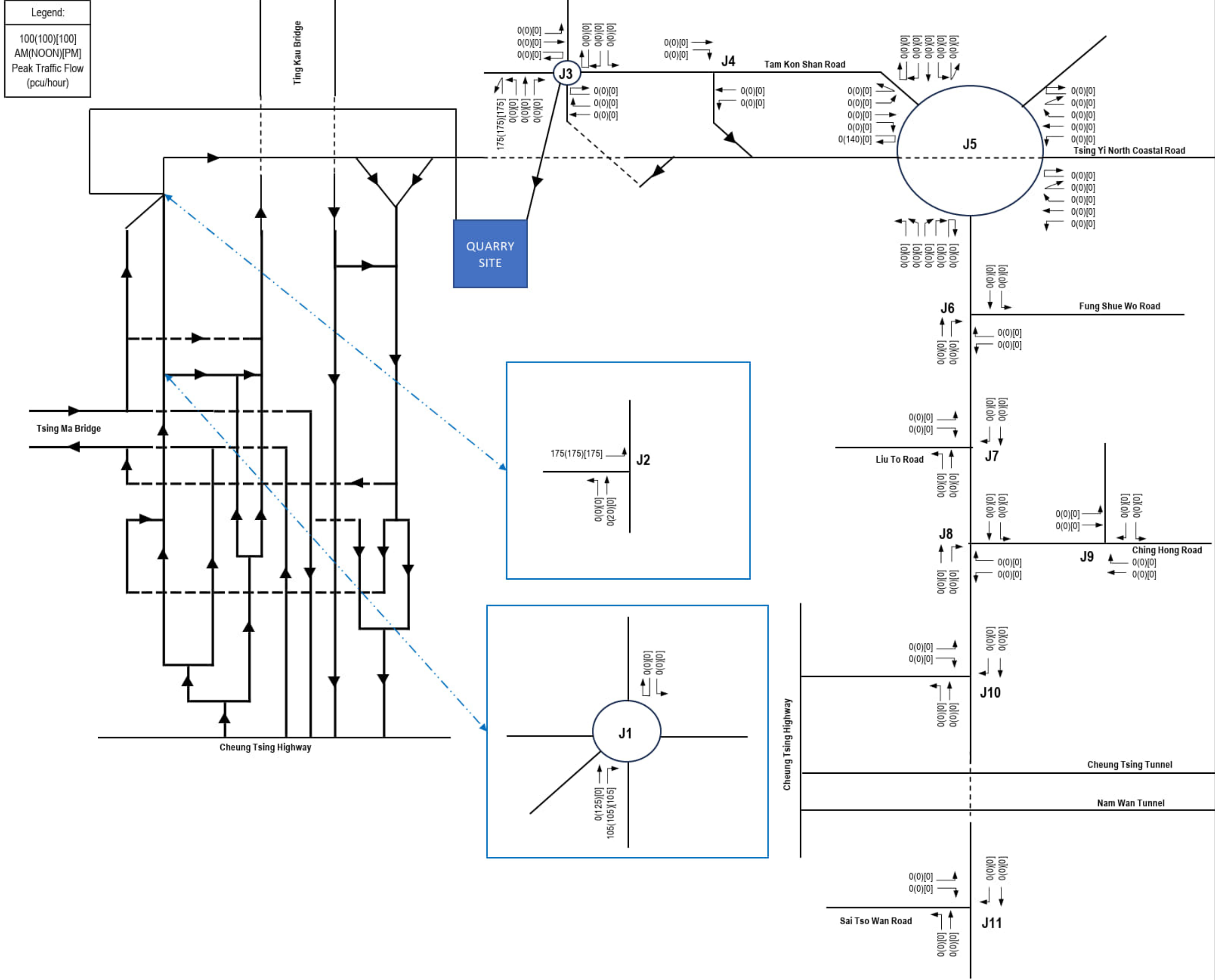
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FLOWS – SCENARIO A (BEFORE
IMPLEMENTATION OF TUNNEL TO
TKSR PORTAL)

SHEET NUMBER

60733229/A20/Figure 4.3

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Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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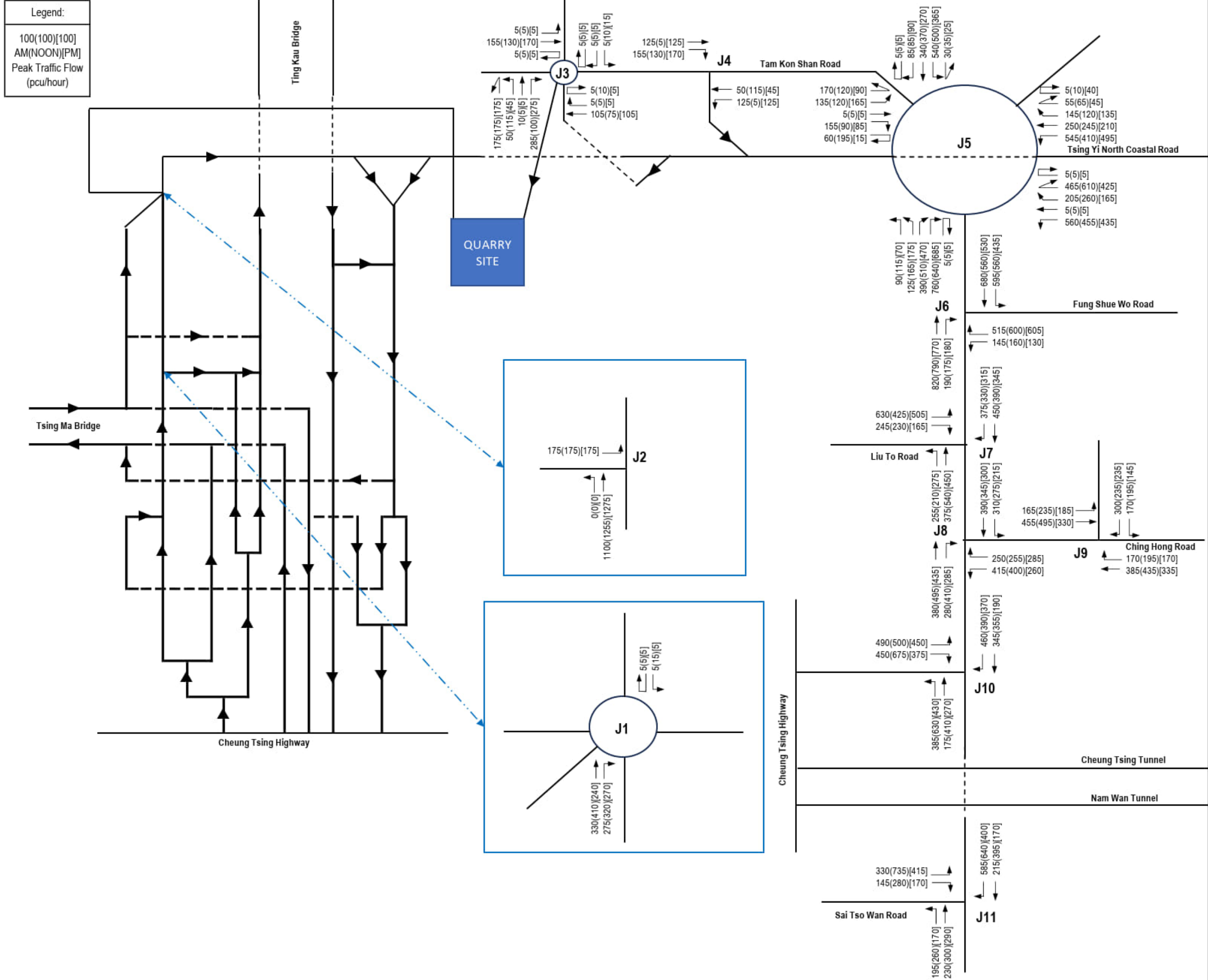
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PROJECT NO. CONTRACT NO.
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DEVELOPMENT TRAFFIC FLOWS
– SCENARIO B (AFTER
IMPLEMENTATION OF TUNNEL TO
TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.4

Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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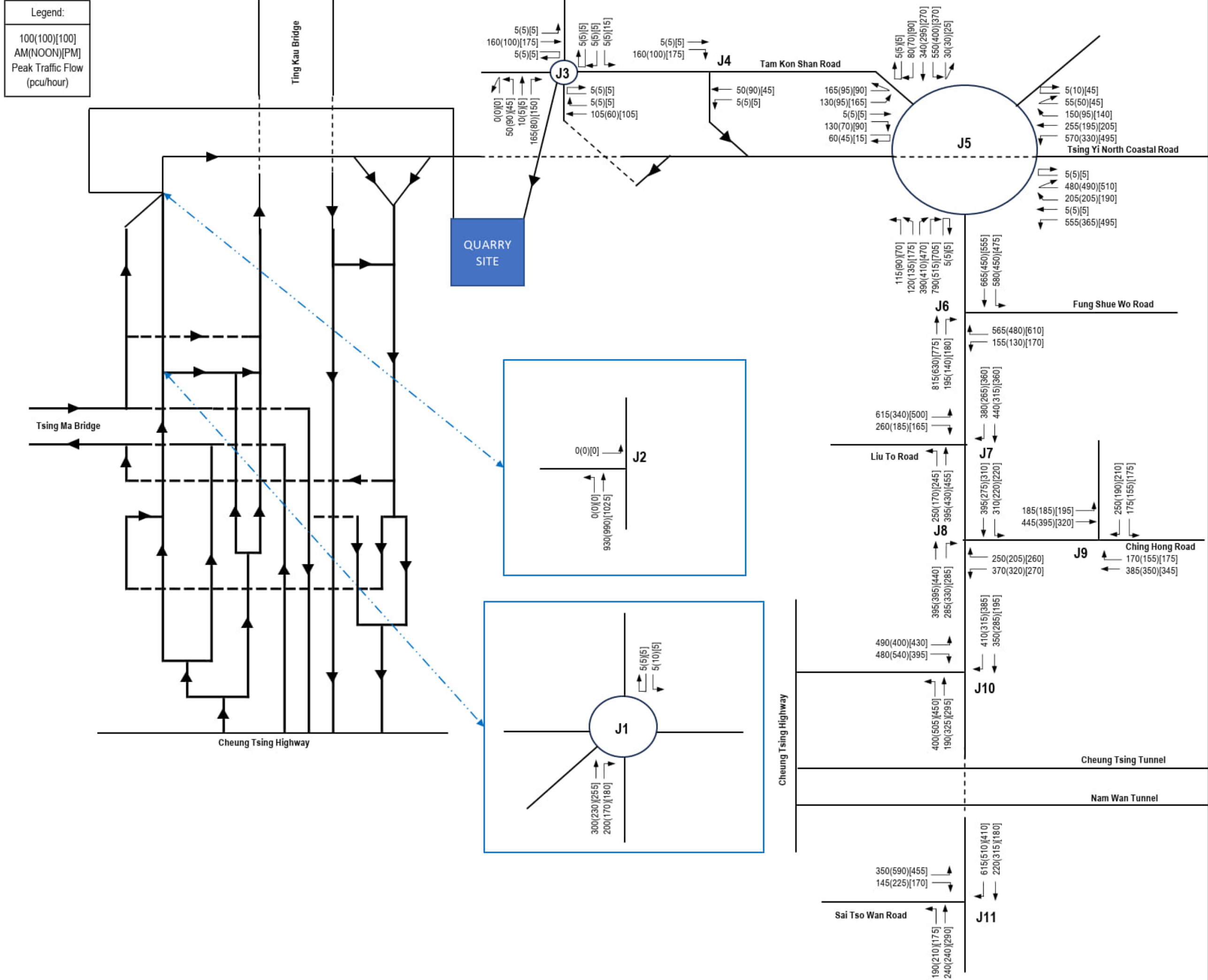
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60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DESIGN SCENARIO TRAFFIC
FLOWS – SCENARIO B (AFTER
IMPLEMENTATION OF TUNNEL TO
TKSR PORTA)

SHEET NUMBER
60733229/A20/Figure 4.5

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Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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KEY PLAN

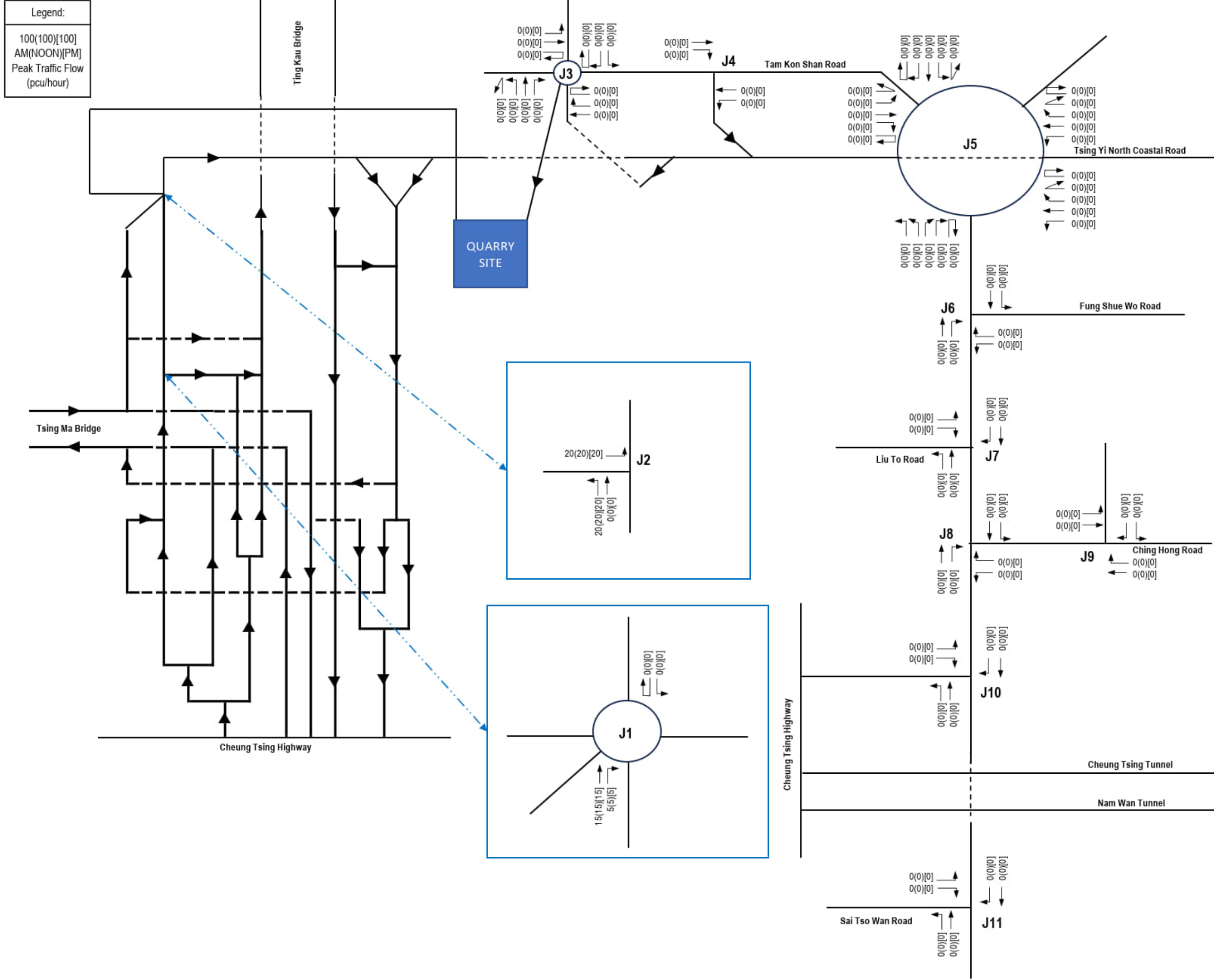
PROJECT NO. CONTRACT NO.
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 REFERENCE SCENARIO TRAFFIC
FLOWS (WITHOUT CONSTRUCTION
TRAFFIC)

SHEET NUMBER
60733229/A20/Figure 5.1

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Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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KEY PLAN

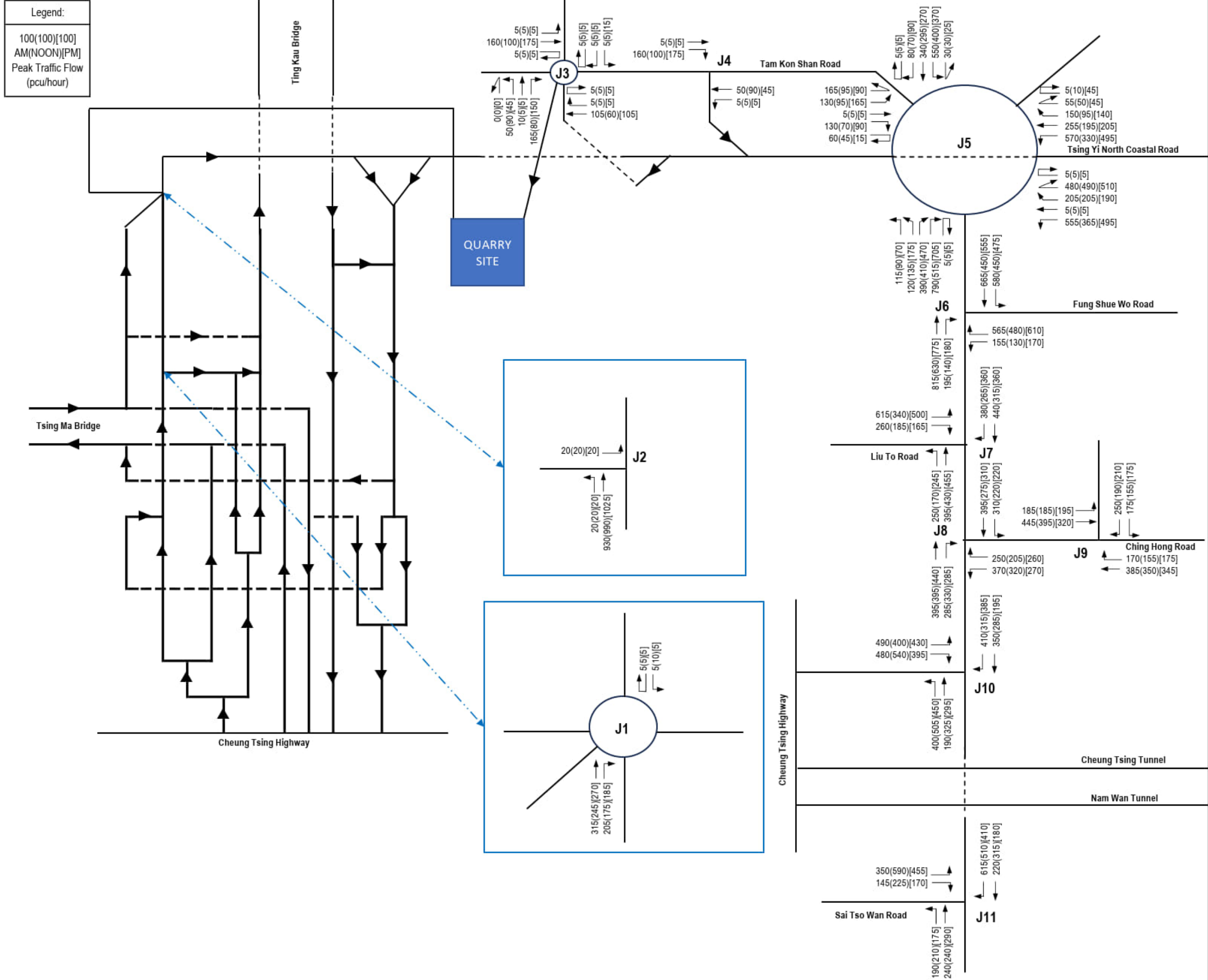
PROJECT NO. CONTRACT NO.
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 CONSTRUCTION TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 5.2

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Legend:
100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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KEY PLAN

PROJECT NO. CONTRACT NO.
60733229 CE 79/2023 (GE)

SHEET TITLE

2028 DESIGN SCENARIO TRAFFIC
FLOWS (WITH CONSTRUCTION
TRAFFIC)

SHEET NUMBER

60733229/A20/Figure 5.3

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Appendices

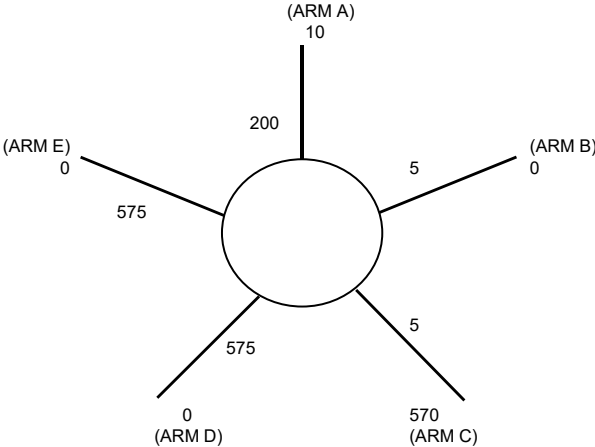
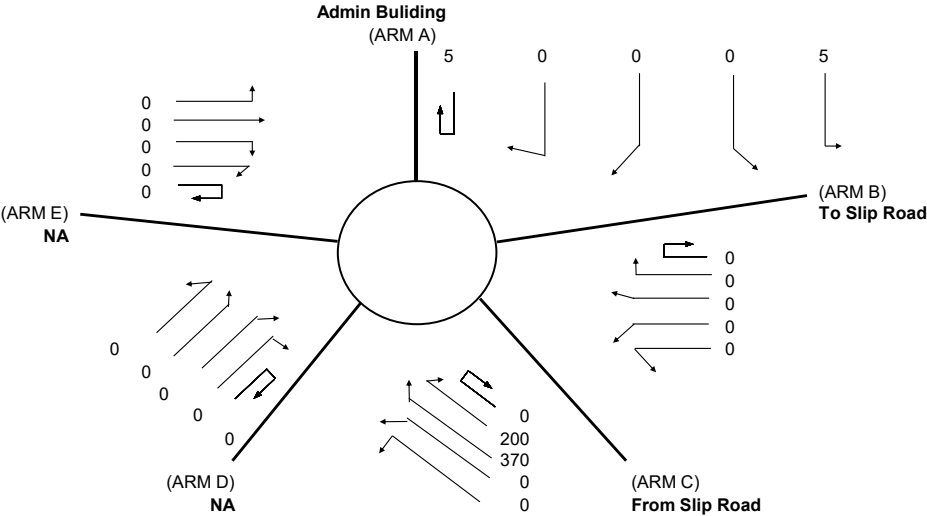
Appendix A

Junction Capacity Calculation Spreadsheets

ROUNDABOUT CAPACITY CALCULATION

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Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	570
Qc= Circulating flow across entry (pcu/h)	200	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1078	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.42

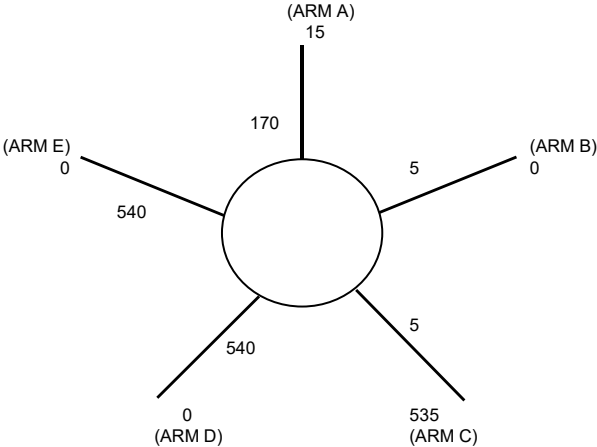
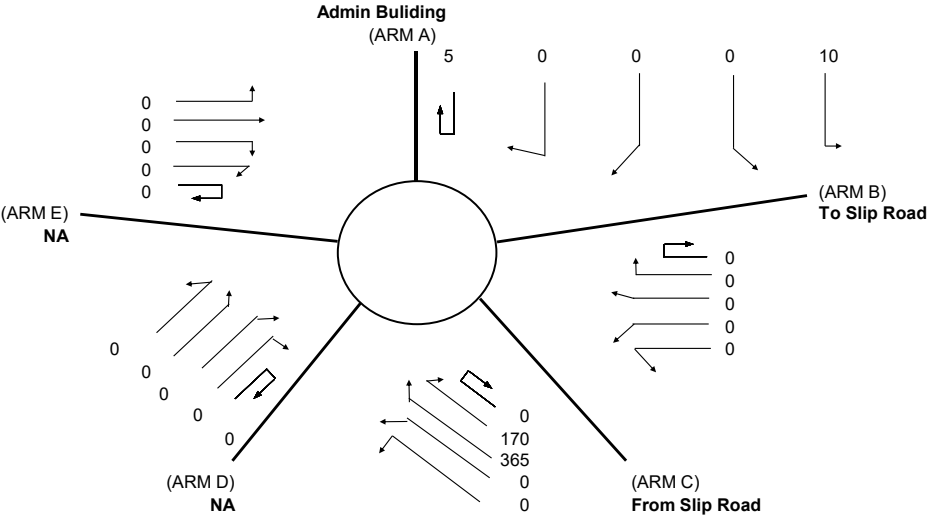
TOTAL ENTRY FLOWS = 580 PCU

CRITICAL DFC = 0.42

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	15	535
Qc= Circulating flow across entry (pcu/h)	170	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1095	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.39

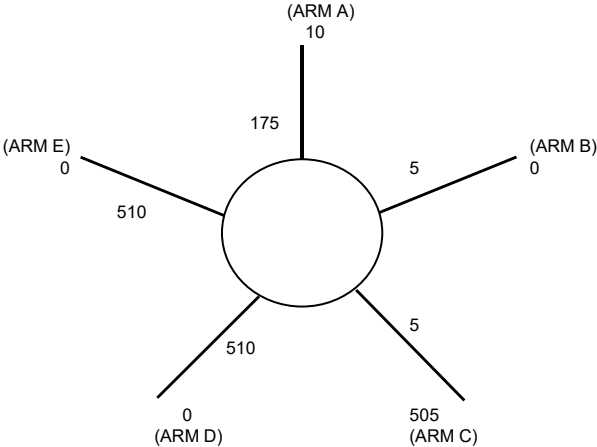
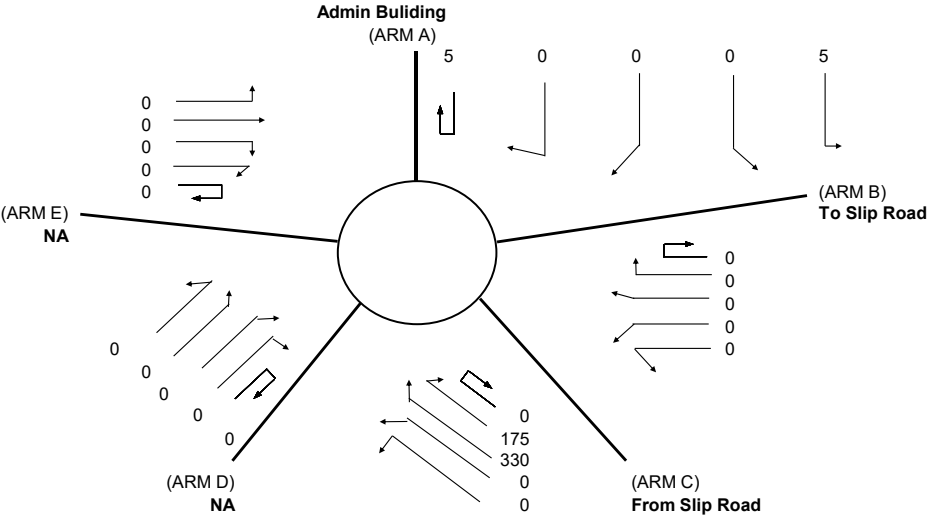
TOTAL ENTRY FLOWS = 550 PCU

CRITICAL DFC = 0.39

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	505
Qc= Circulating flow across entry (pcu/h)	175	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1092	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.37

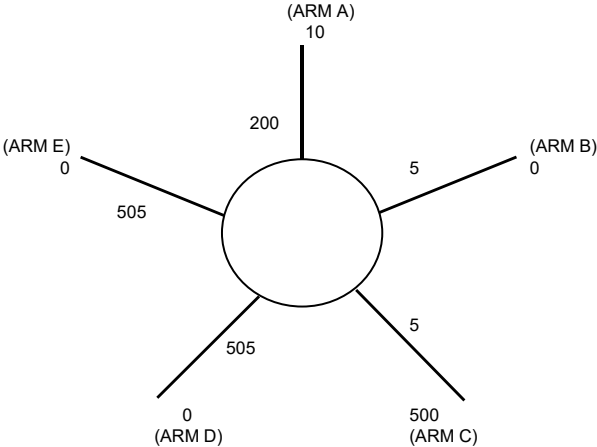
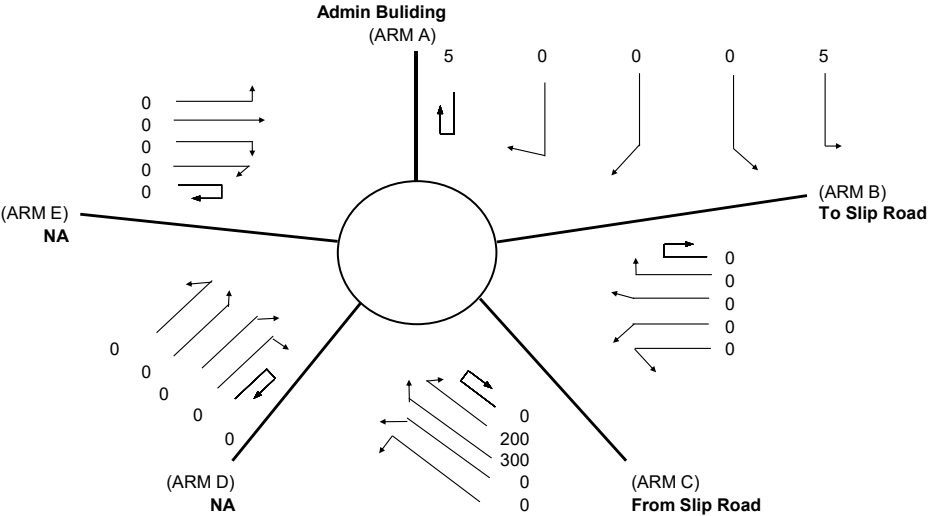
TOTAL ENTRY FLOWS = 515 PCU

CRITICAL DFC = 0.37

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



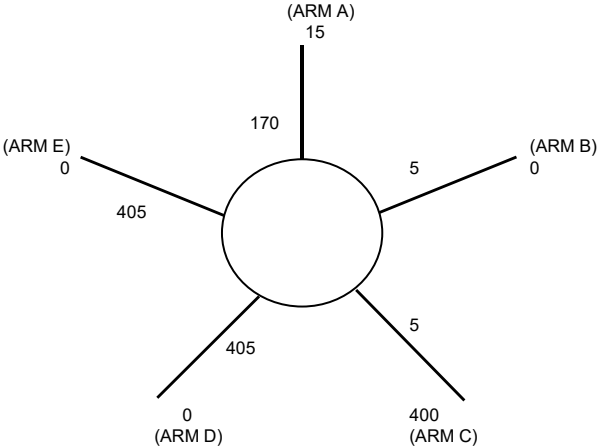
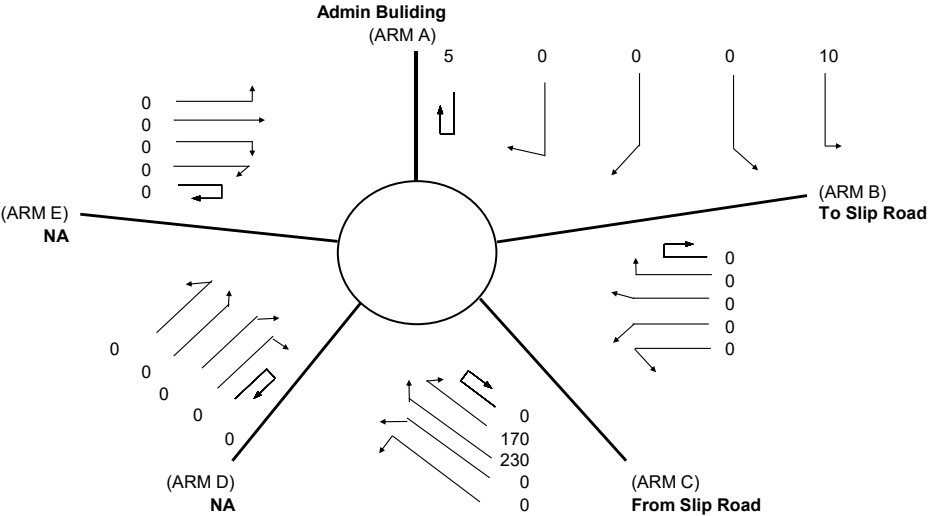
ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	500
Qc= Circulating flow across entry (pcu/h)	200	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1078	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.36

TOTAL ENTRY FLOWS = 510 PCU
 CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	15	400
Qc= Circulating flow across entry (pcu/h)	170	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1095	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.29

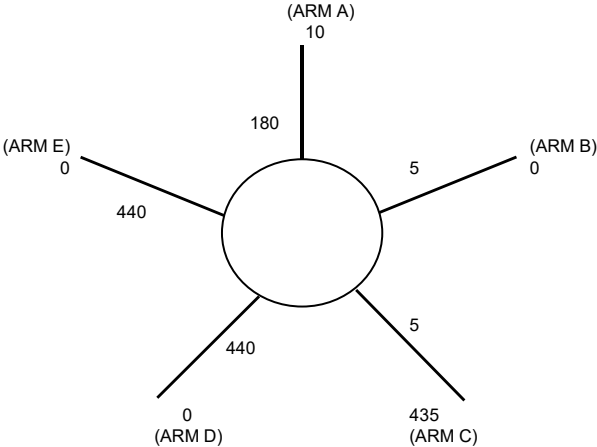
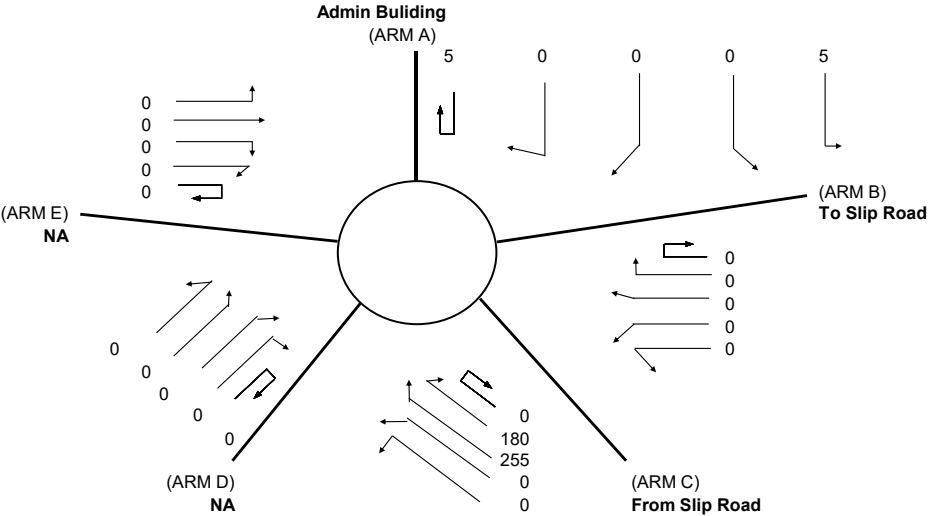
TOTAL ENTRY FLOWS = 415 PCU

CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION

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Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	435
Qc= Circulating flow across entry (pcu/h)	180	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1090	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.32

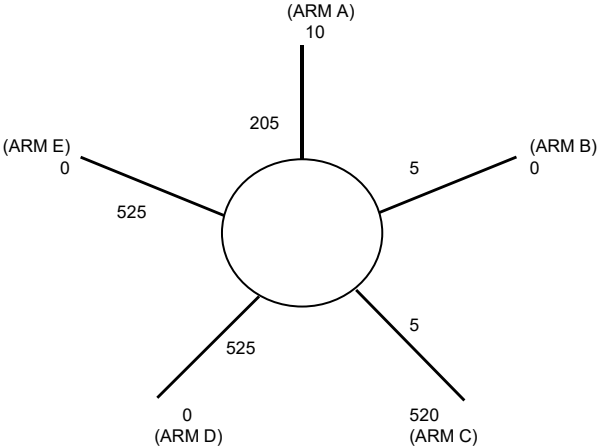
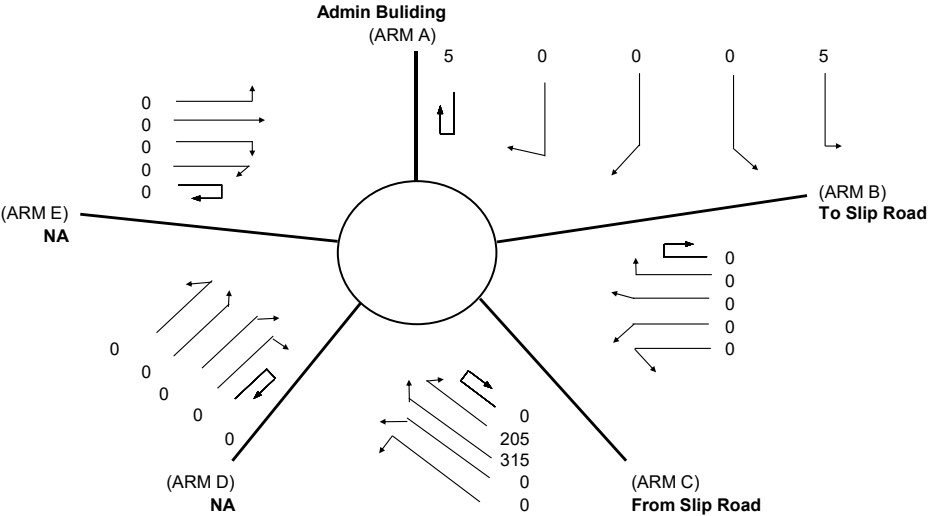
TOTAL ENTRY FLOWS = 445 PCU

CRITICAL DFC = 0.32

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	520
Qc= Circulating flow across entry (pcu/h)	205	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1075	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.38

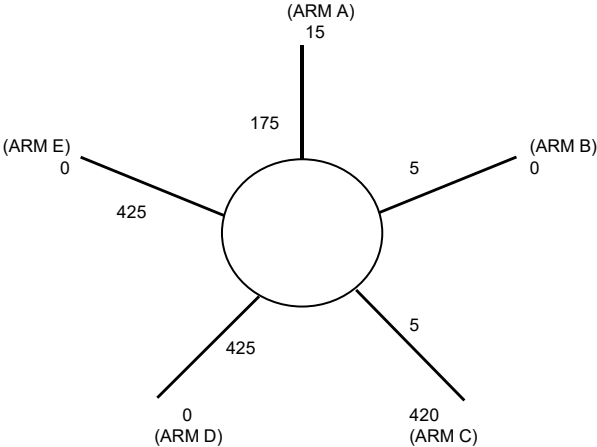
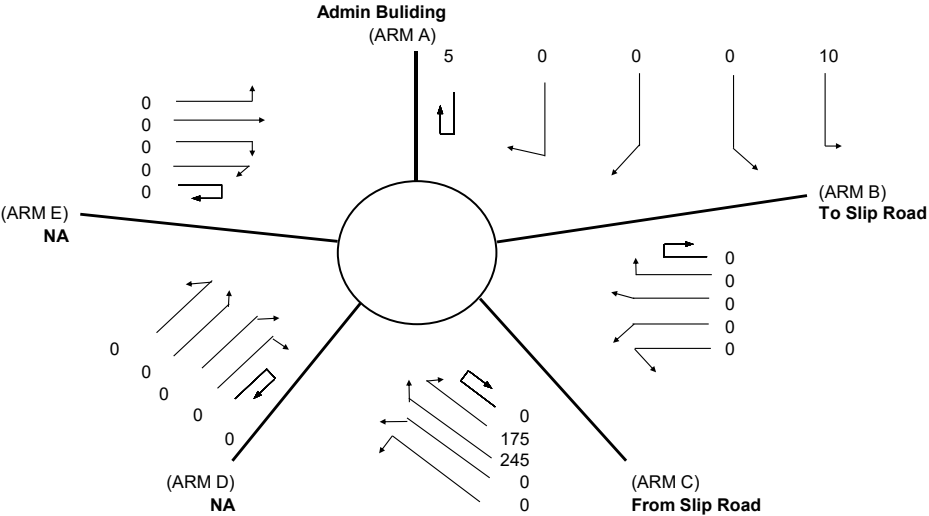
TOTAL ENTRY FLOWS = 530 PCU

CRITICAL DFC = 0.38

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	15	420
Qc= Circulating flow across entry (pcu/h)	175	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1092	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.31

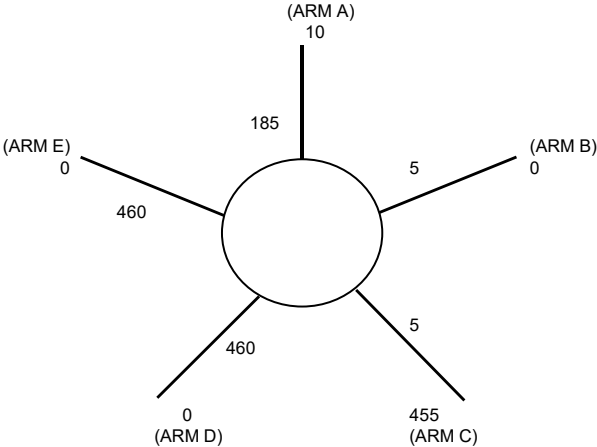
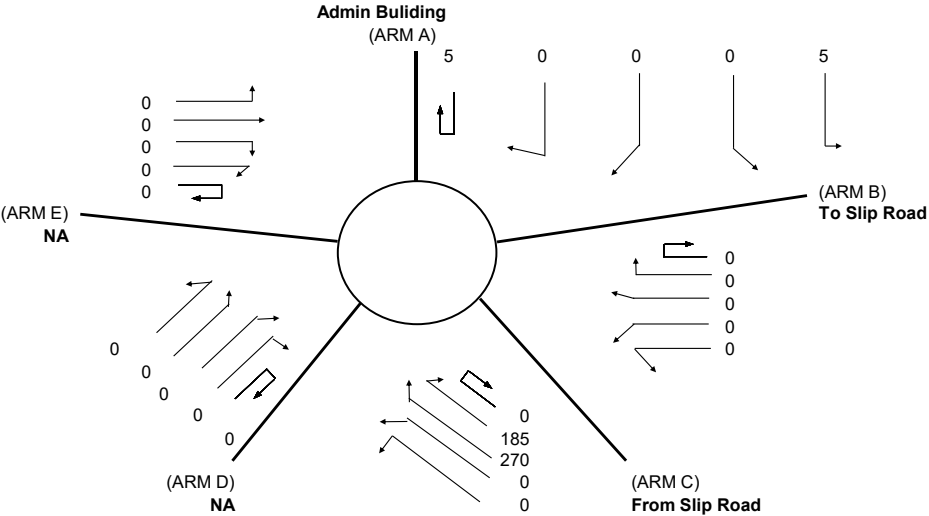
TOTAL ENTRY FLOWS = 435 PCU

CRITICAL DFC = 0.31

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	455
Qc= Circulating flow across entry (pcu/h)	185	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1087	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.33

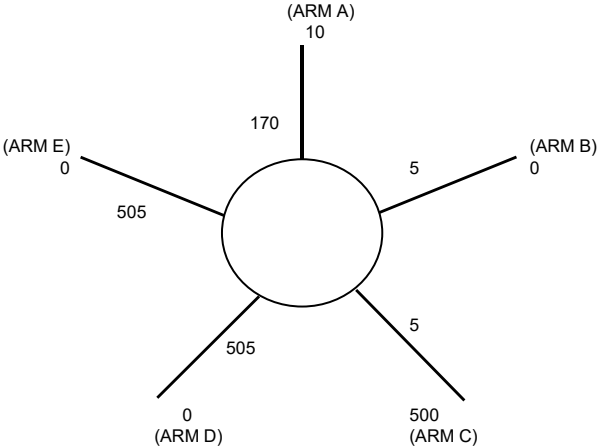
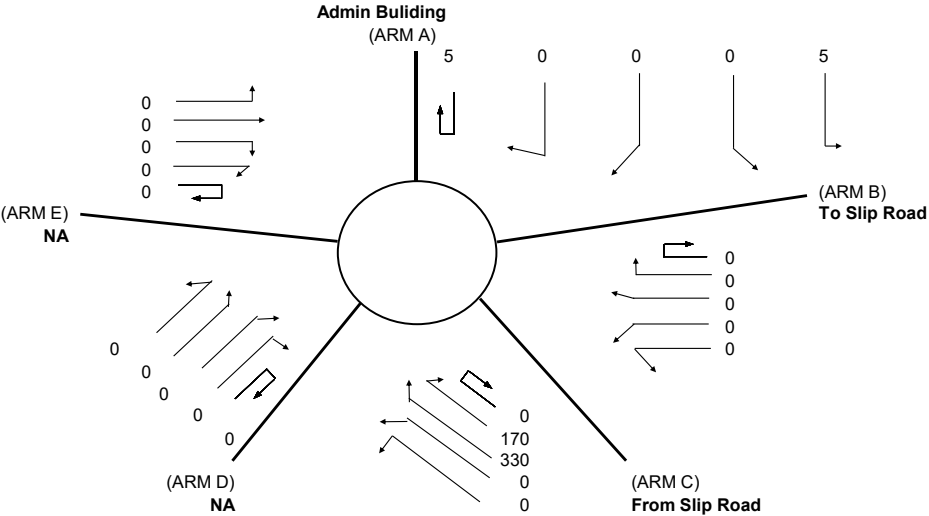
TOTAL ENTRY FLOWS = 465 PCU

CRITICAL DFC = 0.33

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	500
Qc= Circulating flow across entry (pcu/h)	170	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1095	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.36

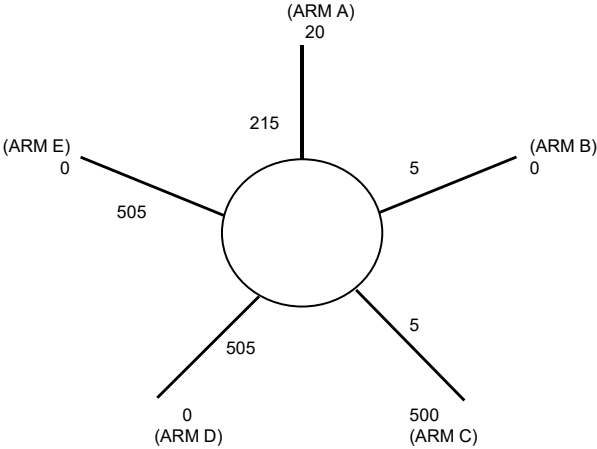
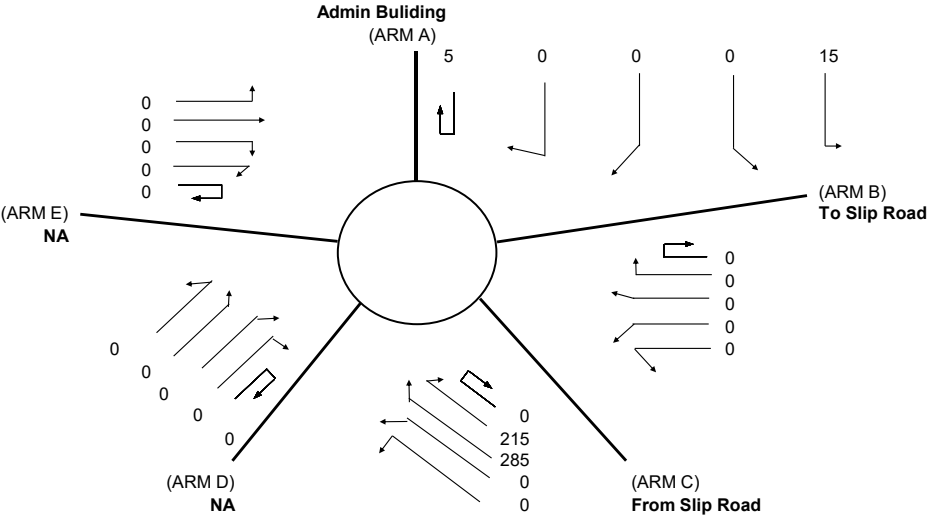
TOTAL ENTRY FLOWS = 510 PCU

CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	20	500
Qc= Circulating flow across entry (pcu/h)	215	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1069	1370
DFC = Design flow/Capacity = Q/Qe	0.02	0.36

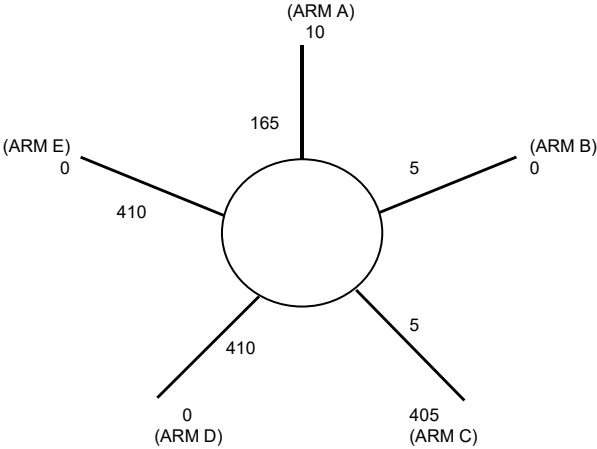
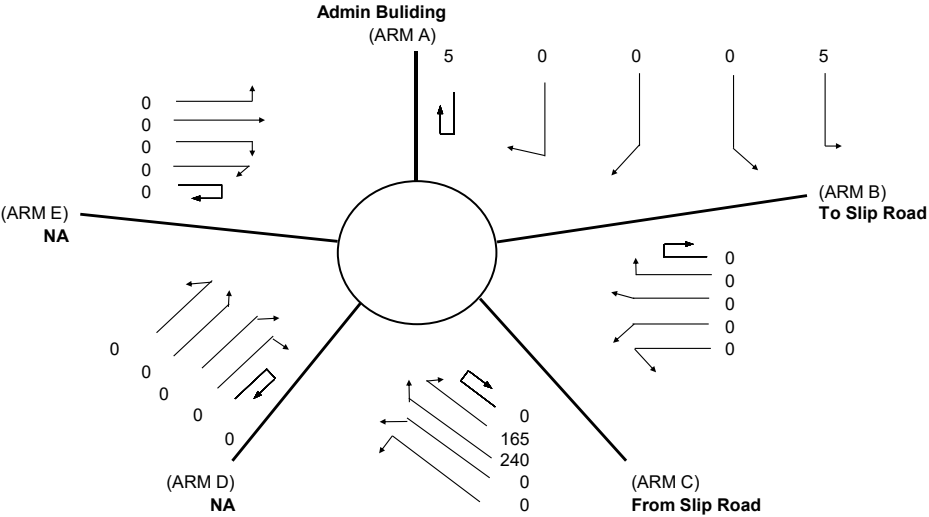
TOTAL ENTRY FLOWS = 520 PCU

CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	405
Qc= Circulating flow across entry (pcu/h)	165	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1098	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.30

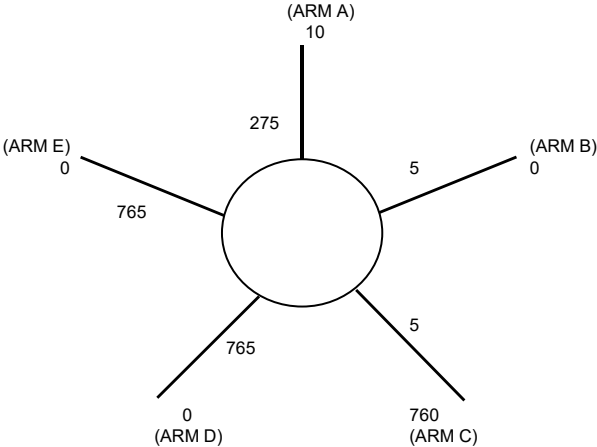
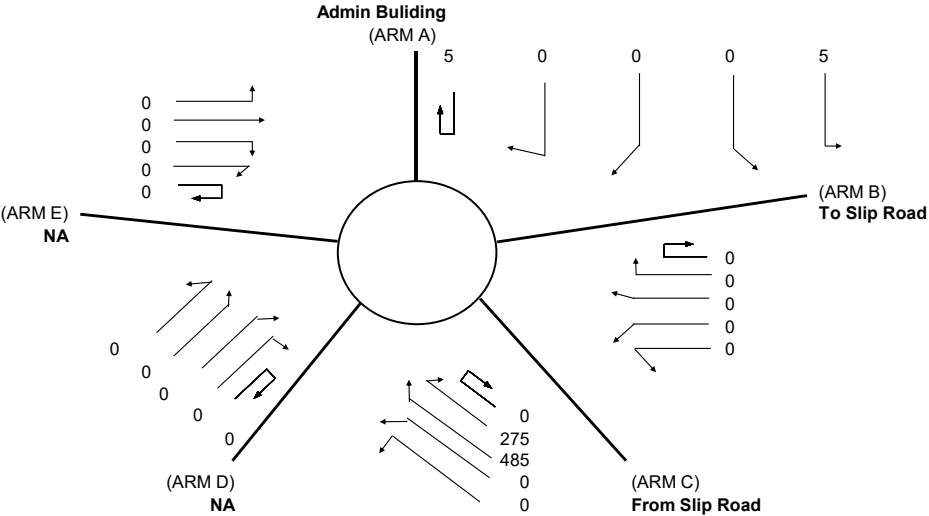
TOTAL ENTRY FLOWS = 415 PCU

