GRANDMAX SURVEYORS LIMITED
俊滙測量師行有限公司

Date : 17th September, 2024
Our Ref. : ADCL/PLG-10289/L007

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

By Email

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Lot Nos. 1809 (Part), 1813, 1814, 1815 (Part), 1816, 1817 (Part), 1819, 1820, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831 S.A, 1831 S.B, 1832, 1833, 1834, 1835, 1837, 1838, 1839 (Part), 1840, 1841, 1842 and 1843 in D.D. 129, Lau Fau Shan, Yuen Long, New Territories
(Planning Application No. A/YL-LFS/522)

We refer to the latest comments from Transport Department (dated 6.8.2024) and would like to enclose herewith our Responses-to-Comments Table and Traffic Impact Assessment to address the abovementioned departmental comments for their consideration.

Thank you for your kind attention and should you have any queries, please do not hesitate to contact our Miss Isa YUEN or Mr. Thomas LUK at 3180 7811.

Yours faithfully,
For and on behalf of
Grandmax Surveyors Limited

Thomas Luk
Planning Consultant

Encl.
c.c. Client
DPO/TM&YLW, PlanD (Attn: Mr. Wilfred CHU)

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Department	Date	Comments	Responses to Departmental Comments
Transport Department	6.8.2024	On the basis of the applicant's statement, approximately 25 to 30 tons of goods would be transported to the application site. Obviously, 1ha of open storage area for storing 25-30 tons of goods is over-provided in terms of site area. The applicant's estimated traffic flow is not convincing and shall clarify accordingly. As mentioned in our previous reply, traffic assessment shall be conducted to examine the potential traffic impact arising from the development.	A Traffic Impact Assessment has been conducted to examine the potential traffic impact arising from the development. Please refer to the attached. Please refer to the Section 4 for the estimated traffic flow.

S.16 Planning Application for Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories

TRAFFIC IMPACT ASSESSMENT

Reference: 80108-R01-01
Date: September 2024
Prepared by: 8FM Consultancy Limited

8FM Consultancy Limited

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1 INTRODUCTION

1.1 Background

The Applicant intends to seek planning permission for the Section 16 Planning Application for Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Lot Nos. 1809 (Part), 1813, 1814, 1815 (Part), 1816, 1817 (Part), 1819, 1820, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831 S.A, 1831 S.B, 1832, 1833, 1834, 1835, 1837, 1838, 1839 (Part), 1840, 1841, 1842 and 1843 in D.D. 129, Lau Fau Shan, Yuen Long, New Territories ("Project Site").

The location of the Project Site is shown in **Figure 1**.

8FM Consultancy Limited was commissioned as the traffic consultant to carry out a Traffic Impact Assessment (TIA) Study in support of this planning application.

1.2 Study Objectives

The objectives of this TIA are listed as follows:

- To review the existing traffic conditions in the vicinity of the Project Site;
- To present and evaluate the internal transport facilities;
- To estimate the traffic forecasts of the adopted design year and assess the future traffic situation in the surrounding network;
- To evaluate the potential traffic impact of the proposed development; and
- To suggest traffic improvement proposals, if necessary.

1.3 Report Structure

The report is structured as follows:

- Chapter 2 - Proposed Development

  Describing the project site, vehicular access arrangement, development schedule and the proposed internal transport facilities;

- Chapter 3 - Existing Traffic Situation

  Presenting the existing traffic context, the traffic survey, and the traffic assessment of the existing traffic conditions;

- Chapter 4 – Development Traffic Generation

  Estimating the traffic flows arising from the proposed development;

- Chapter 5 – Future Traffic Situation

  Describing the traffic forecast methodology and presenting the traffic assessment results under reference and design scenarios;

- Chapter 6 - Summary and Conclusion

  Summarizing the findings and conclusion of this traffic impact assessment study.

2 PROPOSED DEVELOPMENT

2.1 The Site Location

The Project Site is located in the Lau Fau Shan and Mong Tseng area, and it can be accessible from Deep Bay Road via a local track. The location of the Project Site is shown in **Figure 1**.

2.2 The Development Schedule

The project site is proposed to be utilised as the open storage for construction materials and equipment on a temporary basis of 3 years. Based on the planning statement, the operation hour of the proposed use is from 8:00a.m. to 6:00p.m. from Mondays to Saturdays and there will be no operation on Sundays and public holidays.

The project site has a total area of about 15,500m^2, including open storage area, two one-storey storerooms (36m^2 x 2) and a one-storey site office (36m^2). The layout of the project site is shown in **Figure 2.1**. Key development parameters of the proposed use are tabulated in **Table 2.1**.

Table 2.1 Key Development Parameters

Proposed Use	Temporary Open Storage of Construction Materials and Construction Equipment
Operation Hours	8:00am-6:00pm (Monday – Sunday, Except Public Holiday)
Total Site Area	15,500m^2
Open Storage Area	About 1 hectare
Storeroom	72m^2
Site Office	36m^2

2.3 Vehicle Access Arrangement

At present, there is an existing local access road to the project site. Access to the project site will be provided through an 12m-wide ingress/egress point located at the southwestern boundary, which is connected to a local track leading to Deep Bay Road. The vehicle access arrangement is presented in **Figure 2.2** for reference.

Swept path analysis is also conducted for the access point and the access road. **Figure 2.3** indicates the sufficient turning spaces for the 7m LGV.

2.4 Internal Transport Facilities

The internal transport facilities to be provided in the project site are summarized in **Table 2.2**. As there are no specific parking and loading/unloading requirements for temporary open storage development in accordance to HKPSG, ancillary transport facilities are provided based on the Applicant's requirements to meet operational needs.