CRITICAL DFC = 0.30

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	760
Qc= Circulating flow across entry (pcu/h)	275	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1035	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.55

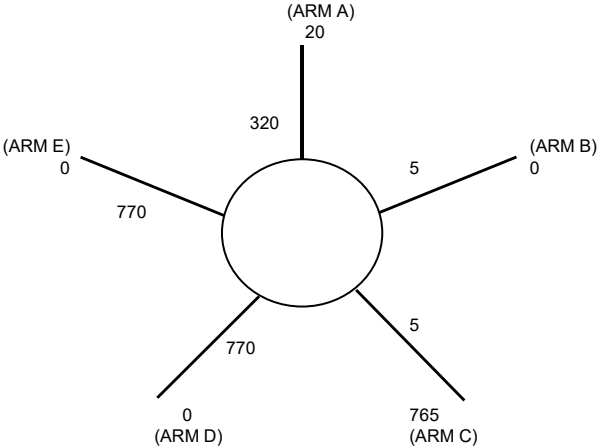
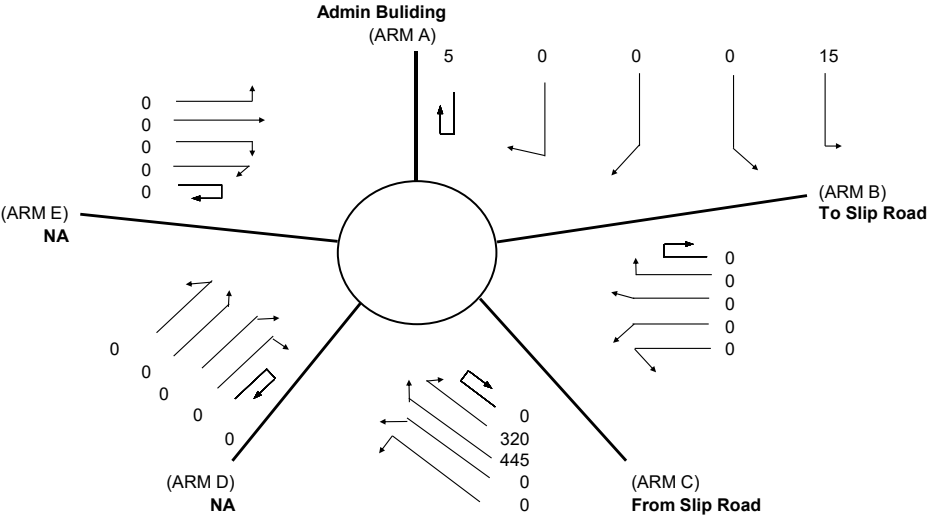
TOTAL ENTRY FLOWS = 770 PCU

CRITICAL DFC = 0.55

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A NN	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	20	765
Qc= Circulating flow across entry (pcu/h)	320	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1009	1370
DFC = Design flow/Capacity = Q/Qe	0.02	0.56

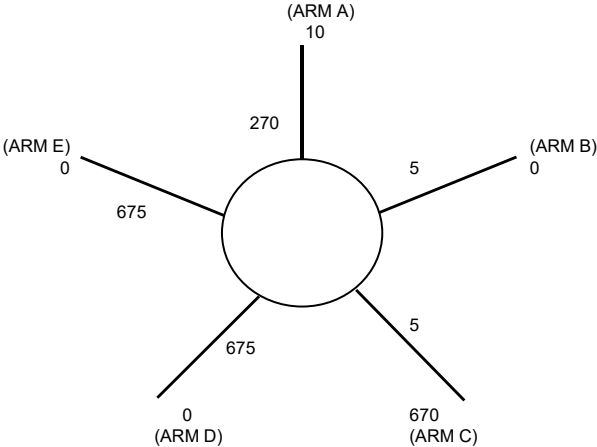
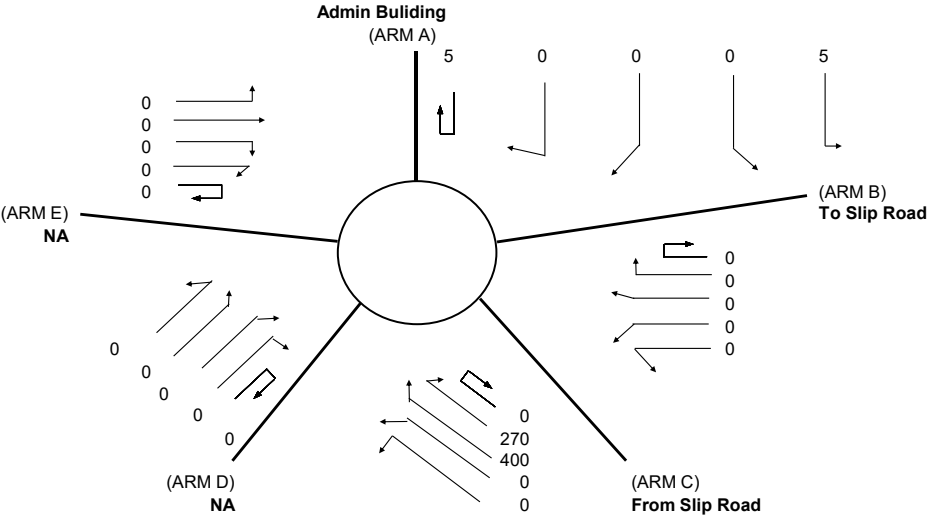
TOTAL ENTRY FLOWS = 785 PCU

CRITICAL DFC = 0.56

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	670
Qc= Circulating flow across entry (pcu/h)	270	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1037	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.49

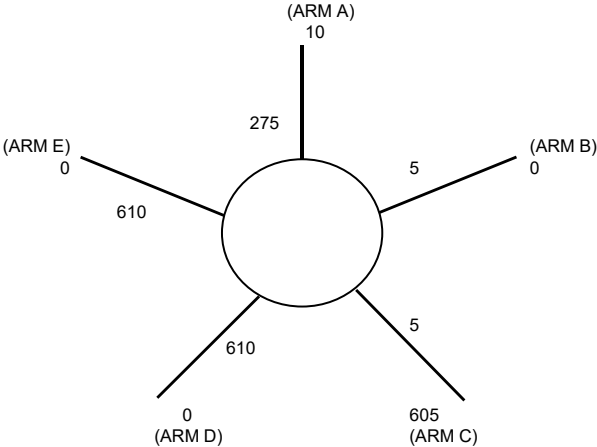
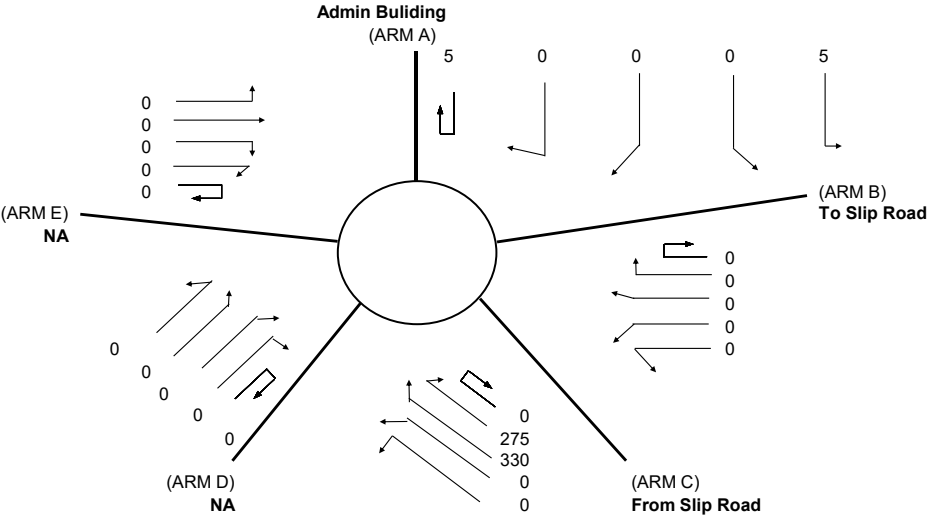
TOTAL ENTRY FLOWS = 680 PCU

CRITICAL DFC = 0.49

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	605
Qc= Circulating flow across entry (pcu/h)	275	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1035	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.44

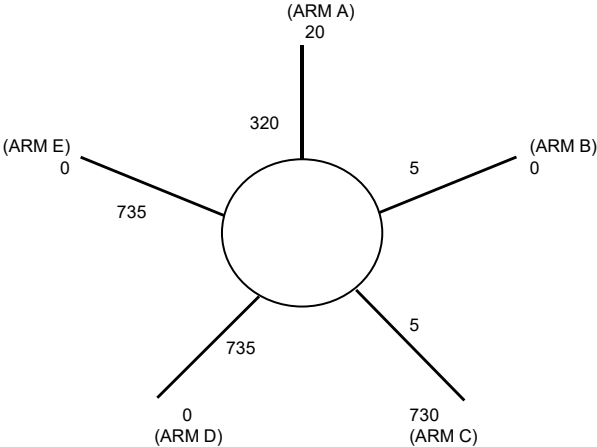
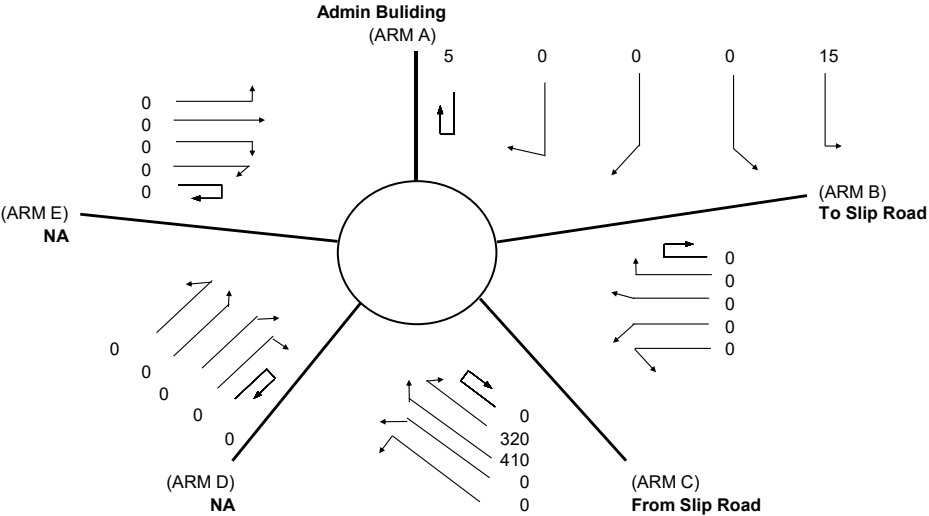
TOTAL ENTRY FLOWS = 615 PCU

CRITICAL DFC = 0.44

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B NN	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	20	730
Qc= Circulating flow across entry (pcu/h)	320	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1009	1370
DFC = Design flow/Capacity = Q/Qe	0.02	0.53

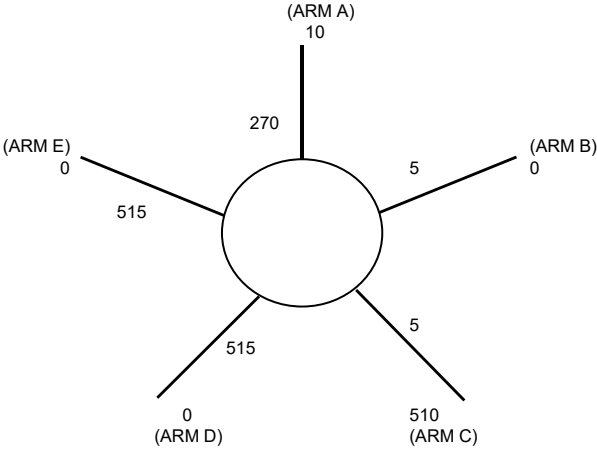
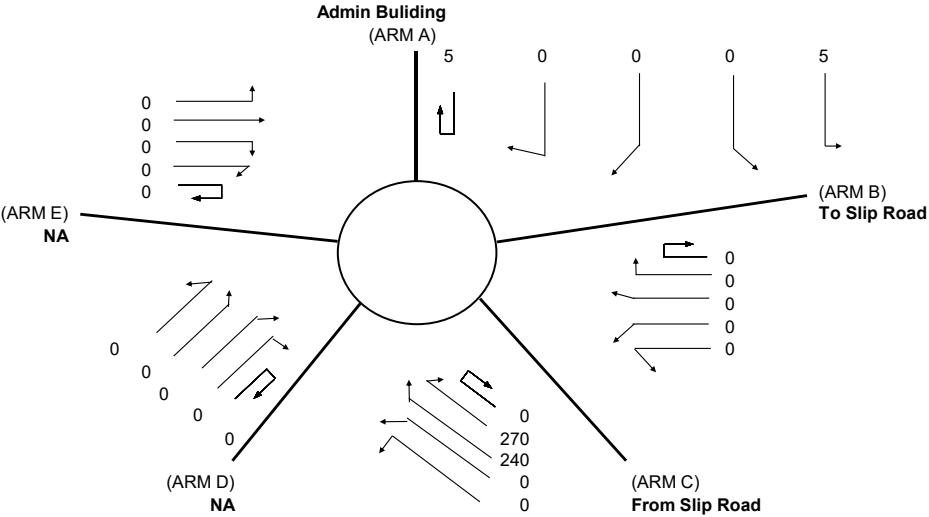
TOTAL ENTRY FLOWS = 750 PCU

CRITICAL DFC = 0.53

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	C
INPUT PARAMETERS:		
V = Approach half width (m)	3.65	4.20
E = Entry width (m)	3.65	4.20
L = Effective length of flare (m)	1.00	1.00
R = Entry radius (m)	25.00	25.00
D = Inscribed circle diameter (m)	31.00	31.00
A = Entry angle (degree)	10.00	10.00
Q = Entry flow (pcu/h)	10	510
Qc= Circulating flow across entry (pcu/h)	270	5
OUTPUT PARAMETERS:		
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.00
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.08
X2= V + ((E-V)/(1+2S))	3.65	4.20
M = EXP((D-60)/10)	0.06	0.06
F = 303*X2	1106	1273
Td= 1+(0.5/(1+M))	1.47	1.47
Fc= 0.21*Td(1+0.2*X2)	0.54	0.57
Qe= K(F-Fc*Qc)	1037	1370
DFC = Design flow/Capacity = Q/Qe	0.01	0.37

TOTAL ENTRY FLOWS = 520 PCU

CRITICAL DFC = 0.37

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J2 - North West Tsing Yi Interchange / Access Road

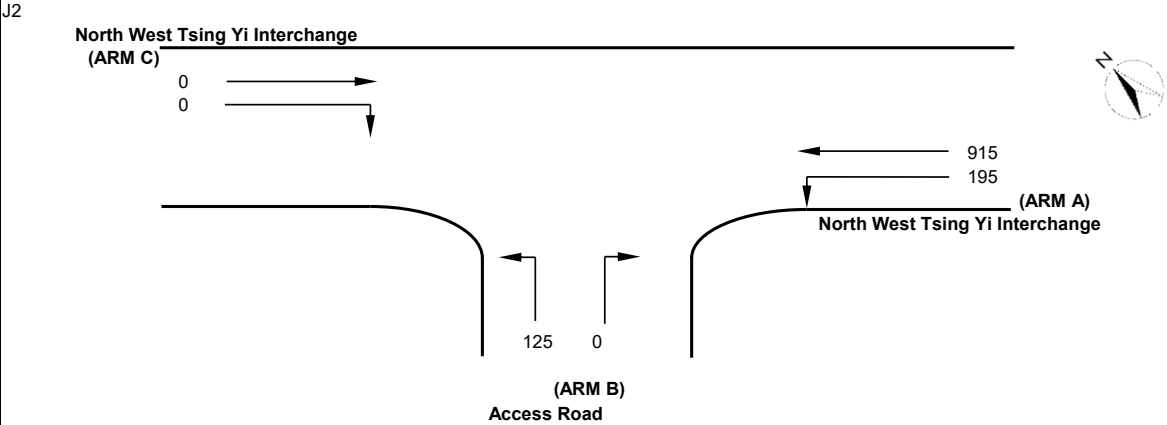
2025 Survey Case AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 195 (pcu/hour)

q a-c = 915 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 125 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 168

Q b-c = 477

Q c-b = 232

Q b-ac = 477

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.26

DFC c-b = 0.00

DFC b-ac = 0.26

CRITICAL DFC = 0.26

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

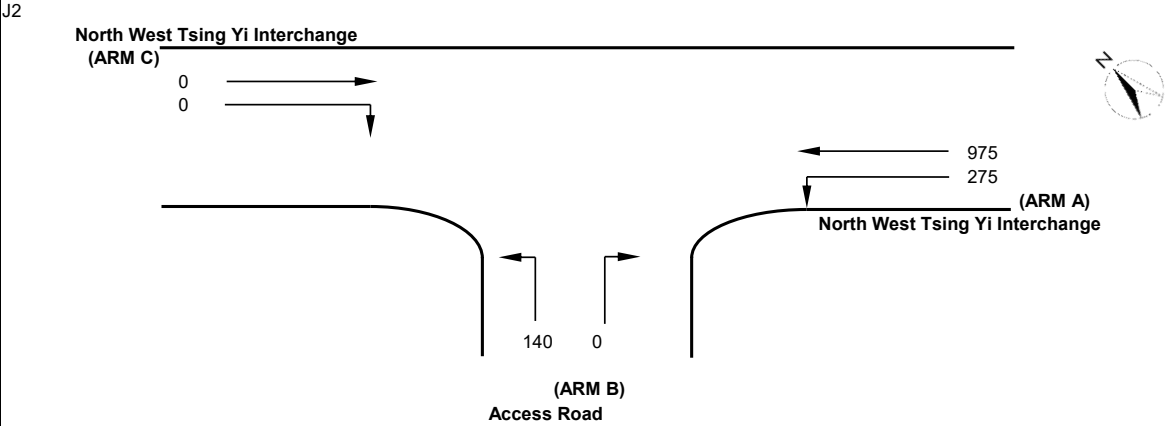
2025 Survey Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 275 (pcu/hour)

q a-c = 975 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 140 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 153

Q b-c = 445

Q c-b = 207

Q b-ac = 445

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.31

DFC c-b = 0.00

DFC b-ac = 0.31

CRITICAL DFC = 0.31

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J2 - North West Tsing Yi Interchange / Access Road

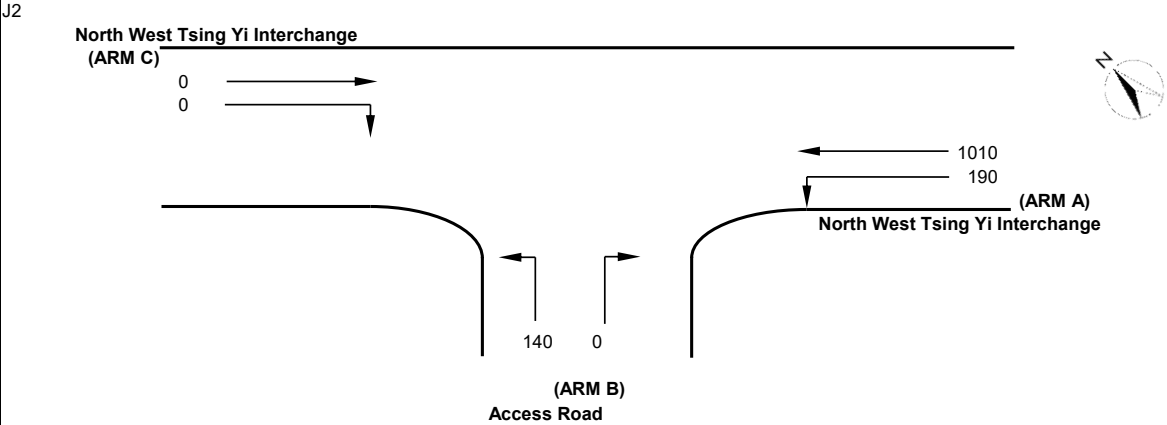
2025 Survey Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 190 (pcu/hour)

q a-c = 1010 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 140 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 153

Q b-c = 444

Q c-b = 216

Q b-ac = 444

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.32

DFC c-b = 0.00

DFC b-ac = 0.32

CRITICAL DFC = 0.32

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

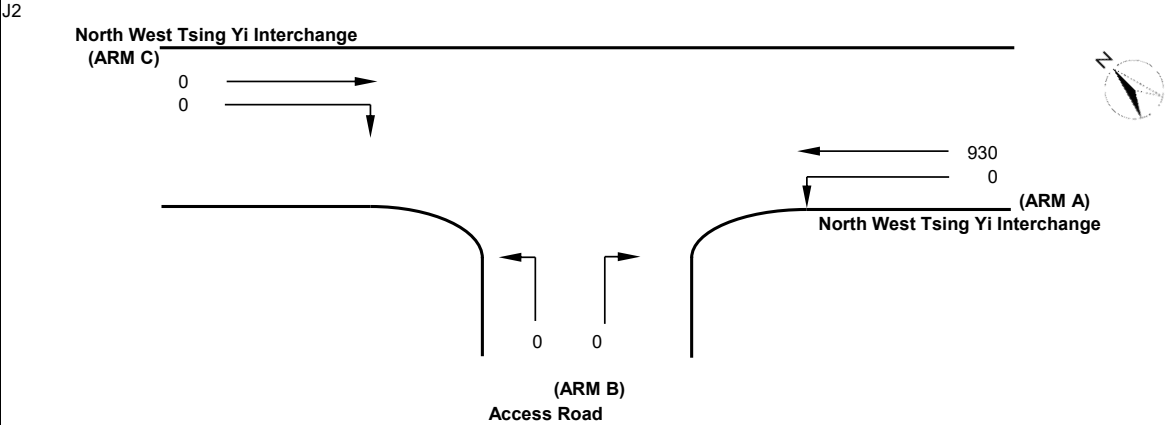
2028 Reference Case AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 0 (pcu/hour)

q a-c = 930 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 179

Q b-c = 498

Q c-b = 266

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.00

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.00

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J2 - North West Tsing Yi Interchange / Access Road

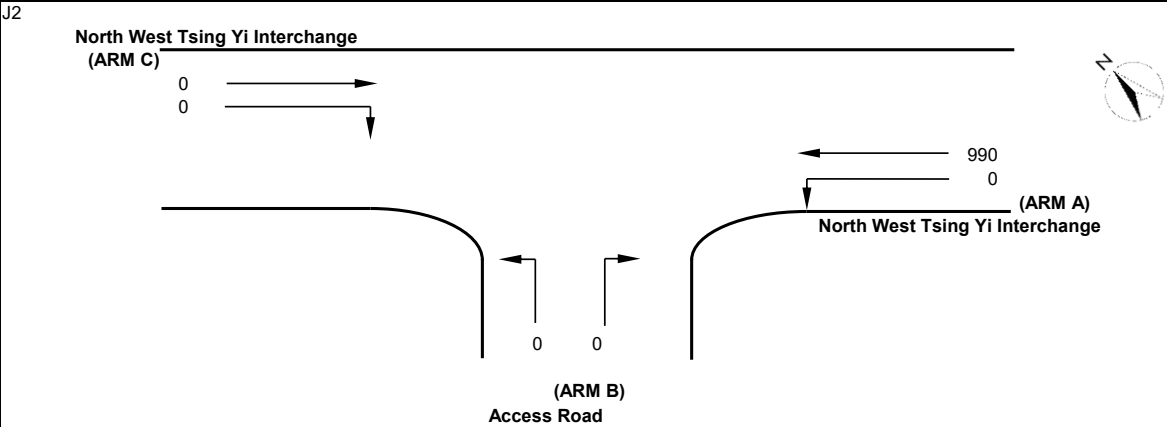
2028 Reference Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 0 (pcu/hour)

q a-c = 990 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 169

Q b-c = 477

Q c-b = 255

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.00

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.00

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

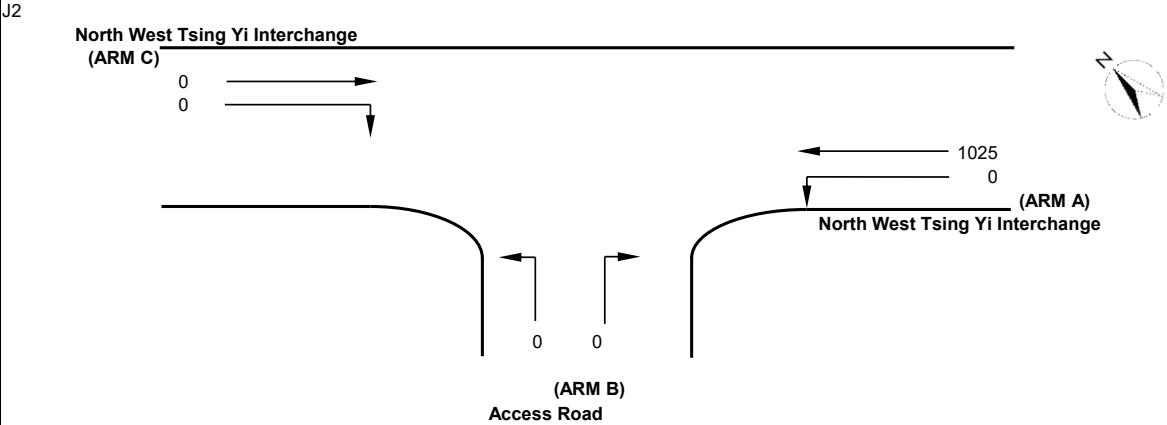
2028 Reference Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 0 (pcu/hour)

q a-c = 1025 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 163

Q b-c = 465

Q c-b = 248

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.00

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.00

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

2028 Design Case AM

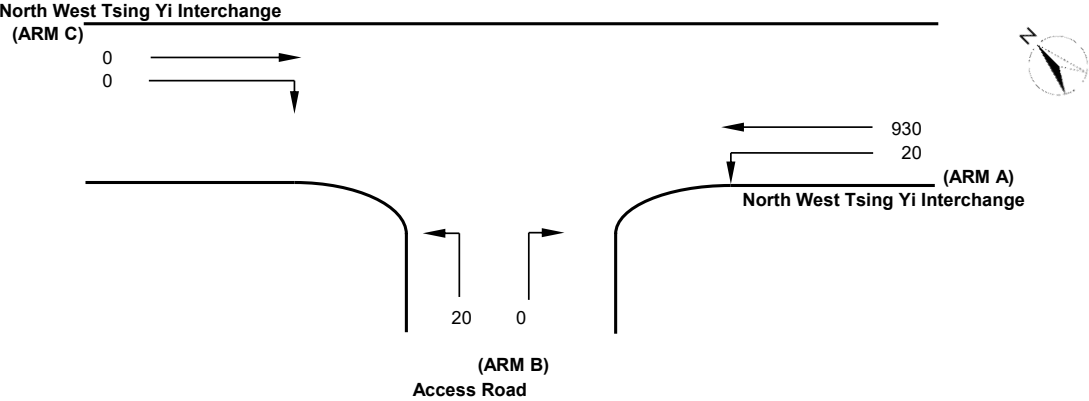
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 20 (pcu/hour)
q a-c = 930 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 20 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 177
Q b-c = 495
Q c-b = 262
Q b-ac = 495

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.04
DFC c-b = 0.00
DFC b-ac = 0.04

CRITICAL DFC = 0.04

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

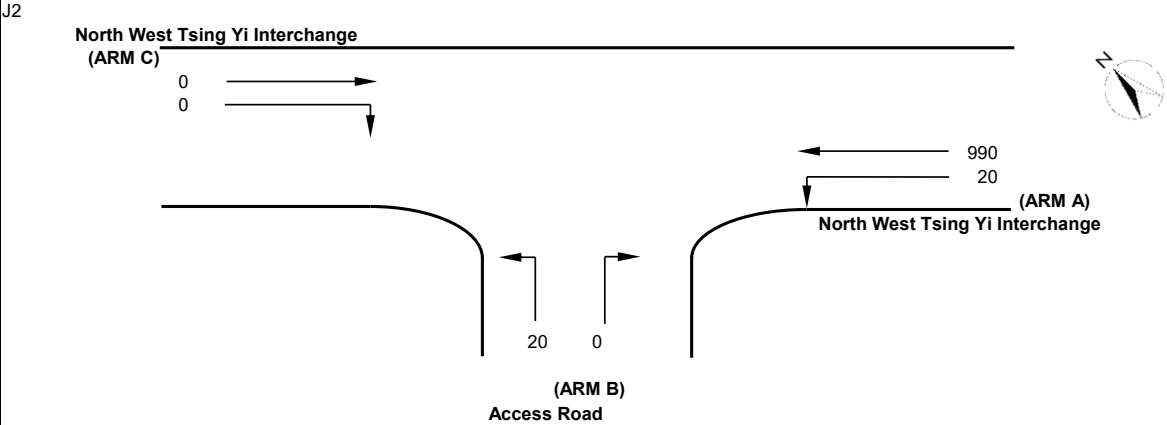
2028 Design Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 20 (pcu/hour)
q a-c = 990 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 20 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 167
Q b-c = 475
Q c-b = 251
Q b-ac = 475

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.04
DFC c-b = 0.00
DFC b-ac = 0.04

CRITICAL DFC = 0.04

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

2028 Design Case PM

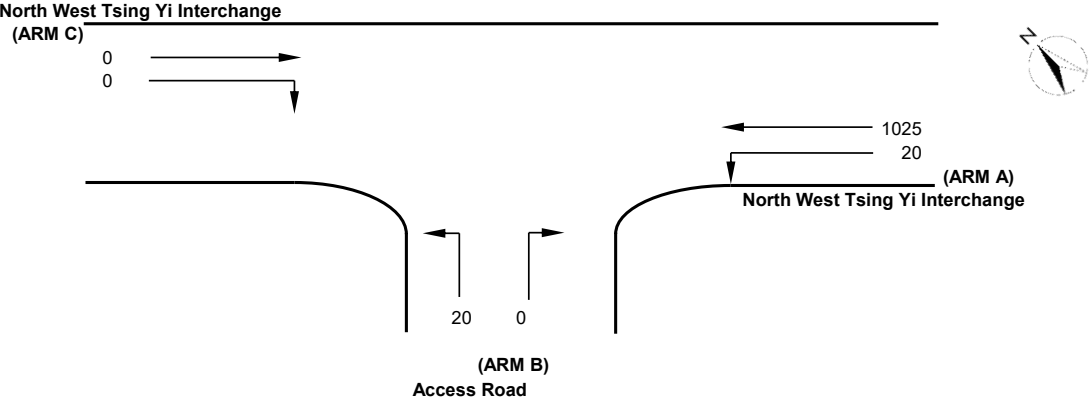
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 20 (pcu/hour)
q a-c = 1025 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 20 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 162
Q b-c = 462
Q c-b = 244
Q b-ac = 462

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.04
DFC c-b = 0.00
DFC b-ac = 0.04

CRITICAL DFC = 0.04

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J2 - North West Tsing Yi Interchange / Access Road

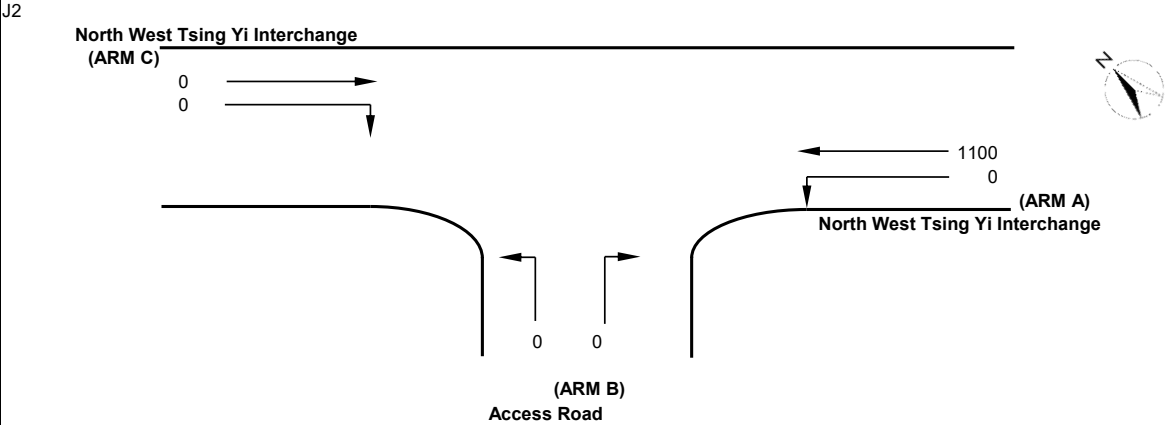
2031 Reference Case AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00 (metres)
W cr	=	0.00 (metres)
q a-b	=	0 (pcu/hour)
q a-c	=	1100 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a	=	0.00 (metres)
W b-c	=	4.70 (metres)
VI b-a	=	0 (metres)
Vr b-a	=	0 (metres)
Vr b-c	=	120 (metres)
q b-a	=	0 (pcu/hour)
q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	150
Q b-c	=	439
Q c-b	=	234
Q b-ac	=	#DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

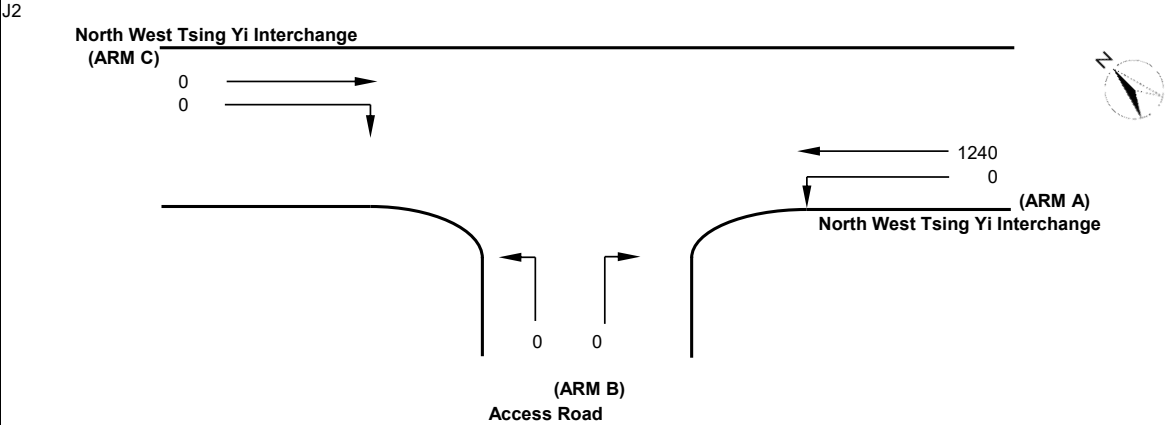
2031 Reference Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 0 (pcu/hour)

q a-c = 1240 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 127

Q b-c = 391

Q c-b = 209

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.00

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.00

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

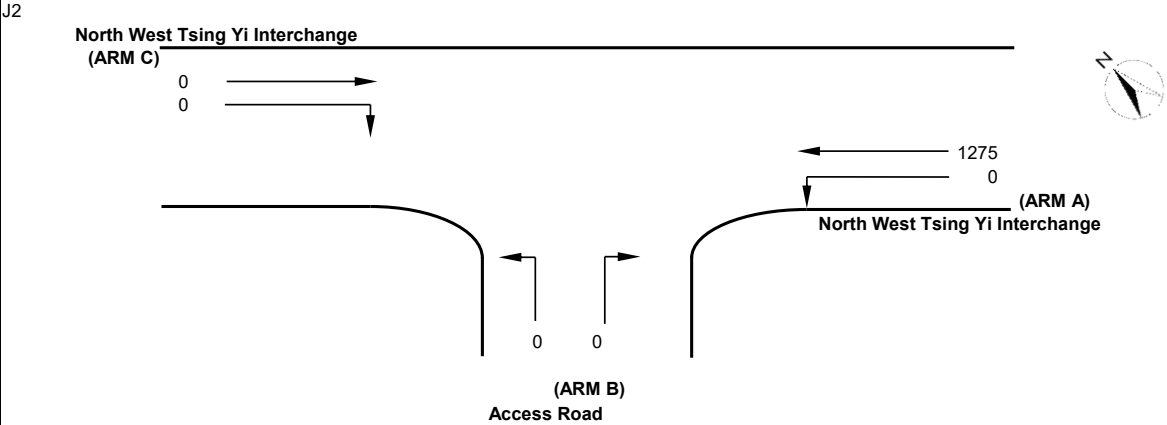
2031 Reference Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 0 (pcu/hour)
q a-c = 1275 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 121
Q b-c = 379
Q c-b = 202
Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.00
DFC c-b = 0.00
DFC b-ac = #DIV/0!

CRITICAL DFC = 0.00

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road

2031 Scenario A AM

Designed By : MKC

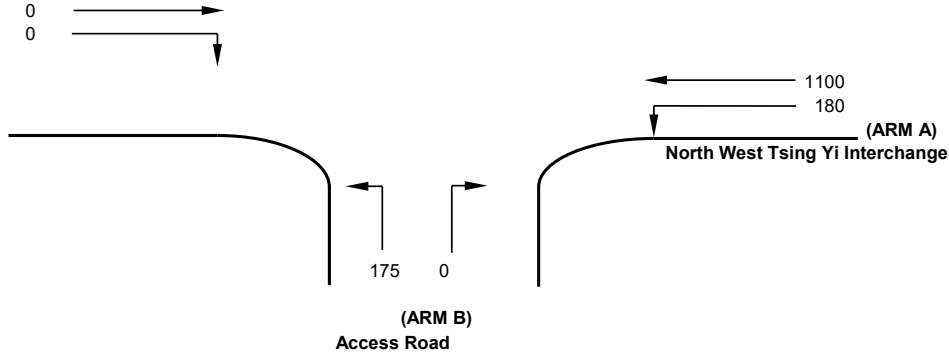
Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2

North West Tsing Yi Interchange
(ARM C)



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 180 (pcu/hour)
q a-c = 1100 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 175 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 138
Q b-c = 415
Q c-b = 201
Q b-ac = 415

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.42
DFC c-b = 0.00
DFC b-ac = 0.42

CRITICAL DFC = 0.42

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

2031 Scenario A NN

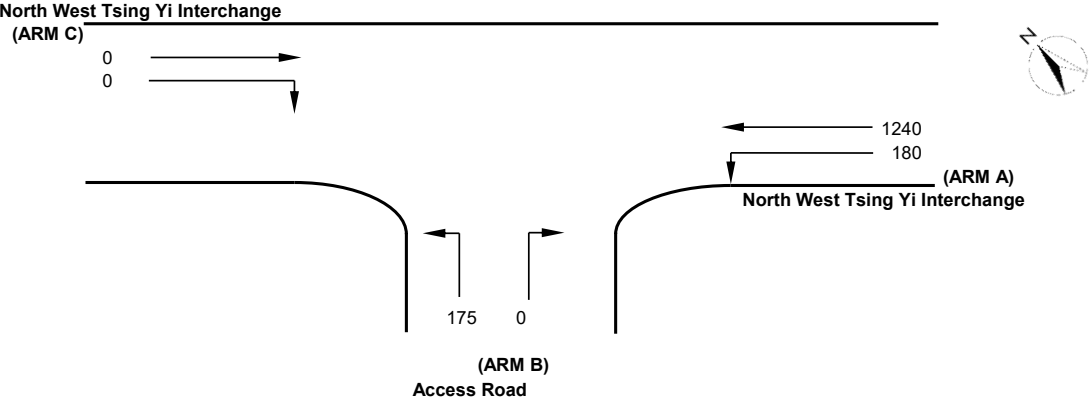
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 180 (pcu/hour)
q a-c = 1240 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 175 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 115
Q b-c = 367
Q c-b = 175
Q b-ac = 367

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.48
DFC c-b = 0.00
DFC b-ac = 0.48

CRITICAL DFC = 0.48

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road

2031 Scenario A PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2

North West Tsing Yi Interchange

(ARM C)

0
0



1275
180

(ARM A)

North West Tsing Yi Interchange

175

0

(ARM B)

Access Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 180 (pcu/hour)
q a-c = 1275 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 175 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 109
Q b-c = 354
Q c-b = 169
Q b-ac = 354

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.49
DFC c-b = 0.00
DFC b-ac = 0.49

CRITICAL DFC = 0.49

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J2 - North West Tsing Yi Interchange / Access Road

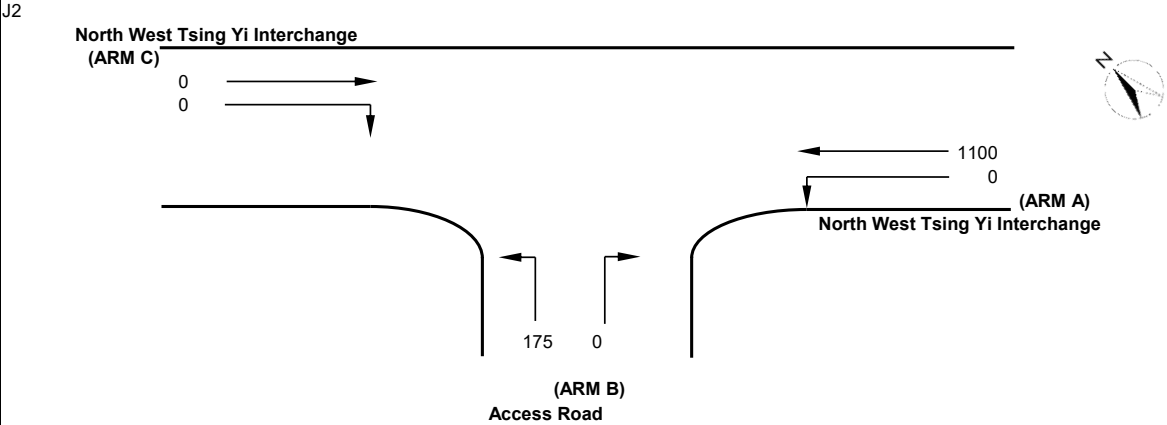
2031 Scenario B AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)

W cr = 0.00 (metres)

q a-b = 0 (pcu/hour)

q a-c = 1100 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 0.00 (metres)

Vr c-b = 0 (metres)

q c-a = 0 (pcu/hour)

q c-b = 0 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 4.70 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 120 (metres)

q b-a = 0 (pcu/hour)

q b-c = 175 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 1.10

F = 0.59

Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 150

Q b-c = 439

Q c-b = 234

Q b-ac = 439

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.40

DFC c-b = 0.00

DFC b-ac = 0.40

CRITICAL DFC = 0.40

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road

2031 Scenario B NN

Designed By : MKC

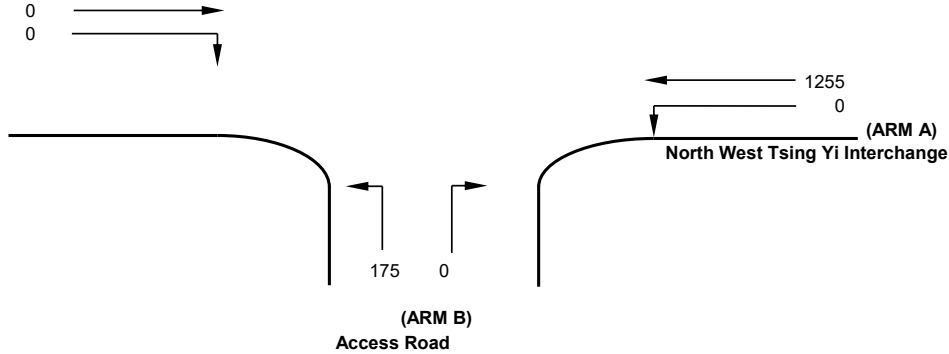
Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2

North West Tsing Yi Interchange
(ARM C)



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 0 (pcu/hour)
q a-c = 1255 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 175 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 124
Q b-c = 386
Q c-b = 206
Q b-ac = 386

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.45
DFC c-b = 0.00
DFC b-ac = 0.45

CRITICAL DFC = 0.45

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road

2031 Scenario B PM

Designed By : MKC

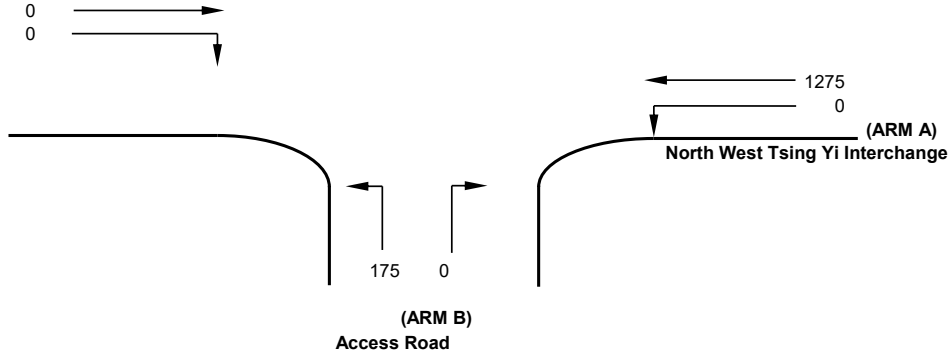
Checked By : LC

Job No. : 60733229

Date : Nov 2025

J2

North West Tsing Yi Interchange
(ARM C)



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 4.00 (metres)
W cr = 0.00 (metres)
q a-b = 0 (pcu/hour)
q a-c = 1275 (pcu/hour)

MAJOR ROAD (ARM C)

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

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)
W b-c = 4.70 (metres)
Vl b-a = 0 (metres)
Vr b-a = 0 (metres)
Vr b-c = 120 (metres)
q b-a = 0 (pcu/hour)
q b-c = 175 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53
E = 1.10
F = 0.59
Y = 0.86

THE CAPACITY OF MOVEMENT :

Q b-a = 121
Q b-c = 379
Q c-b = 202
Q b-ac = 379

COMPARISON OF DESIGN FLOW TO CAPACITY :

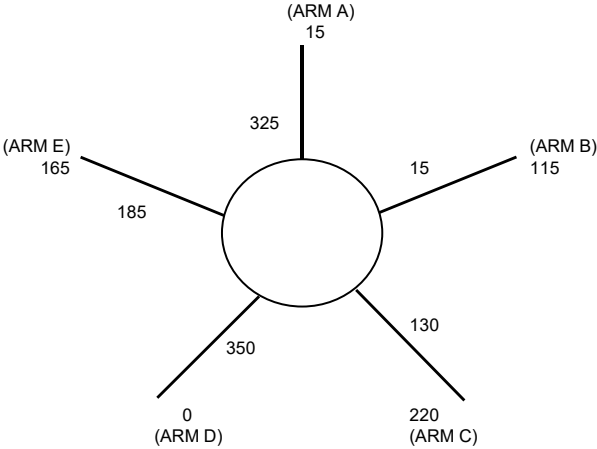
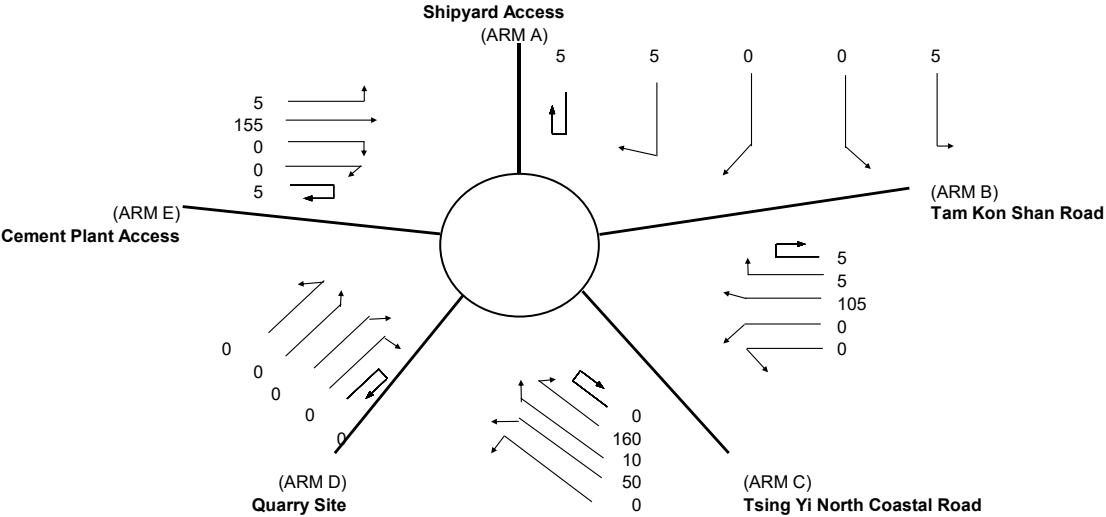
DFC b-a = 0.00
DFC b-c = 0.46
DFC c-b = 0.00
DFC b-ac = 0.46

CRITICAL DFC = 0.46

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	220	0	165
Qc= Circulating flow across entry (pcu/h)	325	15	130	350	185
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1265	1781	1196	1715	1345
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.18	0.00	0.12

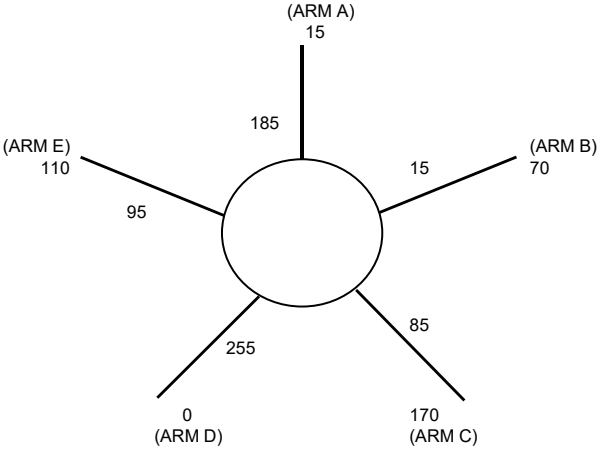
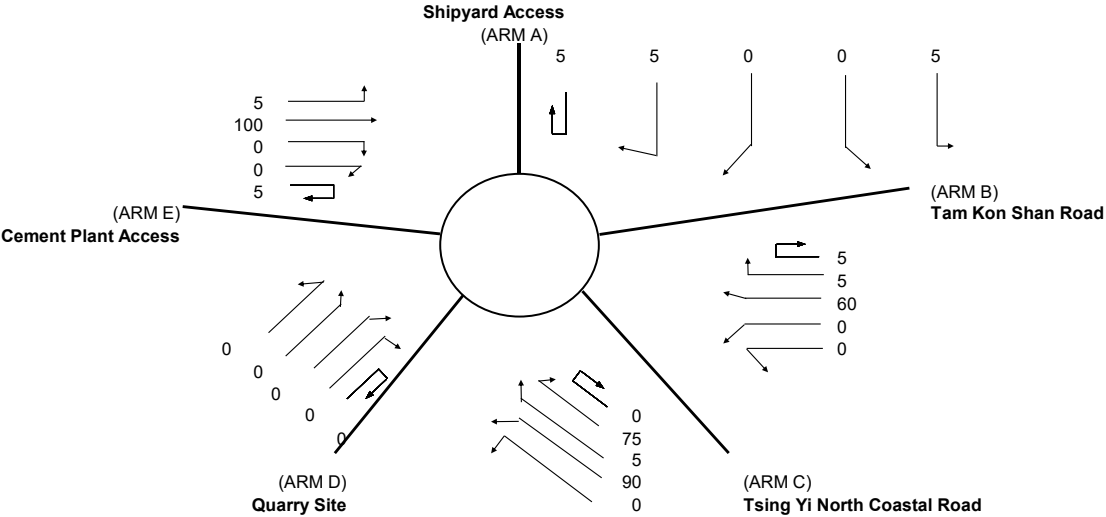
TOTAL ENTRY FLOWS = 515 PCU

CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case NN	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	70	170	0	110
Qc= Circulating flow across entry (pcu/h)	185	15	85	255	95
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1348	1781	1223	1779	1400
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.00	0.08

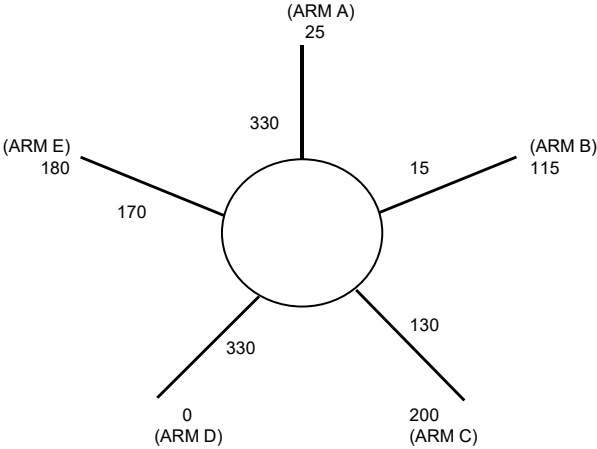
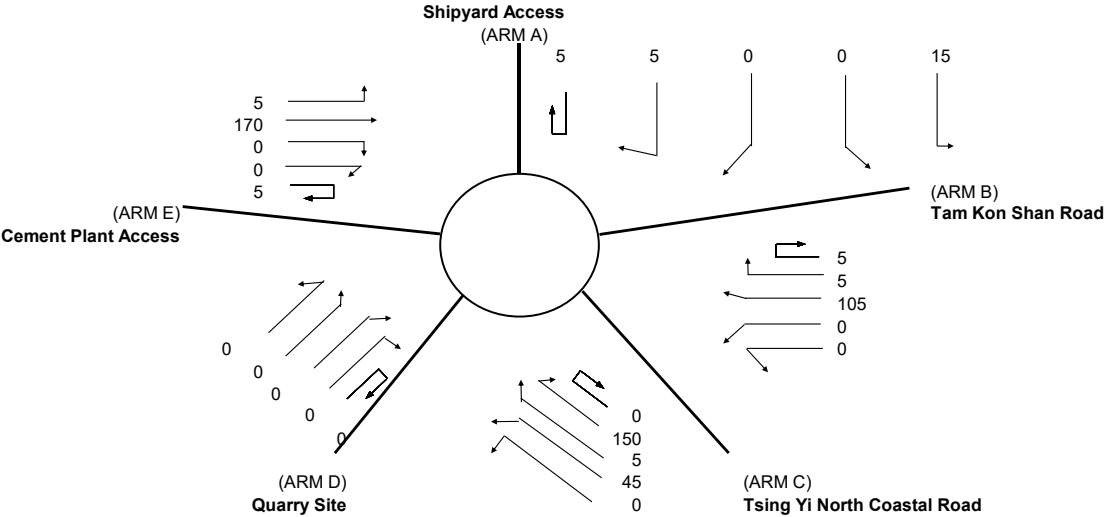
TOTAL ENTRY FLOWS = 365 PCU

CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	200	0	180
Qc= Circulating flow across entry (pcu/h)	330	15	130	330	170
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1262	1781	1196	1728	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.00	0.13

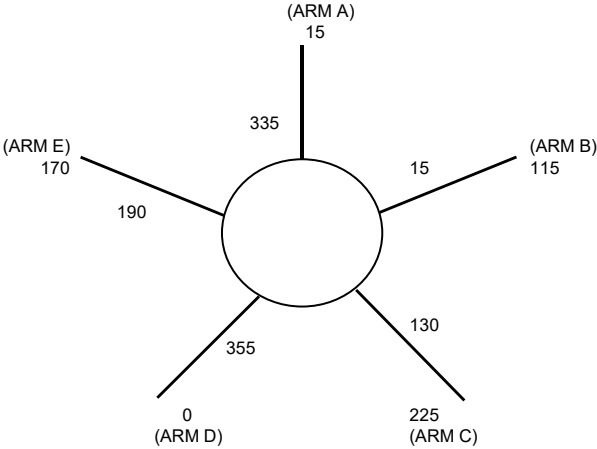
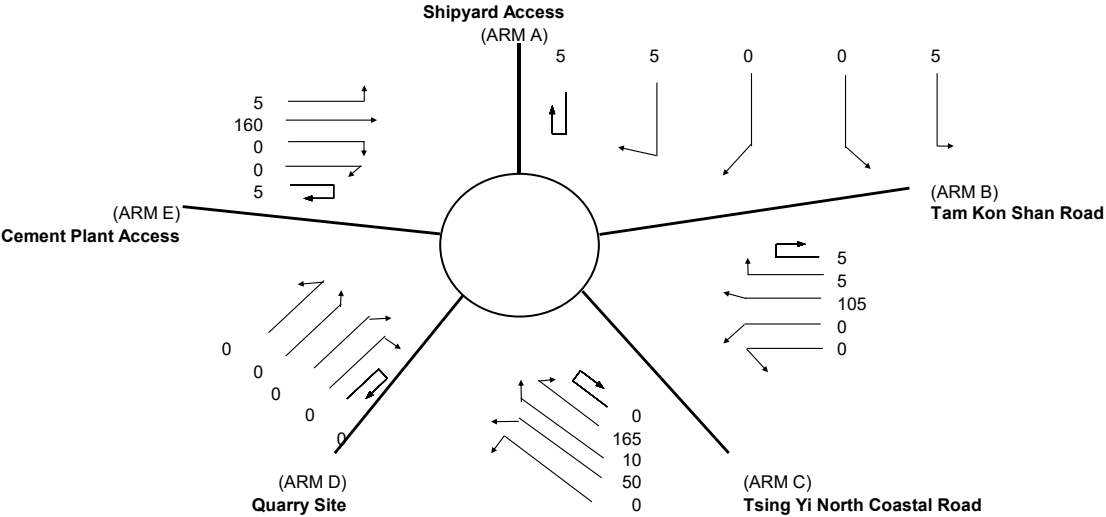
TOTAL ENTRY FLOWS = 520 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	225	0	170
Qc= Circulating flow across entry (pcu/h)	335	15	130	355	190
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1711	1341
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.19	0.00	0.13

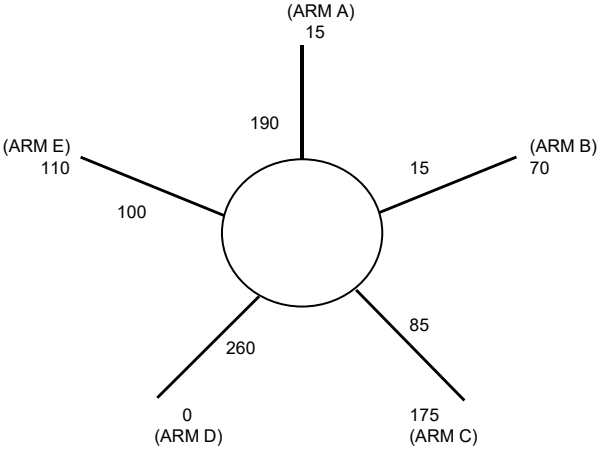
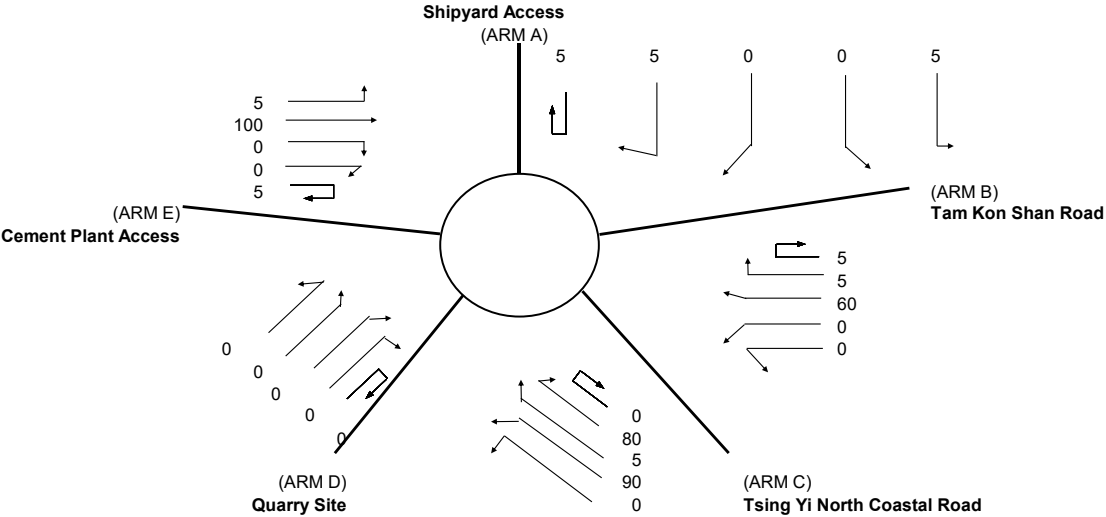
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.19

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	70	175	0	110
Qc= Circulating flow across entry (pcu/h)	190	15	85	260	100
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1345	1781	1223	1775	1397
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.00	0.08

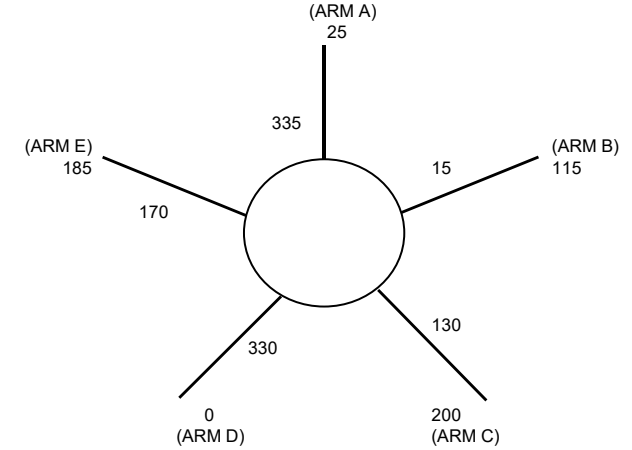
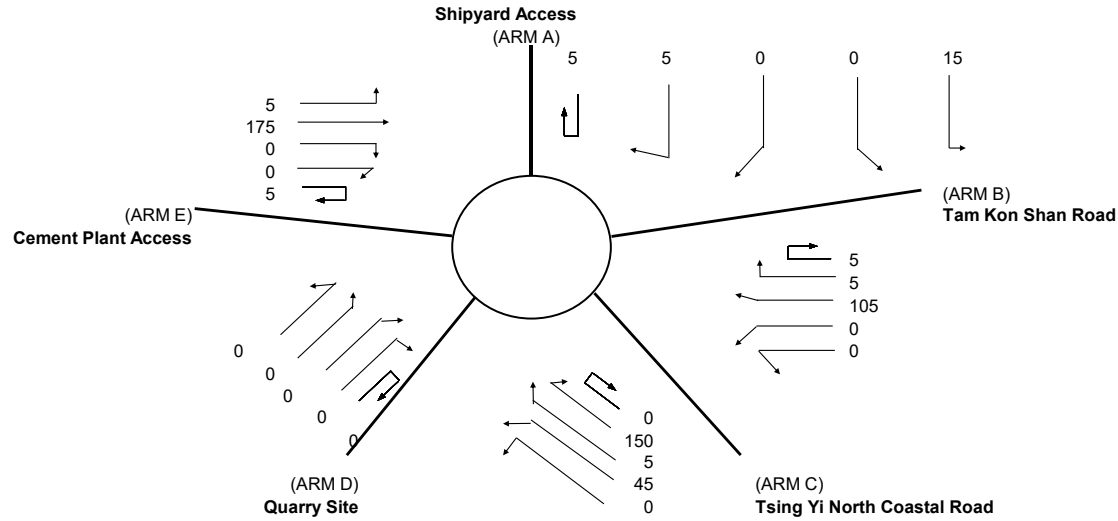
TOTAL ENTRY FLOWS = 370 PCU

CRITICAL DFC = 0.14

ROUNDBABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	200	0	185
Qc= Circulating flow across entry (pcu/h)	335	15	130	330	170
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1728	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.00	0.14

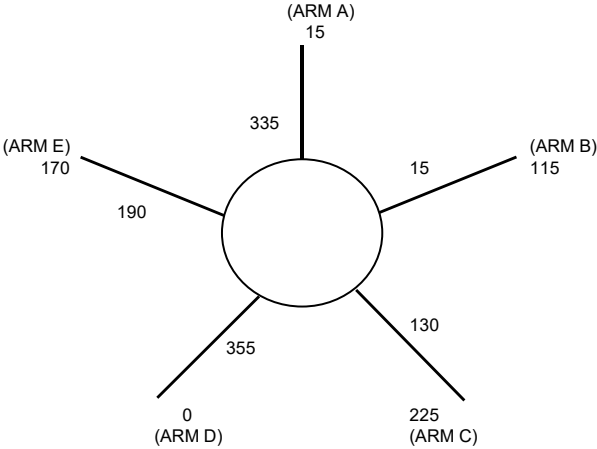
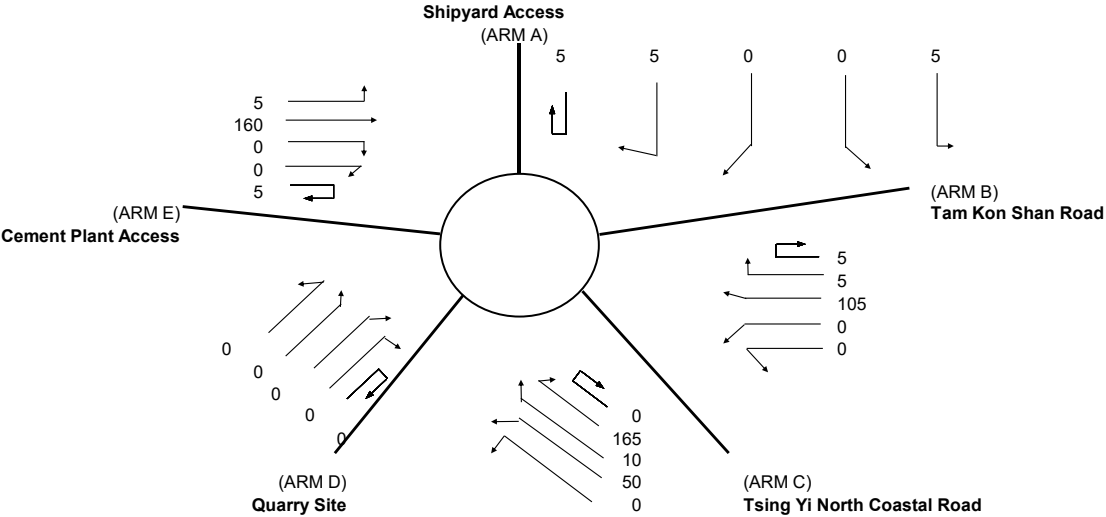
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	225	0	170
Qc= Circulating flow across entry (pcu/h)	335	15	130	355	190
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1711	1341
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.19	0.00	0.13

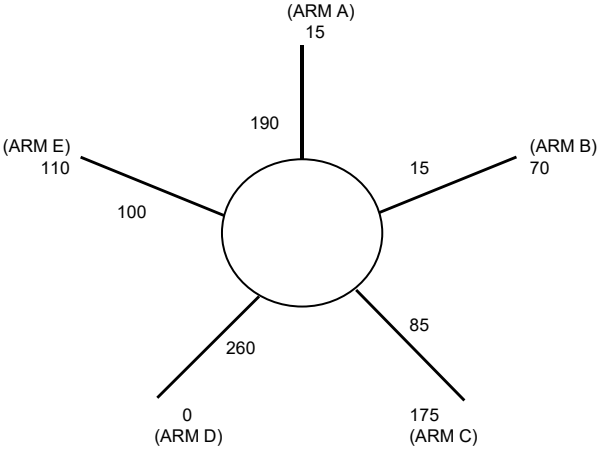
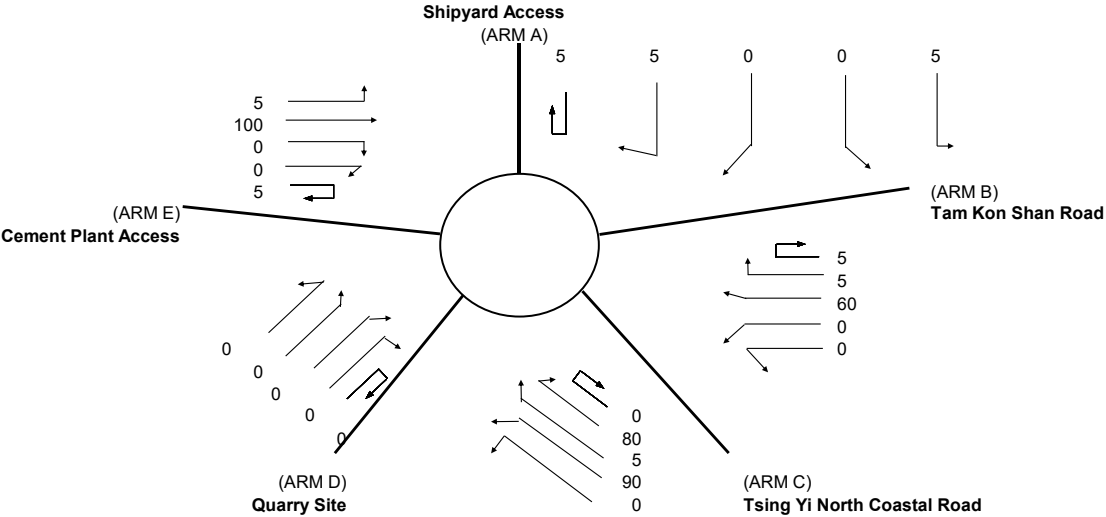
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.19

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	70	175	0	110
Qc= Circulating flow across entry (pcu/h)	190	15	85	260	100
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1345	1781	1223	1775	1397
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.00	0.08

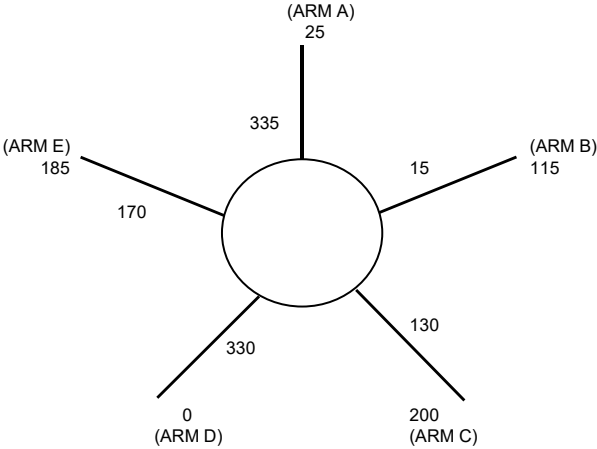
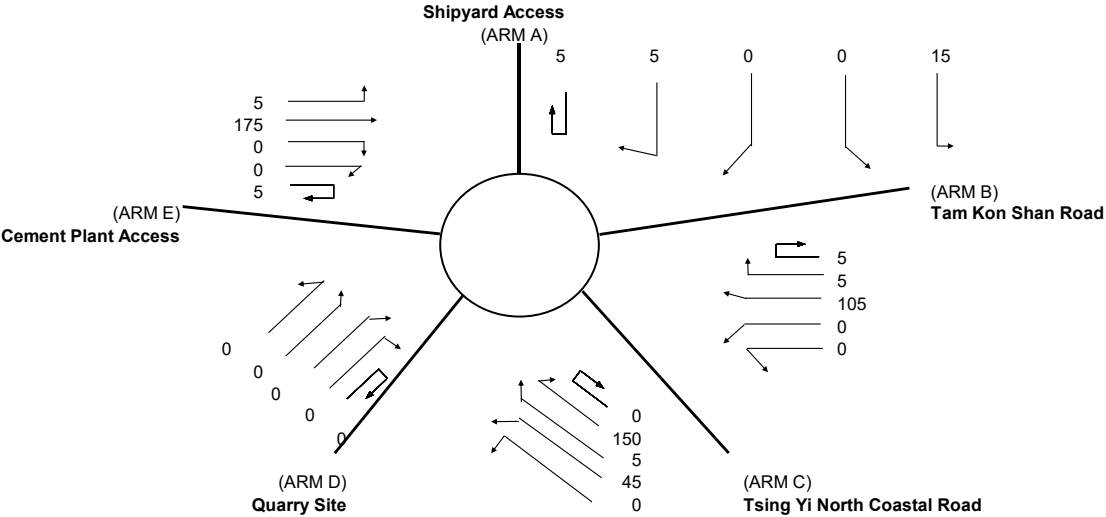
TOTAL ENTRY FLOWS = 370 PCU

CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	200	0	185
Qc= Circulating flow across entry (pcu/h)	335	15	130	330	170
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1728	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.00	0.14

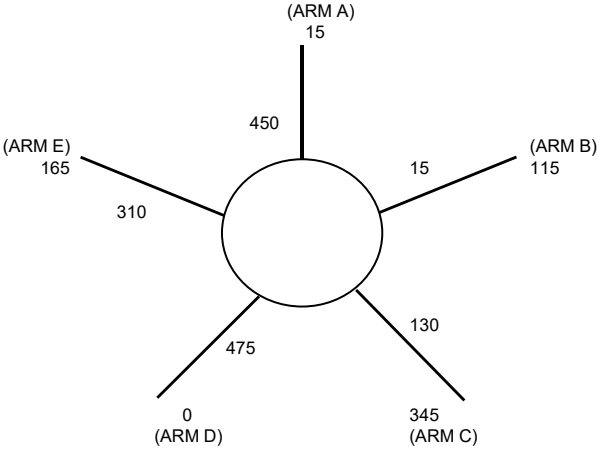
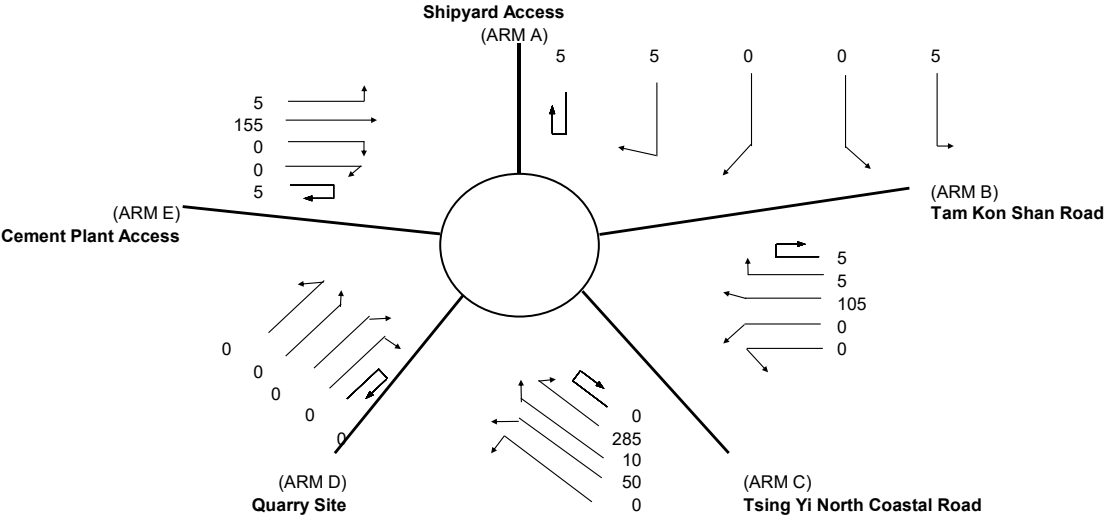
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	345	0	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	475	310
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1630	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.00	0.13

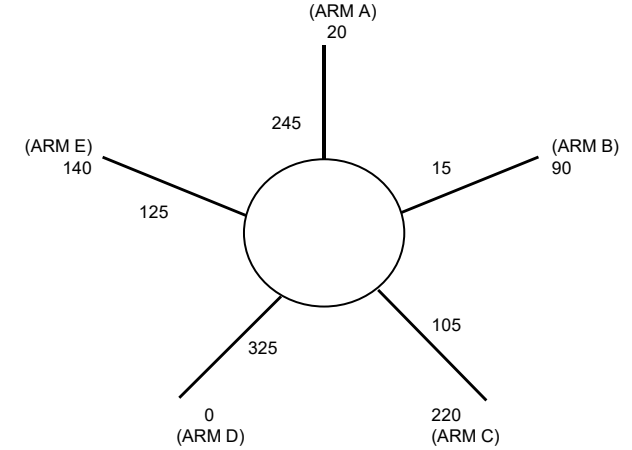
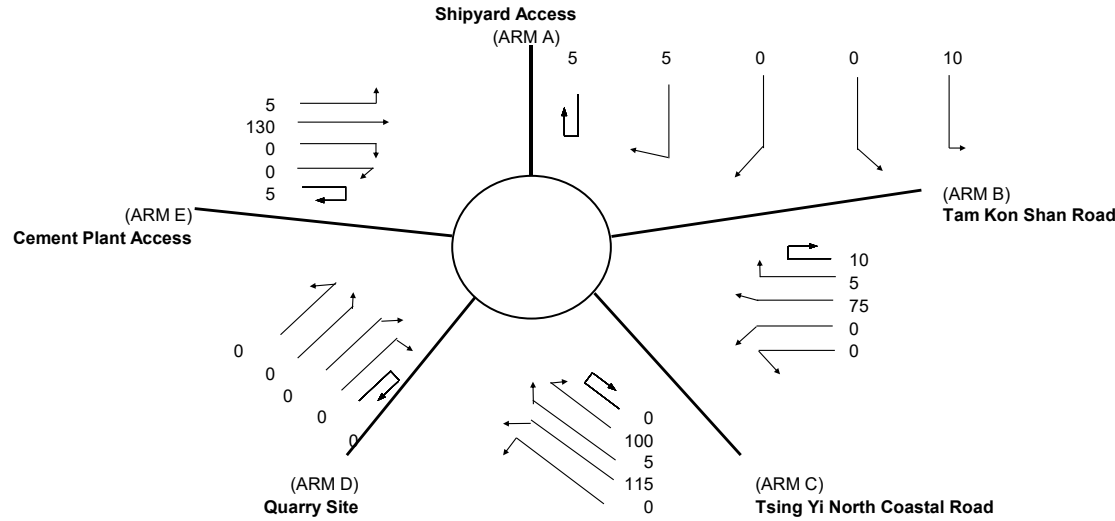
TOTAL ENTRY FLOWS = 640 PCU

CRITICAL DFC = 0.29

ROUNDBABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	20	90	220	0	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	325	125
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1731	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.00	0.10

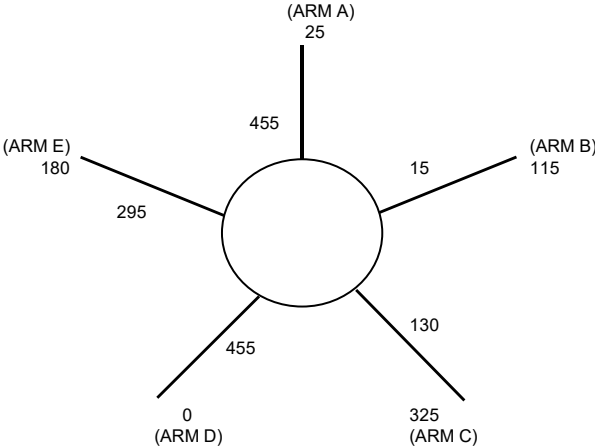
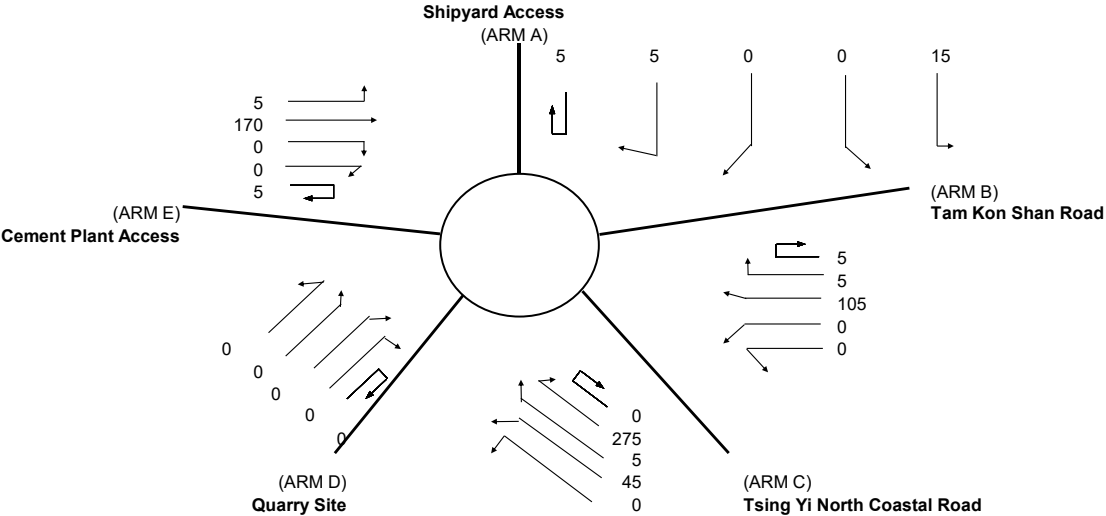
TOTAL ENTRY FLOWS = 470 PCU

CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	325	0	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	455	295
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1644	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.00	0.14

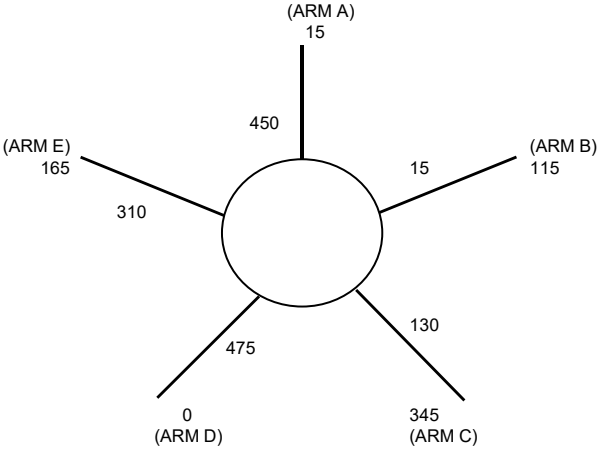
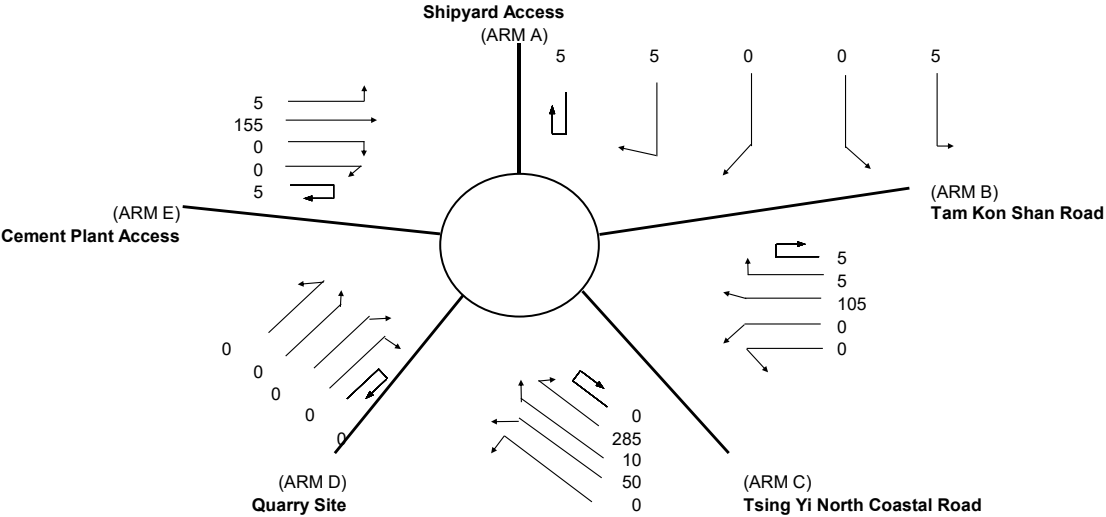
TOTAL ENTRY FLOWS = 645 PCU

CRITICAL DFC = 0.27

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	345	0	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	475	310
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1630	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.00	0.13

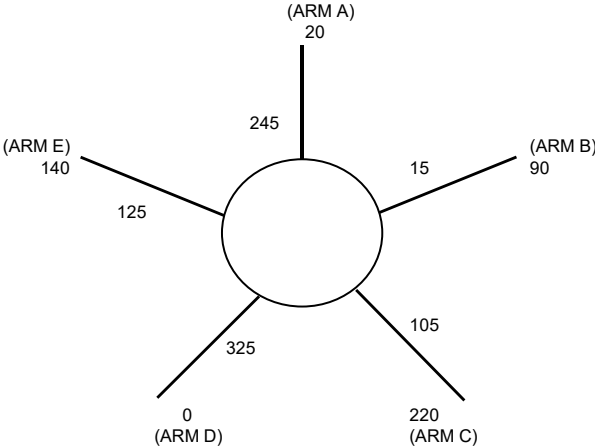
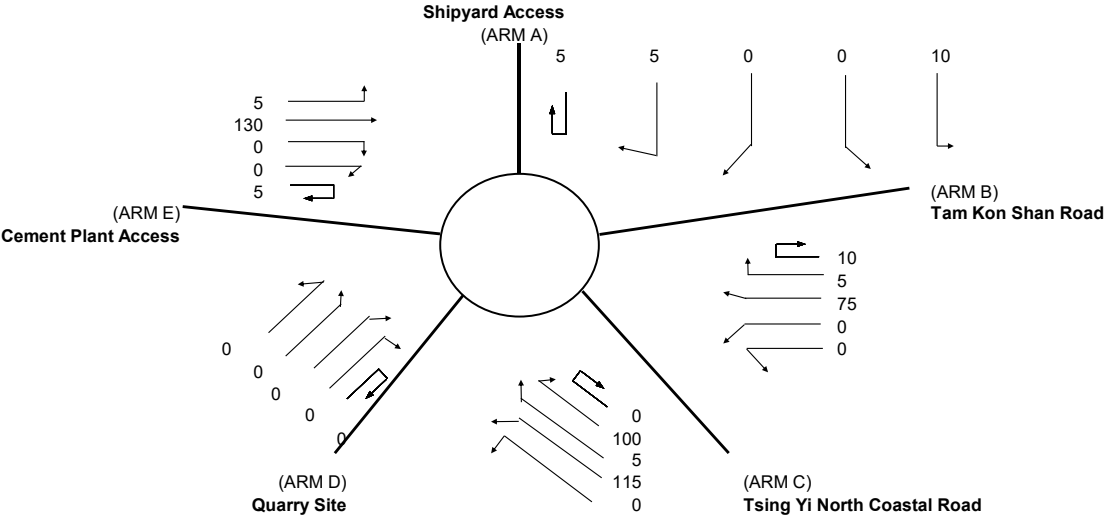
TOTAL ENTRY FLOWS = 640 PCU

CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A NN	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	20	90	220	0	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	325	125
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1731	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.00	0.10

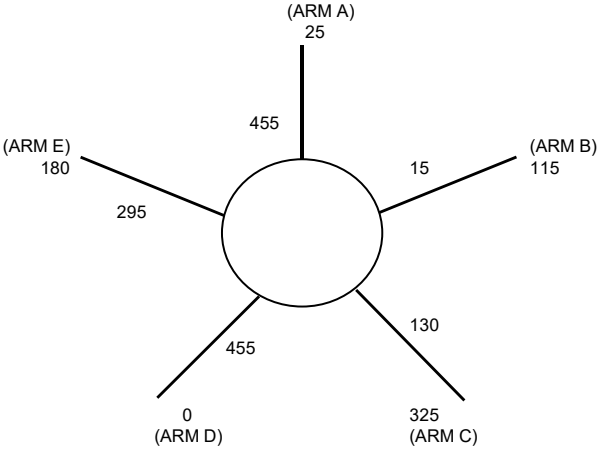
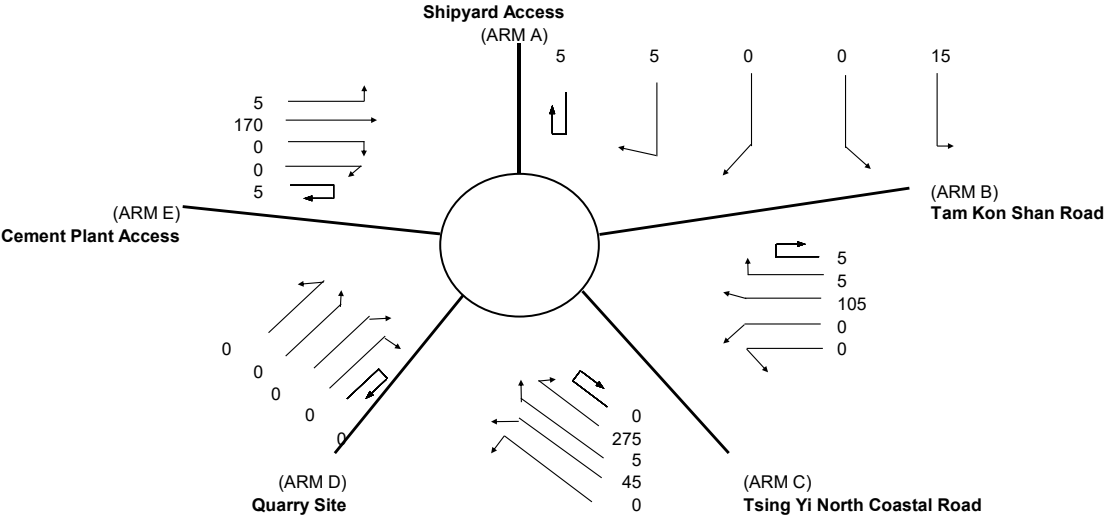
TOTAL ENTRY FLOWS = 470 PCU

CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	325	0	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	455	295
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1644	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.00	0.14

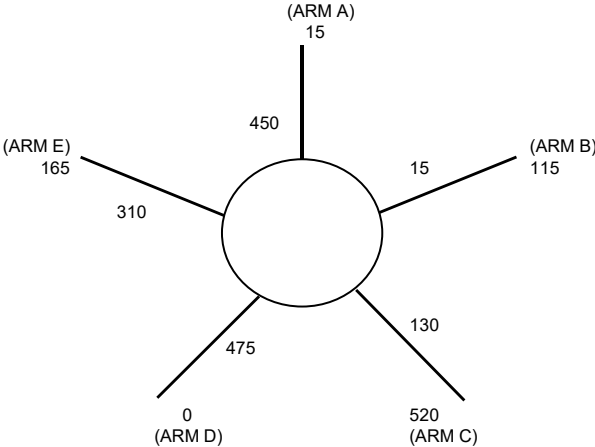
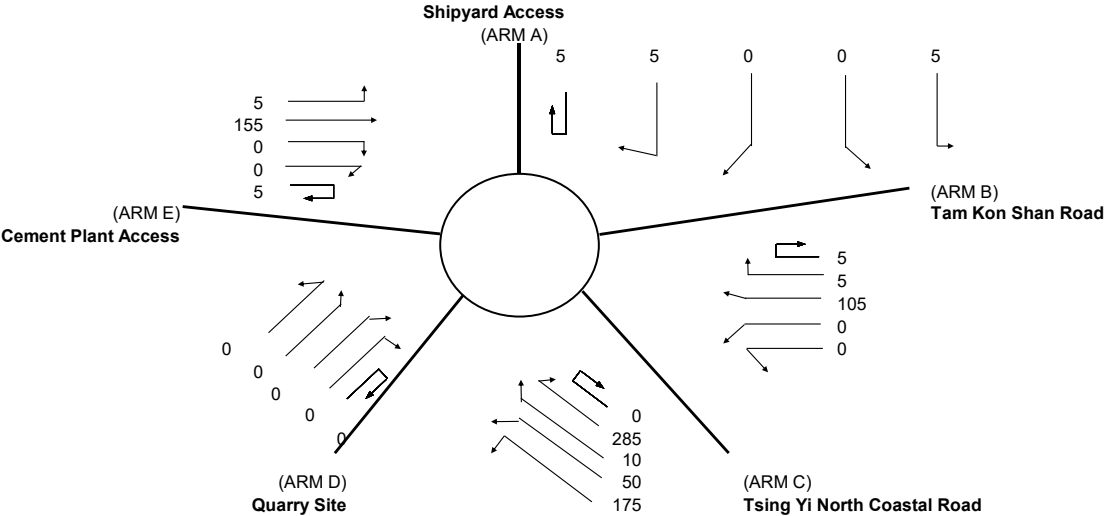
TOTAL ENTRY FLOWS = 645 PCU

CRITICAL DFC = 0.27

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B AM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	520	0	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	475	310
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1630	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.43	0.00	0.13

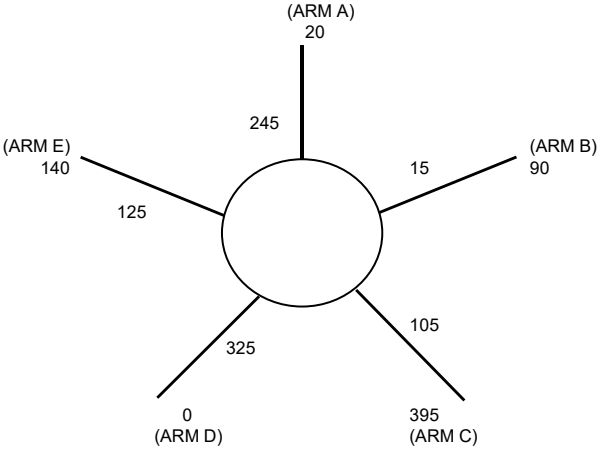
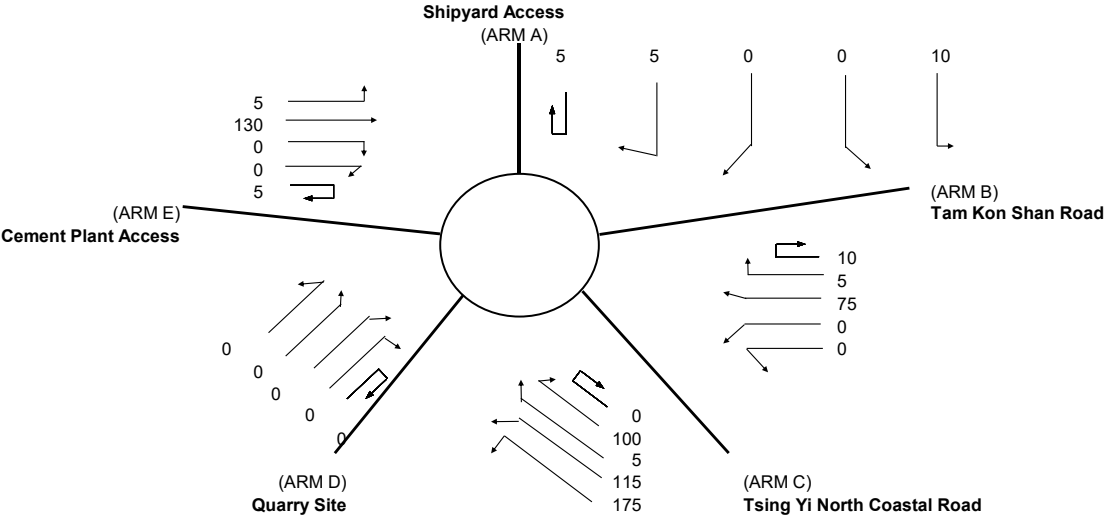
TOTAL ENTRY FLOWS = 815 PCU

CRITICAL DFC = 0.43

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B NN	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	20	90	395	0	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	325	125
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1731	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.33	0.00	0.10

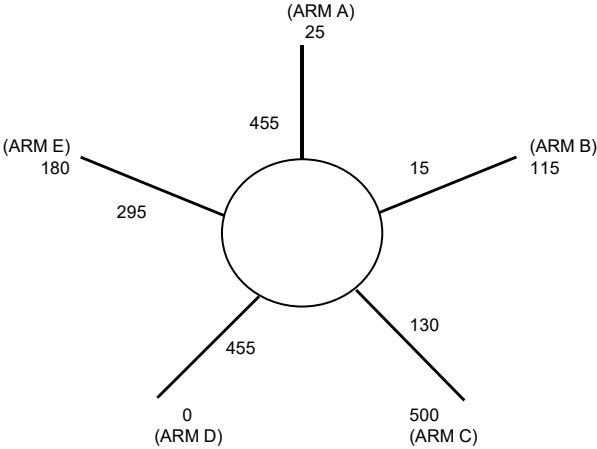
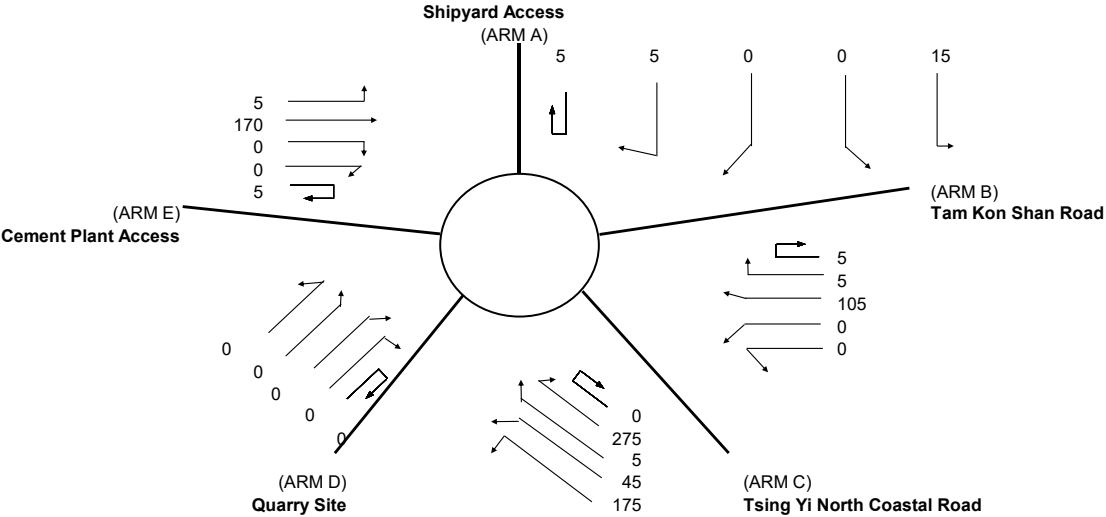
TOTAL ENTRY FLOWS = 645 PCU

CRITICAL DFC = 0.33

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	500	0	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	455	295
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1644	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.42	0.00	0.14

TOTAL ENTRY FLOWS = 820 PCU

CRITICAL DFC = 0.42

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

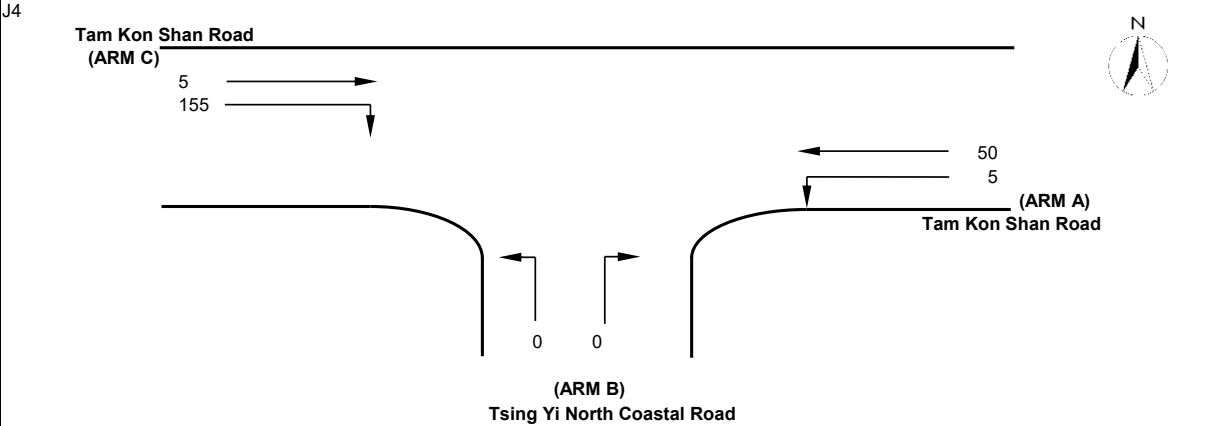
2025 Survey Case AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)
W cr = 0.00 (metres)
q a-b = 5 (pcu/hour)
q a-c = 50 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)
Vr c-b = 250 (metres)
q c-a = 5 (pcu/hour)
q c-b = 155 (pcu/hour)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D = 0.53
E = 0.59
F = 1.08
Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 299
Q b-c = 429
Q c-b = 791
Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.00
DFC c-b = 0.20
DFC b-ac = #DIV/0!

CRITICAL DFC = 0.20

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

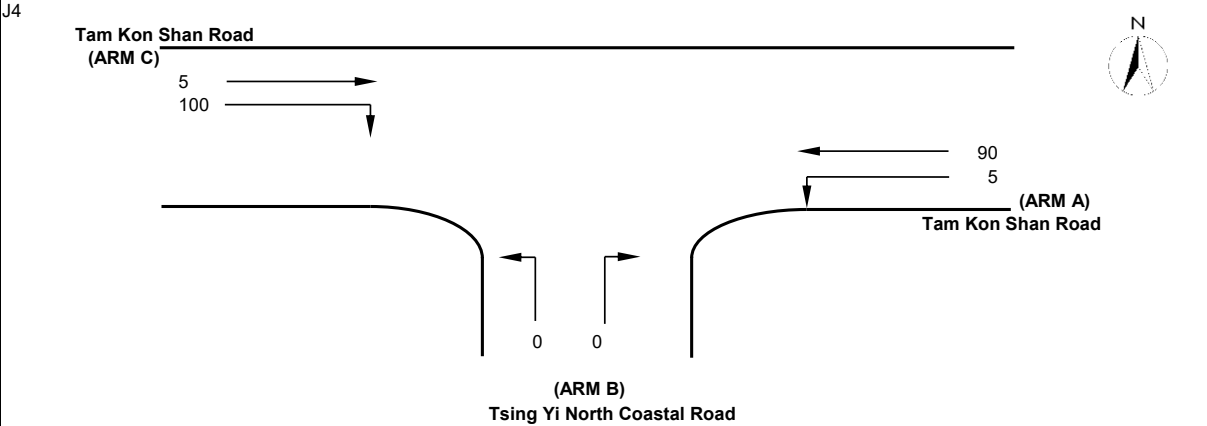
2025 Survey Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 5 (pcu/hour)

q a-c = 90 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 5 (pcu/hour)

q c-b = 100 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 304

Q b-c = 424

Q c-b = 780

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.13

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.13

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2025 Survey Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4

Tam Kon Shan Road
(ARM C)

5
170



Tam Kon Shan Road
(ARM A)

45
5

(ARM B)

Tsing Yi North Coastal Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)
W cr = 0.00 (metres)
q a-b = 5 (pcu/hour)
q a-c = 45 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)
Vr c-b = 250 (metres)
q c-a = 5 (pcu/hour)
q c-b = 170 (pcu/hour)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D = 0.53
E = 0.59
F = 1.08
Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 297
Q b-c = 430
Q c-b = 792
Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.00
DFC c-b = 0.21
DFC b-ac = #DIV/0!