Table 2.2 Internal Transport Facilities

Type of Ancillary Transport Facilities	Size	Provision based on Applicant's Operational Needs
Private Car Parking Spaces	5m(L) x 2.5m(W)	3
L/UL Bays	7m(L) x 3.5m(W)	6

3 EXISTING TRAFFIC SITUATION

3.1 Existing Road Network

As indicated in **Figure 2.2**, the project site is located at the east of Deep Bay Road, and it can be accessible from Deep Bay Road via a local unnamed road. The existing condition of the connecting carriageways are summarized as follows:

- Unnamed Road A is a single track access road connecting Deep Bay Road in the west to an unnamed road near Lam Hang Shan in the east. Acting as single carriageway with 1-lane-2 way operation, passing bays are generally identified along the carriageway.
- Deep Bay Road is served as a rural road connecting Lau Fau Shan in the northeast and Pak Nai in the southwest. Acting as single carriageway with 1-lane-2 way operation, passing bays are generally identified along the carriageway.
- Tin Yuet Road is as a rural road connecting Deep Bay Road in the east and Tin Ying Road in the west. Acting as single carriageway with 1-lane-2 way operation, passing bays are generally identified along the carriageway.
- Lau Fau Shan Road is served as a rural road which is mainly a single-two carriageway, connecting Deep Bay Road in the west and Tin Wah Road in the east.

3.2 Public Transport Facilities

The project site cannot be immediately accessible by taking the public transportation. The nearest franchised bus and GMB services are around 850m away from the site, operating along Lau Fau Shan Road. Details of these public transport services are presented in **Table 3.1** and **Figure 3.1**.

Table 3.1 Franchised Bus and GMB Services Close to Project Site

Route	Routing	Peak Frequency (minutes)
MTR K65	Lau Fau Shan ↔Yuen Long Station	9-16
MTR K65A	Lau Fau Shan ↔Tin Shui Wai Station	12-15
GMB 33	Yuen Long (Tai Fung St) ↔ Ha Pak Nai	20
GMB 34A	Ha Tsuen ↔ Lau Fau Shan	15-30
GMB 35	Hong Lee Court ↔ Cai Ha Village	6-7

3.3 Traffic Survey

In order to evaluate the existing traffic conditions in the vicinity, the classified traffic surveys were conducted on 10 September 2024 (Tuesday) from 7:30 to 10:30 in the morning and from 16:00 to 19:00 in the evening. The key junctions and road links of the study area are indicated **Figure 3.2.**

The traffic flows collected during the traffic surveys have been converted to passenger car unit (PCU) based on the PCU factors as indicated in Volume 2 of Transport Planning and Design Manual (TPDM).

The results of traffic survey identified that the AM and PM peak hours occur during 7:45am to 8:45am and 16:30pm to 17:30pm, respectively. The 2024 observed peak hours traffic flows in the study area are presented in **Figure 3.3**.

3.4 Existing Traffic Condition

Based on the observed traffic flows, the performance of the key junctions and traffic links in the vicinity of the project site during the AM and PM peak hours was assessed.

3.4.1 Existing Road Link Capacity Assessment

The existing links capacity are calculated respectively based on the design capacity suggested in Volume 2 of the TPDM and the results are shown in **Table 3.2**.

Table 3.2 Existing Road Link Capacity Assessment

Link No.	Link Location	Peak	Design Capacity[(i)] (veh/hr)	Traffic Flow (veh/hr)	V/C Ratio[(ii)]
L1	Deep Bay Road (two-way)	AM	100	59	0.59
		PM	100	61	0.61
L2	Lau Fau Shan Road （EB）	AM	800	287	0.36
		PM	800	293	0.37
	Lau Fau Shan Road （WB）	AM	800	309	0.39
		PM	800	222	0.28

Notes:

(i) Design capacity can be referred to TPDM Vol2 chapter 2.4.1.1 and chapter 3.11.3.1.

(ii) V/C Ratio =Volume/ Design Capacity. A peak hour v/c ratio of 1.0 or less indicates a satisfactory level of traffic. A peak hour v/c ratio greater than 1.0 indicates an unsatisfactory level of traffic with overloaded traffic volume.

The results reveal that the key traffic links operate within capacity during peak hours.

3.4.2 Existing Junction Capacity Assessment

The results of junction performance are indicated in **Table 3.3** and detailed junction calculation sheets are given in **Appendix A**.

Table 3.3 Existing Junction Capacity Assessment

Jn No.	Junction Location	Type/ Capacity Index	AM Peak	PM Peak
A	Tin Ying Rd / Tin Wah Rd	Signal / RC(i)	26.6%	43.4%
B	Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	Priority / DFC(ii)	1.18	1.25
C	Lau Fau Shan Roundabout	Roundabout / DFC	0.45	0.40
D	Deep Bay Rd / Unnamed Rd A	Priority / DFC	0.02	0.02
E	Unnamed Rd A / Unnamed Rd B	Priority / DFC	0.05	0.11
F	Deep Bay Rd / Tin Yuet Rd	Priority / DFC	0.17	0.16

**Notes:*

(i) DFC - Design Flow / Capacity Rati. The performance of a priority junction or roundabout is normally measured by its Design Flow / Capacity (DFC) ratio. A DFC ratio less than 1.0 indicates that the junction is operating within design capacity. 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.

(ii) RC =reserve capacity. The performance of a traffic signalised junction is indicated by its reserve capacity (RC). A positive RC (RC>0) indicates that the junction is operating with spare capacity. A negative RC (RC<0) indicates that the junction is overloaded; resulting in traffic queues and longer delay time.

As shown in Table 3.3, it can be seen that the surveyed junctions perform satisfactorily during peak hours with adequate reserve capacities, except for Jn B, i.e. junction of Lau Fau Shan Rd/Tin Wah Rd/Ping Ha Rd, which is currently having inadequate junction capacity during the AM and PM peak hours.

4 DEVELOPMENT TRAFFIC GENERATION

4.1 Estimated Development Flows

With reference to the Planning Statement, the proposed development will only make use of light goods vehicle (LGV) and private cars to travel to/from the application site, and the Applicant manages a fleet of 6 LGV(s).