CRITICAL DFC = 0.21

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2028 Reference Case AM

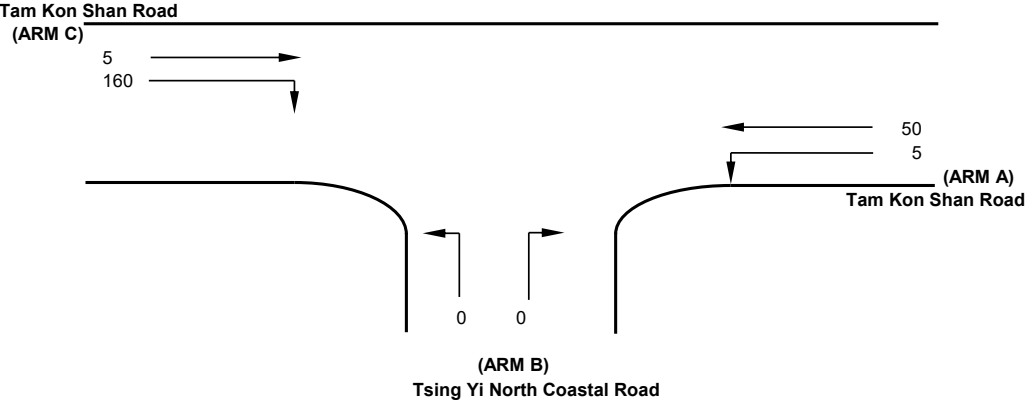
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

- W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

- D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00 (metres)
W cr	=	0.00 (metres)
q a-b	=	5 (pcu/hour)
q a-c	=	50 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30 (metres)
Vr c-b	=	250 (metres)
q c-a	=	5 (pcu/hour)
q c-b	=	160 (pcu/hour)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	298
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2028 Reference Case NN

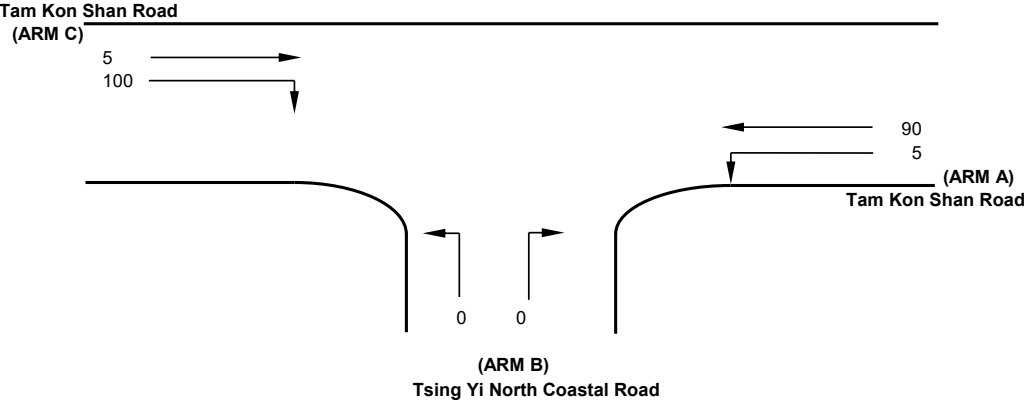
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

- W = Major Road Width (6.4 - 20.0)
- W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
- W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
- W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
- W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
- VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
- Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
- Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
- Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

- 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	=	10.00 (metres)
W cr	=	0.00 (metres)
q a-b	=	5 (pcu/hour)
q a-c	=	90 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30 (metres)
Vr c-b	=	250 (metres)
q c-a	=	5 (pcu/hour)
q c-b	=	100 (pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00 (metres)
W b-c	=	0.00 (metres)
VI b-a	=	0 (metres)
Vr b-a	=	0 (metres)
Vr b-c	=	0 (metres)
q b-a	=	0 (pcu/hour)
q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	304
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.13
DFC b-ac	=	#DIV/0!

CRITICAL DFC = 0.13

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

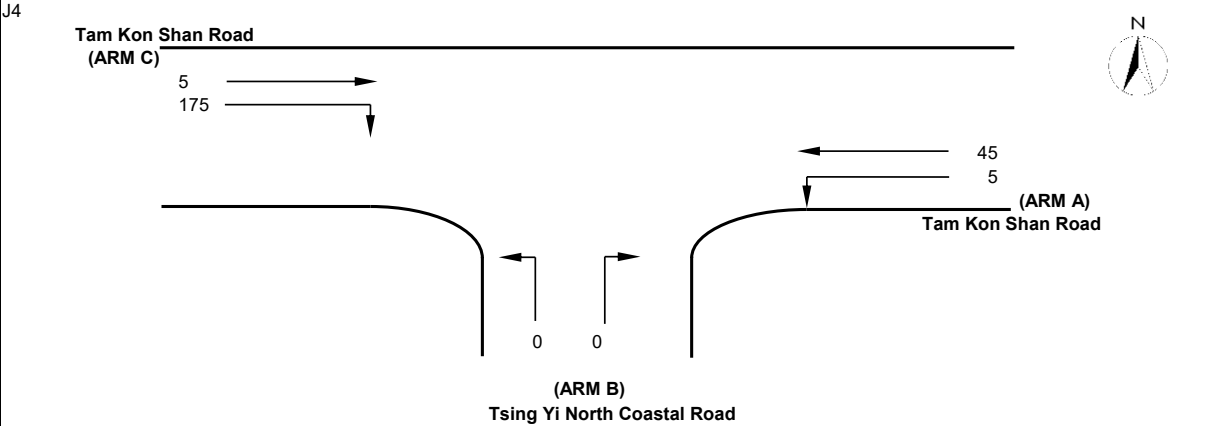
2028 Reference Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 5 (pcu/hour)

q a-c = 45 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 5 (pcu/hour)

q c-b = 175 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 296

Q b-c = 430

Q c-b = 792

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.22

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.22

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

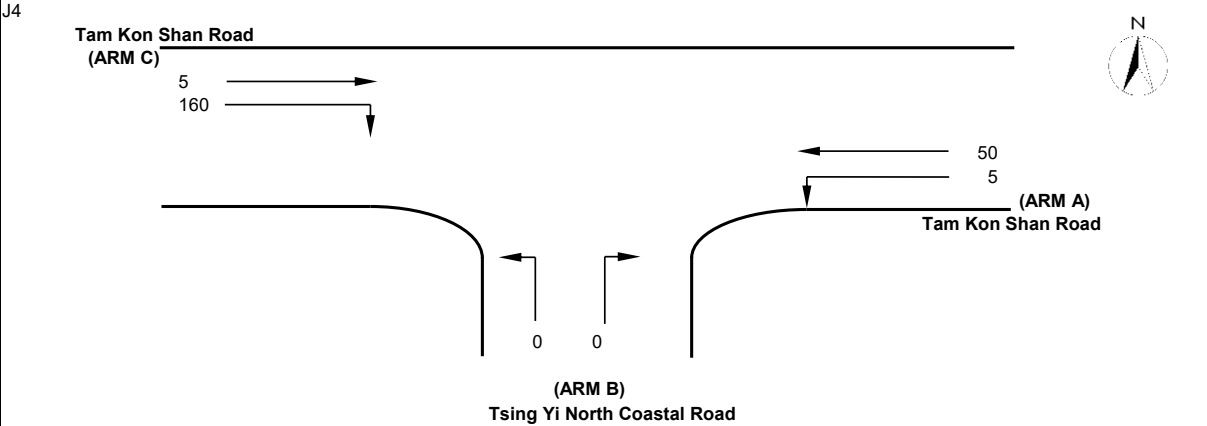
2028 Design Case AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 5 (pcu/hour)

q a-c = 50 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 5 (pcu/hour)

q c-b = 160 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 298

Q b-c = 429

Q c-b = 791

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.20

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.20

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2028 Design Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4

Tam Kon Shan Road
(ARM C)

5
100



Tam Kon Shan Road

(ARM B)
Tsing Yi North Coastal Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)
W cr = 0.00 (metres)
q a-b = 5 (pcu/hour)
q a-c = 90 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)
Vr c-b = 250 (metres)
q c-a = 5 (pcu/hour)
q c-b = 100 (pcu/hour)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D = 0.53
E = 0.59
F = 1.08
Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 304
Q b-c = 424
Q c-b = 780
Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.00
DFC c-b = 0.13
DFC b-ac = #DIV/0!

CRITICAL DFC = 0.13

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

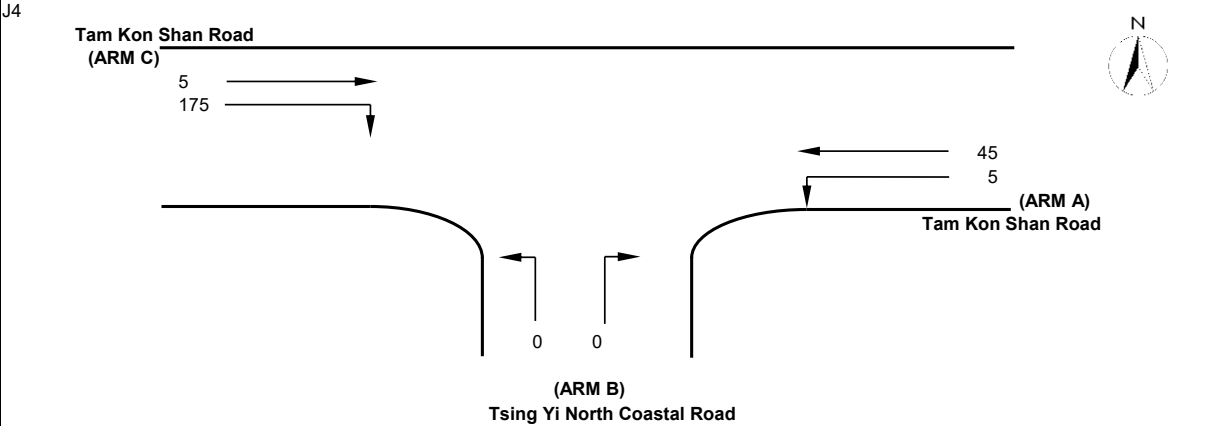
2028 Design Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 5 (pcu/hour)

q a-c = 45 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 5 (pcu/hour)

q c-b = 175 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 296

Q b-c = 430

Q c-b = 792

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.22

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.22

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

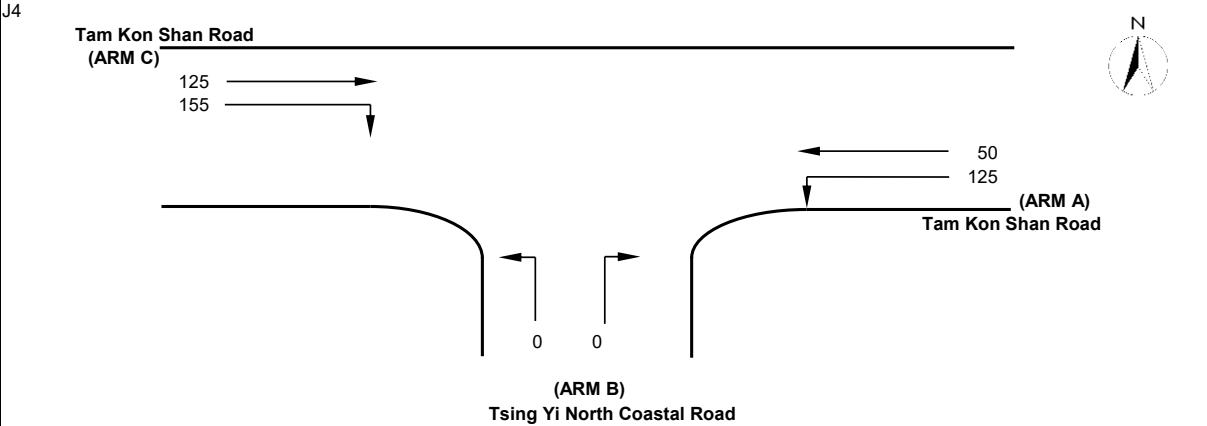
2031 Reference Case AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 125 (pcu/hour)

q a-c = 50 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 125 (pcu/hour)

q c-b = 155 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 284

Q b-c = 423

Q c-b = 760

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.20

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.20

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

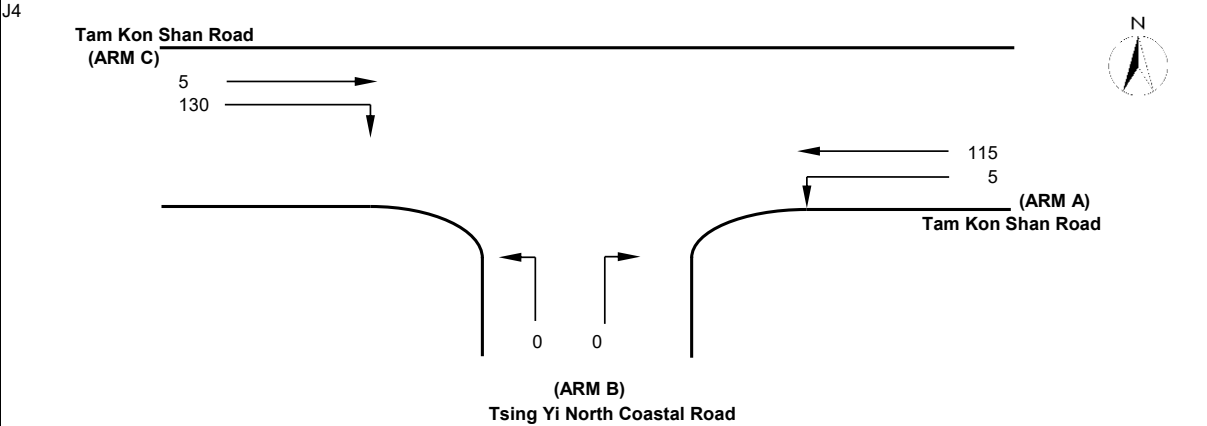
2031 Reference Case NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 5 (pcu/hour)

q a-c = 115 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 5 (pcu/hour)

q c-b = 130 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 295

Q b-c = 420

Q c-b = 774

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.17

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.17

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

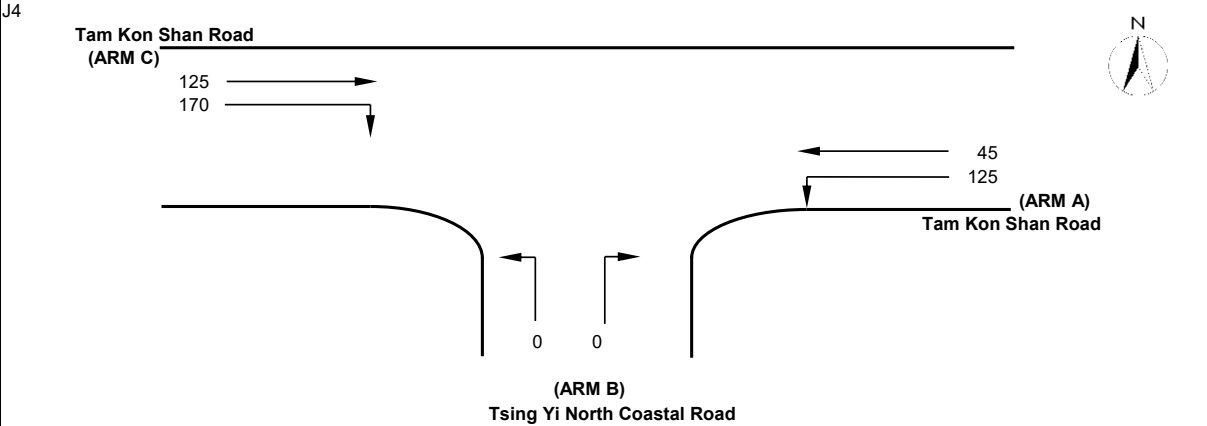
2031 Reference Case PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 125 (pcu/hour)

q a-c = 45 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 125 (pcu/hour)

q c-b = 170 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 281

Q b-c = 423

Q c-b = 761

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.22

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.22

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2031 Scenario A AM

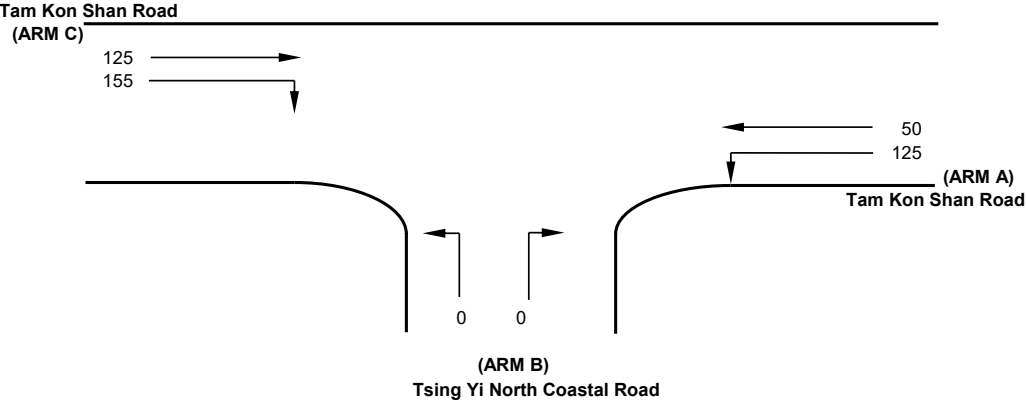
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

- W = Major Road Width (6.4 - 20.0)
- W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
- W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
- W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
- W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
- VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
- Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
- Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
- Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

- D = Stream-specific B-A
- E = Stream-specific B-C
- F = Stream-specific C-B
- Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00 (metres)
W cr	=	0.00 (metres)
q a-b	=	125 (pcu/hour)
q a-c	=	50 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30 (metres)
Vr c-b	=	250 (metres)
q c-a	=	125 (pcu/hour)
q c-b	=	155 (pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00 (metres)
W b-c	=	0.00 (metres)
VI b-a	=	0 (metres)
Vr b-a	=	0 (metres)
Vr b-c	=	0 (metres)
q b-a	=	0 (pcu/hour)
q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

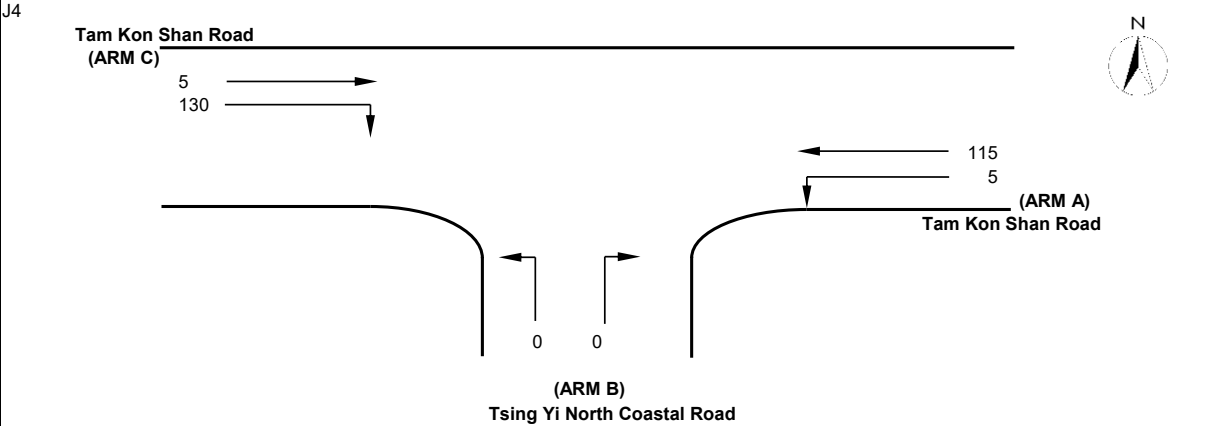
2031 Scenario A NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 5 (pcu/hour)

q a-c = 115 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 5 (pcu/hour)

q c-b = 130 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 295

Q b-c = 420

Q c-b = 774

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.17

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.17

PRIORITY JUNCTION CAPACITY CALCULATION



Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

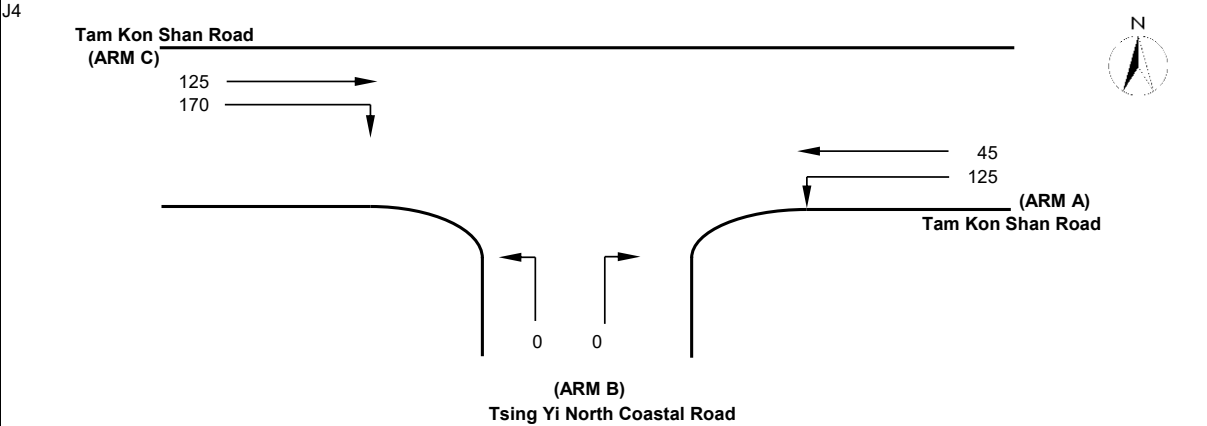
2031 Scenario A PM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 125 (pcu/hour)

q a-c = 45 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 125 (pcu/hour)

q c-b = 170 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 281

Q b-c = 423

Q c-b = 761

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.22

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.22

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

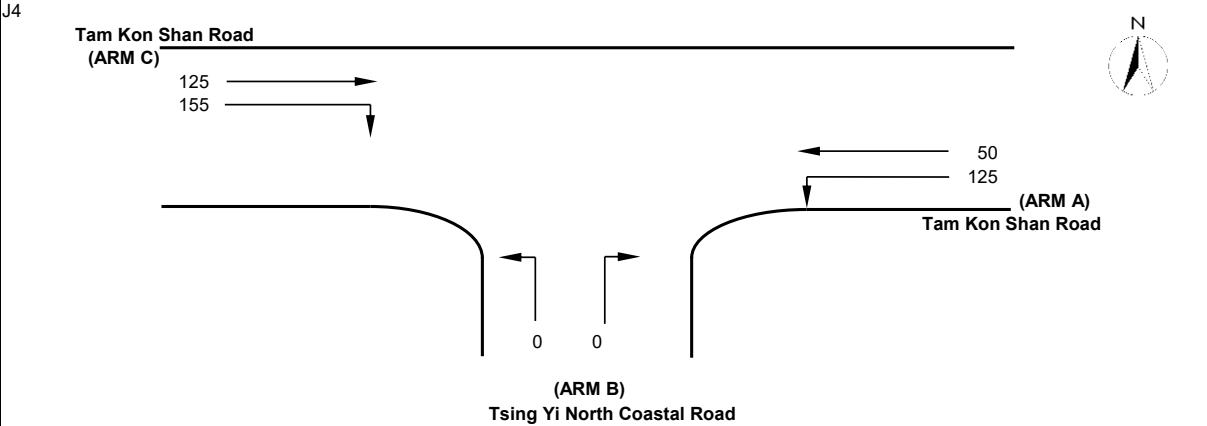
2031 Scenario B AM

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025



NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)

W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)

W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)

W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)

W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)

VI b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)

Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)

Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)

Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A

E = Stream-specific B-C

F = Stream-specific C-B

Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)

W cr = 0.00 (metres)

q a-b = 125 (pcu/hour)

q a-c = 50 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)

Vr c-b = 250 (metres)

q c-a = 125 (pcu/hour)

q c-b = 155 (pcu/hour)

MINOR ROAD (ARM B)

W b-a = 0.00 (metres)

W b-c = 0.00 (metres)

VI b-a = 0 (metres)

Vr b-a = 0 (metres)

Vr b-c = 0 (metres)

q b-a = 0 (pcu/hour)

q b-c = 0 (pcu/hour)

GEOMETRIC FACTORS :

D = 0.53

E = 0.59

F = 1.08

Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 284

Q b-c = 423

Q c-b = 760

Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00

DFC b-c = 0.00

DFC c-b = 0.20

DFC b-ac = #DIV/0!

CRITICAL DFC = 0.20

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2031 Scenario B NN

Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4

Tam Kon Shan Road
(ARM C)

5
130



Tam Kon Shan Road

(ARM B)
Tsing Yi North Coastal Road

NOTES : (GEOMETRIC INPUT DATA)

W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W = 10.00 (metres)
W cr = 0.00 (metres)
q a-b = 5 (pcu/hour)
q a-c = 115 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b = 3.30 (metres)
Vr c-b = 250 (metres)
q c-a = 5 (pcu/hour)
q c-b = 130 (pcu/hour)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D = 0.53
E = 0.59
F = 1.08
Y = 0.66

THE CAPACITY OF MOVEMENT :

Q b-a = 295
Q b-c = 420
Q c-b = 774
Q b-ac = #DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.00
DFC b-c = 0.00
DFC c-b = 0.17
DFC b-ac = #DIV/0!

CRITICAL DFC = 0.17

PRIORITY JUNCTION CAPACITY CALCULATION

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road

2031 Scenario B PM

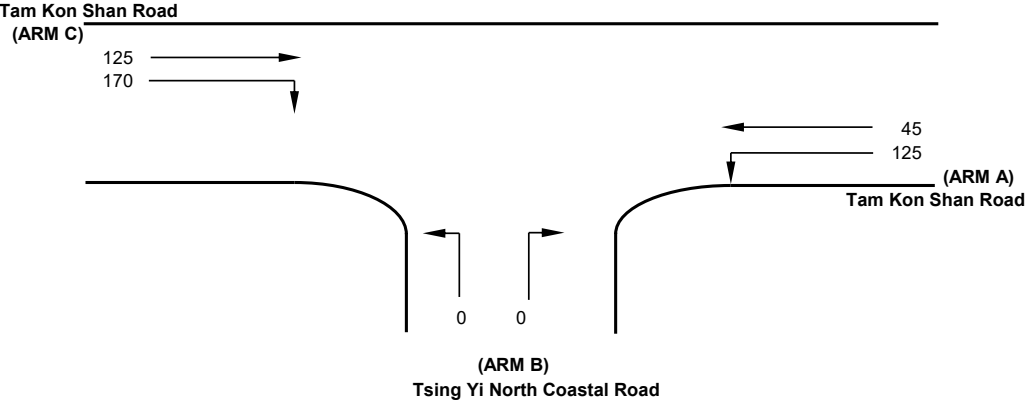
Designed By : MKC

Checked By : LC

Job No. : 60733229

Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

- W = Major Road Width (6.4 - 20.0)
W cr = Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a = Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c = Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b = Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a = Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a = Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c = Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b = Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)

- D = Stream-specific B-A
E = Stream-specific B-C
F = Stream-specific C-B
Y = (1-0.0345W)

J4

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00 (metres)
W cr	=	0.00 (metres)
q a-b	=	125 (pcu/hour)
q a-c	=	45 (pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30 (metres)
Vr c-b	=	250 (metres)
q c-a	=	125 (pcu/hour)
q c-b	=	170 (pcu/hour)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

COMPARISON OF DESIGN FLOW TO CAPACITY :

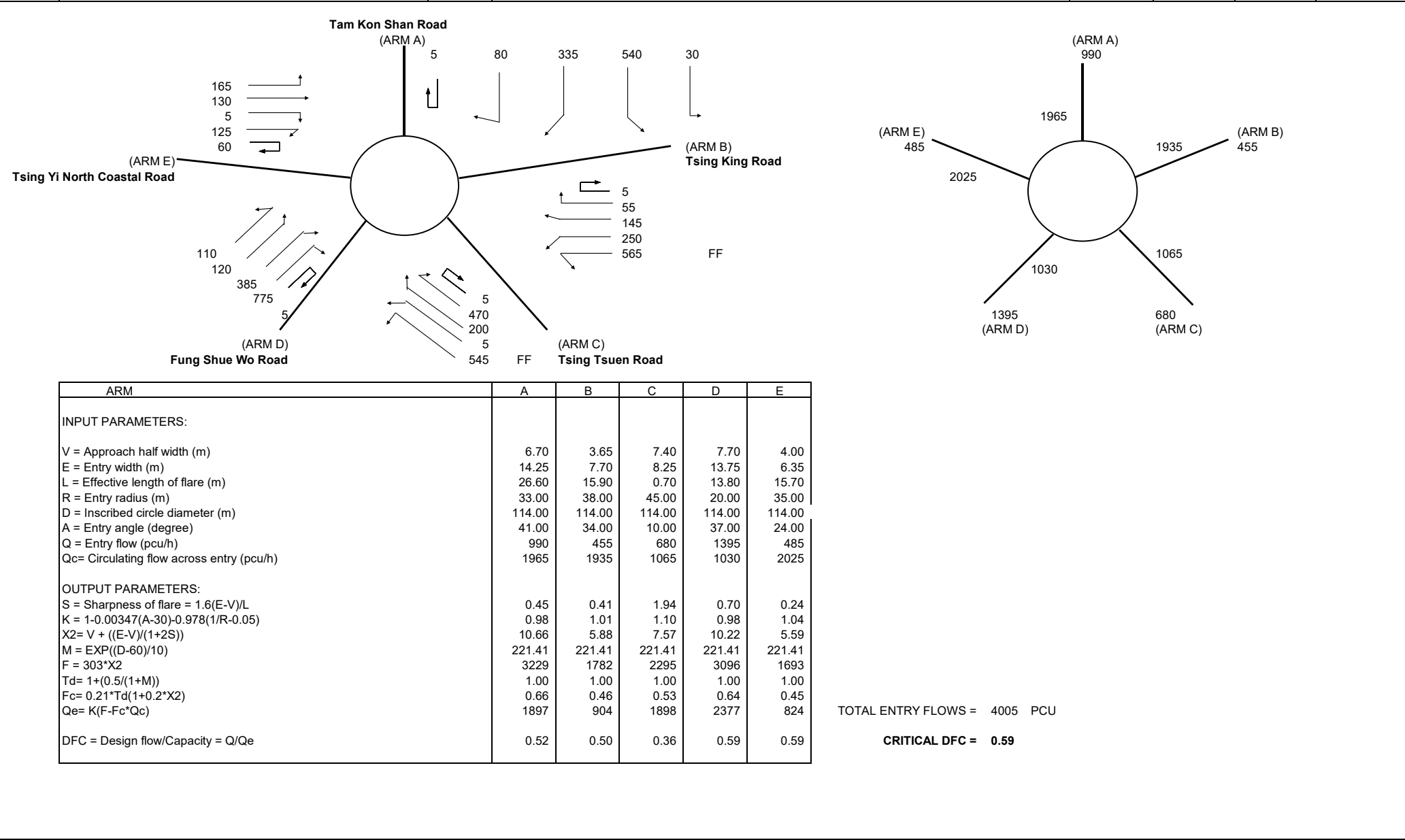
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

ROUNDABOUT CAPACITY CALCULATION

AECOM

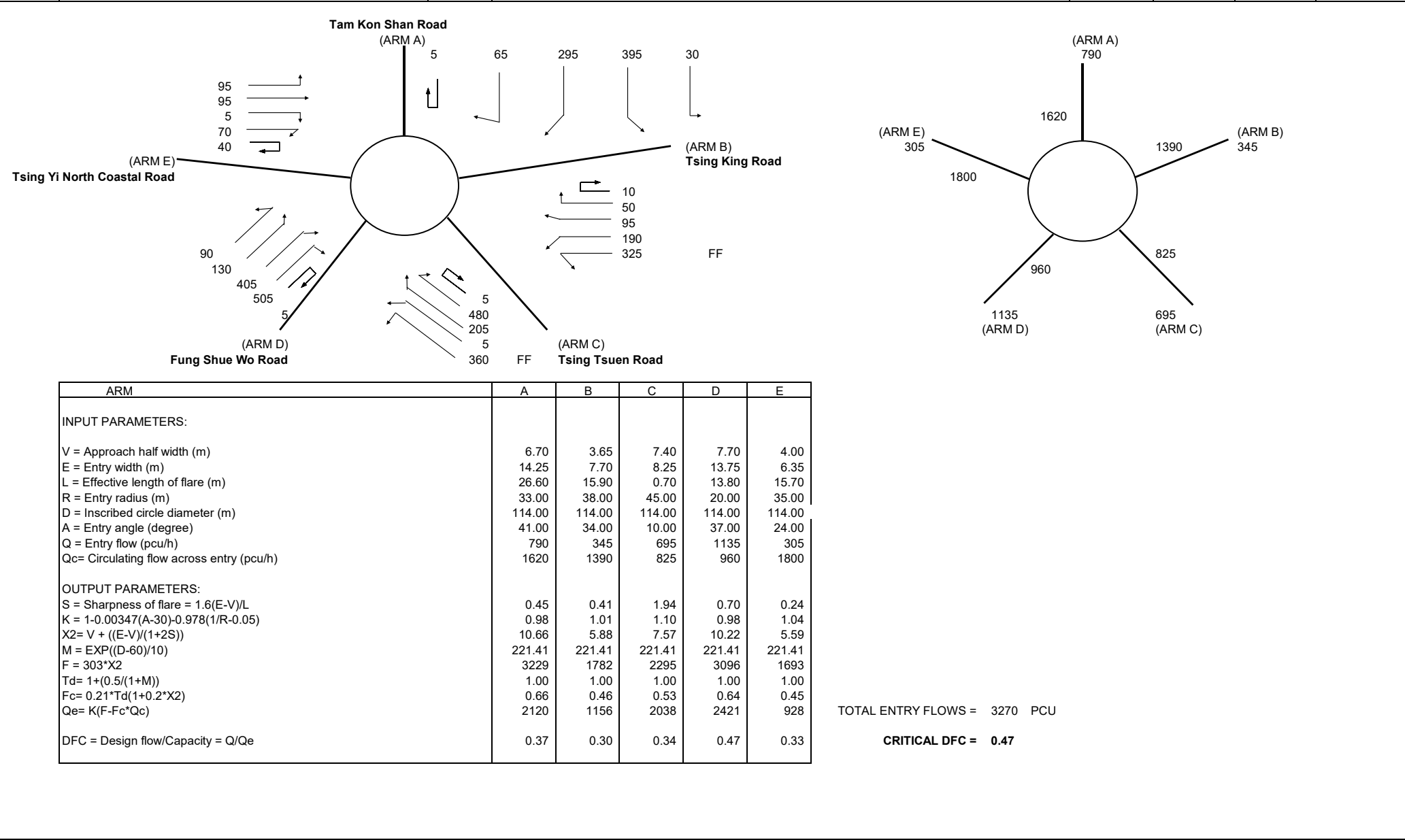
Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

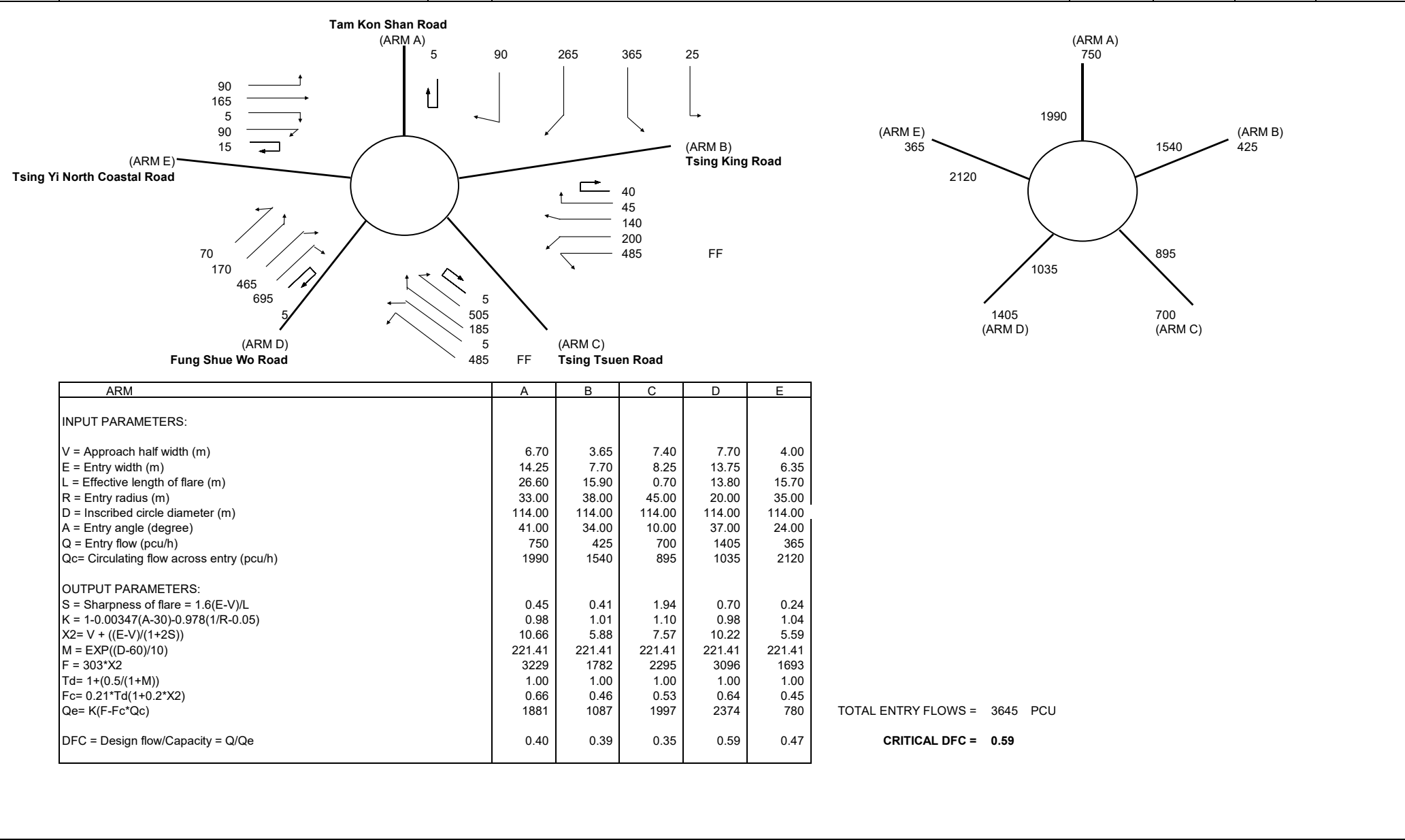
Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

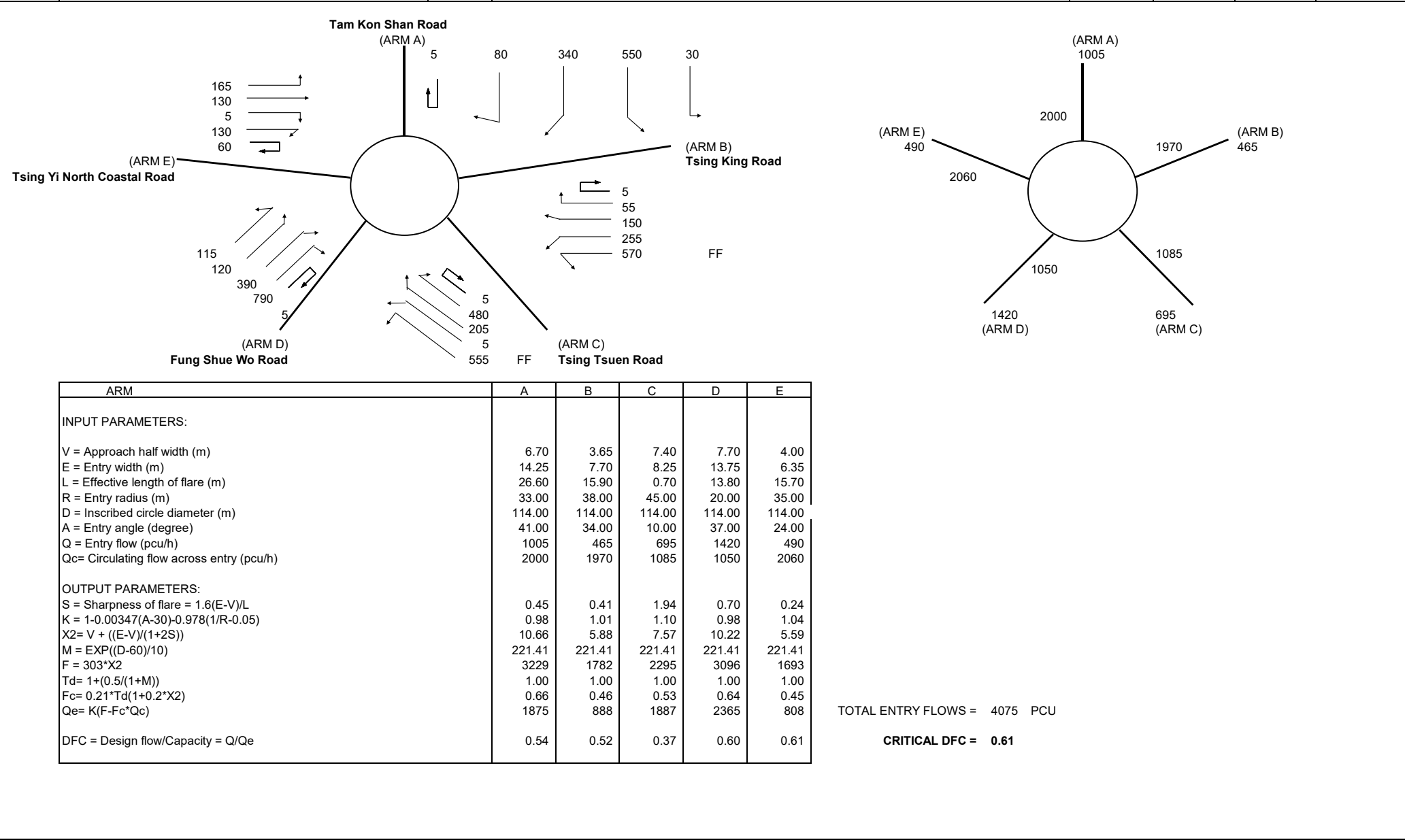
Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

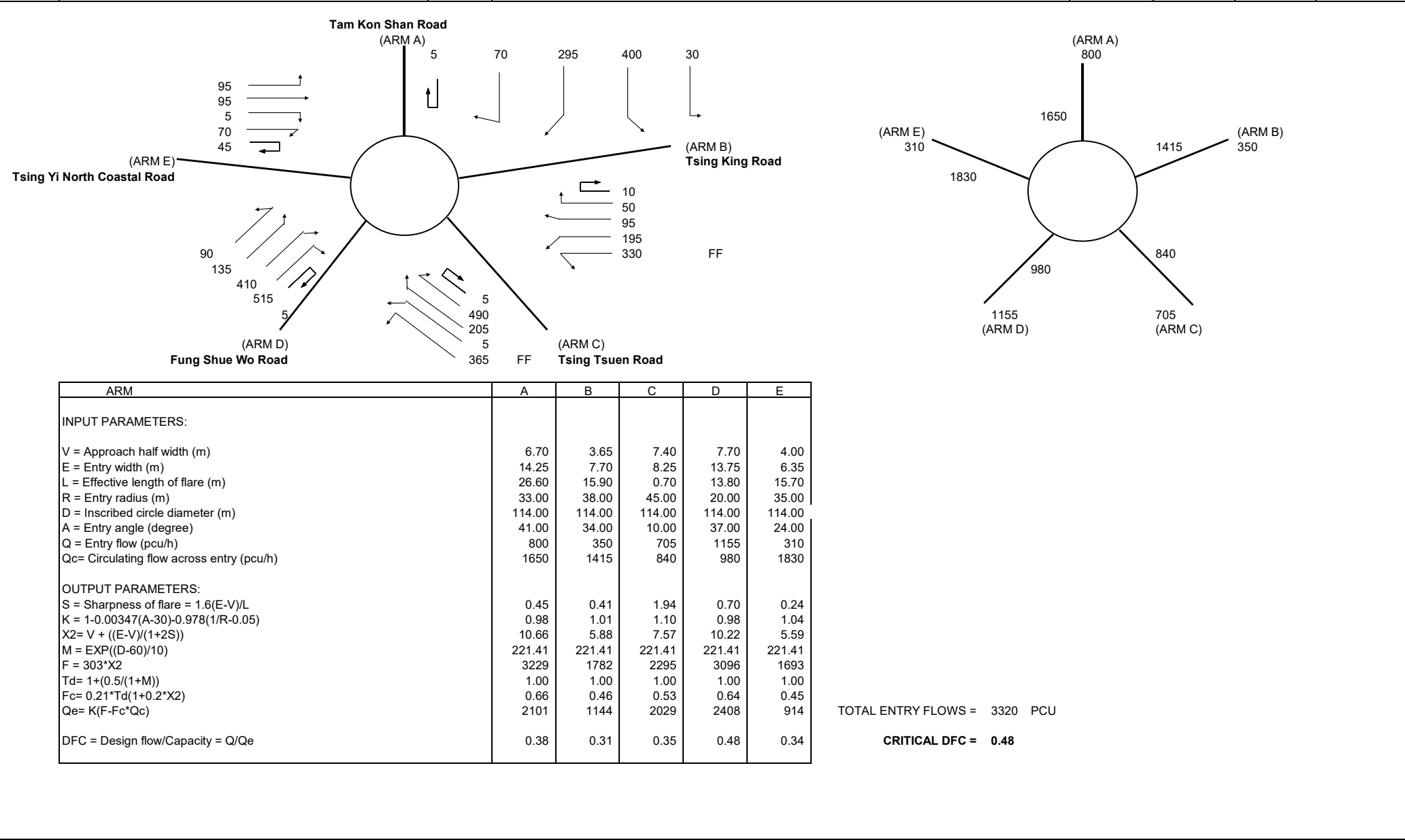
Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

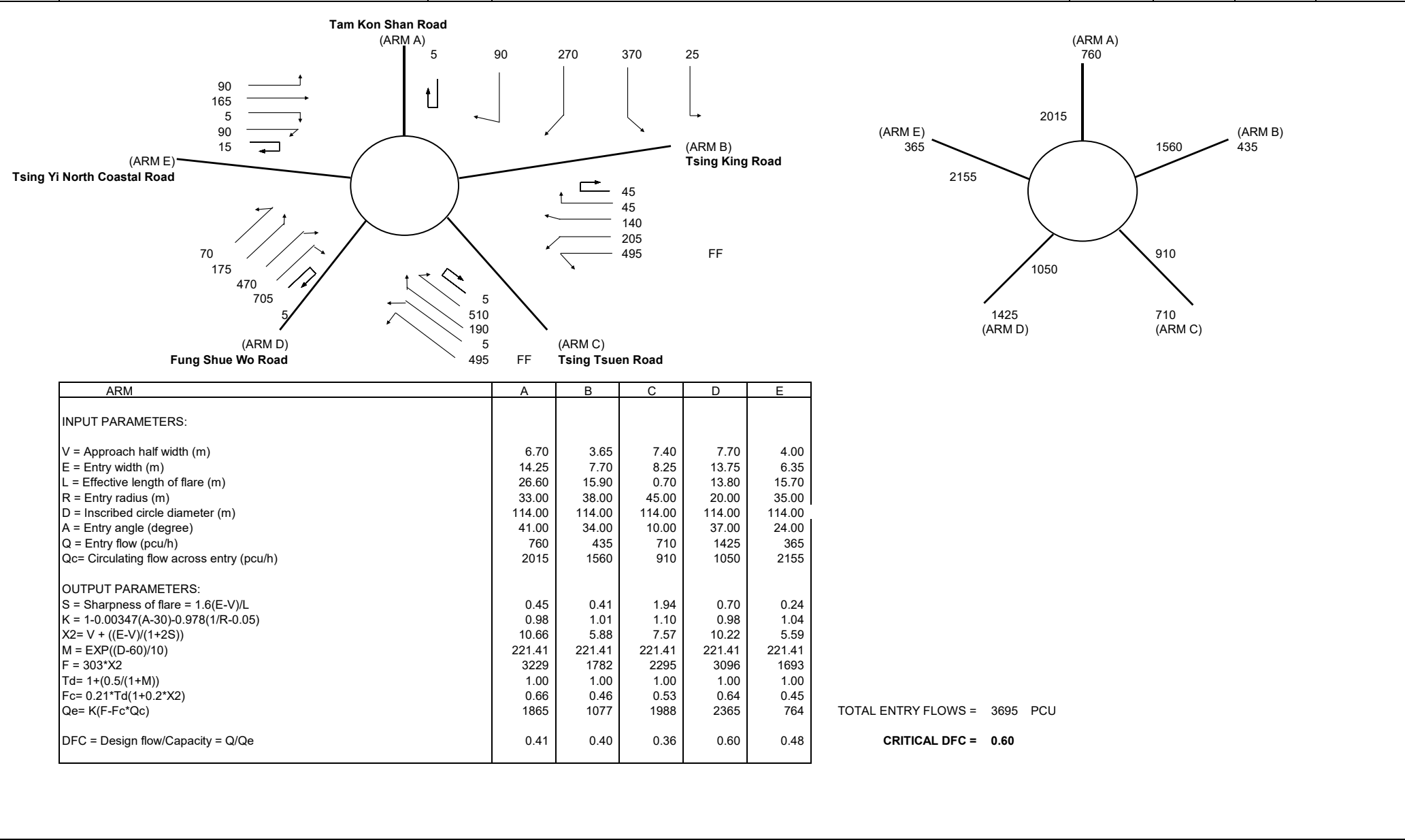
Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

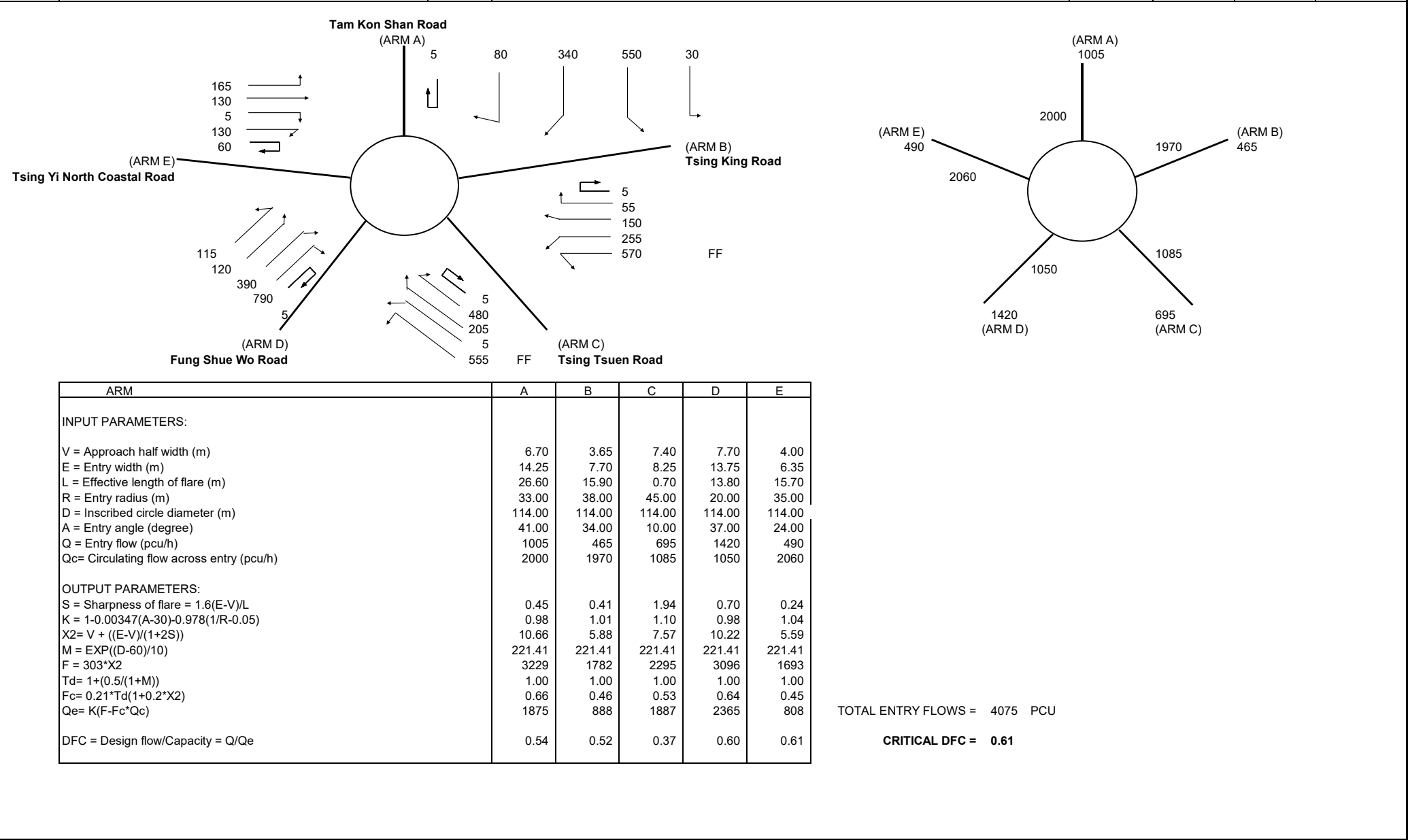
Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

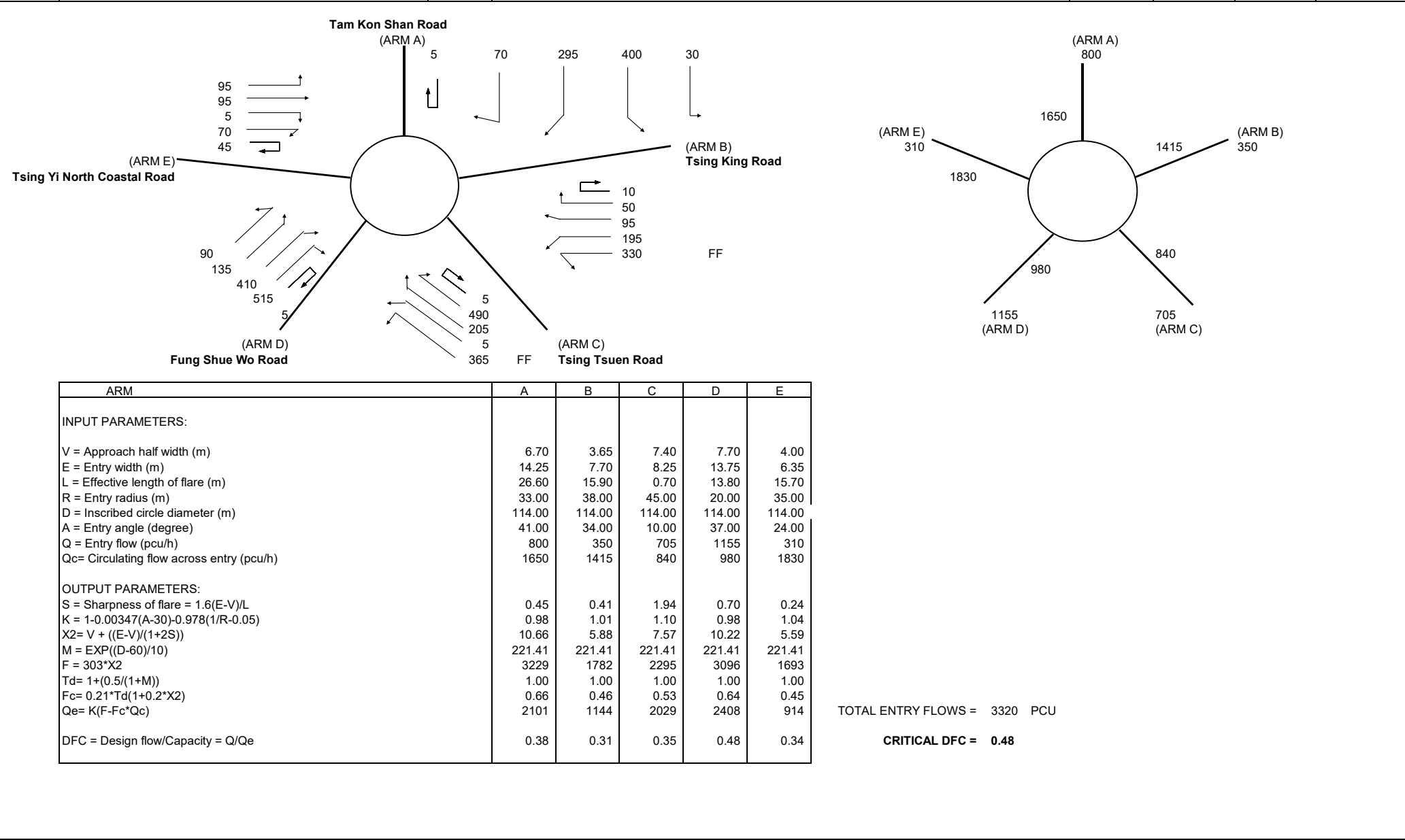
Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDAABOUT CAPACITY CALCULATION

AECOM

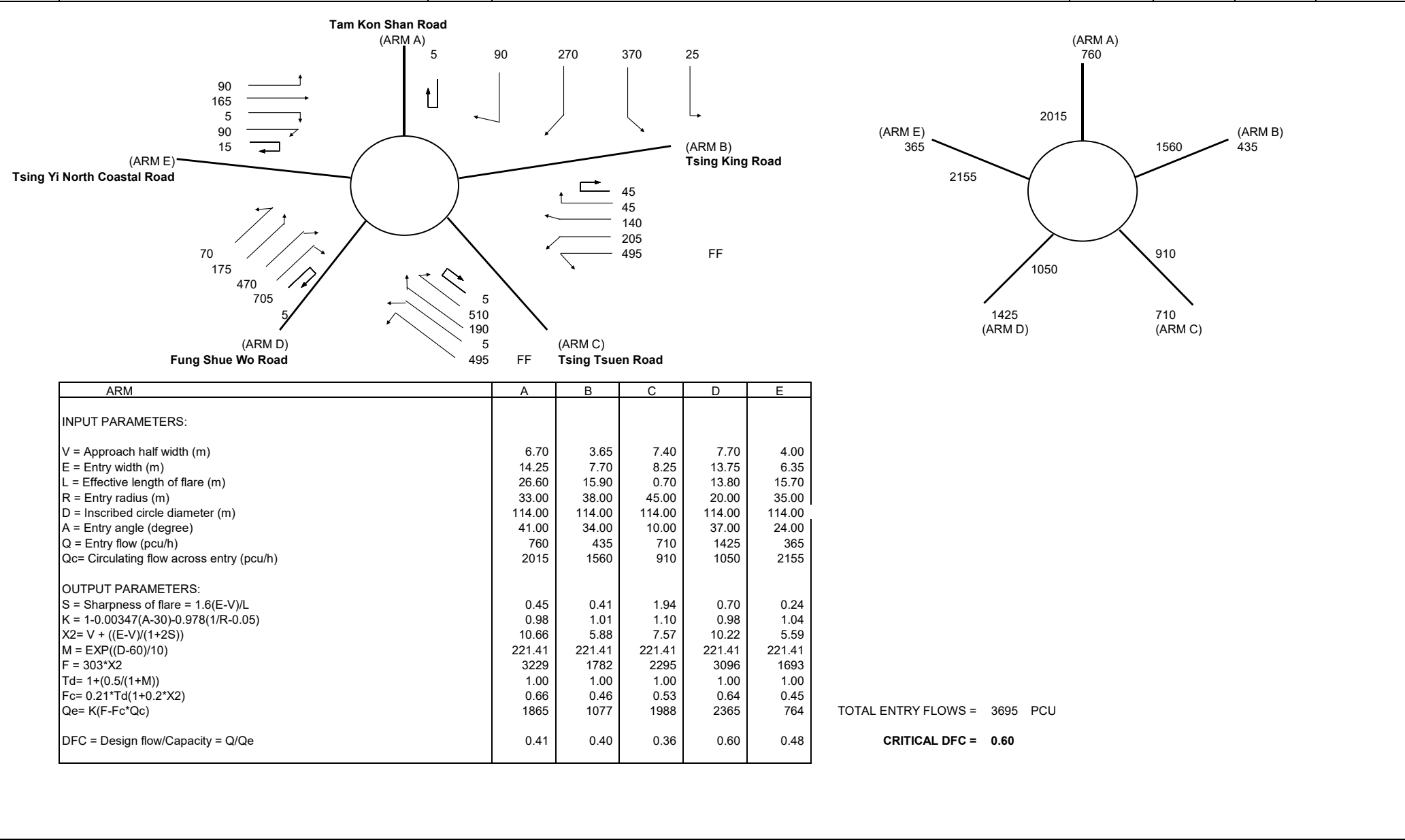
Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

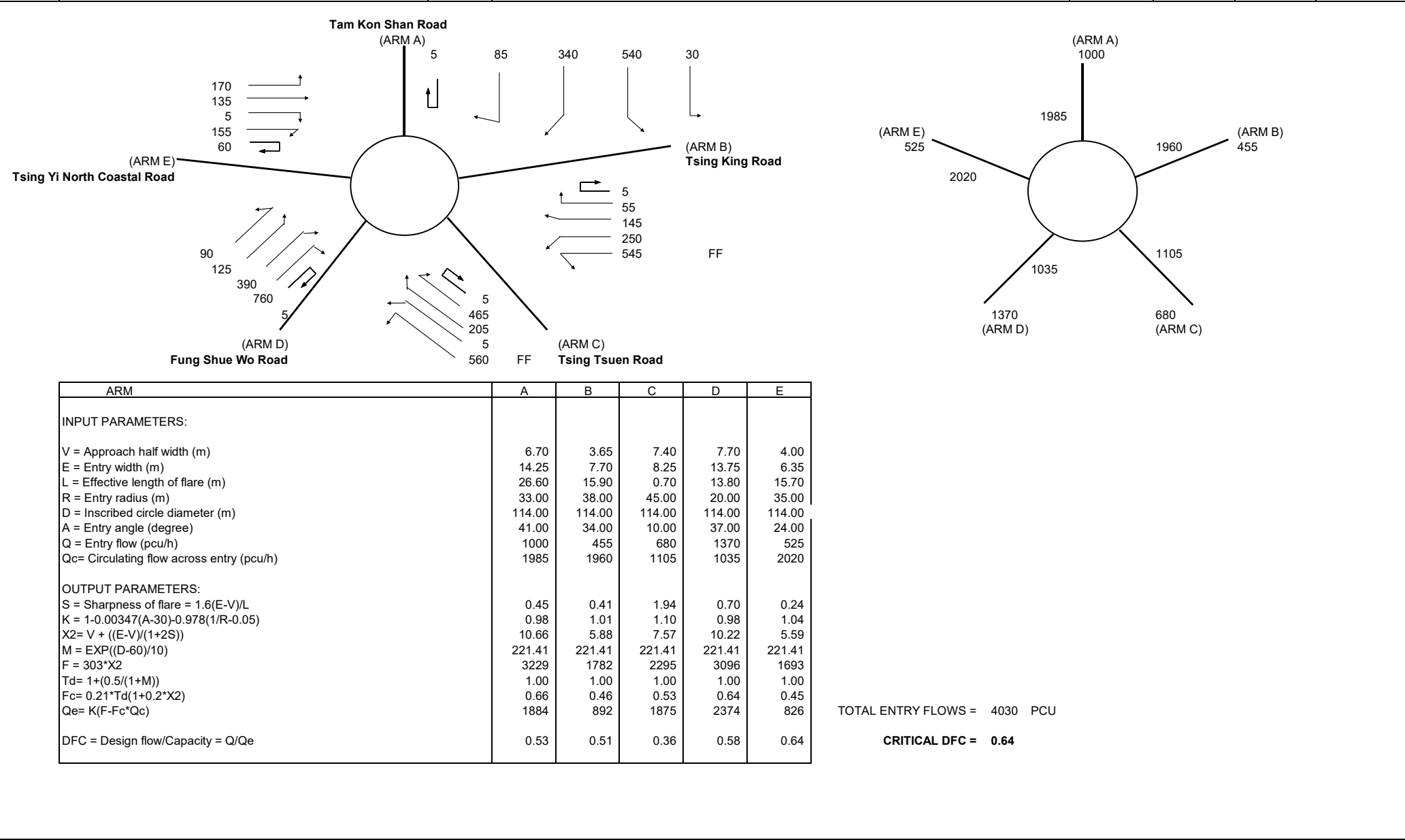
Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

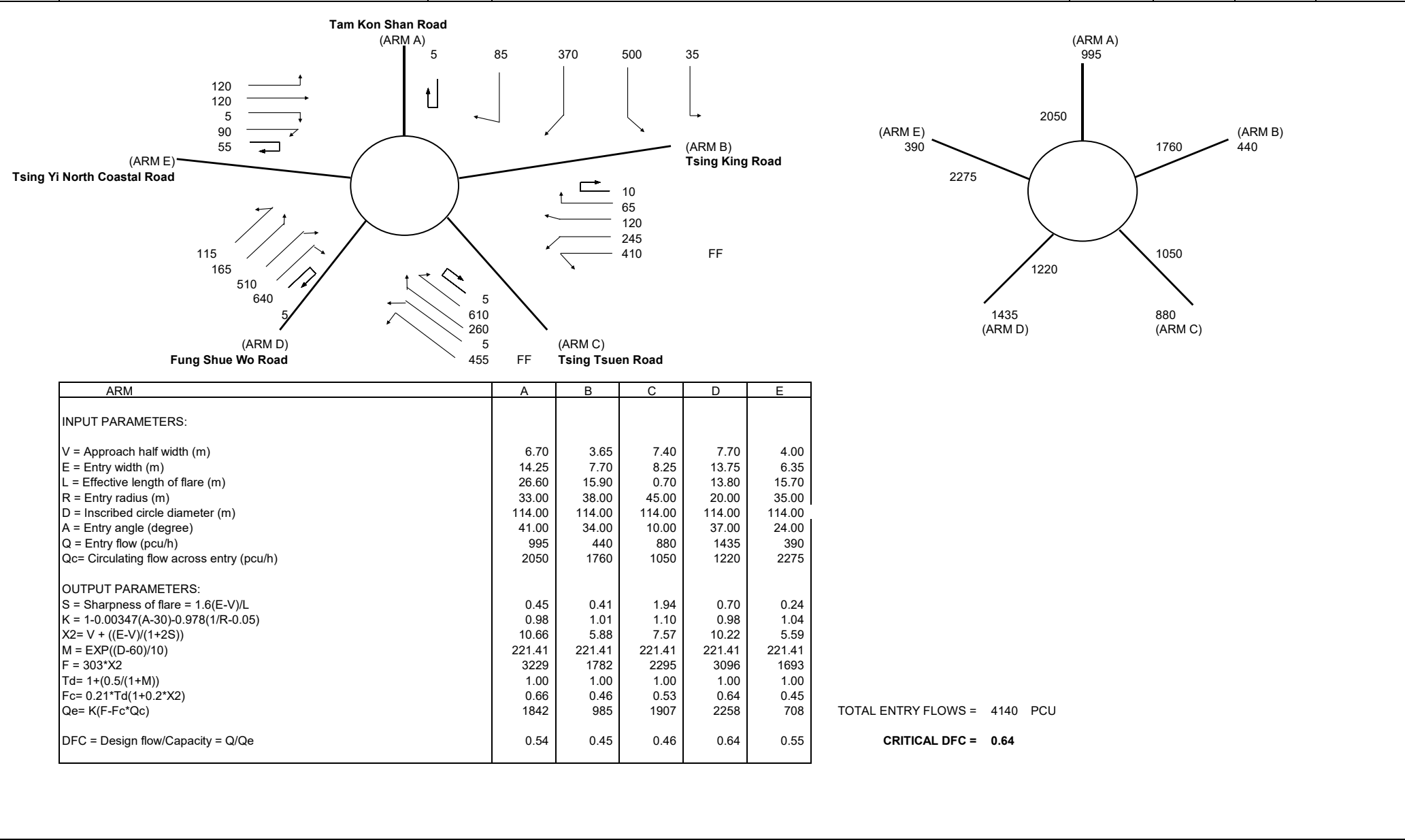
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDBABOUT CAPACITY CALCULATION

AECOM

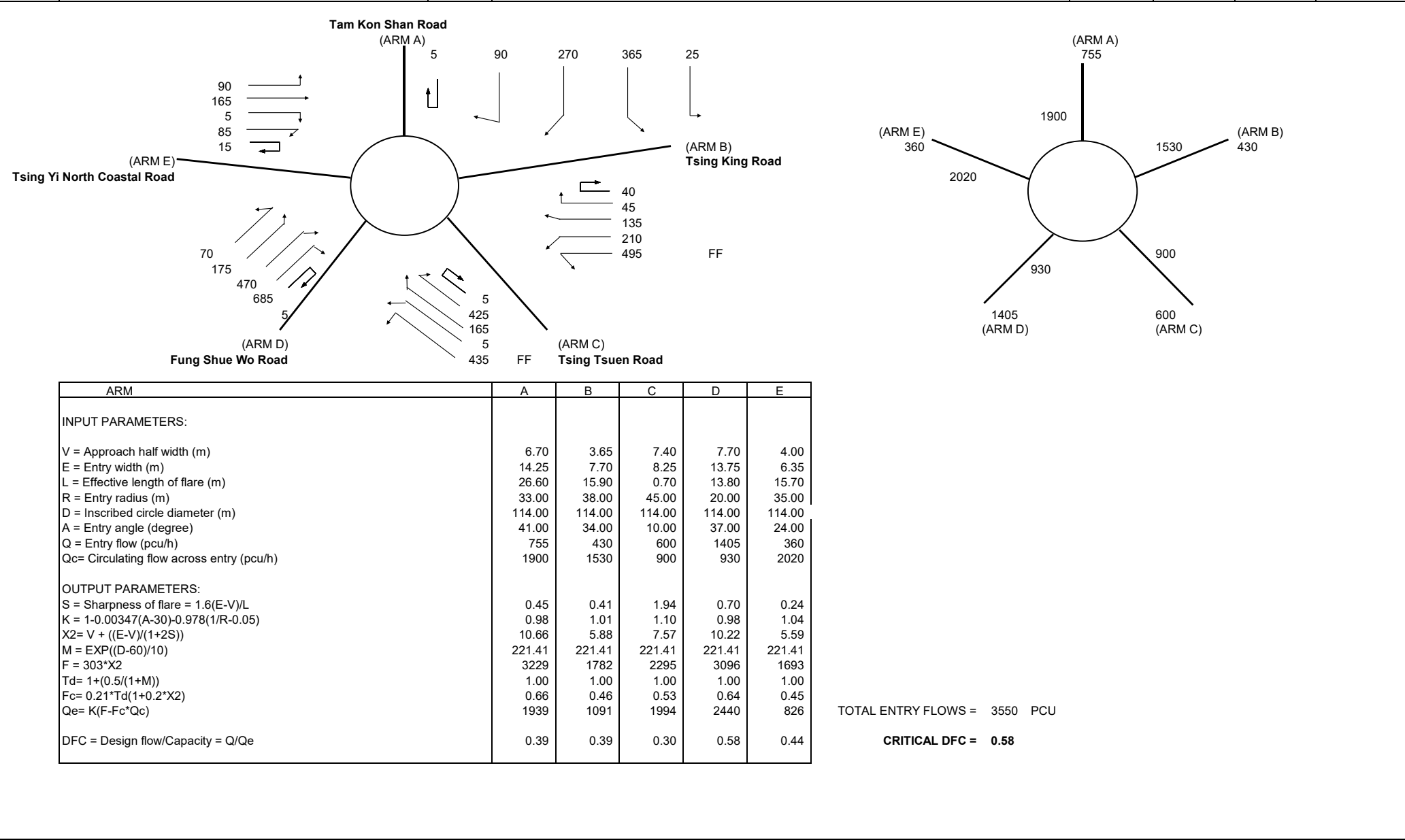
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDBABOUT CAPACITY CALCULATION

AECOM

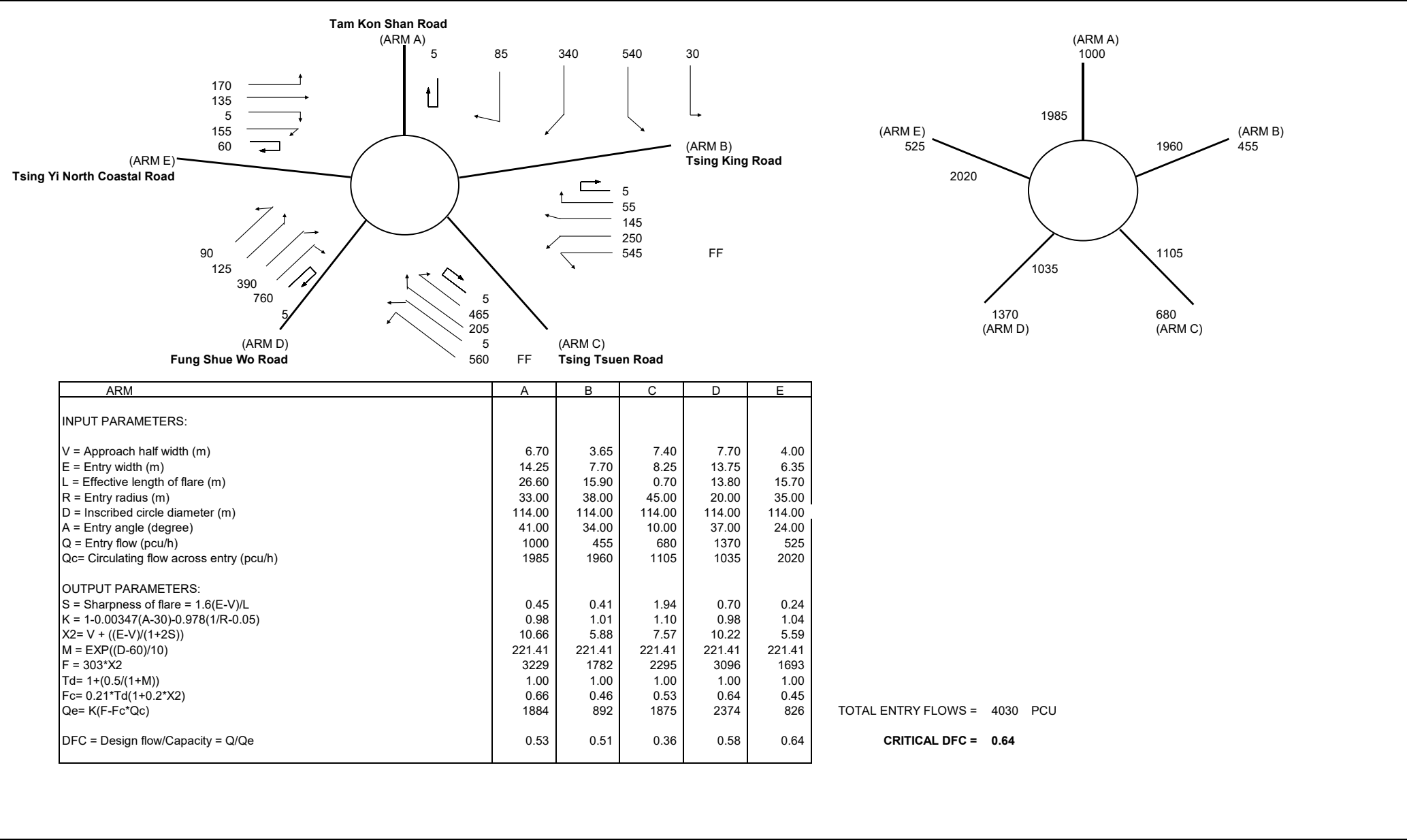
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

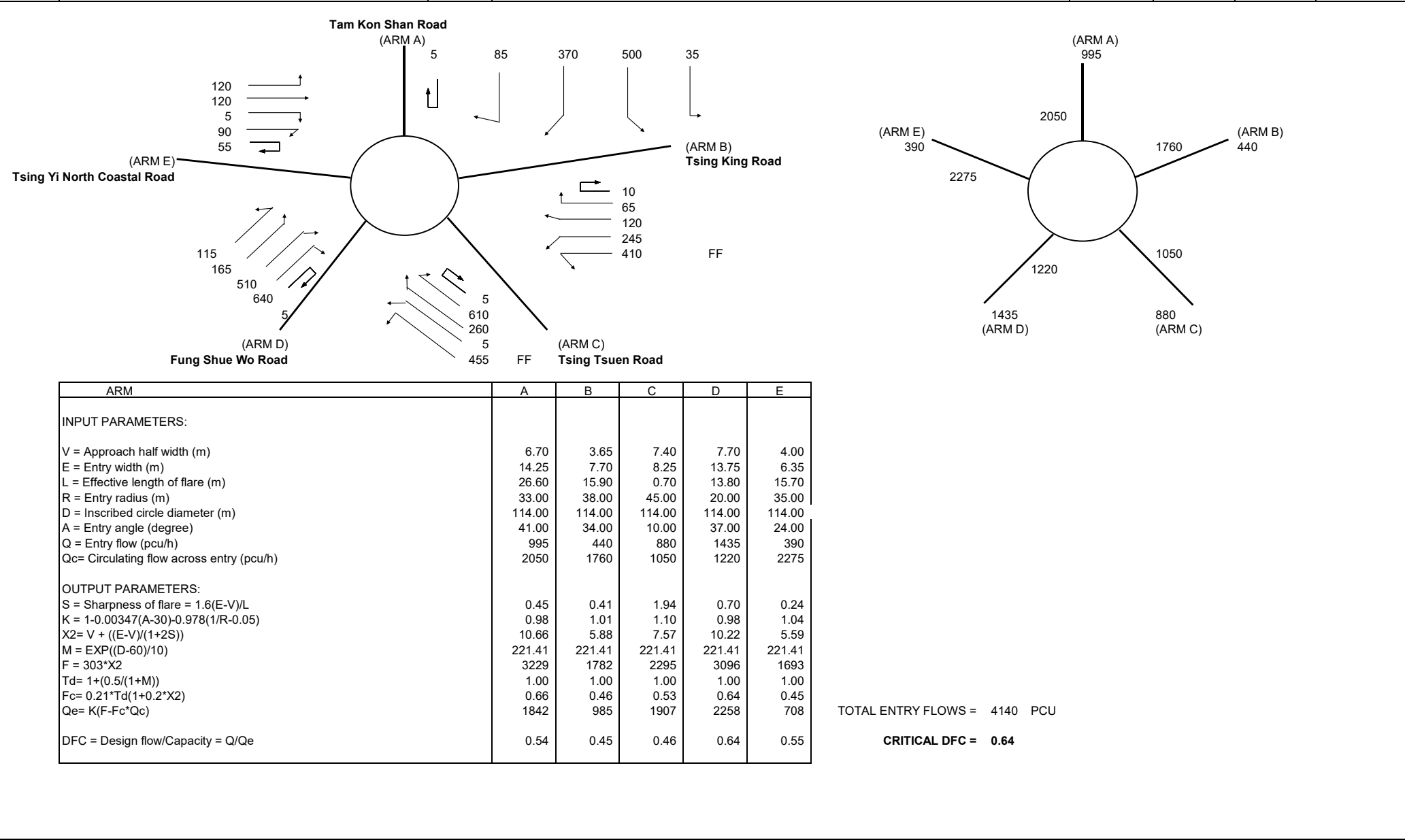
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

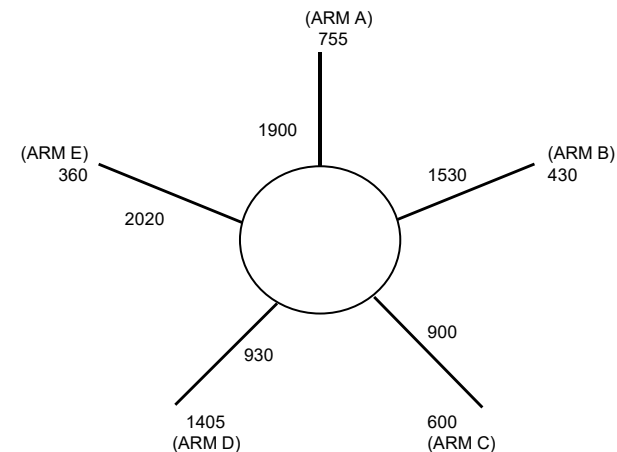
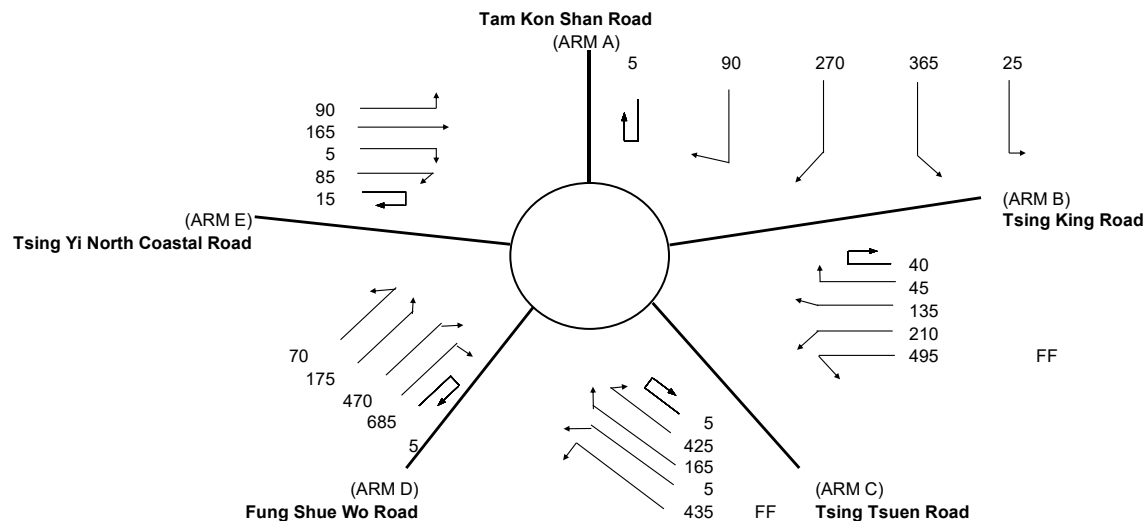
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDBABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

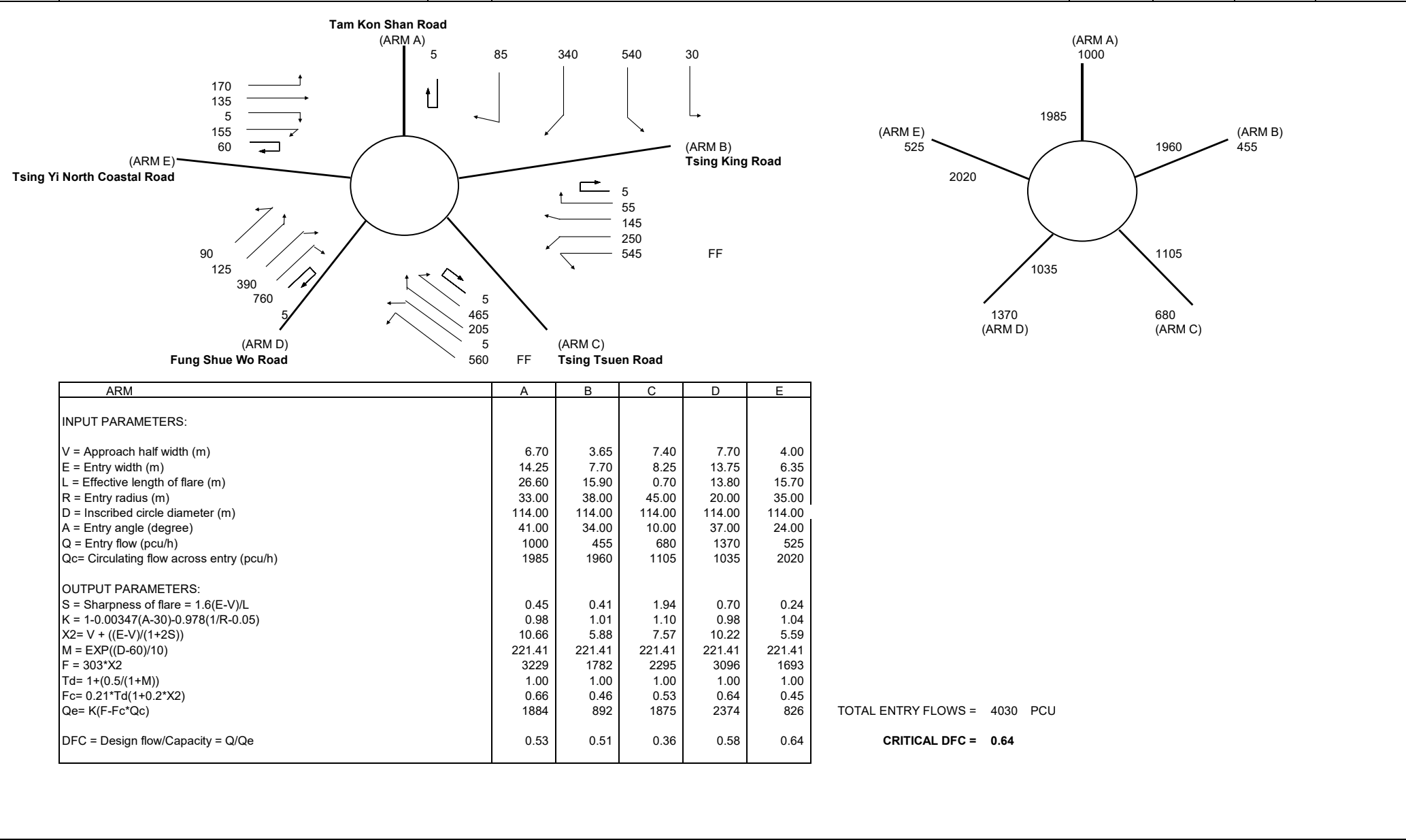
TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

ROUNDABOUT CAPACITY CALCULATION

AECOM

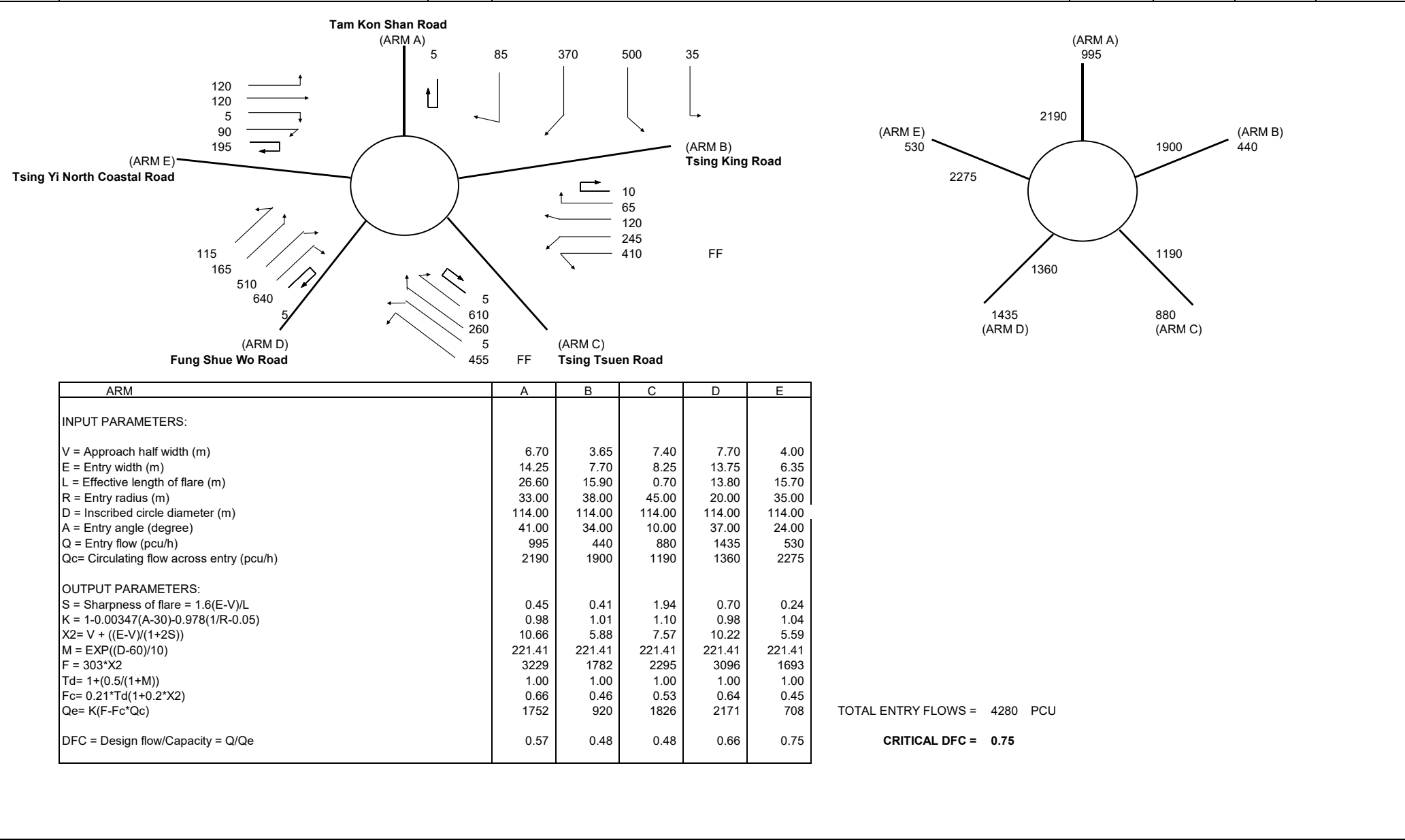
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025



ROUNDABOUT CAPACITY CALCULATION

AECOM

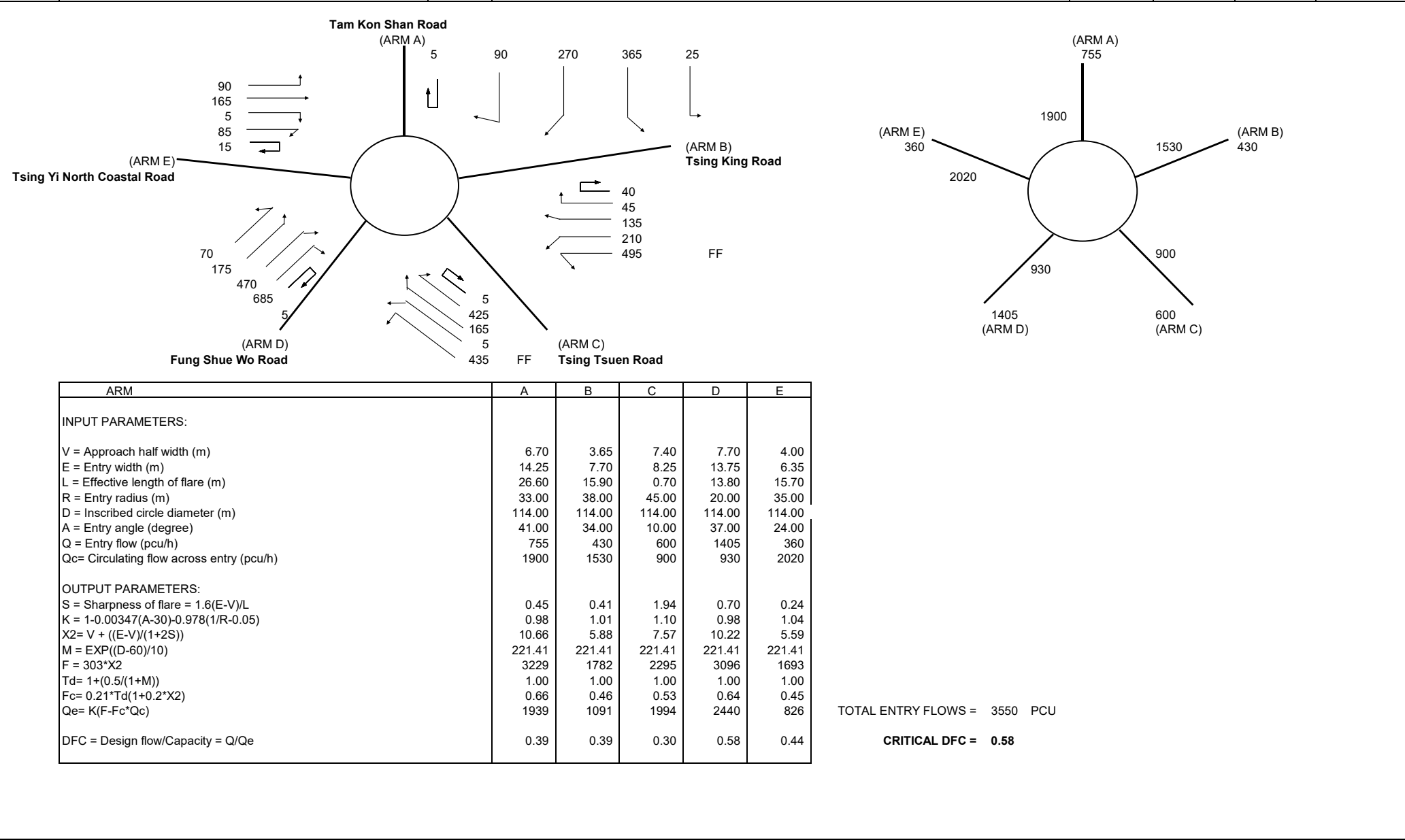
Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B NN	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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ROUNDABOUT CAPACITY CALCULATION

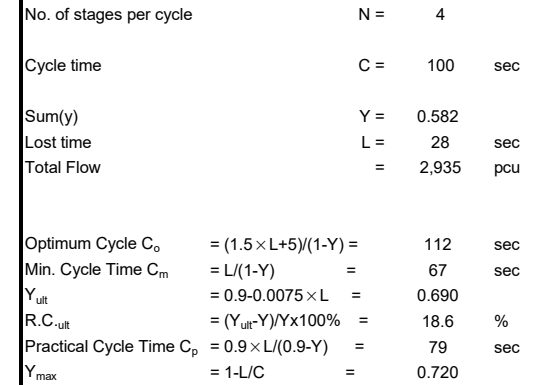
AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B PM	Project No.	60733229	Prepared By	MKC	Checked By	LC	Date	Nov 2025
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AECOM

DATE: Nov 2025



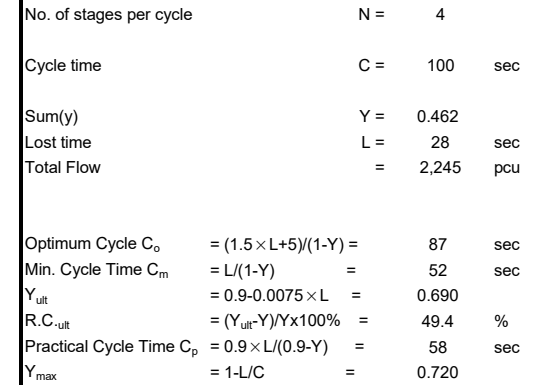
Critical Case : B,D,Ep

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 11\%$$

[illegible]

AECOM

DATE: Nov 2025



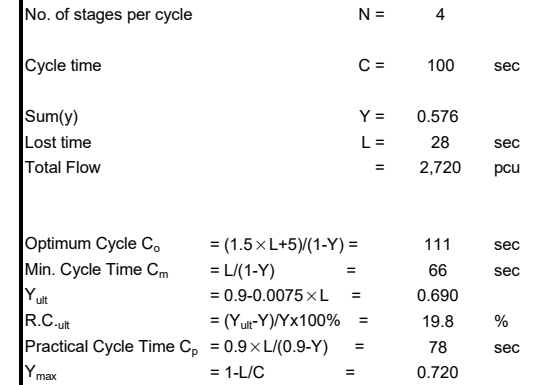
Critical Case : B,D,Ep

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 40\%$$

[illegible]

AECOM

DATE: Nov 2025



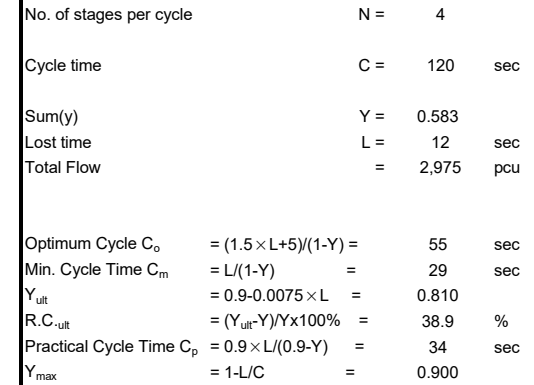
Critical Case : B,D,Ep

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 13\%$$

[illegible]

AECOM

DATE: Nov 2025



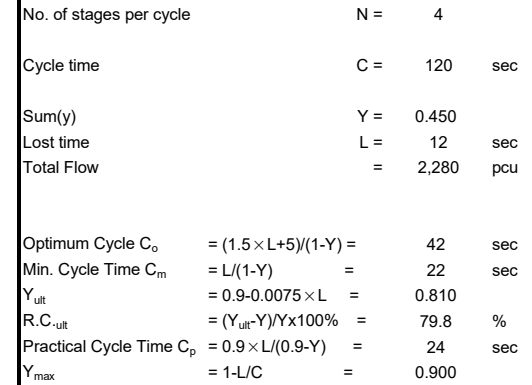
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 39\%$$

[illegible]

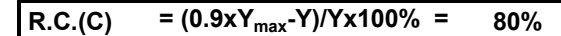
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DATE: Nov 2025



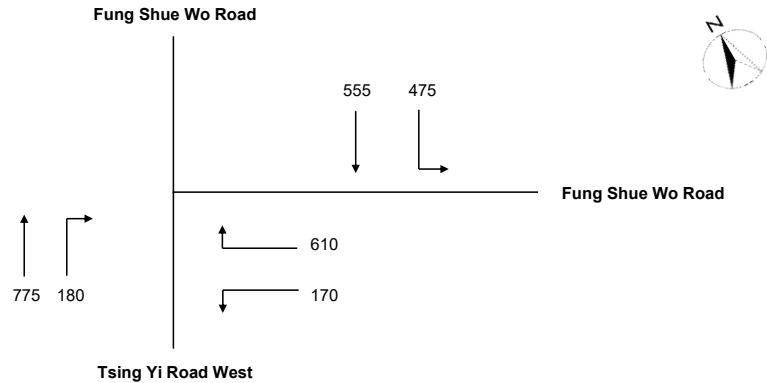
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 80\%$$

[illegible]

AECOM

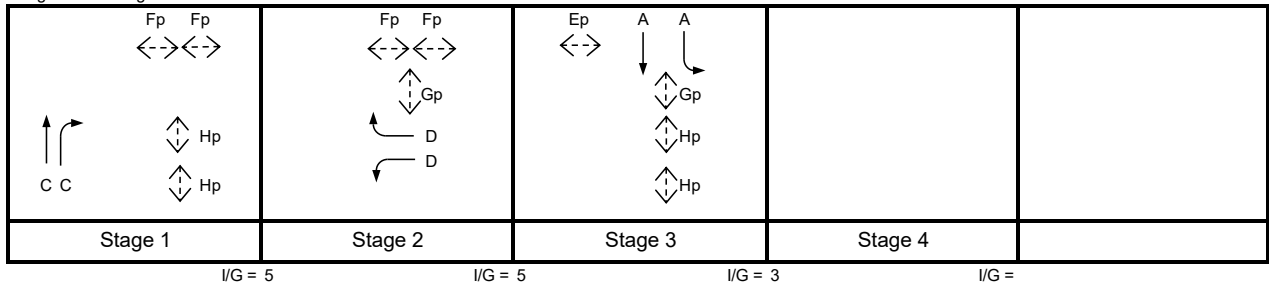
DATE: Nov 2025



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.558	
Lost time	L =	12	sec
Total Flow	=	2,765	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	52	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	27	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.810	
$R.C_{-ult}$	$= (Y_{ult} - Y) / Y \times 100\% =$	45.0	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	32	sec
Y_{max}	$= 1 - L / C =$	0.900	

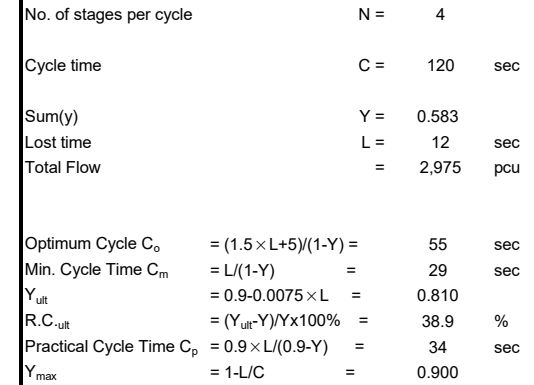
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 45\%$$

[illegible]

AECOM

DATE: Nov 2025



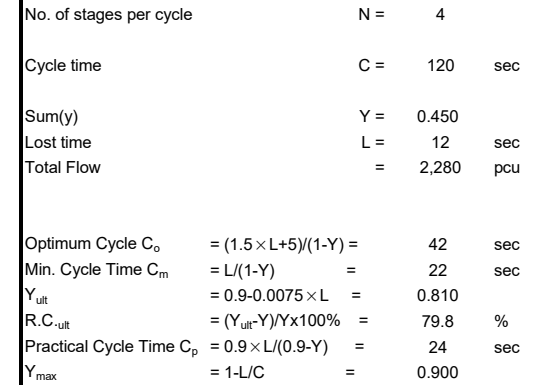
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 39\%$$

[illegible]

AECOM

DATE: Nov 2025



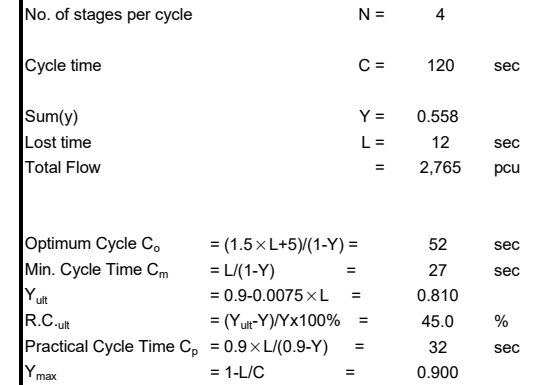
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 80\%$$

[illegible]

AECOM

DATE: Nov 2025



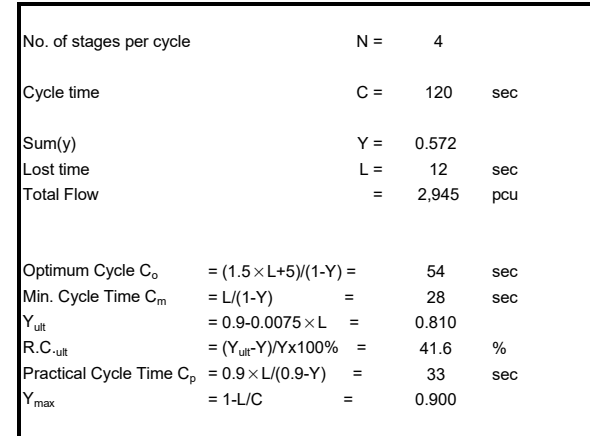
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 45\%$$

[illegible]

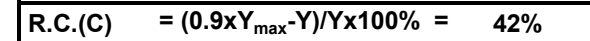
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DATE: Nov 2025



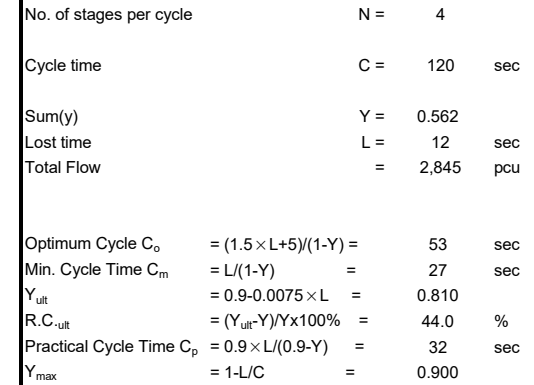
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 42\%$$

[illegible]

AECOM

DATE: Nov 2025



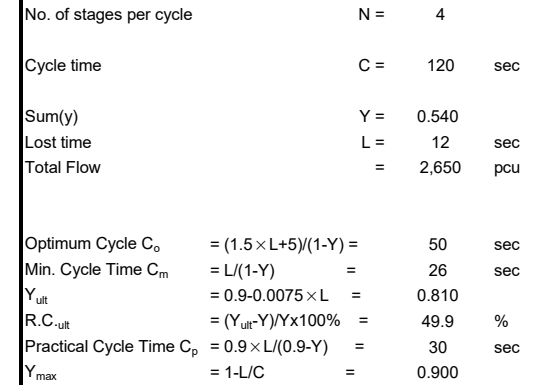
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 44\%$$

[illegible]

AECOM

DATE: Nov 2025



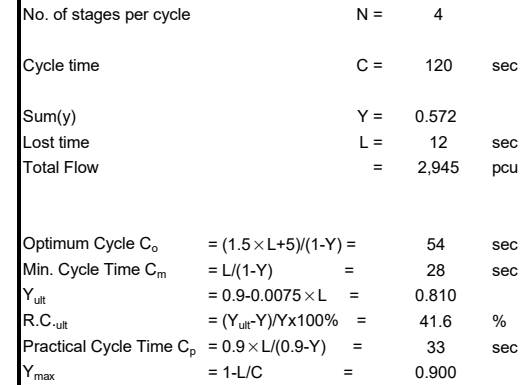
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 50\%$$

[illegible]

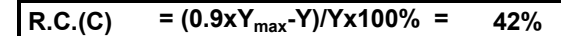
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DATE: Nov 2025



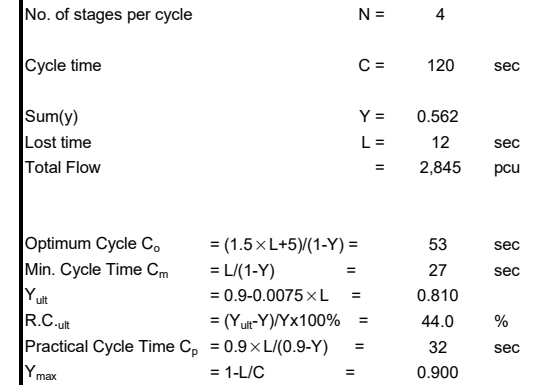
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 42\%$$