As the proposed development will be operated as the storage area and a build-up site office, the trip generation & attraction arising from the operational needs will be estimated respectively based on the different land use.

4.1.1 Storage Area

The trip rates for storage area are not found in the TPDM, hence, the traffic generation & attraction will be estimated based on the operational needs. Reference is also made with the approved applications of similar use and the applications in operation within the same outline zoning plan (OZP) approved by the TPB in the recent years, which is tabulated in **Table 4.1**.

Table 4.1 Similar Application within the Same OZP

Case No.	Decision Date	Applied Use	District	Site Area (sqm)	Daily Trip (veh/day)	Peak Hour Generation [Attraction] (veh/hr)
A/YL-HTF/1133	10/06/2022	Temporary Open Storage of New Vehicles (Private Cars), Construction Materials, Machineries, Equipment and Storage of Tools and Parts with Ancillary Site Office for a Period of 3 Years	Ha Tsuen, Yuen Long	83,668	32	8[8]
A/YL-PS/695	22/09/2023	Renewal of Planning Approval for Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years	Ping Shan, Yuen Long	17,994.8	4	0[3]
A/HSK/252	06/11/2020	Temporary Open Storage of Recyclable Materials (Plastic, Paper and Metal) with Ancillary Workshop for a Period of 3 Years	Ha Tsuen, Yuen Long	15,800	16	0[0]
A/YL-LFS/505	01/03/2024	Temporary Open Storage of Construction Materials and Machineries with Ancillary Workshop, and Vehicle/Cargo Compartments Assembly and Repair Workshop for a Period of 3 years	Lau Fau Shan, Yuen Long	4400	10	2[2]

Considering the limited fleet size provided by the Applicant, the development will not generate more than 6 LGV(s) per day. Although the entire LGV(s) fleet is unlikely to travel to / from the site in the same one hour due to the limitation of manpower and equipment, the traffic generation & attraction is estimted based six LGV(s) for conservative assessment. The calculated traffic generation & attraction arsing from the operation of storage area during the identified peak hours are esitmated in **Table 4.2**.

Table 4.2 Estimated Traffic Generation & Attraction Arising from Storage Area

Land Use	Daily Trip	AM Peak (pcu/hr)		PM Peak (pcu/hr)	
		Generation	Attraction	Generation	Attraction
Storage Area	6 LGV(s)	9	9	9	9

Notes: Traffic generation/attraction for LGV is calculated with pcu factor 1.5 based on the PCU factors as indicated in Table 2.3.1.1 of TPDM Vol2.

Given that (i) the comparable traffic flow of similar applications within the same OZP and (ii) the operational restriction and limited fleet size of the Applicant, the estimated traffic generation & attraction arising from storage area, as indicated in **Table 4.2 ,** is therefore deemed acceptable.

4.1.2 Site Office

The trip generation & attraction of the build-up development is estimated with reference to the the trip rate tabulated in the TPDM Vol 1. **Table 4.3** shows the trip rates for office development, and the level of upper limit is adopted for conservative assessment.

Table 4.3 Traffic Rates for Office Development

Land Use	Unit	Upper Limit/ Mean/ Lower Limit	AM Peak		PM Peak	
			Generation Rate	Attraction Rate	Generation Rate	Attraction Rate
Office	(pcu/hr/100sq m GFA)	**Upper Limit**	**0.2361**	**0.3257**	**0.1928**	**0.1510**
		Mean	0.1703	0.2452	0.1573	0.1175
		Lower Limit	0.1045	0.1646	0.1217	0.084

The calculated traffic generation & attraction arsing from the operation of site office during the identified peak hours are esitmated in **Table 4.4**.

Table 4.4 Estimated Traffic Generation & Attraction Arising from Office

Land Use	Area	AM Peak (pcu/hr)		PM Peak (pcu/hr)	
		Generation	Attraction	Generation	Attraction
Site Office	36m^2	1	1	1	1

4.1.3 Estimated Development Flow

With the trip generation & attraction estimated for different land use, the development flow is summarized in **Table 4.5.**

Table 4.5 Estimated Development Flow

Land Use	AM Peak (pcu/hr)		PM Peak (pcu/hr)	
	Generation	Attraction	Generation	Attraction
Storage Area	9	9	9	9
Site Office	1	1	1	1
total	10	10	10	10

4.2 Development Flows Distribution

With the traffic management controlled by the Applicant, the development traffic can travel via the Route 1 as indicated in **Figure 4.1**. For conservative assessment, the development flows will be distributed to both Route 1 and Route 2 in a ratio of 50:50.

5 FUTURE TRAFFIC SITUATION

5.1 Design Year

The planning application for the Proposed Temporary Open Storage development involves a period of 3 years, it is assumed that the end year for the Project Site would be year 2027. Therefore, year 2027 is adopted as the design year of this study.

5.2 Traffic Forecast Methodology

To conduct the traffic forecast on the road networks in the vicinity of the project site, the existing traffic flows will be adjusted with the following factors considered:

- Historical traffic data from Annual Traffic Census (ATC) by Transport Department;
- The forecast population and employment from the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data by Planning Department;
- Committed and planned developments adjacent the project site.

5.3 Regional Traffic Growth

5.3.1 Annual Traffic Census (ATC)

Reference has been made to the ATC reports from year 2018 to 2022. The historical traffic data of the surrounding road links are based on the Annual Average Daily Traffic (AADT) extracted from ATC issued by Transport Department. The relevant AADT data from year 2018 to 2022 are summarized in **Table 5.1**.