[illegible]

AECOM

DATE: Nov 2025



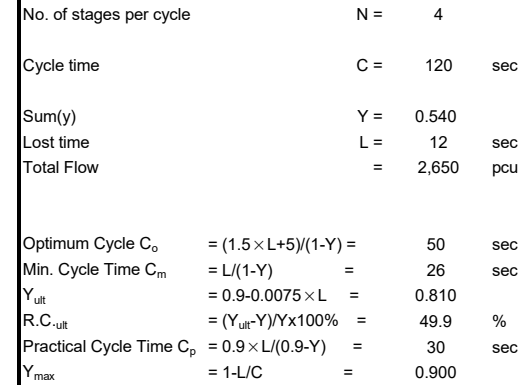
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 44\%$$

[illegible]

AECOM

DATE: Nov 2025



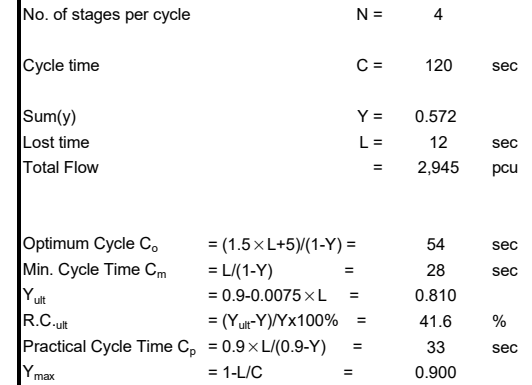
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 50\%$$

[illegible]

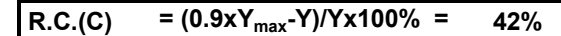
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DATE: Nov 2025



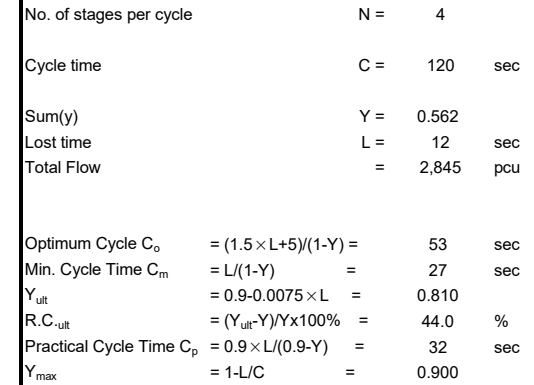
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 42\%$$

[illegible]

AECOM

DATE: Nov 2025



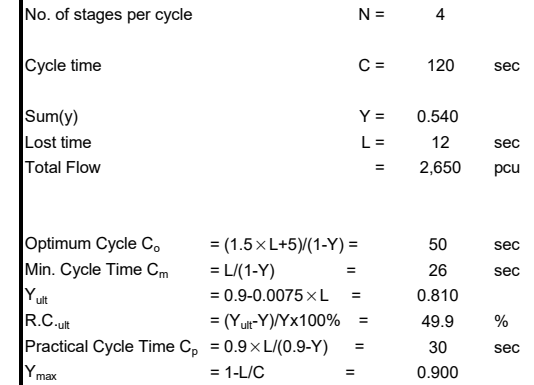
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 44\%$$

[illegible]

AECOM

DATE: Nov 2025



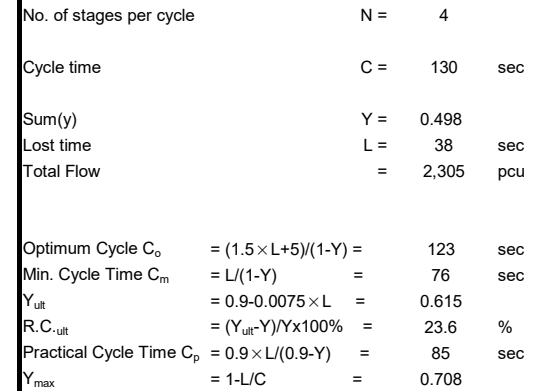
Critical Case : C,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 50\%$$

[illegible]

AECOM

DATE: Nov 2025



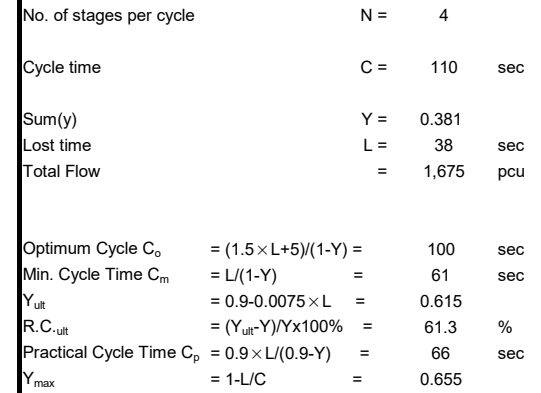
(J7

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 28\%$$
[illegible]

AECOM

DATE: Nov 2025



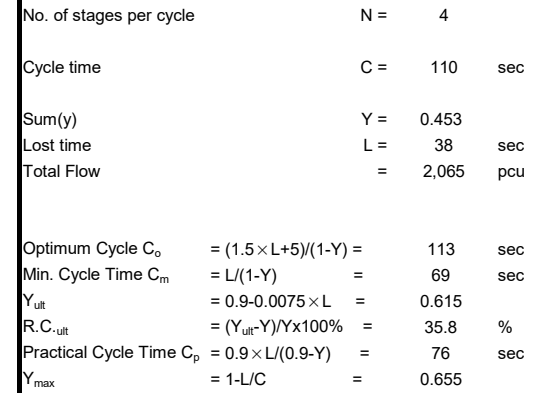
J7

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 55\%$$
[illegible]

AECOM

DATE: Nov 2025



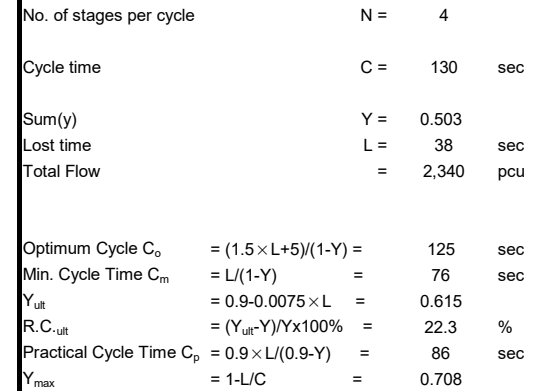
Critical Case : A,C,D,Hp

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 30\%$$

[illegible]

AECOM

DATE: Nov 2025



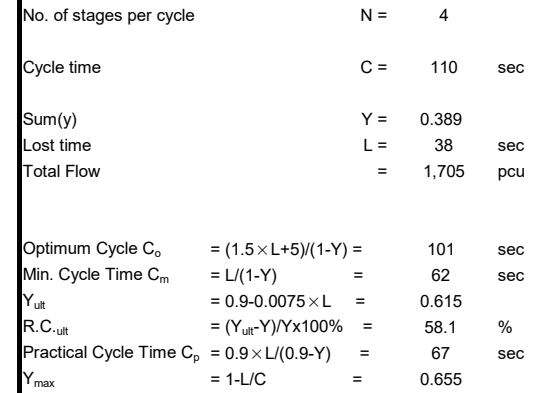
(J7)

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 27\%$$
[illegible]

AECOM

DATE: Nov 2025



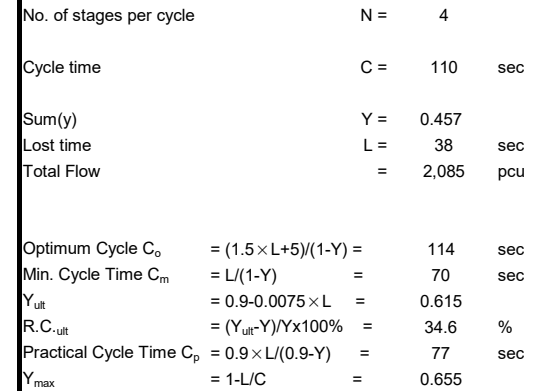
J7

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 51\%$$
[illegible]

AECOM

DATE: Nov 2025



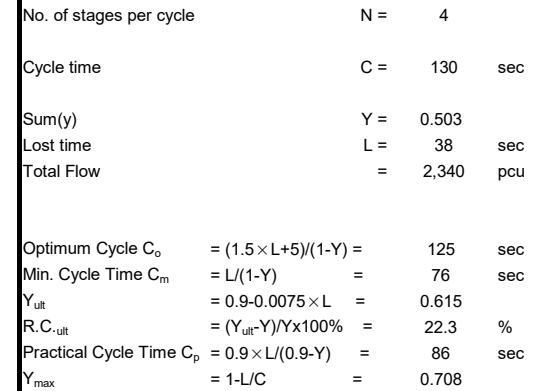
J7)

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 29\%$$
[illegible]

AECOM

DATE: Nov 2025



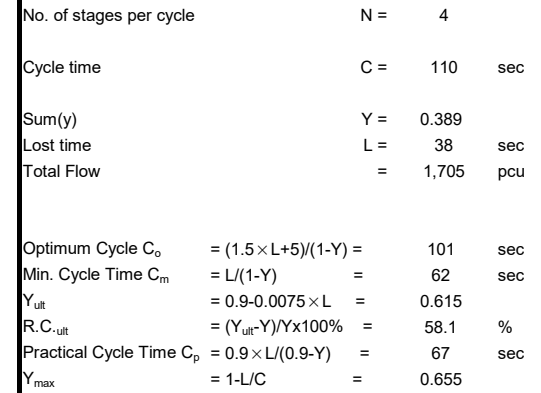
J7)

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 27\%$$
[illegible]

AECOM

DATE: Nov 2025



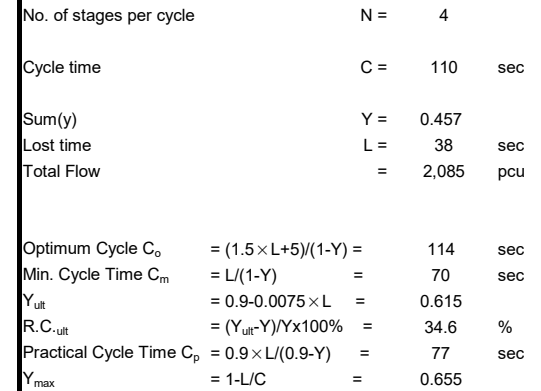
J7

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 51\%$$
[illegible]

AECOM

DATE: Nov 2025



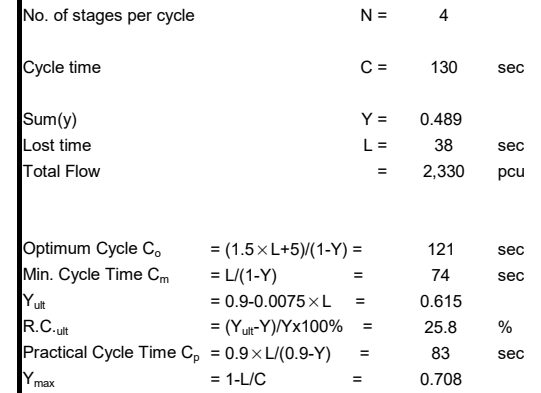
Critical Case : A,C,D,Hp

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 29\%$$

[illegible]

AECOM

DATE: Nov 2025



J7)

Stage 1	Stage 2	Stage 3	Stage 4
I/G = 7	I/G = 5	I/G = 11	G = 5
			I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 30\%$$
[illegible]

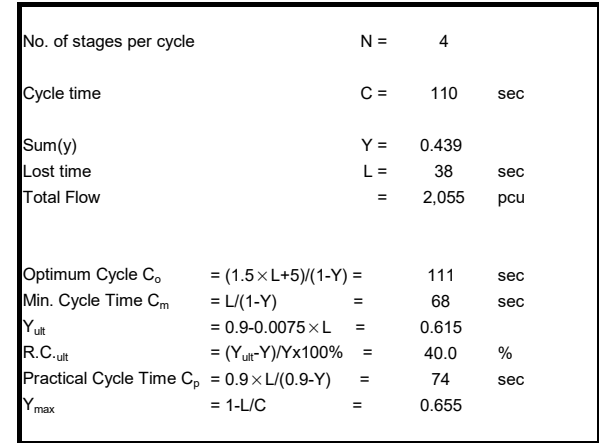
AECOM

DATE: Nov 2025

[illegible]

AECOM

DATE: Nov 2025



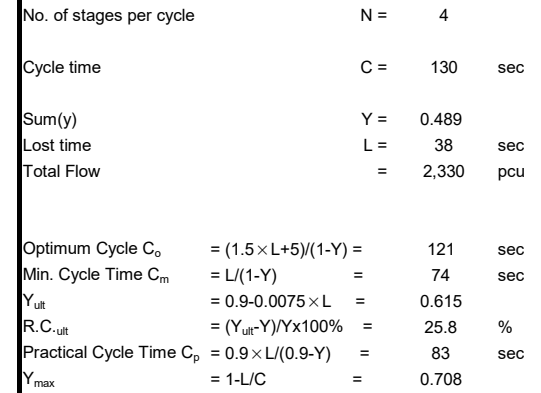
J7

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 34\%$$
[illegible]

AECOM

DATE: Nov 2025



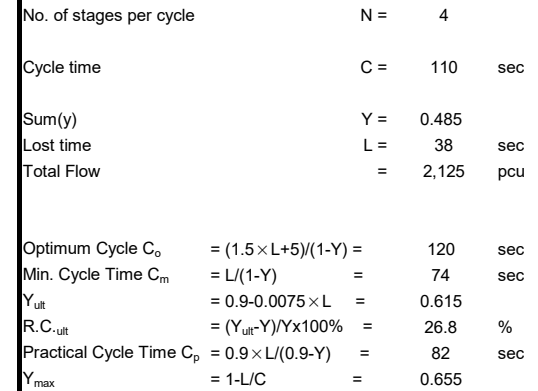
J7)

Stage 1	Stage 2	Stage 3	Stage 4
I/G = 7	I/G = 5	I/G = 11	G = 5
			I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 30\%$$
[illegible]

AECOM

DATE: Nov 2025



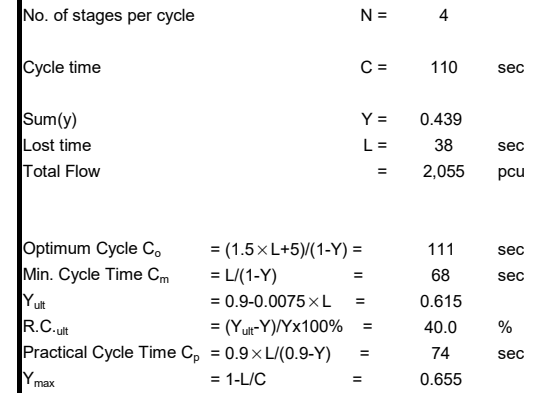
J7)

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 21\%$$
[illegible]

AECOM

DATE: Nov 2025



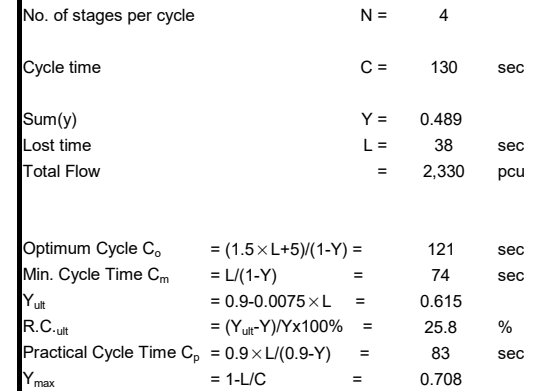
J7

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 34\%$$
[illegible]

AECOM

DATE: Nov 2025

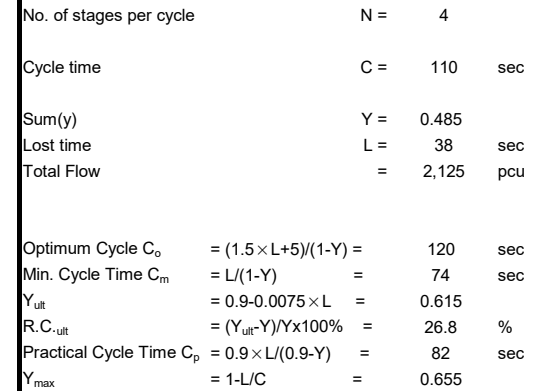


Stage 1	Stage 2	Stage 3	Stage 4	
$I/G = 7$	$I/G = 5$	$I/G = 11$	$G = 5$	$I/G = 11$

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 30\%$$
[illegible]

AECOM

DATE: Nov 2025



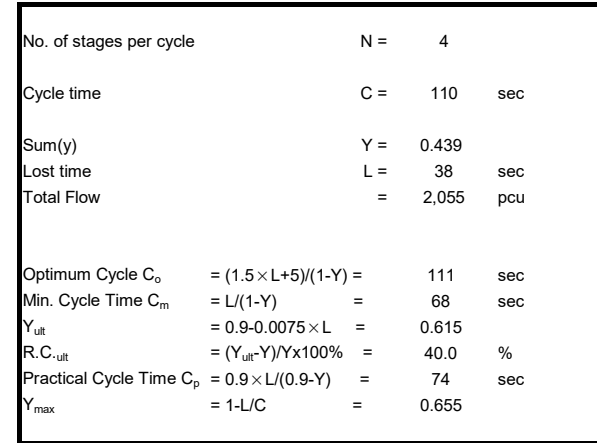
J7)

Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 7	I/G = 5	I/G = 11	G = 5	I/G = 11

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 21\%$$
[illegible]

AECOM

DATE: Nov 2025

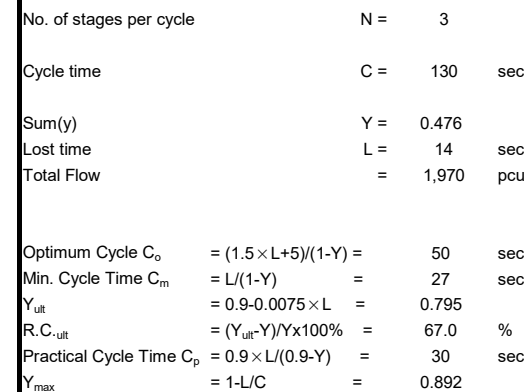


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 34\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y															
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT																		
	E	2,3	3.840	1	18	17	0	1	0	0		1999	505		165	505	100%	100%	1845	0.274	0.084															
	D	3	3.790	1																																
	A	1	3.310	1	15																	1	0	0	0	0	1946	275	54	396	329	84%	1796	0.183	0.183	
	A	1	4.060	1	0																															0
	B	1,2	3.290	2	11																	0	1	0	0	0		4028		345	315	345	100%	4028	0.086	0.172
	C	2	3.290	1																																
Pedestrian Crossing				GM		FGM		Total	sec																											
	Fp	1,4	min.	5		+	9	=	14	sec																										
	Gp	3,4	min.	5		+	13	=	18	sec																										
	Hp	4	min.	5		+	8	=	13	sec	*																									

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(J8

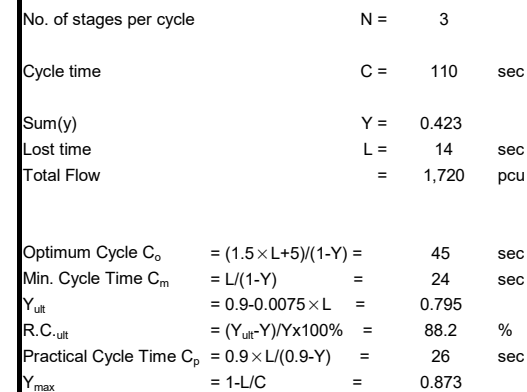
Stage 1	Stage 2	Stage 3		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 69\%$$
[illegible]

AECOM

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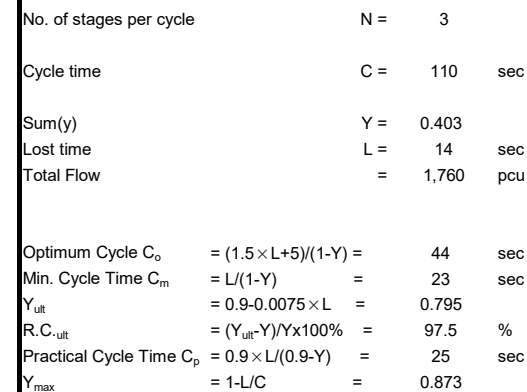
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 86\%$$
[illegible]

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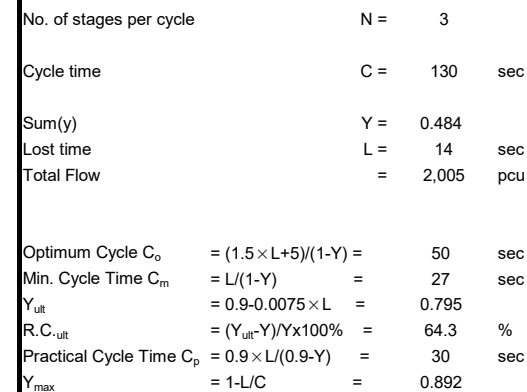


(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 95\%$$
[illegible]

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(J8

Stage 1	Stage 2	Stage 3		

2

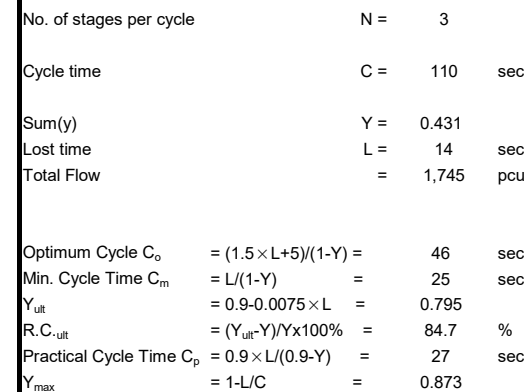
Critical Case : A,C,D

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 66\%$$

[illegible]

AECOM

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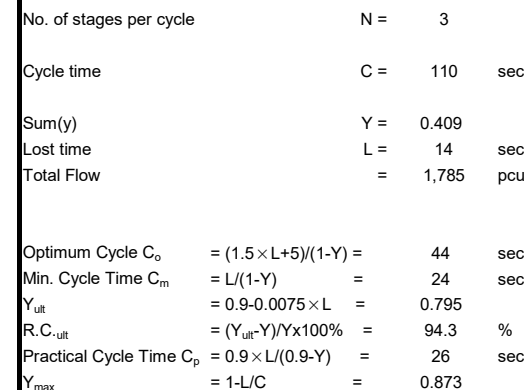
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 82\%$$
[illegible]

AECOM

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(J8

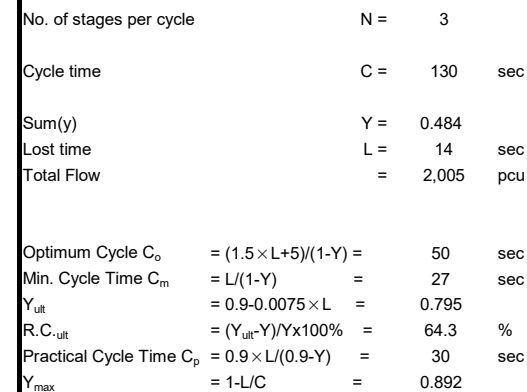
Stage 1	Stage 2	Stage 3		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 92\%$$
[illegible]

AECOM

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(J8

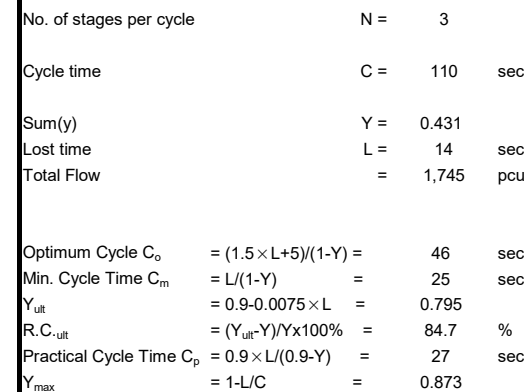
Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 66\%$$
[illegible]

AECOM

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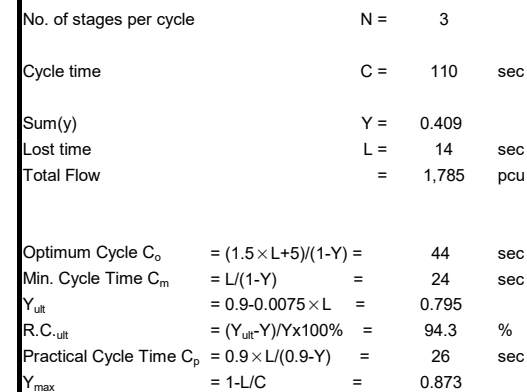
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 82\%$$
[illegible]

AECOM

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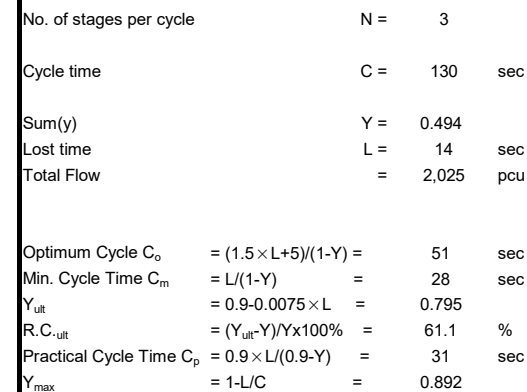
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 92\%$$
[illegible]

AECOM

DATE: Nov 2025



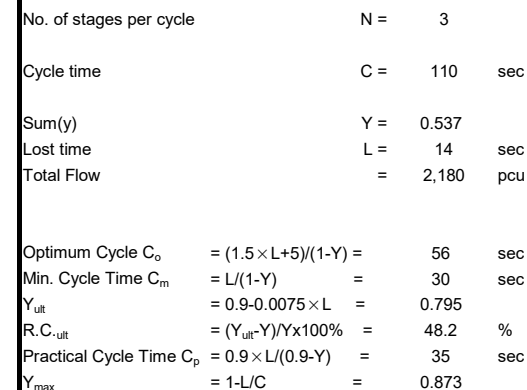
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 63\%$$
[illegible]

AECOM

DATE: Nov 2025



(J8

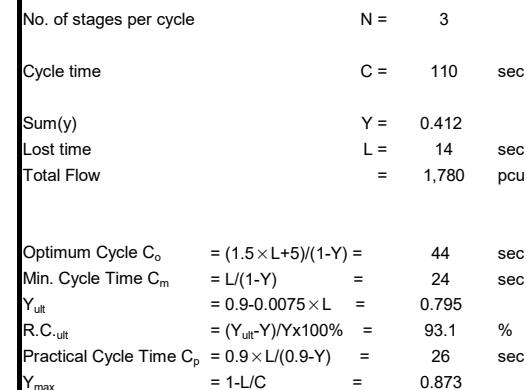
Stage 1	Stage 2	Stage 3		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 46\%$$
[illegible]

AECOM

DATE: Nov 2025



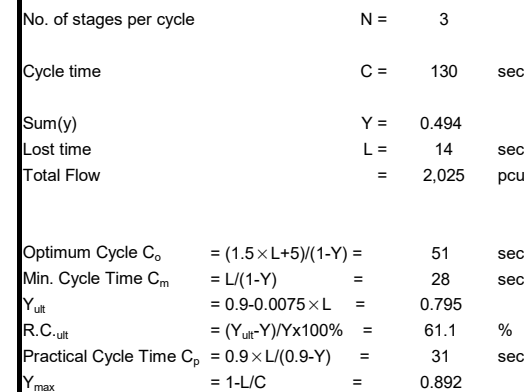
(J8

Stage 1	Stage 2	Stage 3		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 91\%$$
[illegible]

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(J8

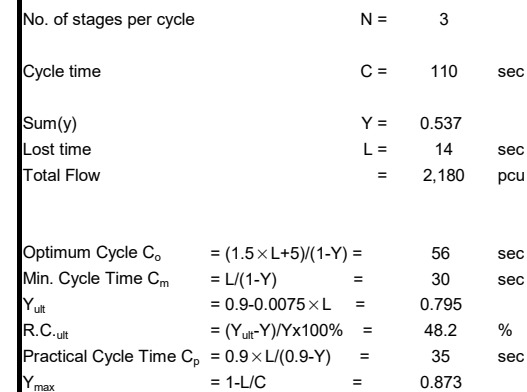
Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

Critical Case : A,C,D

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 63\%$$

[illegible]

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(J8

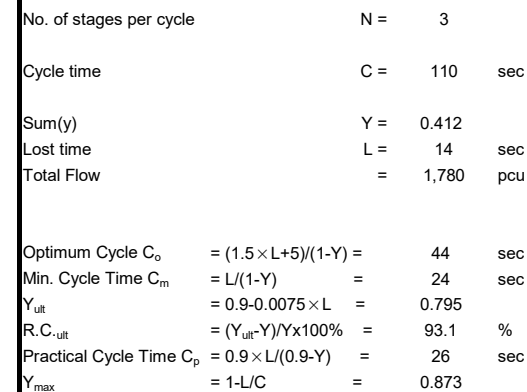
Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

Critical Case : A,C,D

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 46\%$$

[illegible]

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(J8

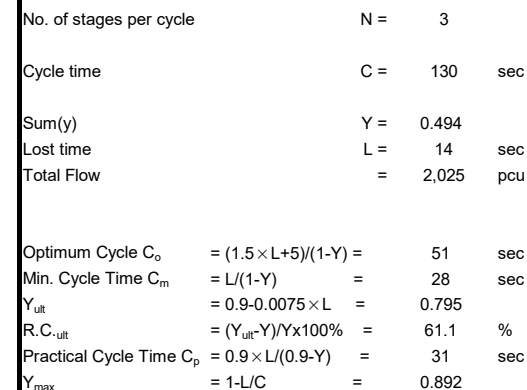
Stage 1	Stage 2	Stage 3		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 91\%$$
[illegible]

AECOM

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(J8

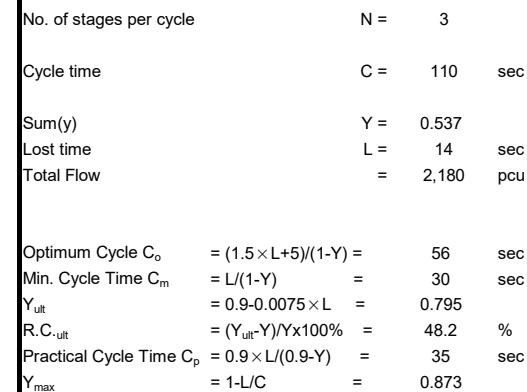
Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

2

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 63\%$$
[illegible]

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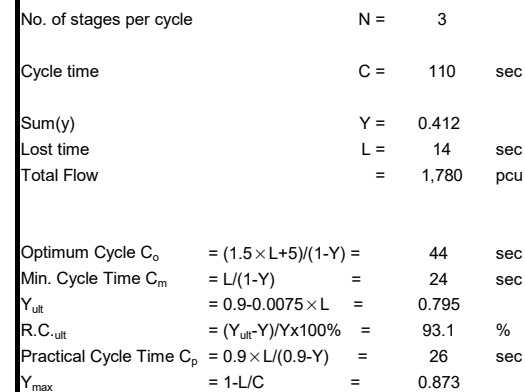
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 46\%$$
[illegible]

AECOM

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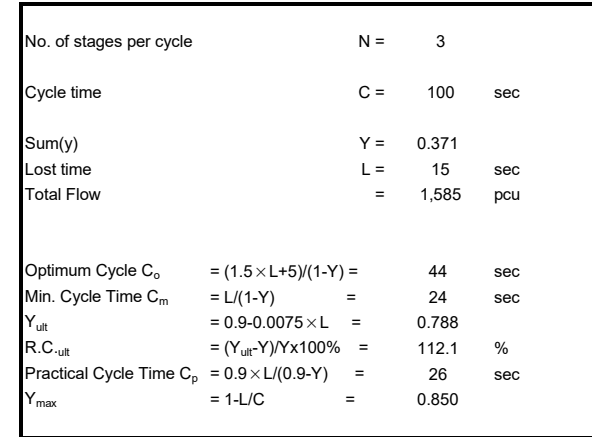
(J8

Stage 1	Stage 2	Stage 3		
$I/G = 5$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 91\%$$
[illegible]

AECOM

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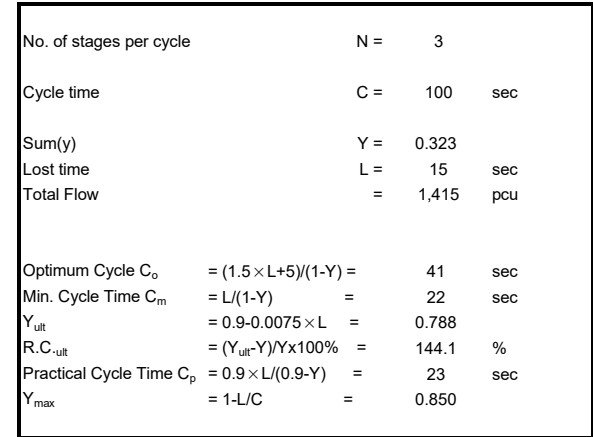
Critical Case : A,B,C

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 106\%$$

[illegible]

AECOM

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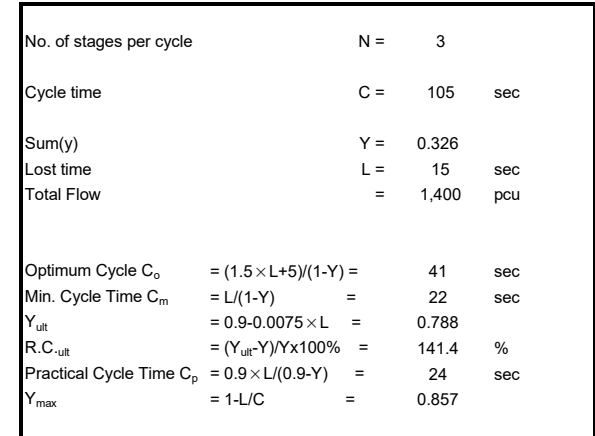
Critical Case : A,B,C

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

[illegible]

AECOM

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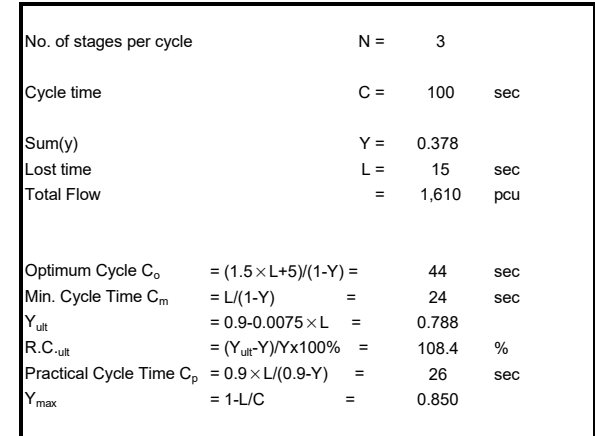
Critical Case : A,B,C

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 136\%$$

[illegible]

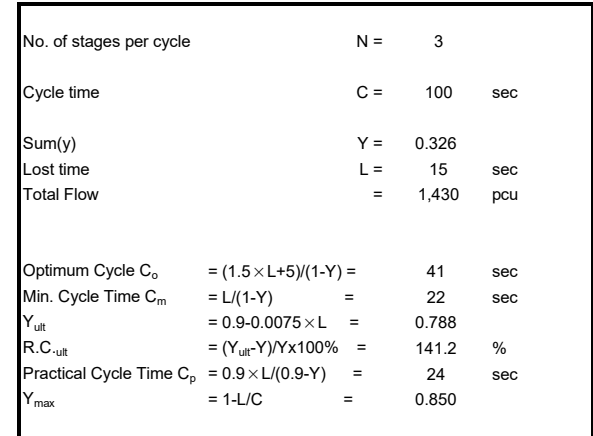
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 102\%$$
[illegible]

AECOM

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Critical Case : A,B,C

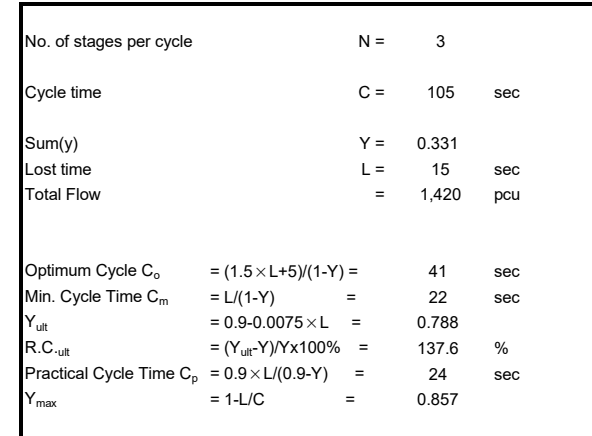
$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 134\%$$



MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT			
	A	1	3.640	1	14			1	0			1979	185	87	272	68%		1845	0.148	0.148	
	A	1	3.320	1				0	0			2087		308							308
	A	1	3.730	2	16	0	0	1	0			4116	155	350	350	100%	100%	4116	0.085	0.080	
	B	2	3.730	1				0	0			2128		155							155
	C	3	3.250	1	12	0	0	1	0			1940	155	190	155	100%	100%	1724	0.090	0.099	
	C	3	2.960	1	21			0	0			2051									190
Pedestrain Crossing				GM	FGM		Total														
	Dp	1,2	min.	5	+	6	=	11	sec												
	Ep	2	min.	5	+	8	=	13	sec												
	Fp	2,3	min.	5	+	6	=	11	sec												
	Gp	3	min.	5	+	8	=	13	sec												

AECOM

DATE: Nov 2025



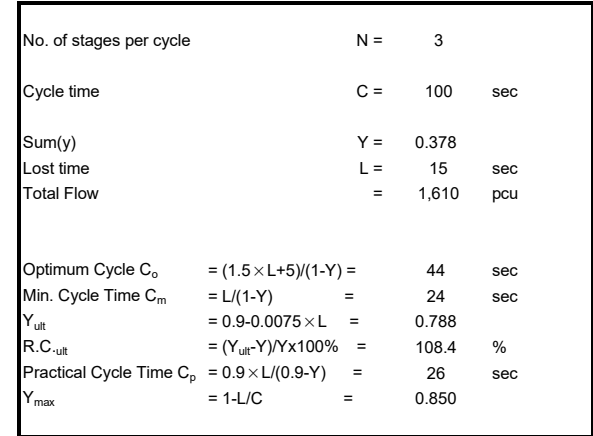
Critical Case : A,B,C

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 133\%$$

[illegible]

AECOM

DATE: Nov 2025



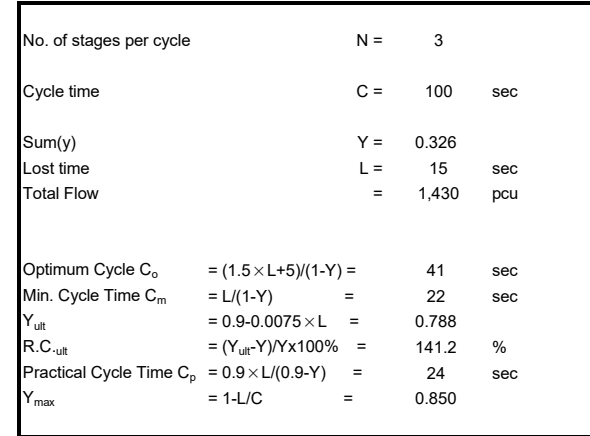
J9)

Stage 1 $I/G = 6$	Stage 2 $I/G = 5$	Stage 3 $I/G = 5$		
--	--	--	--	--

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 102\%$$
[illegible]

AECOM

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J9)

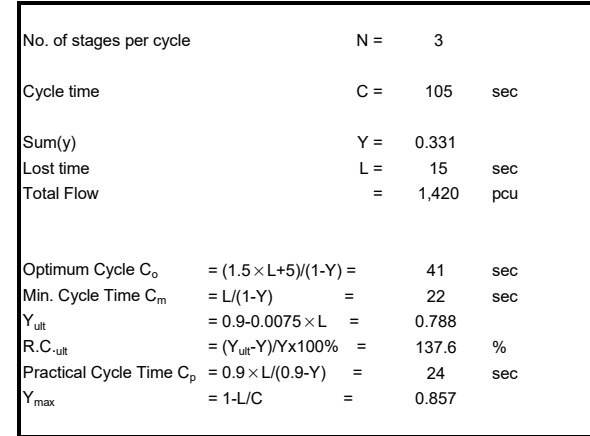
Stage 1	Stage 2	Stage 3		
$I/G = 6$	$I/G = 5$	$I/G = 5$		

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 134\%$$

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT			
	A	1	3.640	1	14			1	0			1979	185	87	272	68%		1845	0.148	0.148	
	A	1	3.320	1				0	0			2087		308							308
	A	1	3.730	2		16	0	1	0			4116	155	350	350	100%		4116	0.085	0.080	
	B	2	3.730	1				0	0			0		2128							155
	C	3	3.250	1	12			1	0			1940	155		155	100%		1724	0.090	0.099	
	C	3	2.960	1	21			0	0			0			2051						190
Pedestrain Crossing				GM	FGM		Total														
	Dp	1,2	min.	5	+	6	=	11	sec												
	Ep	2	min.	5	+	8	=	13	sec												
	Fp	2,3	min.	5	+	6	=	11	sec												
	Gp	3	min.	5	+	8	=	13	sec												

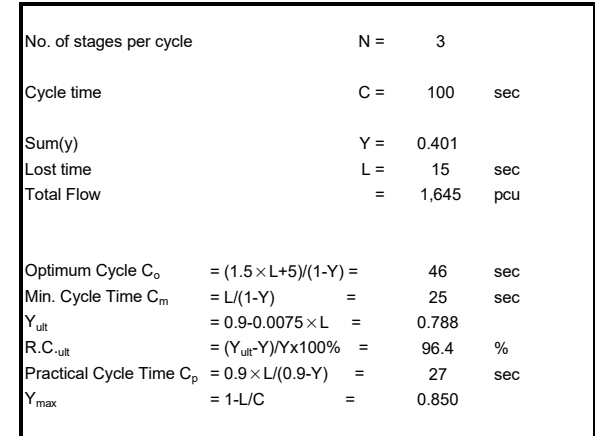
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 133\%$$
[illegible]

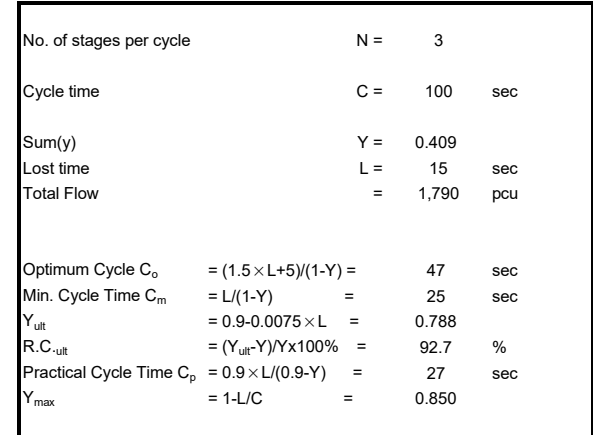
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 91\%$$
[illegible]

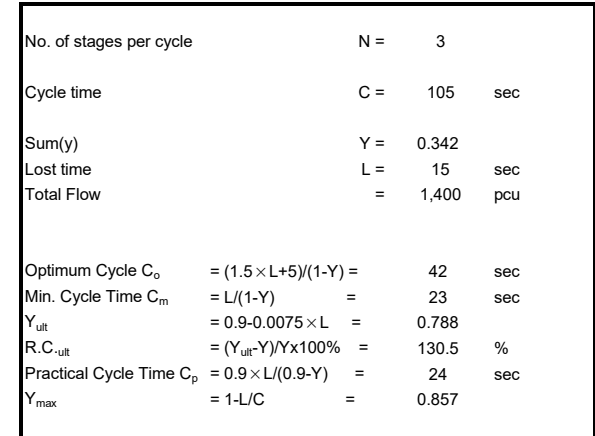
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 87\%$$
[illegible]

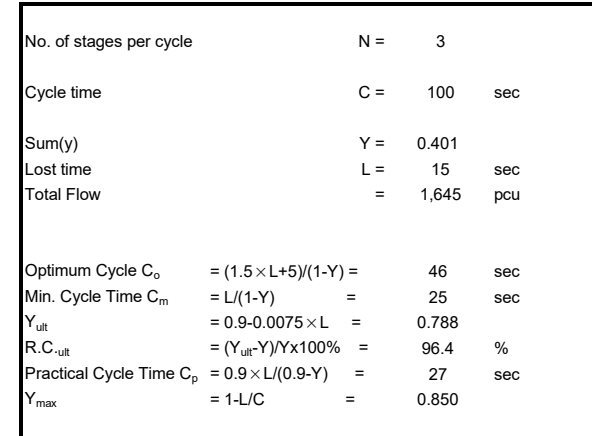
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 126\%$$
[illegible]

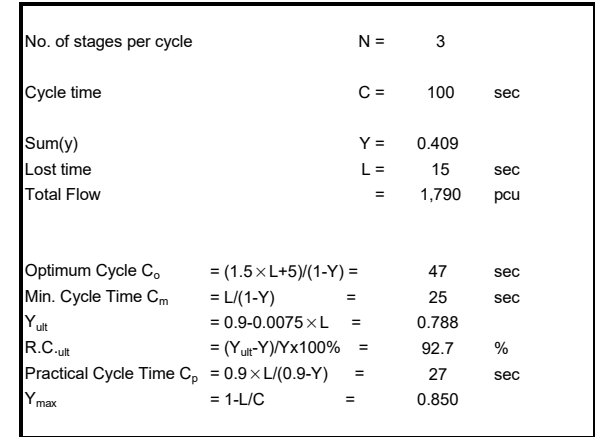
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 91\%$$
[illegible]

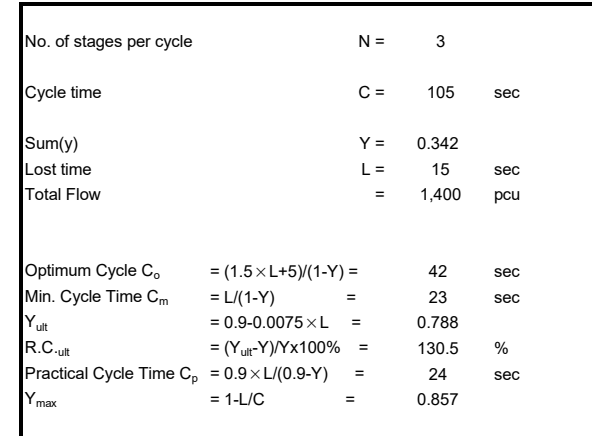
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 87\%$$
[illegible]

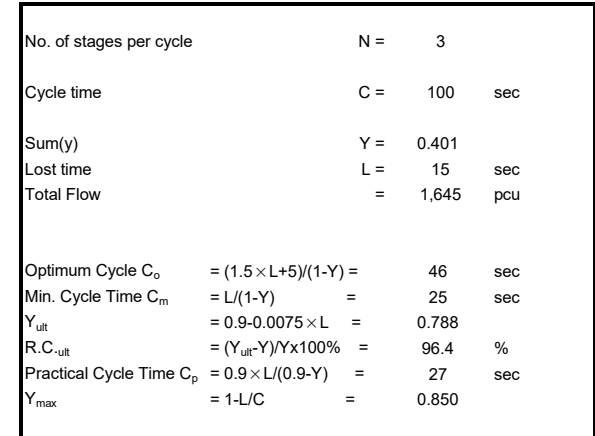
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 126\%$$
[illegible]

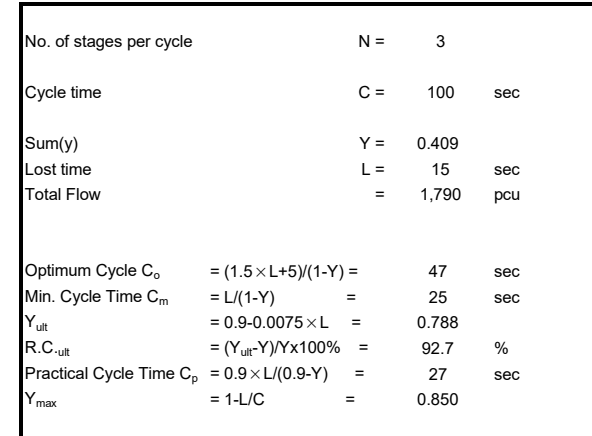
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 91\%$$
[illegible]

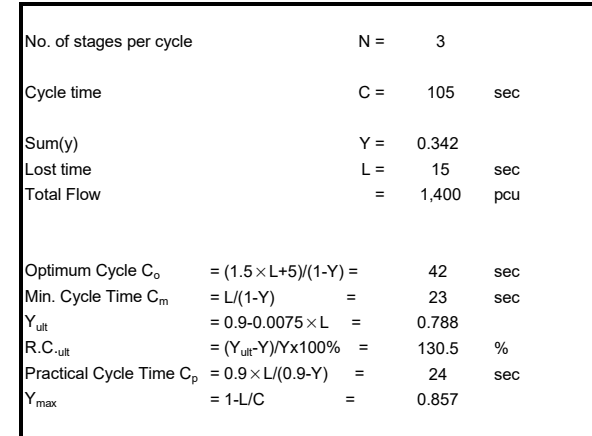
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 87\%$$
[illegible]

AECOM

DATE: Nov 2025



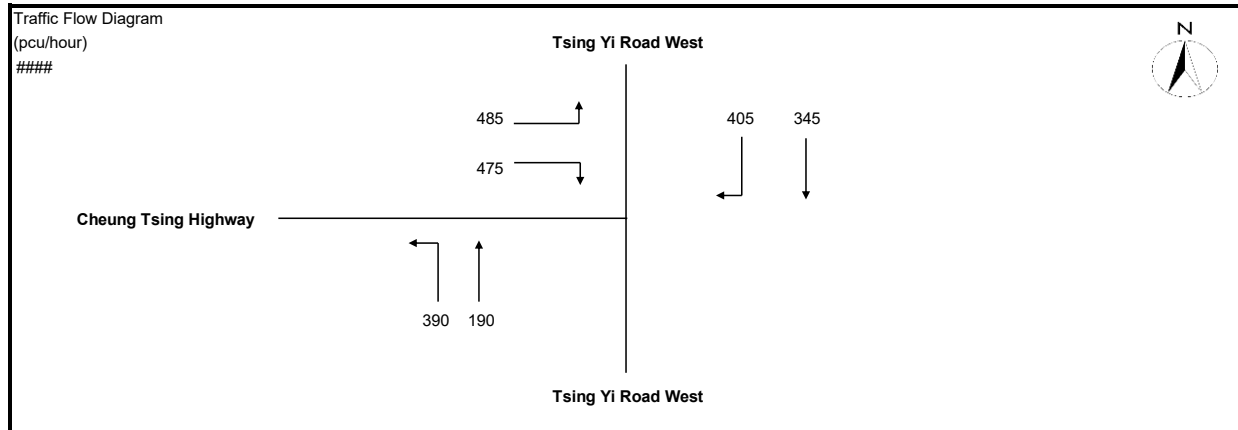
Critical Case : A,B,C

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 126\%$$

[illegible]

AECOM

DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,290	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	42	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	21	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.818	
$R.C_{ult}$	$= (Y_{ult} - Y) / Y \times 100\% =$	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	24	sec
Y_{max}	$= 1 - L / C =$	0.890	

(J10)

Stage 1	Stage 2	Stage 3		

4

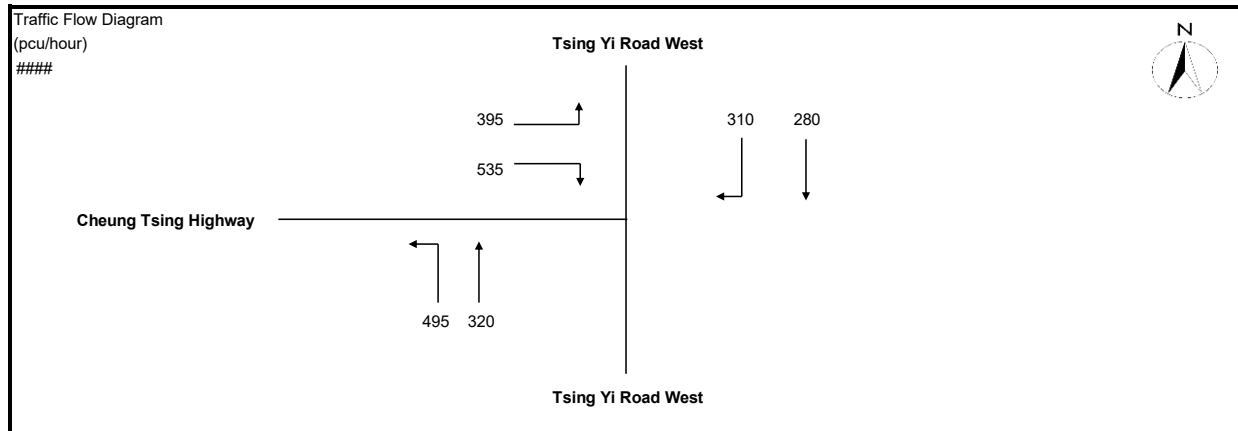
Critical Case : C,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 64\%$$

[illegible]

AECOM

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No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.517	
Lost time	L =	13	sec
Total Flow	=	2,335	pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	=	51 sec
Min. Cycle Time C_m	= $L / (1 - Y)$	=	27 sec
Y_{ult}	= $0.9 - 0.0075 \times L$	=	0.803
$R.C_{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	=	55.1 %
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	=	31 sec
Y_{max}	= $1 - L/C$	=	0.870

J10

Stage 1	Stage 2	Stage 3		

2

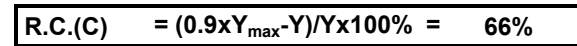
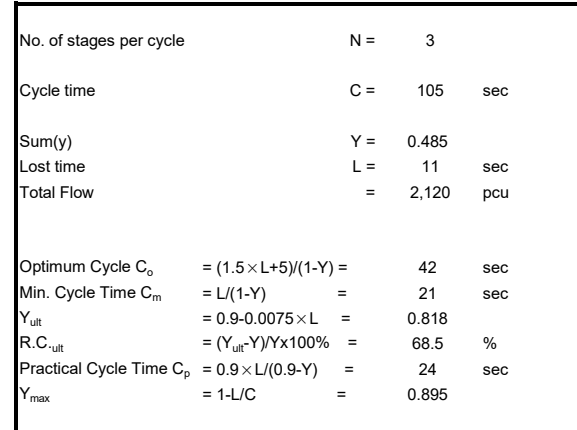
Critical Case : B,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 51\%$$

[illegible]

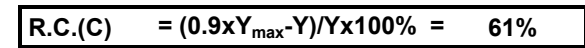
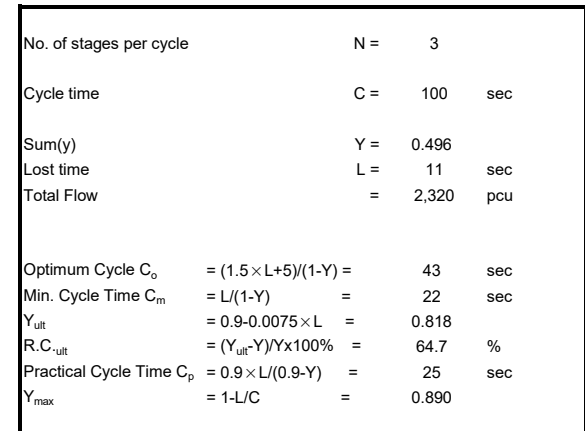
AECOM

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[illegible]

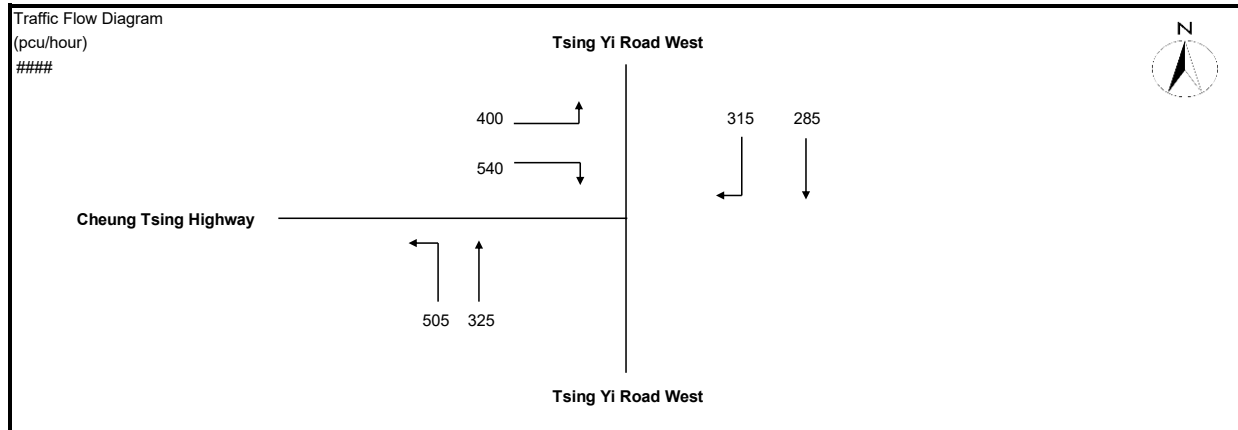
AECOM

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[illegible]

AECOM

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No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.526	
Lost time	L =	13	sec
Total Flow	=	2,370	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	52	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	27	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.803	
$R.C_{ult}$	$= (Y_{ult} - Y) / Y \times 100\% =$	52.6	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	31	sec
Y_{max}	$= 1 - L / C =$	0.870	

(J10)

Stage 1	Stage 2	Stage 3		
I/G = 5	I/G = 6	I/G = 3		

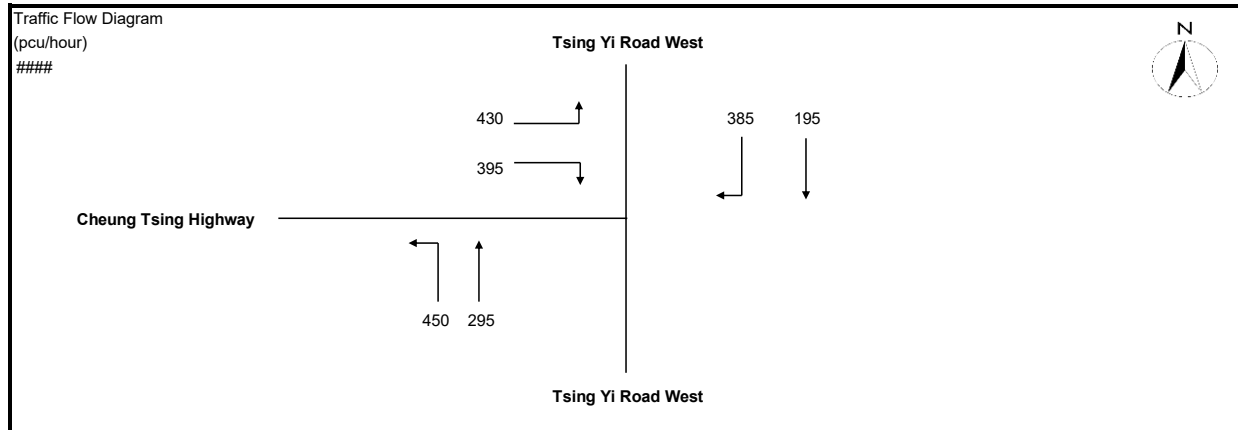
Critical Case : B,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 49\%$$

[illegible]

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DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,150	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	42	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	22	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.818	
$R.C_{ult}$	$= (Y_{ult} - Y) / Y \times 100\% =$	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	24	sec
Y_{max}	$= 1 - L / C =$	0.895	

(J10)

Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		

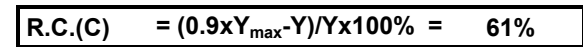
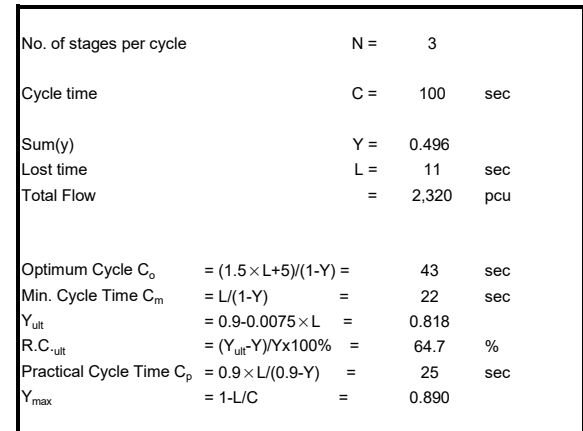
Critical Case : C,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 64\%$$

[illegible]

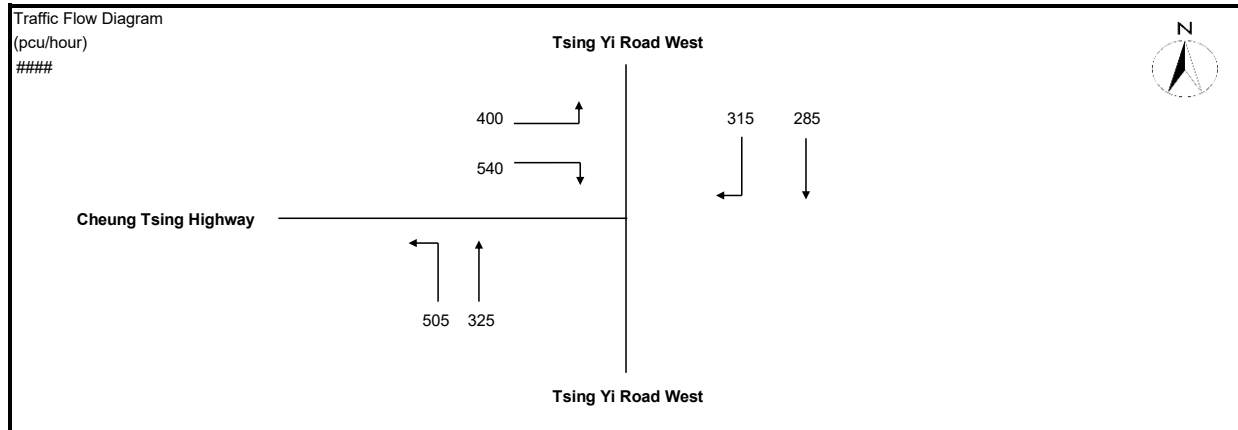
AECOM

DATE: Nov 2025

[illegible]

AECOM

DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.526	
Lost time	L =	13	sec
Total Flow	=	2,370	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	52	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	27	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.803	
$R.C_{ult}$	$= (Y_{ult} - Y) / Y \times 100\% =$	52.6	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	31	sec
Y_{max}	$= 1 - L / C =$	0.870	

J10

Stage 1	Stage 2	Stage 3		

2

Critical Case : B,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 49\%$$

[illegible]

AECOM

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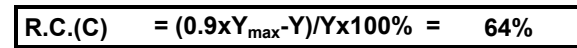
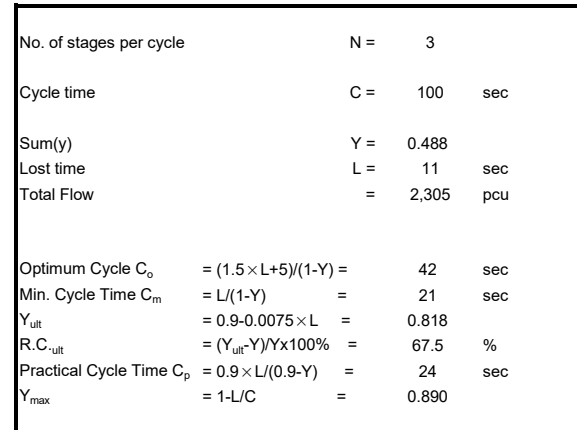


4

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 64\%$$
[illegible]

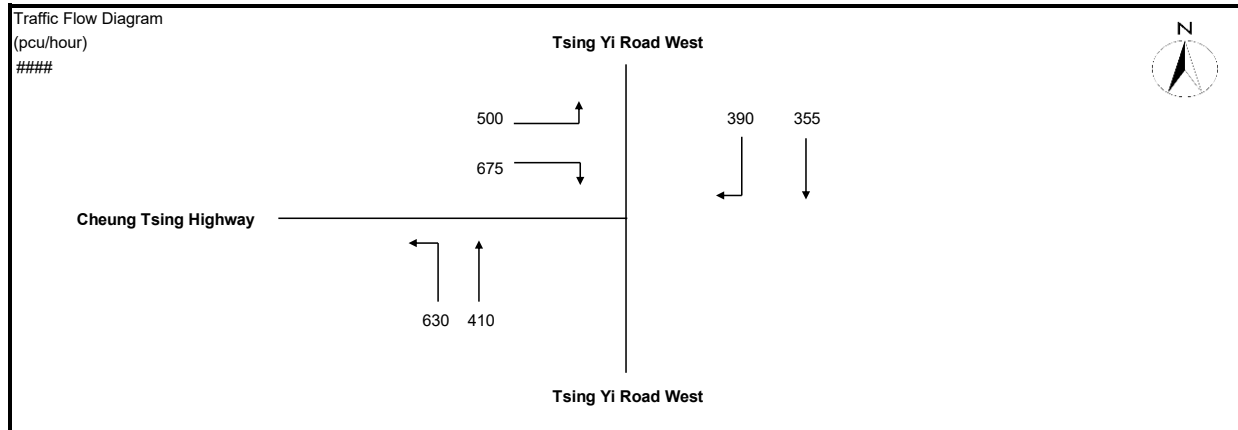
AECOM

DATE: Nov 2025

[illegible]

AECOM

DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	71	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	38	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.803	
$R.C_{ult}$	$= (Y_{ult} \times Y) / Y \times 100\% =$	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	48	sec
Y_{max}	$= 1 - L / C =$	0.870	

(J10)

Stage 1	Stage 2	Stage 3		

2

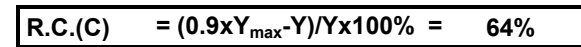
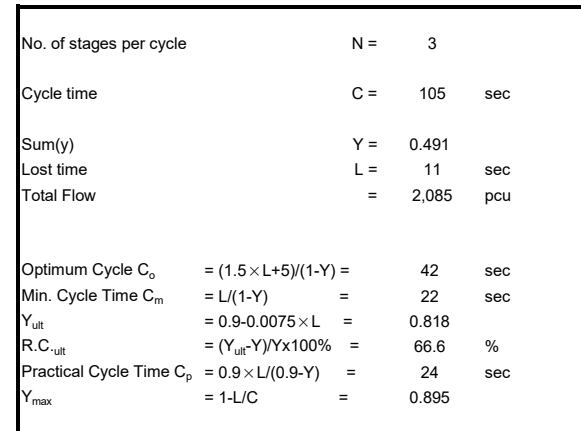
Critical Case : B,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 19\%$$

[illegible]

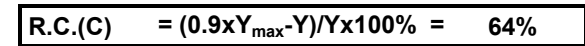
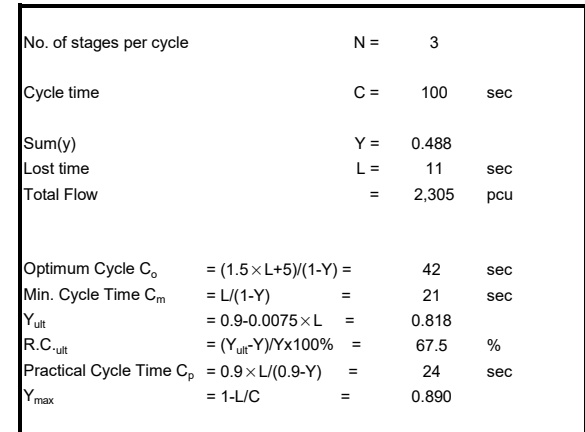
AECOM

DATE: Nov 2025

[illegible]

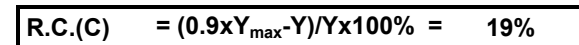
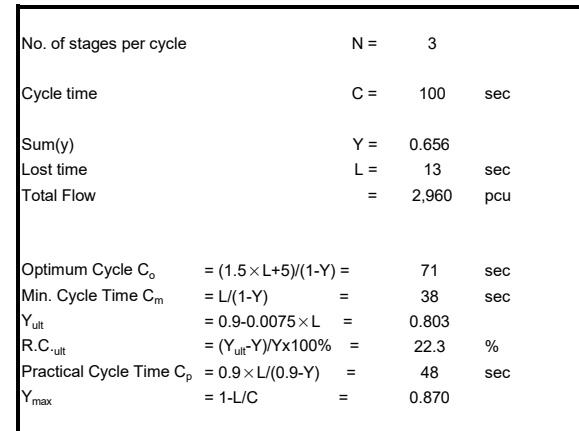
AECOM

DATE: Nov 2025

[illegible]

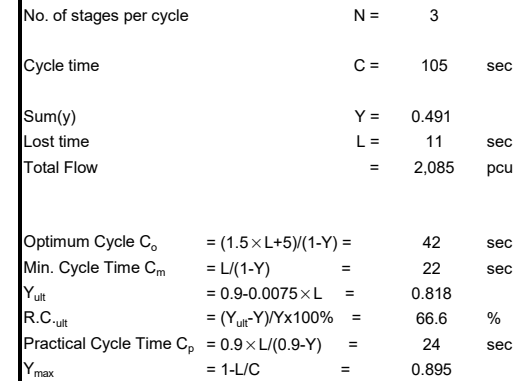
AECOM

DATE: Nov 2025

[illegible]

AECOM

DATE: Nov 2025



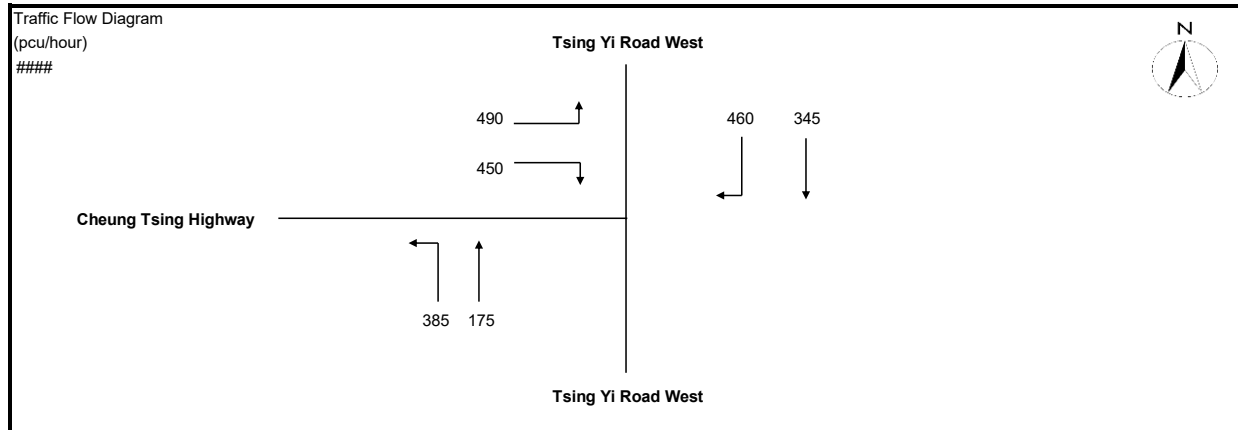
Critical Case : C,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 64\%$$

[illegible]

AECOM

DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu
Optimum Cycle C_o	$= (1.5 \times L + 5) / (1 - Y) =$	42	sec
Min. Cycle Time C_m	$= L / (1 - Y) =$	21	sec
Y_{ult}	$= 0.9 - 0.0075 \times L =$	0.818	
$R.C_{ult}$	$= (Y_{ult} - Y) / Y \times 100\% =$	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L / (0.9 - Y) =$	24	sec
Y_{max}	$= 1 - L / C =$	0.890	

(J10)

Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		

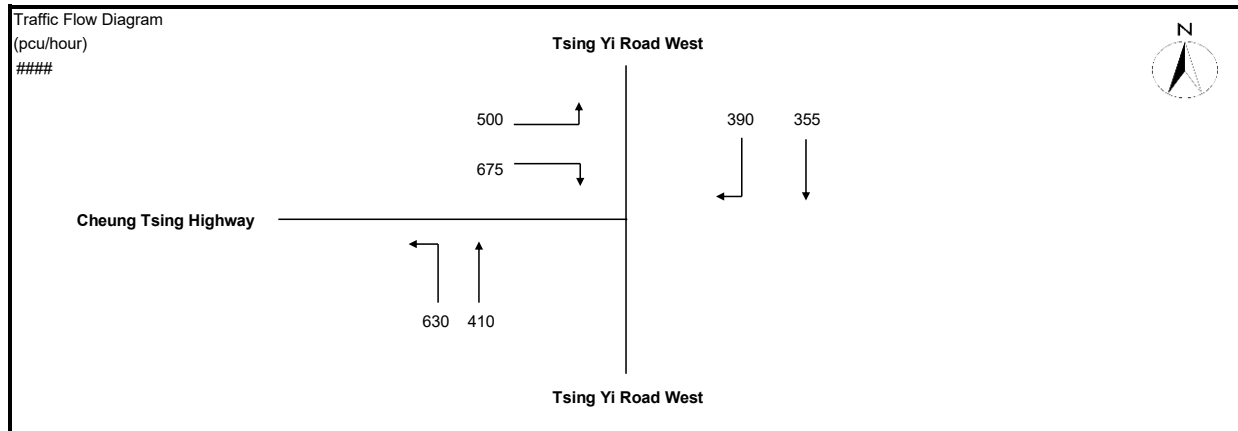
Critical Case : C,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 64\%$$

[illegible]

AECOM

DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	71	sec
Min. Cycle Time C_m	= $L / (1 - Y)$	38	sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.803	
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	22.3	%
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	48	sec
Y_{max}	= $1 - L / C$	0.870	

J10

Stage 1	Stage 2	Stage 3		

2

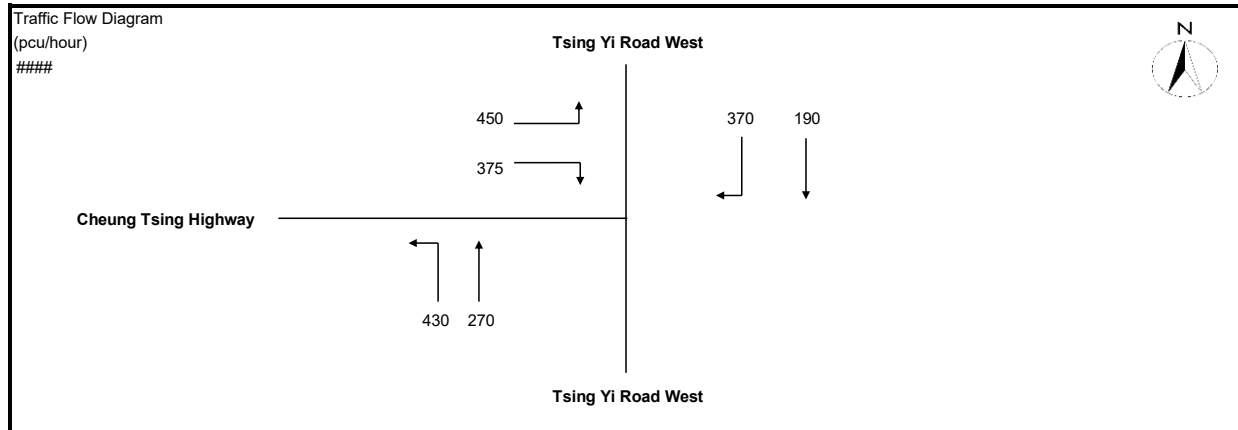
Critical Case : B,D,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 19\%$$

[illegible]

AECOM

DATE: Nov 2025



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu
Optimum Cycle C_o	= $(1.5 \times L + 5) / (1 - Y)$	42	sec
Min. Cycle Time C_m	= $L / (1 - Y)$	22	sec
Y_{ult}	= $0.9 - 0.0075 \times L$	0.818	
$R.C._{ult}$	= $(Y_{ult} - Y) / Y \times 100\%$	66.6	%
Practical Cycle Time C_p	= $0.9 \times L / (0.9 - Y)$	24	sec
Y_{max}	= $1 - L/C$	0.895	

J10

Stage 1	Stage 2	Stage 3		

4

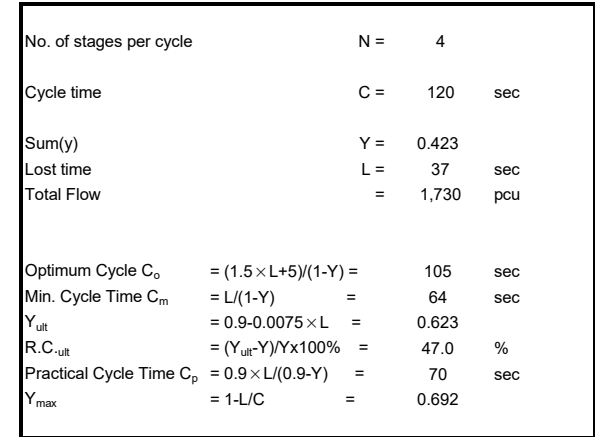
Critical Case : C,A

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 64\%$$

[illegible]

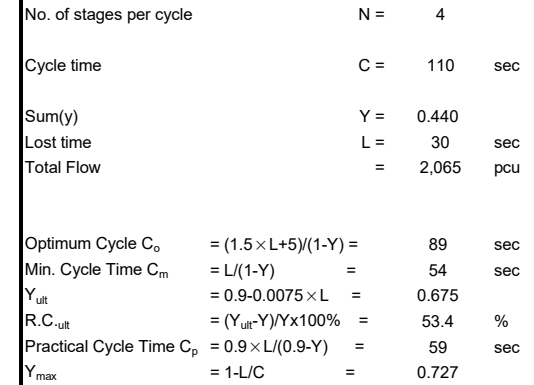
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 47\%$$
[illegible]

AECOM

DATE: Nov 2025



Critical Case : A,Gp,C

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 49\%$$

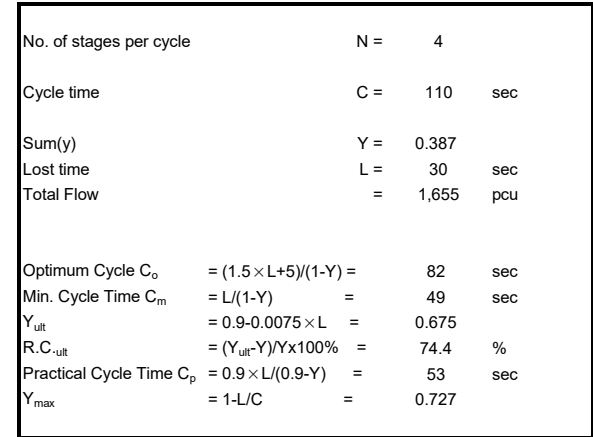
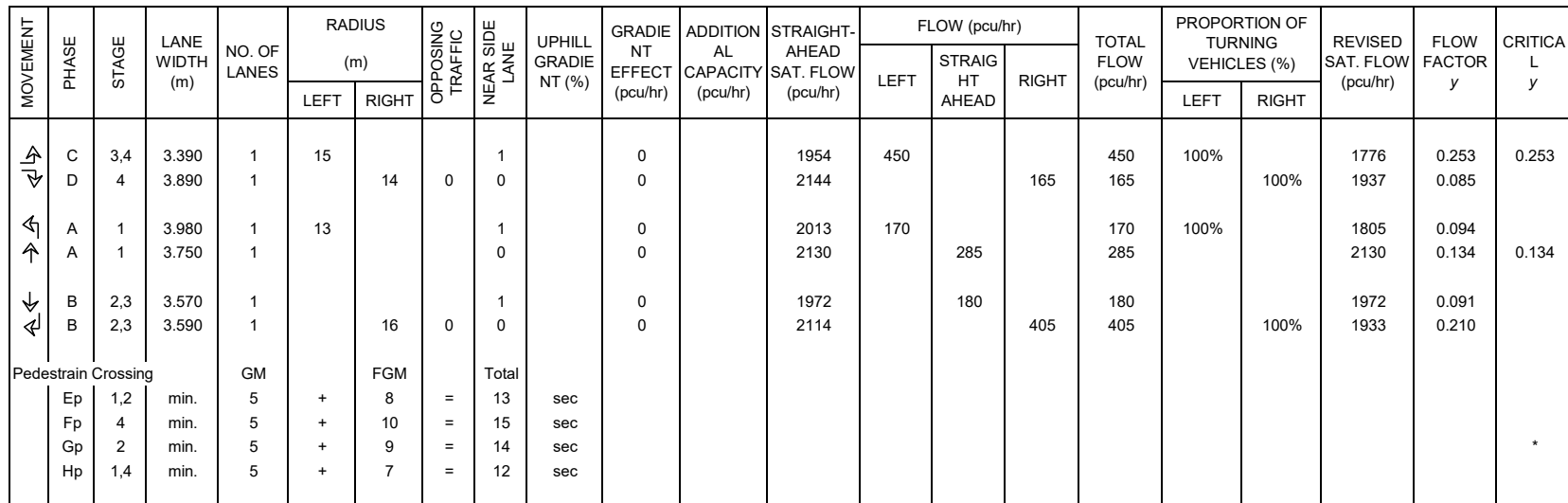


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 49\%$$

[illegible]

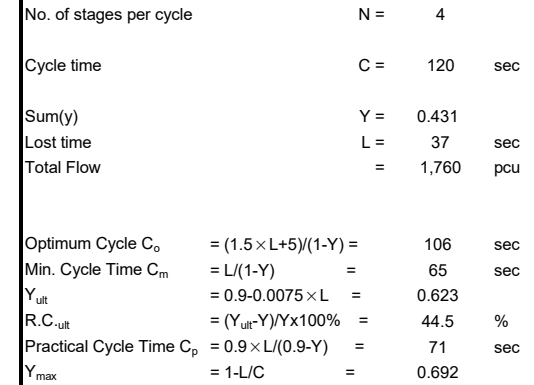
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 69\%$$


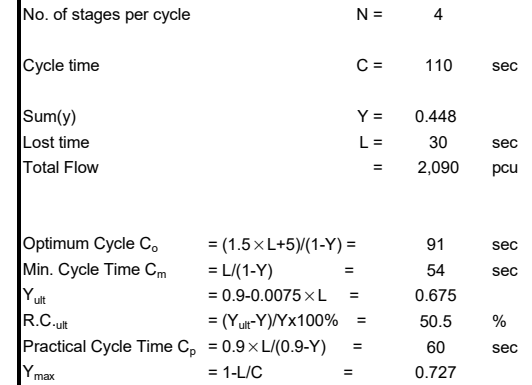
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 44\%$$
[illegible]

AECOM

DATE: Nov 2025



Critical Case : A,Gp,C

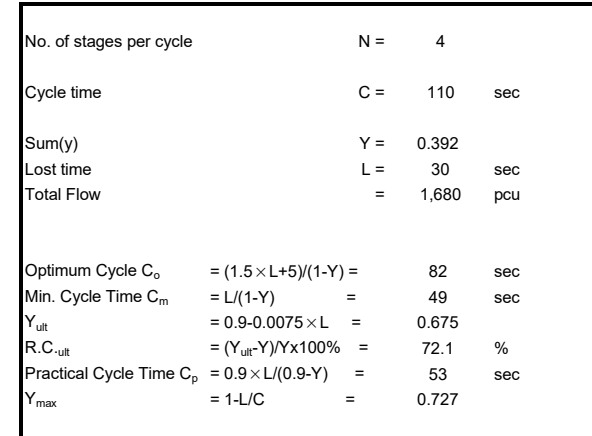
$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 46\%$$



MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT			
 	C	3,4	3.390	1	15	14	0	1	0	0		1954	590	225	590	100%	100%	1776	0.332	0.332	
	D	4	3.890	1																	
 	A	1	3.980	1	13			1	0	0		2013	210	240	210	100%		1805	0.116	0.116	
	A	1	3.750	1																	
 	B	2,3	3.570	1	16		0	1	0	0		1972	315	510	315		100%	1972	0.160	0.160	
	B	2,3	3.590	1																	
Pedestrain Crossing				GM	FGM		Total														
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												
																					*

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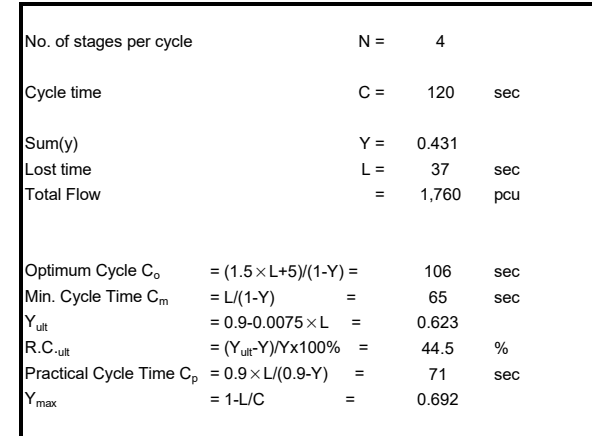
Critical Case : A,Gp,C

Stage/Phase Diagrams				
Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 8	G = 5	I/G = 12	I/G = 5	I/G =

[illegible]

AECOM

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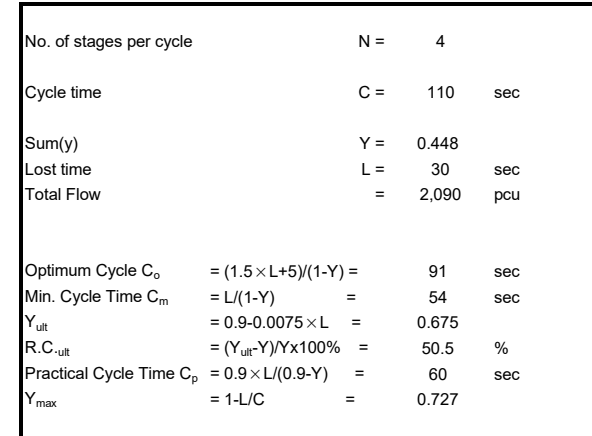
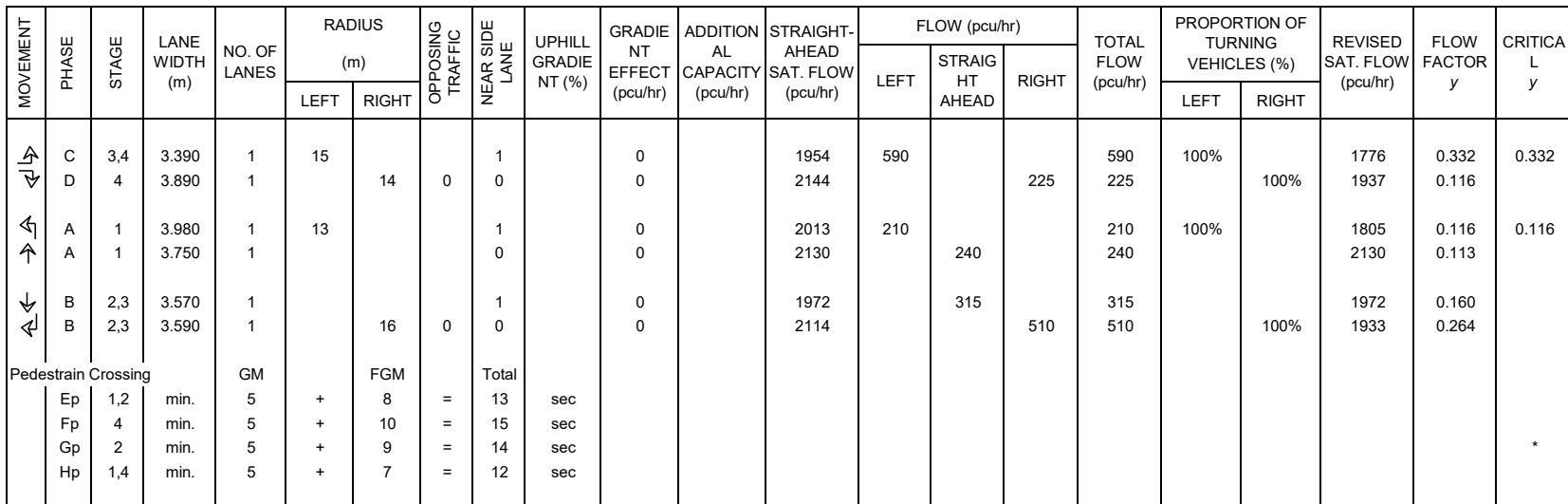
Critical Case : A,B,Fp

Stage/Phase Diagrams				
Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 10	I/G = 10	I/G = 12	G = 5	I/G =

[illegible]

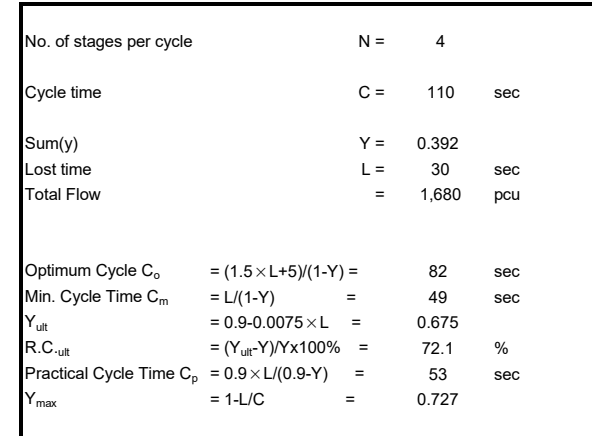
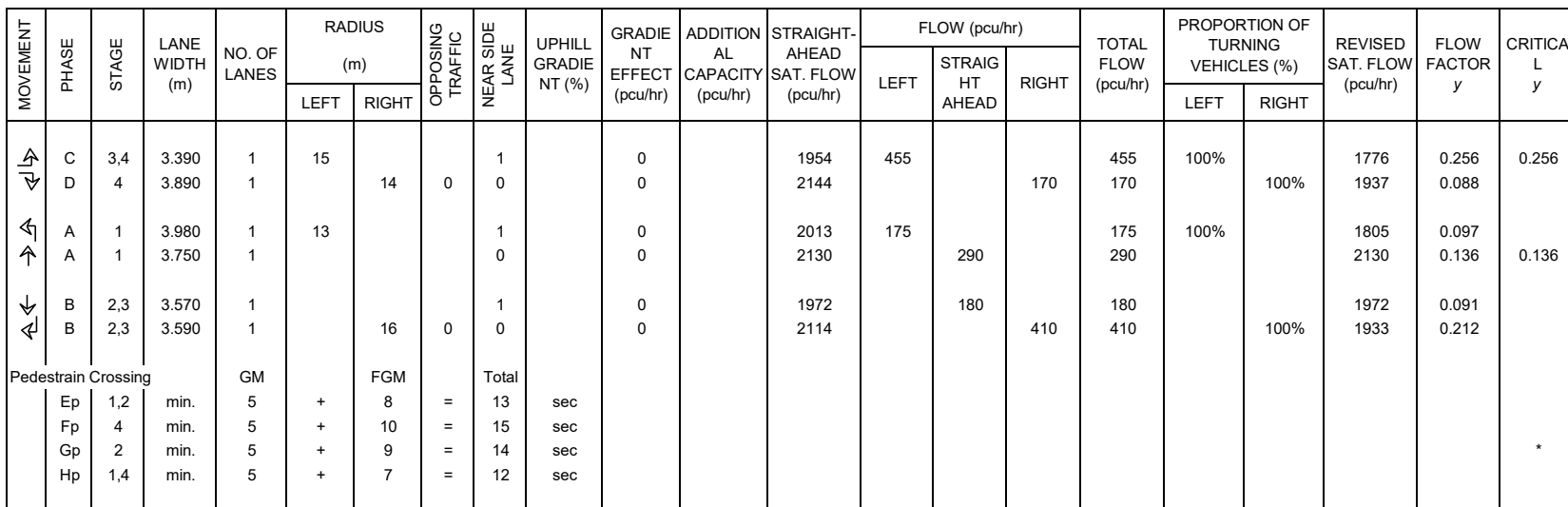
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 46\%$$


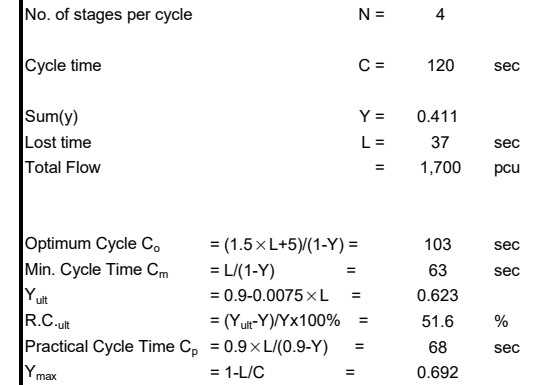
AECOM

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$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 67\%$$


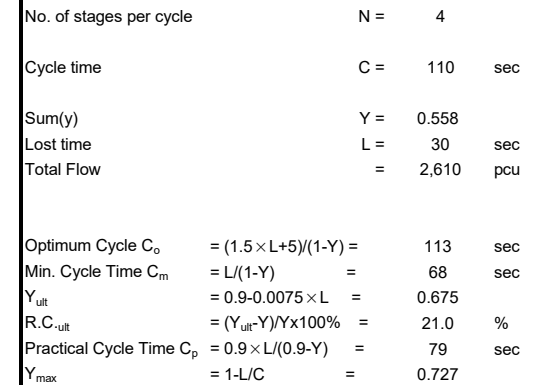
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 52\%$$
[illegible]

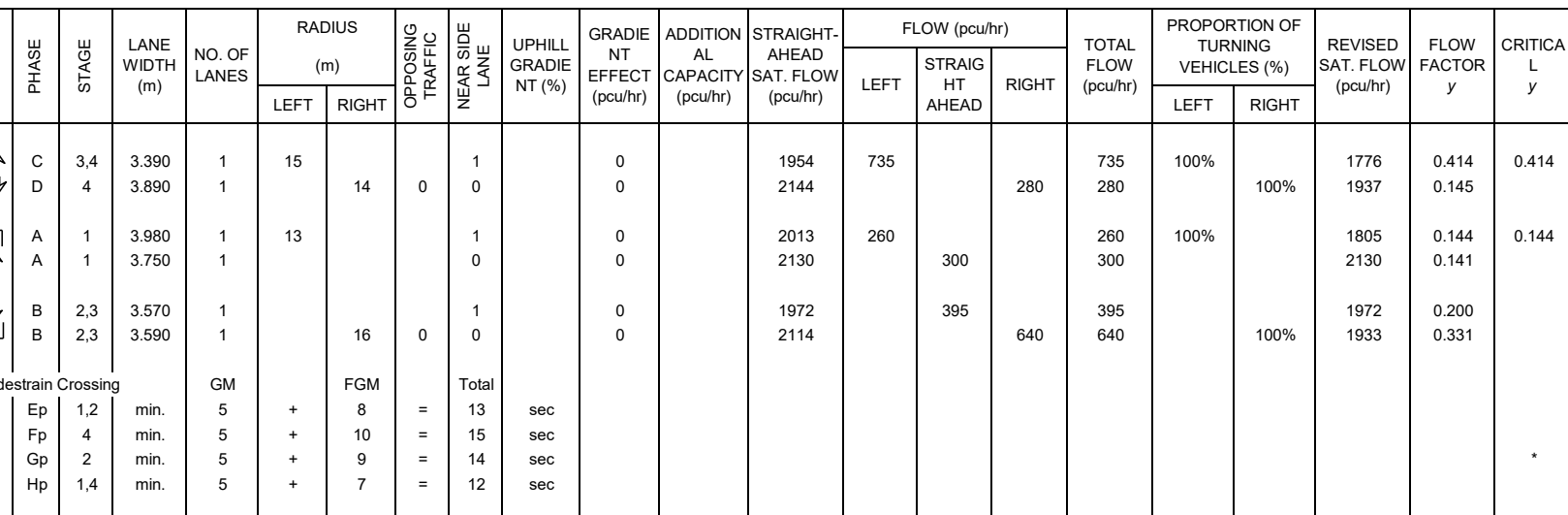
AECOM

DATE: Nov 2025



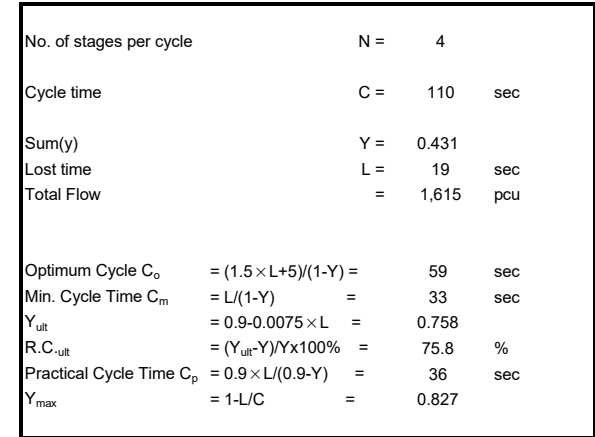
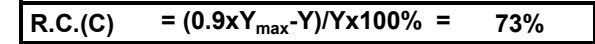
Critical Case : A,Gp,C

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 17\%$$



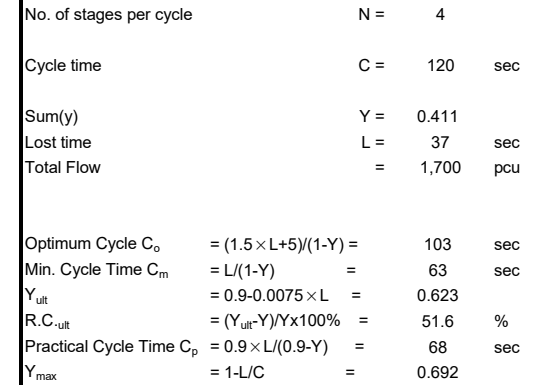
AECOM

DATE: Nov 2025


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 73\%$$
[illegible]

AECOM

DATE: Nov 2025



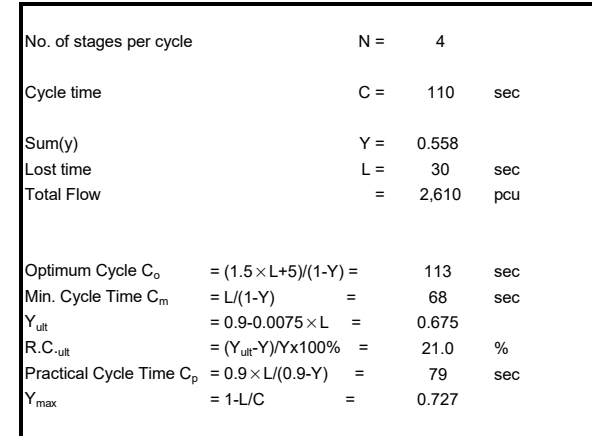
Critical Case : A,B,Fp

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 52\%$$

[illegible]

AECOM

DATE: Nov 2025



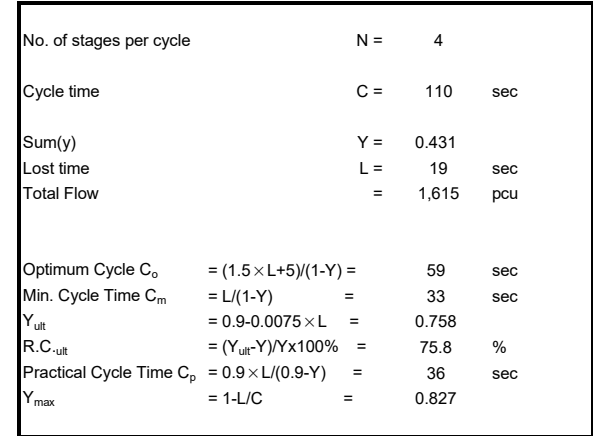
Critical Case : A,Gp,C

Stage/Phase Diagrams				
Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 8	G = 5	I/G = 12	I/G = 5	I/G =

[illegible]

AECOM

DATE: Nov 2025



Critical Case : A,B,D

$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 73\%$$

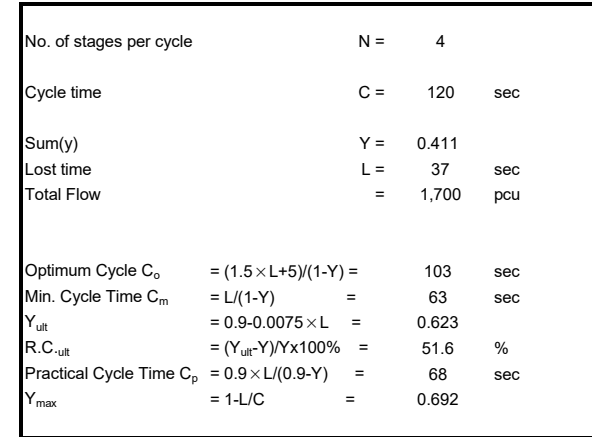


$$\text{R.C.(C)} = (0.9 \times Y_{\max} - Y) / Y \times 100\% = 73\%$$

[illegible]

AECOM

DATE: Nov 2025



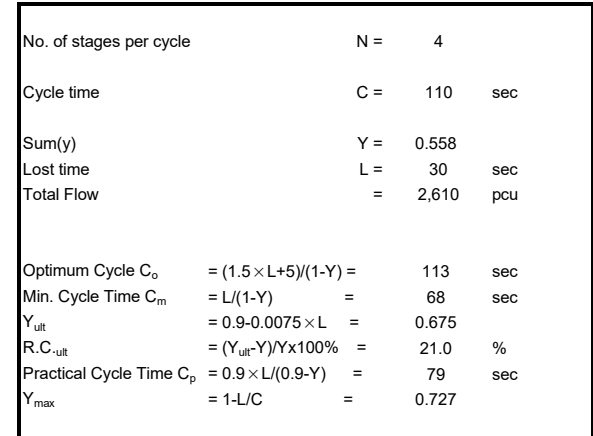
Critical Case : A,B,Fp

Stage/Phase Diagrams				
Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 10	I/G = 10	I/G = 12	G = 5	I/G =

[illegible]

AECOM

DATE: Nov 2025



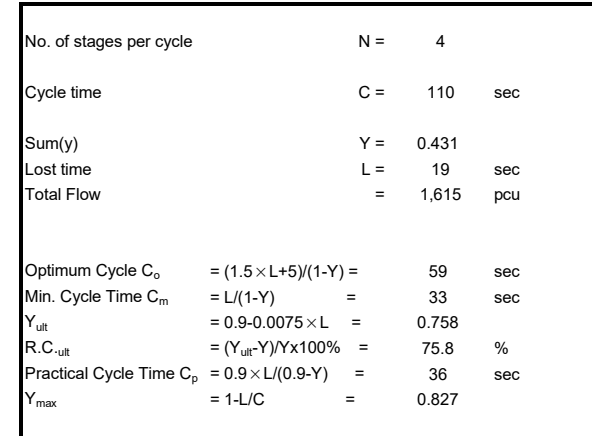
Critical Case : A,Gp,C

Stage/Phase Diagrams				
Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 8	G = 5	I/G = 12	I/G = 5	I/G =

[illegible]

AECOM

DATE: Nov 2025



Critical Case : A,B,D

Stage/Phase Diagrams				
Stage 1	Stage 2	Stage 3	Stage 4	
I/G = 10	I/G = 5	I/G = 5	I/G =	2

[illegible]