Table 5.1 AADT Extracted from Annual Traffic Census

Station	Road	From	To	2018	2019	2020	2021	2022	Growth Rate p.a.
5858	Ping Ha Rd & Lau Fau Shan Rd	Tin Ha Rd	Deep Bay Rd	12,680	12,590	12,070	10,310	8,390	-9.81%
					-0.7%	-4.1%	-14.6	-18.7%	
6603	Deep Bay Rd	Lau Fau Shan Rd	Nam Sha Po	2,920	2,320	2,380	2,570	2,760	-1.40%
					-20.3%	2.3%	7.9%	7.7%	
5284	Tin Ying Rd	Tin Wah Rd	Ping Ha Rd	32,180	31,060	29,780	30,970	30,030	-1.71%
					-3.5%	-4.1%	4.0%	-3.0%	
			Total	47,780	45,970	44,230	43,850	41,180	**-3.65%**

Table 5.1 indicates that the overall average annual growth rate of the adjacent road network is -3.65%.

5.3.2 Projected Population Data

Reference has been made to the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data provided by Planning Department. The population and employment data in Yuen Long District for year 2019, 2024 and 2031 are presented in **Table 5.2**.

Table 5.2 2019-Based TPDEM Data for Yuen Long District

Item	TPDEM Estimation/Projection			Annual Growth Rate		
	2019	2026	2031	2019 to 2026	2026 to 2031	2019 to 2031
Population	175,150	172,350	159,850	-0.2%3	-1.49%	-0.76%
Employment	68,100	70,700	70,250	**0.54**%	-0.13%	0.26%
total	243,250	243,050	230,100	-0.01%	-1.09%	-0.46%

Source: 2019-based TPEDM by Planning Department

Table 5.2 indicates that the highest annual growth rate for population and employment is 0.54%.

Based on the findings of the above two tables, a conservative growth rate of 0.54% per annum was adopted to estimate the background traffic growth from 2024 to 2027.

5.4 Planned and Committed Development

Based on the published information from Town Planning Board, no planned/committed developments in the site vicinity are identified in design year 2027 in the vicinity of project site.

5.5 2027 Traffic Flows

The growth factor will be applied to the 2024 observed peak hours traffic flows to estimate the 2027 reference flows.

The reference and design flows of the design year 2027 are calculated from the following formula:

2027 Reference Flows (Fig. 5.1)	=	2024 Observed Flows (Fig 3.3) x $(1+0.54\%)^3$
2027 Design Flows (Fig. 5.2)	=	2027 Reference Flows (Fig. 5.1) + Net Change in Development Traffic Flows

Figure 5.1 shows the 2027 Reference Peak Hours Flows in the area. By adding the net development traffic, **Figure 5.2** shows the 2027 Design Peak Hours Traffic Flows.

5.6 Future Traffic Impact Assessment

The traffic impact assessments for design year 2027 were conducted for the key junctions and road links in the vicinity of project site for both Reference and Design scenarios.

5.6.1 Future Year Link Capacity Assessment

Based on the Reference Flows and Design Flows, link capacity assessments for design year 2027 are carried out and the results are presented in **Table 5.3**.

Table 5.3 Future Year Link Capacity Assessment

Link No.	Link Location	Design Capacity (veh/hr)	V/C Ratio			
			2027 Reference Scenario		2027 Design Scenario	
			AM	PM	AM	PM
L1	Deep Bay Road (two-way)	100	0.60	0.62	0.65	0.67
L2	Lau Fau Shan Road(EB)	800	0.37	0.37	0.37	0.38
	Lau Fau Shan Road(WB)	800	0.39	0.28	0.40	0.29

Notes: V/C Ratio =Volume/ Design Capacity

*(i) *A peak hour v/c ratio of 1.0 or less indicates a satisfactory level of traffic. A peak hour v/c ratio greater than 1.0 indicates an unsatisfactory level of traffic with overloaded traffic volume.*

(ii) Refer to Figure 3.2 for link location.

Table 5.3 reveals that the key road links in the vicinity of the project site will operate within capacity during peak hours for both Reference and Design Scenarios.

5.6.2 Future Year Junction Capacity Assessment

Based on the Reference Flows and Design Flows, junction capacity assessments for design year 2027 are carried out and the results are presented in **Table 5.4**, with detailed calculation sheets given in **Appendix A**.

Table 5.4 Future Year Junction Capacity Assessment

Jun No.	Junction Location	Type/ Capacity Index	2027 Reference Scenario		2027 Design Scenario	
			AM	PM	AM	PM
A	Tin Ying Rd / Tin Wah Rd	Signal / RC	24.3%	40.7%	23.4%	38.9%
B	Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	Priority / DFC	1.22	1.30	1.23	1.31
C	Lau Fau Shan Roundabout	Roundabout / DFC	0.46	0.41	0.47	0.41
D	Deep Bay Rd / Unnamed Rd A	Priority / DFC	0.02	0.02	0.03	0.03
E	Unnamed Rd A / Unnamed Rd B	Priority / DFC	0.05	0.11	0.05	0.11
F	Deep Bay Rd / Tin Yuet Rd	Priority / DFC	0.17	0.16	0.19	0.17

**Notes: RC =reserve capacity; DFC - Design Flow / Capacity Ratio*

(i) The performance of a priority junction or roundabout is normally measured by its Design Flow / Capacity (DFC) ratio. A DFC ratio less than 1.0 indicates that the junction is operating within design capacity. 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.

(ii) The performance of a traffic signalised junction is indicated by its reserve capacity (RC). A positive RC (RC>0) indicates that the junction is operating with spare capacity. A negative RC (RC<0) indicates that the junction is overloaded; resulting in traffic queues and longer delay time.

(iii) Refer to Figure 3.2 for junction location.

Table 5.4 reveals that all the five junctions will operate satisfactorily with ample junction capacity in both 2027 reference and 2027 design scenarios during peak hours except Junction B. This is mainly due to the existing background traffic but not the development traffic. Comparing the assessment result of Junction B in 2027 design scenario with that in 2024 existing scenario, it is noted that the traffic generated by the project site is expected to have minimal impact to the capacity of Junction B during identified peak hours.

Nevertheless, to avoid aggravating of the existing traffic condition in junction Lau Fau Shan Rd/Tin Wah Rd/Ping Ha Rd, control traffic management is proposed as follows:

5.6.3 Control Measures on Junction B

a) Designated route
As originally planned by the Applicant, the project-related vehicles will travel to/from the project site via the designated Route 1 (Figure 4.1 refers), which will not pass through junction of Lau Fau Shan Rd/Tin Wah Rd/Ping Ha Rd.

b) Regular trip schedule
Considering operational needs, the Applicant will manage the vehicle trips on a regular basis, with maximum one LGV per hour and maximum six LGV(s) per day. By regulating the operation schedule, the trip generation during peak hours is insignificant.

With the above traffic management undertaken by the Applicant, the proposed development would not generate significant impacts to the road network.

6 Summary and Conclusion

6.1 Summary

The Applicant intends to seek the Town Planning Board permission to utilise the Project Site as the open storage for construction materials and equipment on a temporary basis of 3 years.

In order to appraise the existing traffic conditions, classified turning movement count surveys have been carried out at the key junctions and road links in the vicinity of project site on 10 September 2024 from 7:30 to 10:30 in the morning and 16:00 to 19:00 in the evening. The morning and evening peak hours of the road network have been identified as 7:45am to 8:45am and 16:30pm to 17:30pm, respectively.

Year 2027 is used as the design year for the traffic impact assessment. Based on the historical data, an annual growth rate of 0.54% was adopted for this study. This growth factor has been applied to the observed traffic flows in 2024 to determine the anticipated traffic flows in design year 2027.

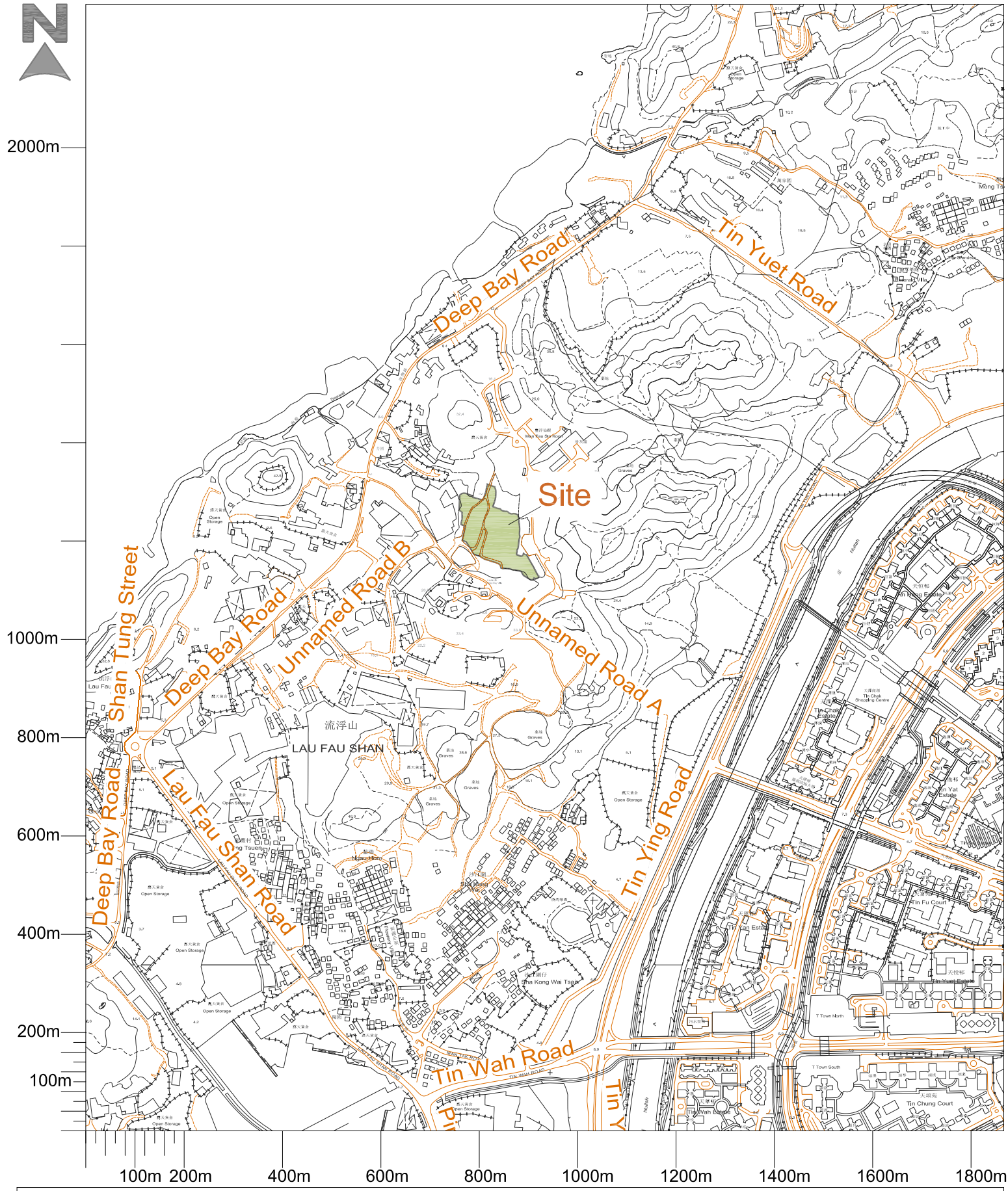
The assessment results reveal that all the key junctions and road links will operate satisfactorily with sufficient capacity in both 2027 reference and 2027 design scenarios during peak hours except Junction B (i.e. junction of Lau Fau Shan Rd/Tin Wah Rd/Ping Ha Rd). This is mainly due to the existing background traffic but not the development traffic. To avoid aggravating the existing traffic condition, the Applicant would undertake the traffic management measures, which include the designated route and the regular trip schedule.

The proposed development, as with most other open storage sites, is not a high traffic generating use. With the above traffic management undertaken by the Applicant, it is believed that the proposed development would not generate significant impact to the adjacent road network.

6.2 Conclusion

The findings of this study show that the development traffic will not cause adverse traffic impact onto the local road network. The proposed development is therefore supported from the traffic engineering point of view at this stage.

Figures



F:\8FM\8FM PROJECT\P80108 LOT NOS. 1809 (PART), ...1843 IN D.D. 129, LAU FAU SHAN\DATA\DRAWING\FIGURE 1.DWG

PROPOSAL -	S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories
DRAWING TITLE -	Site Location
Dwg. No. - Figure 1	Rev. - ---
Scale - 1:10000@A4	Date - Sep 2024

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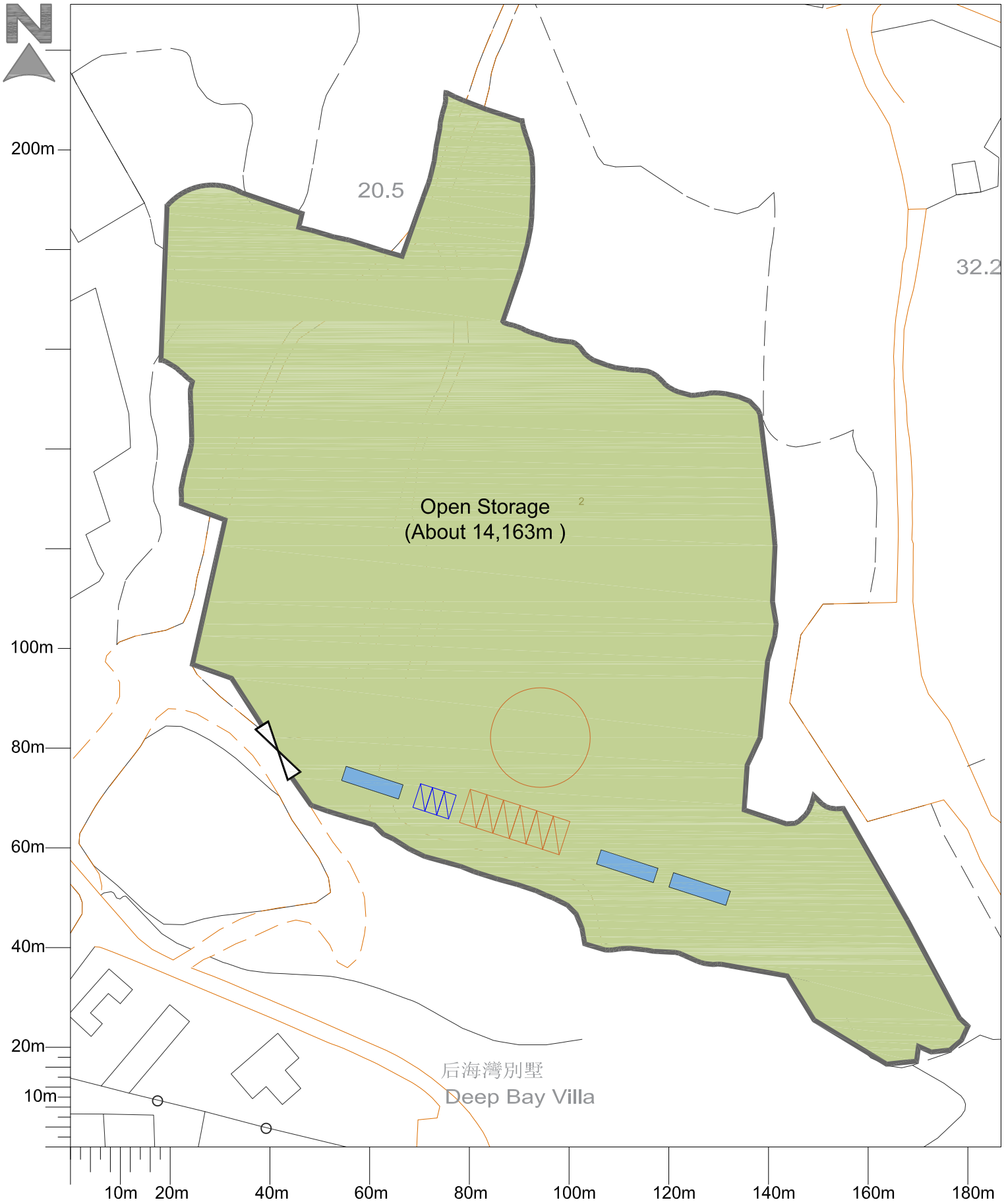

F:\8FM\8FM PROJECT\P80108 LOT NOS. 1809 (PART), ...1843 IN D.D. 129, LAU FAU SHAN\DATA\DRAWING\FIGURE 2.1.DWG

PROPOSAL -	S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories
DRAWING TITLE -	Layout of Project Site
Dwg. No. - Figure 2.1	Rev. - ---
Scale - 1:1000@A4	Date - Sep 2024

Legend:

- Application Site
- Site Office/ Storeroom (12m x 3m)
- Ingress/Egress (About 12m wide)
- LUL Bay for LGV (m x 3.5m)
- Private Car Parking Spaces (5m x 2.5m)
- Manouvering Circle About 20m(D)

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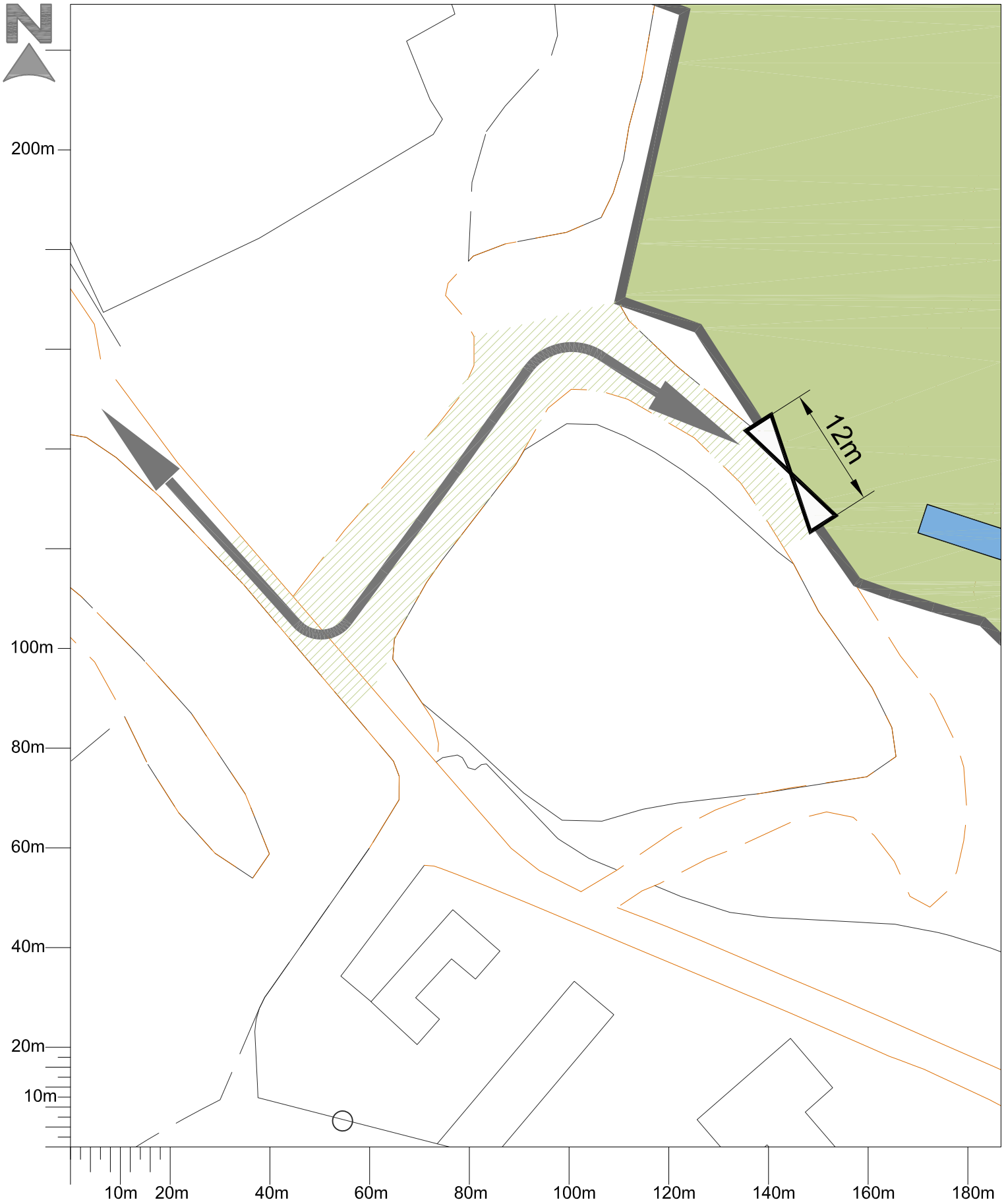
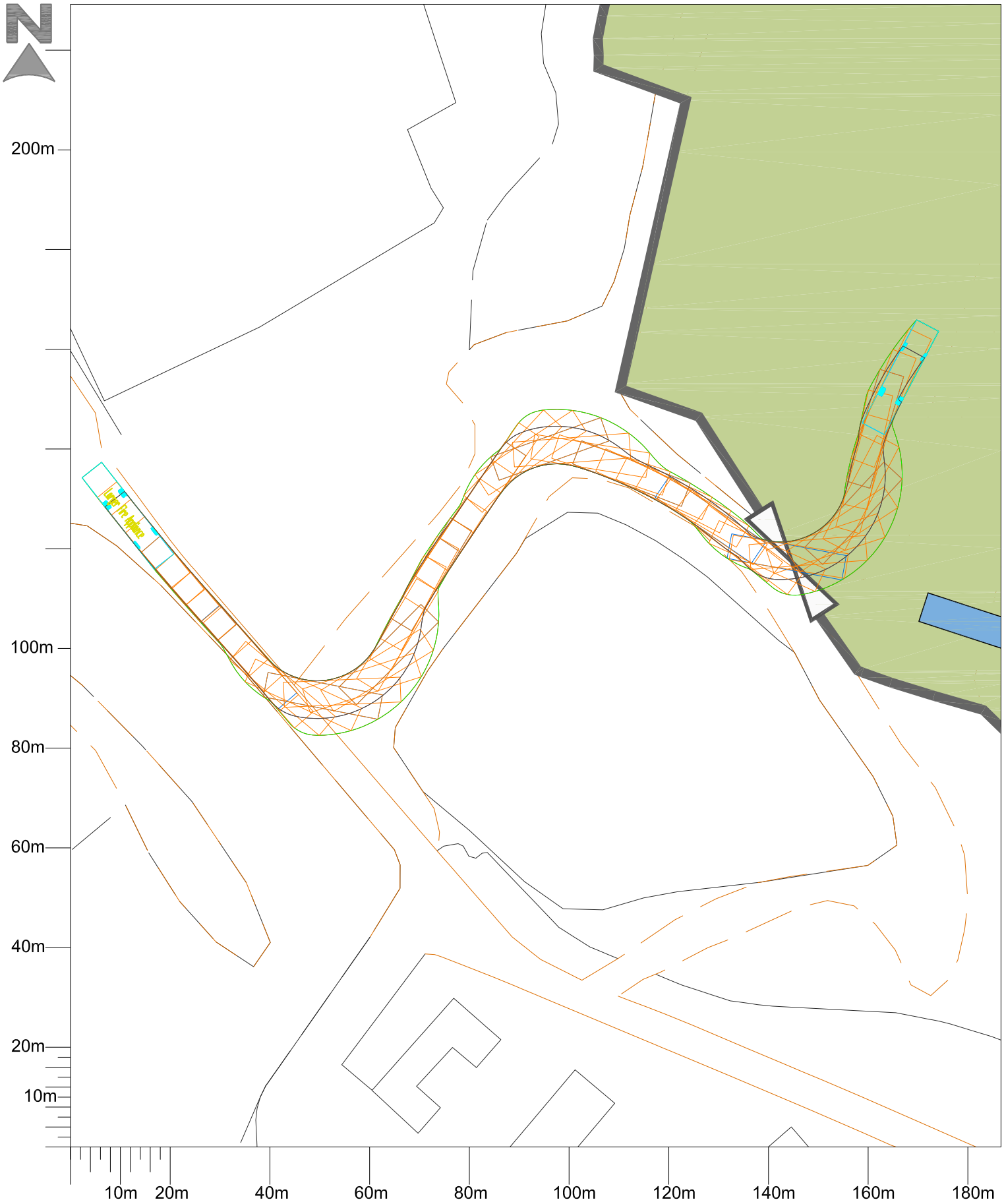


F:\8FM\8FM PROJECT\P80108 LOT NOS. 1809 (PART), ...1843 IN D.D. 129, LAU FAU SHAN\DATA\DRAWING\FIGURE 2.2.DWG

PROPOSAL - S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories

DRAWING TITLE - Vehicle Access Arrangement

Dwg. No. - Figure 2.2	Rev. - ---	Legend: Application Site; Ingress/Egress (About 12m wide)	8FM CONSULTANCY LIMITED
Scale - 1:500@A4	Date - Sep 2024		

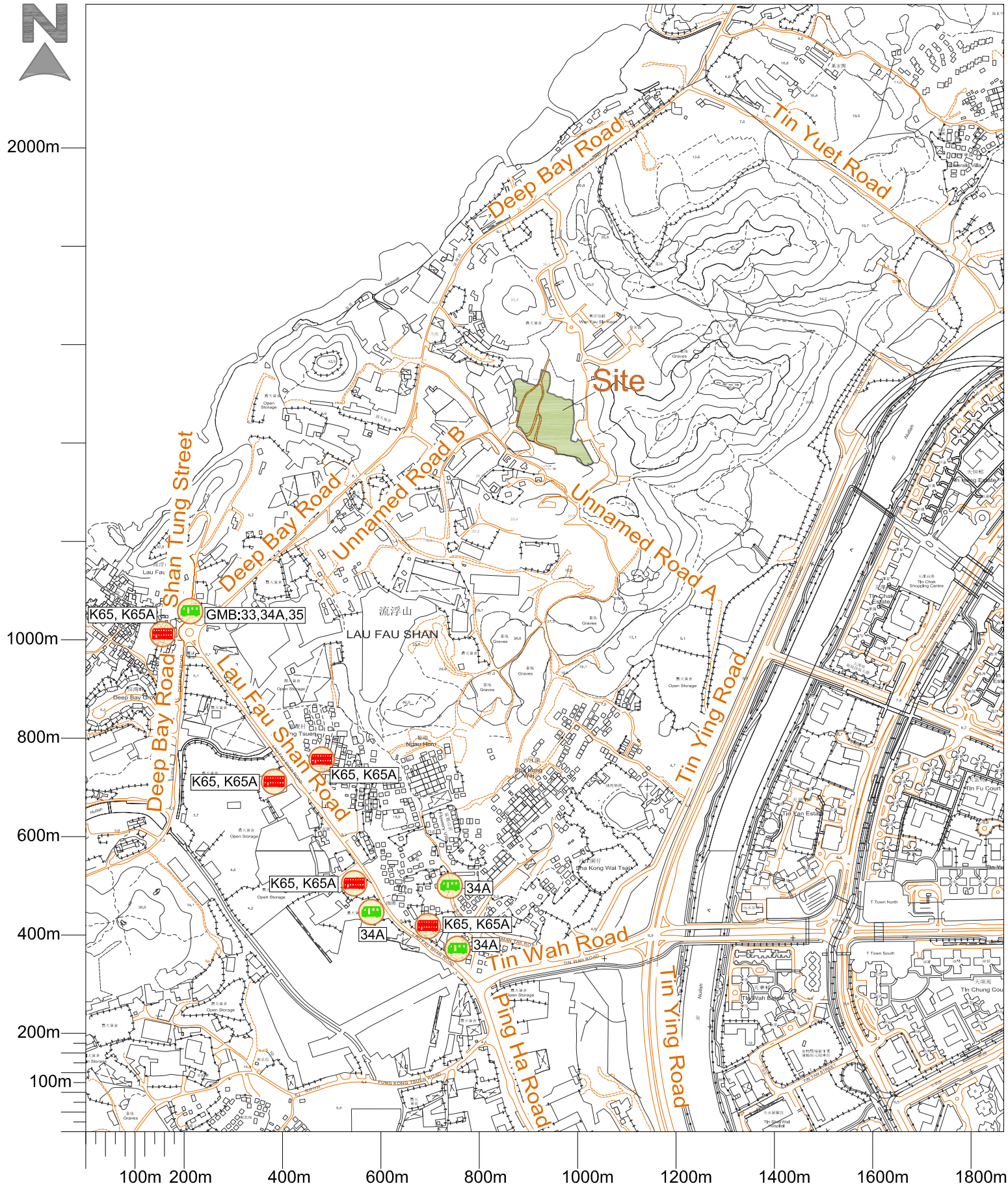


F:\8FM\8FM PROJECT\P80108 LOT NOS. 1809 (PART), ...1