Appendix C

Traffic Model Validation Results

Validation Result at Screenlines (Daily)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	42,600	42,900	1.01	15,400	14,600	0.95	8,500	8,600	1.01	10,200	9,000	0.89	76,600	75,100	0.98
	S/B	41,500	39,500	0.95	15,600	13,800	0.88	8,700	9,000	1.04	10,500	9,400	0.89	76,400	71,700	0.94
	2-way Total	84,100	82,400	0.98	31,000	28,400	0.92	17,200	17,600	1.03	20,700	18,400	0.89	153,000	146,800	0.96
Hong Kong Internal Cordon	I/B	123,500	118,200	0.96	72,900	74,400	1.02	19,200	17,900	0.93	28,800	30,500	1.06	244,500	241,000	0.99
	O/B	124,600	112,600	0.90	72,000	72,100	1.00	18,200	18,000	0.99	27,000	30,300	1.12	241,900	233,100	0.96
	2-way Total	248,200	230,800	0.93	145,000	146,500	1.01	37,400	35,900	0.96	55,900	60,800	1.09	486,400	474,000	0.97
Kowloon External Cordon	N/B	193,500	191,000	0.99	65,100	61,500	0.95	28,600	32,100	1.12	93,700	97,200	1.04	380,900	381,800	1.00
	S/B	202,000	199,200	0.99	61,400	61,700	1.01	27,200	32,500	1.20	87,600	93,400	1.07	378,100	386,900	1.02
	2-way Total	395,500	390,200	0.99	126,500	123,300	0.97	55,800	64,600	1.16	181,300	190,600	1.05	759,000	768,700	1.01
Tsing Yi External Cordon	I/B	98,900	98,500	1.00	35,200	36,100	1.03	16,300	18,100	1.11	52,800	55,300	1.05	203,300	208,000	1.02
	O/B	100,700	100,400	1.00	36,400	37,000	1.02	16,600	18,300	1.10	53,700	55,300	1.03	207,400	210,900	1.02
	2-way Total	199,600	198,900	1.00	71,600	73,100	1.02	32,900	36,400	1.11	106,600	110,700	1.04	410,700	419,000	1.02
Lantau External Cordon	I/B	26,000	23,800	0.91	12,400	13,000	1.05	3,500	4,100	1.15	13,200	14,000	1.06	55,200	54,900	1.00
	O/B	26,200	24,600	0.94	13,400	12,900	0.96	3,300	4,100	1.22	13,000	14,000	1.08	56,000	55,500	0.99
	2-way Total	52,300	48,300	0.93	25,800	25,900	1.00	6,900	8,200	1.19	26,200	28,000	1.07	111,200	110,500	0.99
Shatin External Cordon	O/B	162,600	162,100	1.00	35,000	34,000	0.97	21,200	23,600	1.11	65,100	69,600	1.07	283,900	289,300	1.02
	I/B	163,000	161,900	0.99	34,700	34,500	0.99	21,400	21,700	1.02	64,300	69,500	1.08	283,500	287,700	1.01
	2-way Total	325,600	324,100	1.00	69,700	68,500	0.98	42,600	45,300	1.06	129,400	139,100	1.08	567,400	577,000	1.02
Ma On Shan External Cordon	S/B	37,200	33,300	0.90	7,800	6,000	0.77	6,400	5,400	0.84	10,000	8,800	0.88	61,400	53,500	0.87
	I/B	33,700	31,800	0.95	8,100	5,600	0.68	7,000	7,000	1.00	11,300	9,800	0.86	60,100	54,200	0.90
	2-way Total	70,800	65,100	0.92	15,900	11,600	0.73	13,500	12,500	0.92	21,300	18,600	0.87	121,500	107,800	0.89
TKO External Cordon	O/B	47,600	44,000	0.92	14,500	12,100	0.83	7,000	6,100	0.87	13,300	13,700	1.03	82,300	75,900	0.92
	I/B	48,200	41,700	0.86	15,600	11,900	0.76	7,900	6,700	0.84	15,800	15,600	0.99	87,500	75,800	0.87
	2-way Total	95,800	85,600	0.89	30,100	24,000	0.80	14,900	12,800	0.86	29,100	29,300	1.01	169,800	151,700	0.89
Screenline A-A	E/B	133,600	127,400	0.95	63,700	53,200	0.84	23,700	22,600	0.95	48,800	51,100	1.05	269,800	254,300	0.94
	W/B	132,700	120,300	0.91	58,700	51,600	0.88	23,500	22,200	0.94	45,800	48,500	1.06	260,800	242,600	0.93
	2-way Total	266,300	247,700	0.93	122,400	104,800	0.86	47,200	44,800	0.95	94,700	99,600	1.05	530,600	496,900	0.94
Screenline C-C	N/B	141,800	134,300	0.95	67,600	61,600	0.91	26,200	24,300	0.93	50,800	59,600	1.17	286,400	279,900	0.98
	S/B	146,900	136,600	0.93	67,600	63,400	0.94	26,700	25,500	0.95	53,700	61,400	1.14	294,900	287,000	0.97
	2-way Total	288,700	271,000	0.94	135,200	125,100	0.92	52,900	49,800	0.94	104,500	121,100	1.16	581,300	566,900	0.98
Screenline F-F	E/B	68,100	63,800	0.94	37,300	36,900	0.99	10,600	9,400	0.89	15,600	15,800	1.01	131,600	126,000	0.96
	W/B	68,300	66,100	0.97	38,700	39,900	1.03	11,400	8,800	0.77	16,900	17,100	1.01	135,300	131,900	0.97
	2-way Total	136,400	129,900	0.95	76,000	76,800	1.01	21,900	18,200	0.83	32,500	32,900	1.01	266,900	257,800	0.97
Screenline G-G	E/B	55,600	59,000	1.06	28,600	29,100	1.02	9,400	10,100	1.08	15,800	15,700	0.99	109,400	113,900	1.04
	W/B	61,300	64,200	1.05	31,500	30,800	0.98	9,900	8,600	0.87	15,700	14,000	0.89	118,400	117,600	0.99
	2-way Total	116,900	123,300	1.05	60,100	59,800	1.00	19,300	18,700	0.97	31,500	29,700	0.94	227,700	231,500	1.02
Screenline H-H	D/B	9,500	8,600	0.90	2,900	2,500	0.88	1,200	900	0.69	1,300	1,200	0.93	14,900	13,200	0.88
	U/B	9,800	7,700	0.79	2,800	2,800	0.99	800	1,000	1.21	1,300	1,200	0.95	14,800	12,800	0.86
	2-way Total	19,300	16,300	0.84	5,700	5,300	0.94	2,100	1,900	0.90	2,600	2,400	0.94	29,700	25,900	0.87
Screenline I-I	N/B	17,300	18,400	1.06	7,900	7,400	0.94	4,000	3,400	0.86	8,200	8,100	0.98	37,400	37,300	1.00
	S/B	16,800	16,200	0.97	8,400	6,900	0.82	4,400	3,700	0.84	9,200	8,600	0.93	38,800	35,300	0.91
	2-way Total	34,100	34,600	1.02	16,300	14,300	0.88	8,400	7,100	0.85	17,400	16,600	0.96	76,100	72,600	0.95
Screenline K-K	E/B	95,400	97,300	1.02	37,200	33,900	0.91	19,800	19,400	0.98	41,200	42,500	1.03	193,600	193,100	1.00
	W/B	92,900	94,600	1.02	38,500	32,600	0.85	19,300	18,900	0.98	39,300	41,400	1.05	190,000	187,500	0.99
	2-way Total	188,200	191,900	1.02	75,700	66,500	0.88	39,100	38,300	0.98	80,500	83,900	1.04	383,600	380,600	0.99
Screenline R-R	N/B	104,400	102,200	0.98	17,300	17,500	1.01	14,300	15,200	1.07	58,400	58,300	1.00	194,400	193,200	0.99
	S/B	110,300	104,000	0.94	17,100	18,400	1.08	13,900	14,800	1.06	54,000	55,800	1.03	195,200	193,000	0.99
	2-way Total	214,700	206,200	0.96	34,400	35,900	1.04	28,200	30,000	1.06	112,300	114,100	1.02	389,600	386,200	0.99
Screenline S-S	E/B	90,400	88,200	0.98	14,900	15,800	1.06	13,100	15,100	1.15	51,200	59,400	1.16	169,600	178,600	1.05
	W/B	88,000	84,900	0.97	15,000	15,000	1.00	13,700	15,500	1.14	53,500	58,700	1.10	170,100	174,200	1.02
	2-way Total	178,400	173,200	0.97	29,900	30,800	1.03	26,800	30,700	1.14	104,700	118,100	1.13	339,700	352,700	1.04
Screenline T-T	N/B	72,500	70,500	0.97	11,400	10,800	0.95	8,300	8,300	1.00	45,000	45,900	1.02	137,300	135,500	0.99
	S/B	74,400	71,100	0.96	11,000	11,200	1.02	8,200	8,700	1.06	43,300	44,100	1.02	136,800	135,100	0.99
	2-way Total	146,900	141,600	0.96	22,400	22,000	0.98	16,500	17,000	1.03	88,300	90,000	1.02	274,100	270,600	0.99
Screenline Y-Y	E/B	37,300	36,000	0.97	8,700	8,100	0.94	4,000	3,800	0.95	28,500	28,000	0.98	78,500	76,000	0.97
	W/B	38,100	36,900	0.97	9,000	8,000	0.88	4,200	3,700	0.88	26,700	26,500	0.99	78,000	75,100	0.96
	2-way Total	75,400	72,900	0.97	17,700	16,100	0.91	8,200	7,500	0.92	55,200	54,500	0.99	156,500	151,100	0.97
Cross Harbour Screenline	N/B	75,300	71,500	0.95	23,000	27,200	1.18	8,900	10,100	1.14	23,600	25,000	1.06	130,900	133,900	1.02
	S/B	75,000	73,500	0.98	22,400	25,300	1.13	8,700	10,100	1.15	24,700	26,000	1.05	130,900	134,800	1.03
	2-way Total	150,300	145,000	0.97	45,400	52,400	1.15	17,700	20,200	1.14	48,400	51,000	1.05	261,700	268,600	1.03
Total	NB/EB/IB/DB	1,630,600	1,587,100	0.97	580,000	555,800	0.96	255,900	259,000	1.01	678,600	711,700	1.05	3,145,200	3,113,400	0.99
	SB/WB/OB/UB	1,656,700	1,591,800	0.96	576,800	555,400	0.96	253,400	258,400	1.02	664,500	697,900	1.05	3,151,400	3,103,500	0.98
	2-way Total	3,287,300	3,178,900	0.97	1,156,800	1,111,000	0.96	509,300	517,400	1.02	1,343,000	1,409,600	1.05	6,296,500	6,216,900	0.99

Validation Result at Screenlines (AM Peak)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	3,500	3,500	0.99	1,100	900	0.81	800	800	1.00	600	500	0.95	6,000	5,700	0.96
	S/B	3,000	3,100	1.03	1,000	1,000	0.98	800	700	0.97	700	600	0.86	5,400	5,400	0.99
	2-way Total	6,500	6,500	1.01	2,100	1,900	0.89	1,600	1,600	0.98	1,200	1,100	0.90	11,400	11,100	0.97
Hong Kong Internal Cordon	I/B	8,300	8,500	1.02	5,300	5,400	1.01	2,000	1,700	0.85	2,200	1,900	0.88	17,900	17,600	0.98
	O/B	7,600	6,300	0.83	5,200	4,500	0.86	1,900	1,600	0.86	1,900	1,700	0.89	16,600	14,100	0.85
	2-way Total	15,900	14,800	0.93	10,600	9,900	0.94	3,900	3,300	0.85	4,100	3,600	0.88	34,500	31,700	0.92
Kowloon External Cordon	N/B	10,700	10,600	0.99	4,400	4,100	0.93	2,100	2,200	1.03	5,500	5,900	1.08	22,800	22,800	1.00
	S/B	19,800	19,600	0.99	4,700	4,800	1.02	2,700	3,000	1.13	7,200	7,900	1.09	34,400	35,400	1.03
	2-way Total	30,500	30,200	0.99	9,100	8,900	0.98	4,800	5,200	1.09	12,700	13,900	1.09	57,200	58,200	1.02
Tsing Yi External Cordon	I/B	7,300	7,000	0.97	2,400	2,300	0.97	1,300	1,400	1.10	3,400	3,600	1.06	14,300	14,300	1.00
	O/B	7,700	7,600	1.00	2,700	2,600	0.96	1,300	1,500	1.13	3,600	3,600	0.99	15,200	15,300	1.00
	2-way Total	14,900	14,700	0.98	5,100	4,900	0.96	2,600	2,900	1.12	7,000	7,200	1.03	29,500	29,600	1.00
Lantau External Cordon	I/B	2,500	2,000	0.83	800	900	1.11	300	300	1.21	900	1,100	1.17	4,500	4,300	0.97
	O/B	1,400	1,400	0.98	900	1,000	1.04	200	200	1.02	600	600	1.08	3,200	3,200	1.02
	2-way Total	3,900	3,400	0.89	1,800	1,900	1.07	500	500	1.13	1,500	1,700	1.14	7,600	7,600	0.99
Shatin External Cordon	O/B	13,800	13,800	1.00	2,500	2,500	1.01	1,900	1,900	1.00	4,700	5,100	1.09	22,900	23,400	1.02
	I/B	13,200	13,900	1.05	2,500	2,300	0.90	1,900	1,700	0.94	4,200	4,600	1.10	21,800	22,500	1.03
	2-way Total	27,100	27,700	1.02	5,000	4,800	0.96	3,700	3,600	0.97	8,900	9,700	1.10	44,700	45,900	1.03
Ma On Shan External Cordon	S/B	4,000	4,000	1.00	500	400	0.77	600	500	0.90	700	600	0.90	5,800	5,500	0.96
	I/B	2,300	2,000	0.88	600	400	0.66	500	500	0.90	600	500	0.76	4,100	3,400	0.83
	2-way Total	6,300	6,000	0.96	1,100	800	0.71	1,100	1,000	0.90	1,300	1,100	0.83	9,800	8,900	0.91
TKO External Cordon	O/B	4,200	3,600	0.85	900	800	0.94	700	600	0.92	800	800	0.99	6,500	5,800	0.89
	I/B	3,000	2,600	0.85	1,000	700	0.66	600	600	1.01	900	700	0.83	5,400	4,500	0.83
	2-way Total	7,200	6,100	0.85	1,900	1,500	0.79	1,200	1,200	0.96	1,700	1,500	0.91	12,000	10,300	0.86
Screenline A-A	E/B	8,200	8,400	1.02	3,800	2,900	0.77	1,900	1,700	0.87	3,000	3,100	1.04	16,900	16,100	0.95
	W/B	9,100	8,600	0.95	3,200	2,600	0.80	1,900	1,700	0.88	2,900	2,800	0.96	17,100	15,700	0.92
	2-way Total	17,200	17,000	0.99	6,900	5,500	0.79	3,900	3,400	0.87	5,900	5,900	1.00	33,900	31,800	0.94
Screenline C-C	N/B	7,800	7,300	0.94	3,700	3,000	0.81	2,000	1,600	0.79	2,700	2,700	0.97	16,200	14,500	0.90
	S/B	9,500	10,300	1.09	3,600	3,600	0.99	2,300	2,100	0.92	3,900	3,800	0.99	19,200	19,800	1.03
	2-way Total	17,200	17,600	1.02	7,300	6,600	0.90	4,300	3,700	0.86	6,600	6,500	0.98	35,400	34,300	0.97
Screenline F-F	E/B	4,600	4,000	0.86	2,700	2,400	0.88	1,200	900	0.79	1,100	700	0.67	9,700	8,100	0.84
	W/B	4,400	4,000	0.91	2,900	2,600	0.91	1,100	700	0.68	1,100	1,200	1.01	9,600	8,600	0.89
	2-way Total	9,100	8,000	0.88	5,600	5,000	0.90	2,300	1,700	0.74	2,200	1,900	0.84	19,200	16,600	0.86
Screenline G-G	E/B	3,600	3,600	1.01	1,900	1,700	0.88	900	800	0.84	900	800	0.83	7,400	6,800	0.93
	W/B	4,500	4,400	0.97	2,100	1,800	0.87	900	800	0.86	1,000	1,100	1.12	8,500	8,100	0.95
	2-way Total	8,000	8,000	0.99	4,000	3,500	0.87	1,800	1,600	0.85	1,900	1,900	0.98	15,800	14,900	0.94
Screenline H-H	D/B	700	800	1.20	300	200	0.87	100	100	1.08	100	100	0.84	1,200	1,300	1.09
	U/B	700	500	0.69	300	200	0.81	100	100	1.84	100	100	1.15	1,200	900	0.82
	2-way Total	1,400	1,300	0.94	500	500	0.84	200	300	1.40	200	200	0.99	2,300	2,200	0.96
Screenline I-I	N/B	1,400	1,400	1.01	500	500	1.00	400	300	0.84	600	500	0.98	2,900	2,800	0.98
	S/B	1,200	1,100	0.90	500	400	0.78	400	300	0.84	600	600	0.97	2,700	2,400	0.89
	2-way Total	2,600	2,500	0.96	1,100	1,000	0.89	700	600	0.84	1,200	1,100	0.97	5,500	5,200	0.94
Screenline K-K	E/B	7,000	6,900	0.98	2,400	2,300	0.94	1,600	1,600	0.95	2,500	2,500	1.00	13,600	13,200	0.97
	W/B	6,900	6,300	0.92	2,500	2,300	0.93	1,600	1,500	0.95	2,400	2,700	1.14	13,400	12,900	0.96
	2-way Total	13,900	13,200	0.95	4,900	4,600	0.93	3,300	3,100	0.95	4,900	5,200	1.07	27,000	26,100	0.97
Screenline R-R	N/B	5,800	5,400	0.95	1,100	1,100	1.02	1,000	900	0.88	3,400	3,200	0.95	11,200	10,600	0.95
	S/B	11,500	10,800	0.94	1,300	1,200	0.92	1,300	1,400	1.07	4,300	4,400	1.02	18,400	17,800	0.97
	2-way Total	17,200	16,200	0.94	2,400	2,300	0.96	2,300	2,300	0.99	7,600	7,600	0.99	29,600	28,400	0.96
Screenline S-S	E/B	8,300	8,200	0.98	1,200	1,300	1.12	1,200	1,400	1.15	4,000	4,600	1.13	14,800	15,500	1.05
	W/B	5,000	5,100	1.03	1,000	1,100	1.13	1,000	900	0.89	3,100	3,600	1.15	10,000	10,700	1.06
	2-way Total	13,300	13,300	1.00	2,100	2,400	1.12	2,200	2,300	1.03	7,200	8,200	1.14	24,800	26,100	1.05
Screenline T-T	N/B	5,300	4,900	0.92	900	900	1.05	700	600	0.93	3,100	3,100	1.00	10,000	9,500	0.95
	S/B	5,700	5,900	1.03	800	800	1.04	700	700	1.02	3,000	3,100	1.06	10,100	10,500	1.04
	2-way Total	11,000	10,700	0.98	1,600	1,700	1.04	1,400	1,300	0.97	6,000	6,200	1.03	20,100	20,000	1.00
Screenline Y-Y	E/B	2,400	2,200	0.89	600	500	0.90	400	300	0.90	1,800	1,800	0.99	5,200	4,800	0.92
	W/B	2,900	3,300	1.12	500	500	1.04	300	300	0.91	1,900	2,000	1.02	5,600	6,000	1.07
	2-way Total	5,300	5,400	1.01	1,000	1,000	0.97	700	600	0.91	3,700	3,800	1.00	10,800	10,800	1.00
Cross Harbour Screenline	N/B	4,400	4,300	0.98	1,100	1,400	1.27	800	700	0.88	1,100	1,200	1.11	7,400	7,600	1.03
	S/B	6,600	6,200	0.94	1,500	1,400	0.91	1,000	1,000	0.94	2,200	2,300	1.04	11,300	10,900	0.96
	2-way Total	11,000	10,600	0.96	2,600	2,800	1.06	1,800	1,600	0.92	3,300	3,500	1.06	18,700	18,500	0.99
Total	NB/EB/IB/DB	110,400	107,600	0.97	38,300	35,300	0.92	21,600	20,100	0.93	42,600	43,100	1.01	212,900	206,100	0.97
	SB/WB/OB/UB	129,300	125,800	0.97	38,600	36,100	0.94	22,500	21,600	0.96	46,600	48,600	1.04	237,000	232,100	0.98
	2-way Total	239,600	233,500	0.97	77,000	71,400	0.93	44,100	41,700	0.94	89,200	91,700	1.03	449,900	438,200	0.97

Validation Result at Screenlines (PM Peak)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	3,300	3,100	0.95	1,000	800	0.88	500	500	1.02	400	300	0.71	5,100	4,800	0.93
	S/B	3,000	3,000	1.00	1,000	900	0.90	400	500	1.16	300	200	0.86	4,700	4,600	0.99
	2-way Total	6,300	6,100	0.97	2,000	1,700	0.89	900	1,000	1.09	600	500	0.77	9,800	9,400	0.96
Hong Kong Internal Cordon	I/B	9,300	8,700	0.94	4,600	4,400	0.95	1,200	1,100	0.90	800	800	1.03	15,900	15,000	0.94
	O/B	10,400	10,000	0.96	4,800	4,600	0.97	1,200	1,100	0.92	700	800	1.09	17,100	16,500	0.97
	2-way Total	19,700	18,700	0.95	9,400	9,000	0.96	2,400	2,200	0.91	1,500	1,600	1.06	33,000	31,500	0.95
Kowloon External Cordon	N/B	18,700	17,500	0.93	3,600	3,400	0.95	2,000	2,200	1.08	4,900	4,700	0.97	29,200	27,800	0.95
	S/B	15,400	15,200	0.99	3,600	3,500	0.96	1,800	1,800	0.98	3,200	3,500	1.09	24,000	24,100	1.00
	2-way Total	34,100	32,700	0.96	7,200	6,800	0.95	3,900	4,000	1.03	8,100	8,300	1.02	53,200	51,800	0.97
Tsing Yi External Cordon	I/B	8,300	8,300	1.00	2,000	2,200	1.10	1,200	1,300	1.09	2,400	2,300	0.94	13,900	14,100	1.01
	O/B	8,200	8,300	1.01	2,200	2,300	1.06	1,200	1,300	1.14	2,300	2,000	0.88	13,900	13,900	1.01
	2-way Total	16,500	16,600	1.01	4,200	4,500	1.08	2,400	2,700	1.11	4,700	4,300	0.91	27,700	28,000	1.01
Lantau External Cordon	I/B	1,500	1,300	0.84	700	700	1.00	200	200	1.27	500	500	1.03	2,900	2,700	0.94
	O/B	2,700	2,500	0.93	800	700	0.91	300	400	1.07	700	600	0.90	4,500	4,100	0.93
	2-way Total	4,200	3,800	0.89	1,500	1,400	0.95	500	600	1.14	1,200	1,100	0.95	7,400	6,900	0.93
Shatin External Cordon	O/B	13,700	14,200	1.04	2,100	2,100	1.01	1,400	1,400	1.01	2,800	3,000	1.08	19,900	20,800	1.04
	I/B	15,300	14,500	0.95	2,000	2,000	1.01	1,500	1,300	0.86	3,100	3,200	1.05	21,800	21,000	0.96
	2-way Total	28,900	28,700	0.99	4,100	4,100	1.01	2,900	2,700	0.94	5,900	6,300	1.07	41,700	41,800	1.00
Ma On Shan External Cordon	O/B	2,600	2,200	0.84	500	400	0.84	400	300	0.73	400	400	0.88	4,000	3,300	0.83
	I/B	3,200	3,300	1.04	500	500	1.05	400	400	0.99	600	600	0.93	4,700	4,800	1.02
	2-way Total	5,800	5,500	0.95	1,000	900	0.94	900	700	0.86	1,000	900	0.91	8,700	8,100	0.93
TKO External Cordon	O/B	3,600	3,300	0.91	800	700	0.91	500	400	0.85	600	600	0.95	5,500	5,000	0.91
	I/B	4,000	3,400	0.86	1,000	800	0.86	500	500	0.89	800	700	0.89	6,300	5,400	0.86
	2-way Total	7,600	6,700	0.88	1,800	1,600	0.88	1,000	900	0.87	1,400	1,300	0.92	11,800	10,400	0.88
Screenline A-A	E/B	10,700	10,500	0.98	3,400	3,100	0.92	1,300	1,200	0.91	2,100	2,000	0.95	17,500	16,900	0.96
	W/B	10,800	10,000	0.93	3,400	2,900	0.85	1,300	1,200	0.95	1,700	1,800	1.05	17,200	16,000	0.93
	2-way Total	21,500	20,500	0.95	6,800	6,000	0.89	2,600	2,400	0.93	3,800	3,800	1.00	34,700	32,800	0.94
Screenline C-C	N/B	11,600	11,300	0.97	3,500	3,100	0.87	1,500	1,500	1.03	1,900	2,500	1.34	18,500	18,400	0.99
	S/B	11,600	11,400	0.99	4,100	3,900	0.95	1,300	1,200	0.93	1,700	2,000	1.15	18,700	18,500	0.99
	2-way Total	23,200	22,700	0.98	7,600	6,900	0.91	2,800	2,800	0.98	3,600	4,500	1.25	37,200	36,900	0.99
Screenline F-F	E/B	5,700	4,900	0.85	2,500	2,200	0.89	600	500	0.81	400	500	1.10	9,300	8,000	0.87
	W/B	5,300	5,100	0.97	2,500	2,400	0.93	800	500	0.70	500	400	0.84	9,100	8,500	0.93
	2-way Total	11,000	10,000	0.91	5,000	4,600	0.91	1,400	1,000	0.75	900	900	0.96	18,400	16,500	0.90
Screenline G-G	E/B	4,300	4,700	1.09	1,600	1,600	1.04	500	500	1.03	500	500	0.98	6,900	7,400	1.06
	W/B	4,600	4,300	0.92	1,900	1,800	0.96	600	400	0.75	600	500	0.92	7,700	7,100	0.92
	2-way Total	9,000	9,000	1.00	3,500	3,500	0.99	1,100	900	0.88	1,100	1,000	0.95	14,600	14,400	0.99
Screenline H-H	D/B	900	600	0.72	200	200	0.90	100	100	1.22	50	50	1.23	1,200	900	0.79
	U/B	900	900	1.03	200	200	1.27	50	100	1.22	50	50	0.72	1,100	1,200	1.07
	2-way Total	1,700	1,500	0.87	400	400	1.07	100	100	1.22	100	100	1.00	2,300	2,100	0.93
Screenline I-I	N/B	1,500	1,400	0.93	500	400	0.81	200	200	0.76	300	300	1.11	2,500	2,300	0.91
	S/B	1,200	1,300	1.04	500	300	0.71	200	200	0.76	400	300	0.83	2,300	2,100	0.91
	2-way Total	2,800	2,700	0.98	900	700	0.76	500	300	0.76	600	600	0.94	4,800	4,300	0.91
Screenline K-K	E/B	7,500	7,300	0.97	2,100	1,600	0.76	1,200	1,100	0.88	1,700	1,700	1.04	12,500	11,700	0.94
	W/B	8,100	8,200	1.01	2,200	1,600	0.74	1,300	1,200	0.88	1,700	1,700	0.99	13,300	12,700	0.95
	2-way Total	15,600	15,500	0.99	4,300	3,300	0.75	2,600	2,200	0.88	3,400	3,400	1.01	25,800	24,400	0.94
Screenline R-R	N/B	10,500	9,900	0.95	1,000	1,100	1.10	1,200	1,300	1.05	3,000	3,300	1.09	15,800	15,600	0.99
	S/B	8,400	7,700	0.91	1,100	1,100	1.05	1,000	800	0.77	2,000	2,000	1.00	12,400	11,500	0.93
	2-way Total	18,900	17,600	0.93	2,100	2,200	1.08	2,200	2,000	0.93	5,100	5,300	1.05	28,200	27,200	0.96
Screenline S-S	E/B	6,900	6,600	0.95	1,000	1,300	1.24	900	800	0.90	1,900	2,100	1.10	10,800	10,800	1.00
	W/B	8,700	8,100	0.93	900	900	0.98	1,200	1,300	1.15	2,600	3,300	1.23	13,400	13,600	1.01
	2-way Total	15,600	14,600	0.94	2,000	2,200	1.11	2,100	2,200	1.04	4,600	5,400	1.18	24,200	24,400	1.01
Screenline T-T	N/B	6,600	6,300	0.95	800	900	1.05	500	600	1.04	2,200	2,200	0.96	10,200	9,800	0.96
	S/B	6,500	6,000	0.92	700	700	1.00	500	600	1.13	1,900	2,000	1.07	9,600	9,300	0.97
	2-way Total	13,100	12,200	0.93	1,500	1,600	1.03	1,000	1,100	1.08	4,100	4,200	1.01	19,800	19,100	0.97
Screenline Y-Y	E/B	3,600	3,400	0.96	500	500	0.90	300	300	0.93	1,500	1,500	1.04	5,900	5,700	0.97
	W/B	3,200	3,000	0.95	600	500	0.86	300	200	0.88	1,100	1,200	1.09	5,100	4,900	0.97
	2-way Total	6,800	6,500	0.96	1,100	1,000	0.88	600	500	0.91	2,500	2,700	1.06	11,000	10,600	0.97
Cross Harbour Screenline	N/B	7,100	6,900	0.97	1,200	1,200	1.04	800	800	1.04	1,100	1,300	1.14	10,100	10,100	1.00
	S/B	5,700	5,500	0.98	1,400	1,300	0.98	600	500	0.81	700	800	1.19	8,300	8,100	0.98
	2-way Total	12,800	12,400	0.97	2,500	2,600	1.01	1,300	1,200	0.94	1,800	2,100	1.16	18,400	18,300	0.99
Total	NB/EB/IB/DB	140,600	133,900	0.95	33,500	32,000	0.95	16,700	16,300	0.98	30,000	30,900	1.03	220,900	213,200	0.97
	SB/WB/OB/UB	134,300	130,100	0.97	35,200	33,100	0.94	16,400	15,500	0.94	25,900	27,200	1.05	211,800	205,800	0.97
	2-way Total	274,900	264,000	0.96	68,700	65,000	0.95	33,100	31,800	0.96	55,900	58,100	1.04	432,700	418,900	0.97

Passengers Screenline Validation Summary

Screenline	Bound	Daily Total Rail Passenger			Daily Total Bus Passenger			Daily Total PLB Passenger			Daily Total PT Passenger		
		Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs
Hong Kong External Cordon	N/B	74,400	82,400	1.11	89,600	88,300	0.99	29,400	33,000	1.12	193,400	203,600	1.05
	S/B	70,800	79,400	1.12	75,300	79,600	1.06	35,200	29,900	0.85	181,400	188,900	1.04
	2-way Total	145,200	161,800	1.11	164,900	167,900	1.02	64,600	62,900	0.97	374,700	392,600	1.05
Hong Kong Internal Cordon	I/B	1,069,000	1,086,500	1.02	249,300	237,900	0.95	23,000	16,400	0.71	1,341,300	1,340,800	1.00
	O/B	1,080,100	1,065,400	0.99	250,400	237,300	0.95	19,200	16,100	0.84	1,349,700	1,318,900	0.98
	2-way Total	2,149,100	2,151,900	1.00	499,700	475,200	0.95	42,200	32,500	0.77	2,691,000	2,659,700	0.99
Kowloon External Cordon	N/B	1,025,100	955,100	0.93	492,200	381,200	0.77	55,100	49,600	0.90	1,572,400	1,386,000	0.88
	S/B	1,053,700	1,002,000	0.95	446,100	416,800	0.93	50,400	55,200	1.10	1,550,200	1,474,000	0.95
	2-way Total	2,078,900	1,957,100	0.94	938,300	798,000	0.85	105,500	104,900	0.99	3,122,700	2,859,900	0.92
Tsing Yi External Cordon	I/B	214,200	219,200	1.02	348,300	337,100	0.97	20,800	23,900	1.15	583,200	580,100	0.99
	O/B	214,000	223,900	1.05	336,700	345,900	1.03	31,200	23,500	0.75	581,900	593,300	1.02
	2-way Total	428,100	443,100	1.03	685,000	683,000	1.00	52,000	47,300	0.91	1,165,100	1,173,500	1.01
Lantau External Cordon	I/B	89,100	93,600	1.05	81,300	80,600	0.99	0	0	1.00	170,400	174,200	1.02
	O/B	90,700	97,700	1.08	72,300	80,700	1.12	0	0	1.00	163,100	178,400	1.09
	2-way Total	179,800	191,300	1.06	153,600	161,300	1.05	0	0	1.00	333,400	352,600	1.06
Shatin External Cordon	O/B	644,300	640,000	0.99	356,400	319,200	0.90	44,000	36,200	0.82	1,044,700	995,400	0.95
	I/B	641,300	626,200	0.98	371,400	296,400	0.80	37,600	28,600	0.76	1,050,200	951,200	0.91
	2-way Total	1,285,500	1,266,200	0.98	727,800	615,600	0.85	81,500	64,800	0.79	2,094,900	1,946,600	0.93
Ma On Shan External Cordon	O/B	67,700	64,900	0.96	66,800	75,700	1.13	20,800	21,200	1.02	155,300	161,900	1.04
	I/B	64,700	66,600	1.03	70,500	90,900	1.29	27,000	29,600	1.10	162,300	187,100	1.15
	2-way Total	132,400	131,500	0.99	137,400	166,600	1.21	47,800	50,900	1.06	317,600	349,000	1.10
TKO External Cordon	O/B	217,400	203,400	0.94	50,700	58,200	1.15	29,800	26,000	0.87	298,000	287,600	0.97
	I/B	210,000	189,900	0.90	61,200	54,600	0.89	30,400	27,400	0.90	301,600	271,900	0.90
	2-way Total	427,400	393,300	0.92	111,900	112,800	1.01	60,200	53,400	0.89	599,500	559,400	0.93
Screenline A-A	E/B	711,800	732,600	1.03	309,800	305,700	0.99	67,600	66,800	0.99	1,089,100	1,105,100	1.01
	W/B	740,200	755,700	1.02	274,700	286,200	1.04	59,500	61,100	1.03	1,074,400	1,103,000	1.03
	2-way Total	1,452,000	1,488,300	1.03	584,500	591,900	1.01	127,000	127,900	1.01	2,163,500	2,208,100	1.02
Screenline C-C	N/B	912,600	963,000	1.06	348,200	335,200	0.96	44,000	46,200	1.05	1,304,800	1,344,400	1.03
	S/B	933,800	1,003,900	1.08	317,000	347,700	1.10	45,500	47,300	1.04	1,296,300	1,398,900	1.08
	2-way Total	1,846,500	1,966,900	1.07	665,100	682,900	1.03	89,500	93,500	1.04	2,601,100	2,743,300	1.05
Screenline F-F	E/B	497,800	494,000	0.99	125,800	153,300	1.25	5,500	7,100	1.29	626,100	654,400	1.05
	W/B	486,500	535,900	1.10	175,300	165,000	0.94	10,800	8,400	0.77	672,500	709,300	1.05
	2-way Total	984,300	1,029,900	1.05	298,100	318,300	1.07	16,300	15,500	0.95	1,298,600	1,363,700	1.05
Screenline G-G	E/B	278,600	262,900	0.94	157,900	139,300	0.88	4,200	4,200	1.02	440,600	406,400	0.92
	W/B	284,700	277,700	0.98	173,700	147,200	0.85	5,700	4,200	0.74	464,100	429,100	0.92
	2-way Total	563,300	540,600	0.96	331,600	286,500	0.86	9,800	8,500	0.86	904,700	835,500	0.92
Screenline H-H	D/B	0	0	1.00	2,600	2,700	1.01	1,700	1,100	0.66	4,300	3,800	0.88
	U/B	0	0	1.00	3,200	3,400	1.06	1,600	1,500	0.94	4,800	4,900	1.02
	2-way Total	0	0	1.00	5,800	6,000	1.04	3,200	2,600	0.80	9,100	8,600	0.95
Screenline I-I	N/B	65,200	65,700	1.01	57,500	69,900	1.22	7,400	7,300	0.98	130,100	143,000	1.10
	S/B	61,700	66,400	1.08	69,500	61,900	0.89	7,200	6,700	0.93	138,500	135,000	0.97
	2-way Total	126,900	132,100	1.04	127,000	131,800	1.04	14,700	14,000	0.96	268,600	277,900	1.03
Screenline K-K	E/B	243,700	257,600	1.06	293,100	268,900	0.92	78,900	73,400	0.93	615,700	599,800	0.97
	W/B	243,300	252,200	1.04	276,100	271,800	0.98	63,900	69,500	1.09	583,300	593,500	1.02
	2-way Total	487,000	509,800	1.05	569,200	540,600	0.95	142,800	142,900	1.00	1,199,000	1,193,300	1.00
Screenline R-R	N/B	370,100	377,800	1.02	326,600	329,000	1.01	20,600	18,200	0.88	717,300	725,000	1.01
	S/B	385,500	416,300	1.08	333,700	335,300	1.01	21,300	22,100	1.04	740,400	773,800	1.05
	2-way Total	755,600	794,100	1.05	660,300	664,300	1.01	41,900	40,300	0.96	1,457,800	1,498,800	1.03
Screenline S-S	E/B	165,400	193,100	1.17	297,600	293,300	0.99	37,700	30,700	0.81	500,700	517,100	1.03
	W/B	156,700	155,100	0.99	300,800	289,200	0.96	33,100	31,000	0.94	490,700	475,300	0.97
	2-way Total	322,100	348,200	1.08	598,400	582,500	0.97	70,800	61,700	0.87	991,400	992,400	1.00
Screenline T-T	N/B	183,900	181,800	0.99	77,900	74,400	0.96	32,800	30,100	0.92	294,600	286,400	0.97
	S/B	185,500	178,000	0.96	76,000	94,600	1.25	28,000	34,000	1.21	289,400	306,600	1.06
	2-way Total	369,300	359,800	0.97	153,800	169,000	1.10	60,800	64,100	1.05	584,000	593,000	1.02
Screenline Y-Y	E/B	94,300	90,900	0.96	24,600	24,300	0.99	12,900	9,600	0.74	131,800	124,800	0.95
	W/B	89,500	75,500	0.84	26,800	25,500	0.95	12,100	8,900	0.74	128,500	109,900	0.86
	2-way Total	183,800	166,400	0.91	51,500	49,800	0.97	25,000	18,500	0.74	260,300	234,700	0.90
Cross Harbour Screenline	N/B	722,800	708,400	0.98	224,500	183,900	0.82	6,000	3,800	0.63	953,300	896,100	0.94
	S/B	725,100	752,200	1.04	231,700	189,200	0.82	4,200	3,500	0.84	960,900	945,000	0.98
	2-way Total	1,447,800	1,460,600	1.01	456,100	373,200	0.82	10,200	7,300	0.72	1,914,200	1,841,100	0.96
Total	NB/EB/I/B/DB	7,633,900	7,647,200	1.00	4,006,800	3,747,000	0.94	542,600	507,000	0.93	12,183,200	11,901,100	0.98
	SB/WB/OB/UB	7,731,300	7,845,800	1.01	3,913,200	3,830,300	0.98	523,500	506,400	0.97	12,168,000	12,182,500	1.00
	2-way Total	15,365,200	15,493,000	1.01	7,920,000	7,577,300	0.96	1,066,100	1,013,400	0.95	24,351,200	24,083,700	0.99

Appendix C - Local Area Traffic Model Validation Result

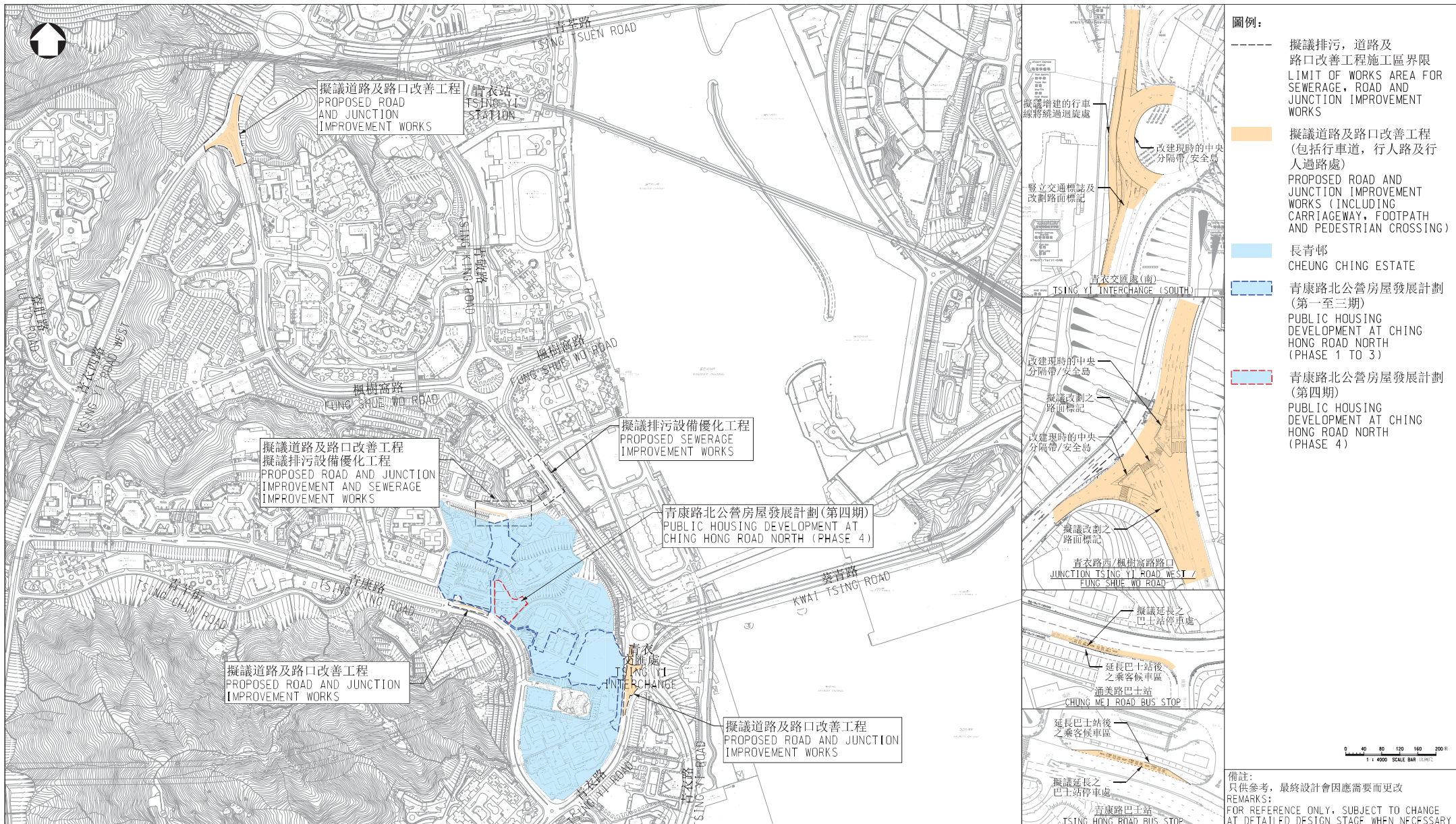
		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
*J1 - North West Tsing Yi Interchange (NWTYI) Roundabout									
* Adminstraion Building	SB	5	5	1.00	0	5	5	1.00	0
* Cheung Tsing Highway	NB	570	570	1.00	0	505	490	0.97	1
ENTRY ARM - TOTAL		575	575	1.00	0	510	495	0.97	1
* Adminstraion Building	NB	370	365	0.99	0	330	315	0.95	1
* Adminstraion Building	EB	205	210	1.02	0	180	180	1.00	0
EXIT ARM - TOTAL		575	575	1.00	0	510	495	0.97	1
* J2 - NWTYI / unnamed access road near Lantau Link Visitors Centre									
* North West Tsing Yi Interchange	NB	1105	1120	1.01	0	1195	1200	1.00	0
* Unnamed access road near Lantau Link Visitors Centre	EB	125	125	1.00	0	140	140	1.00	0
ENTRY ARM - TOTAL		1230	1245	1.01	0	1335	1340	1.00	0
* North West Tsing Yi Interchange	NB	1035	1055	1.02	1	1150	1160	1.01	0
* Unnamed access road near Lantau Link Visitors Centre	WB	195	190	0.97	0	190	180	0.95	1
EXIT ARM - TOTAL		1230	1245	1.01	0	1340	1340	1.00	0
* J3 - Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road									
* Tsing Yi North Coastal Road	NB	220	220	1.00	0	195	190	0.97	0
* Tam Kon Shan Road	EB	155	155	1.00	0	170	165	0.97	0
* Shipyard	SB	5	5	1.00	0	15	15	1.00	0
* Tam Kon Shan Road	WB	105	105	1.00	0	105	105	1.00	0
ENTRY ARM - TOTAL		485	485	1.00	0	485	475	0.98	0
* Tam Kon Shan Road	WB	155	155	1.00	0	150	150	1.00	0
* Shipyard	NB	10	10	1.00	0	5	5	1.00	0
* Tam Kon Shan Road	EB	325	320	0.98	0	335	325	0.97	1
EXIT ARM - TOTAL		490	485	0.99	0	490	480	0.98	0
* J4 - Tam Kon Shan Road/Slip Road to Tsing Yi North Coastal Road									
* Tam Kon Shan Road	EB	155	155	1.00	0	170	165	0.97	0
* Tam Kon Shan Road	WB	50	50	1.00	0	45	45	1.00	0
ENTRY ARM - TOTAL		205	205	1.00	0	215	210	0.98	0
* Slip Road to Tsing Yi North Coastal Road	SB	155	155	1.00	0	170	165	0.97	0
* Tam Kon Shan Road	WB	50	50	1.00	0	45	45	1.00	0
* Tam Kon Shan Road	EB	5	5	1.00	0	5	5	1.00	0
EXIT ARM - TOTAL		210	210	1.00	0	220	215	0.98	0
* J5 - Tam Kon Shan Interchange									
* Fung Shue Wo Road	NB	1390	1385	1.00	0	1395	1400	1.00	0
* Tsing Yi North Coastal Road	EB	480	490	1.02	0	360	355	0.99	0
* Tam Kon Shan Road	SEB	990	970	0.98	1	750	755	1.01	0
* Tsing King Road	SB	1020	1045	1.02	1	915	910	0.99	0
* Tsing Yi North Coastal Road	WB	1220	1235	1.01	0	1180	1190	1.01	0
ENTRY ARM - TOTAL		5100	5125	1.00	0	4600	4610	1.00	0
* Fung Shue Wo Road	SB	1260	1275	1.01	0	1040	1045	1.00	0
* Tsing Yi North Coastal Road	WB	400	400	1.00	0	315	320	1.02	0
* Tam Kon Shan Road	NWB	545	550	1.01	0	495	495	1.00	0
* Tsing King Road	NB	1015	1025	1.01	0	1200	1195	1.00	0
* Tsing Yi North Coastal Road	EB	1880	1875	1.00	0	1545	1555	1.01	0
EXIT ARM - TOTAL		5100	5125	1.00	0	4595	4610	1.00	0
* J6 - Fung Shue Wo Road/Tsing Yi Road West									
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Fung Shue Wo Road	WB	705	705	1.00	0	765	770	1.01	0
* Fung Shue Wo Road	SB	1230	1245	1.01	0	1010	1015	1.00	0
ENTRY ARM - TOTAL		2935	2940	1.00	0	2720	2745	1.01	0
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* Fung Shue Wo Road	EB	765	765	1.00	0	645	640	0.99	0
* Fung Shue Wo Road	NB	1360	1355	1.00	0	1365	1370	1.00	0
EXIT ARM - TOTAL		2930	2940	1.00	0	2720	2740	1.01	0

		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
* J7 - Liu To Road / Tsing Yi Road West									
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* Liu To Road	EB	865	855	0.99	0	660	660	1.00	0
* Tsing Yi Road West	NB	635	650	1.02	1	695	715	1.03	1
ENTRY ARM - TOTAL		2305	2325	1.01	0	2065	2105	1.02	1
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Liu To Road	WB	620	630	1.02	0	595	615	1.03	1
* Tsing Yi Road West	SB	690	705	1.02	1	520	530	1.02	0
EXIT ARM - TOTAL		2310	2325	1.01	0	2060	2105	1.02	1
* J8 - Tsing Yi Road West/Ching Hong Road									
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
* Tsing Yi Road West	SB	690	705	1.02	1	520	530	1.02	0
* Ching Hong Road	WB	610	630	1.03	1	525	535	1.02	0
ENTRY ARM - TOTAL		1975	2015	1.02	1	1760	1795	1.02	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
* Tsing Yi Road West	NB	635	650	1.02	1	695	715	1.03	1
* Ching Hong Road	EB	585	595	1.02	0	495	500	1.01	0
EXIT ARM - TOTAL		1970	2015	1.02	1	1760	1800	1.02	1
* J9 - Ching Hong Road / Chung Mei Road									
* Ching Hong Road	EB	615	625	1.02	0	510	515	1.01	0
* Ching Hong Road	WB	550	560	1.02	0	515	515	1.00	0
* Chung Mei Road	SB	415	425	1.02	0	380	385	1.01	0
ENTRY ARM - TOTAL		1580	1610	1.02	1	1405	1415	1.01	0
* Ching Hong Road	EB	610	615	1.01	0	490	495	1.01	0
* Ching Hong Road	WB	625	645	1.03	1	550	560	1.02	0
* Chung Mei Road	NB	350	350	1.00	0	365	365	1.00	0
EXIT ARM - TOTAL		1585	1610	1.02	1	1405	1420	1.01	0
* J10 - Tsing Yi Road West/Cheung Tsing Highway									
* Tsing Yi Road West	NB	580	595	1.03	1	735	740	1.01	0
* Cheung Tsing Highway	EB	960	950	0.99	0	815	840	1.03	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
ENTRY ARM - TOTAL		2290	2315	1.01	1	2120	2165	1.02	1
* Tsing Yi Road West	SB	820	820	1.00	0	585	605	1.03	1
* Cheung Tsing Highway	WB	800	810	1.01	0	825	830	1.01	0
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
EXIT ARM - TOTAL		2295	2310	1.01	0	2125	2165	1.02	1
* J11 - Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road									
* Tsing Yi Road West	SB	820	820	1.00	0	585	605	1.03	1
* Sai Tso Wan Road	EB	490	500	1.02	0	615	610	0.99	0
* Tsing Yi Road	NB	420	425	1.01	0	455	475	1.04	1
ENTRY ARM - TOTAL		1730	1745	1.01	0	1655	1690	1.02	1
* Tsing Yi Road West	NB	580	595	1.03	1	735	740	1.01	0
* Sai Tso Wan Road	WB	790	780	0.99	0	575	595	1.03	1
* Tsing Yi Road	SB	355	370	1.04	1	345	355	1.03	1
EXIT ARM - TOTAL		1725	1745	1.01	0	1655	1690	1.02	1

		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
* L1 - Lantau Link									
* Lantau Link	EB	3370	3345	0.99	0	4460	4430	0.99	0
* Lantau Link	WB	4445	4380	0.99	1	3175	3185	1.00	0
* L2 - Ting Kau Bridge									
* Ting Kau Bridge	NB	3160	3060	0.97	2	4690	4645	0.99	1
* Ting Kau Bridge	SB	6840	6635	0.97	2	3650	3650	1.00	0
* L3 - Unnamed access road near Lantau Link Visitors Centre									
* Unnamed access road near Lantau Link Visitors Centre	NB	195	190	0.97	0	190	180	0.95	1
* Unnamed access road near Lantau Link Visitors Centre	SB	125	125	1.00	0	140	140	1.00	0
* L4 - Tam Kon Shan Road									
* Tam Kon Shan Road	EB	325	320	0.98	0	335	325	0.97	1
* Tam Kon Shan Road	WB	105	105	1.00	0	105	105	1.00	0
* L5 - Slip Road from Tsing Yi North Coastal Road									
* Slip Road from Tsing Yi North Coastal Road	WB	220	220	1.00	0	195	190	0.97	0
* L6 - Slip Road to Tsing Yi North Coastal Road									
* Slip Road to Tsing Yi North Coastal Road	EB	155	155	1.00	0	170	165	0.97	0
* L7 - Tsing Yi North Coastal Road									
* Tsing Yi North Coastal Road	EB	1200	1180	0.98	1	1115	1135	1.02	1
* Tsing Yi North Coastal Road	WB	1600	1630	1.02	1	1045	1010	0.97	1
* L8 - Cheung Tsing Tunnel									
* Cheung Tsing Tunnel	EB	4360	4340	1.00	0	3540	3615	1.02	1
* Cheung Tsing Tunnel	WB	2930	2970	1.01	1	2930	2980	1.02	1
* L9 - Nam Wan Tunnel									
* Nam Wan Tunnel	EB	2910	2805	0.96	2	1755	1550	0.88	5
* Nam Wan Tunnel	WB	1795	1630	0.91	4	2345	2225	0.95	3
* L10 - Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West									
* Fung Shue Wo Road	NB	1360	1355	1.00	0	1365	1370	1.00	0
* Fung Shue Wo Road	SB	1230	1245	1.01	0	1010	1015	1.00	0
* L11 - Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road									
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* L12 - Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road									
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
* L13 - Ching Hong Road									
* Ching Hong Road	EB	585	595	1.02	0	495	500	1.01	0
* Ching Hong Road	WB	610	630	1.03	1	525	535	1.02	0
* L14 - Sai Tso Wan Road									
* Sai Tso Wan Road	EB	490	500	1.02	0	616	612	0.99	0
* Sai Tso Wan Road	WB	790	780	0.99	0	577	597	1.04	1

Appendix D

Planned or Committed Junction Improvement Scheme



圖則名稱 drawing title

工務計劃項目第B839號 PWP ITEM NO. B839

附件四 - 青康路北公營房屋發展計劃的基礎設施工程概念平面圖

ANNEX 4 - INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENTS AT CHING HONG ROAD NORTH, TSING YI - LAYOUT PLAN

圖則編號 drawing no. 圖則一
 比例 scale 1:4000

辦事處 OFFICE
 南拓展處 SOUTH DEVELOPMENT OFFICE

土木工程拓展署
 CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT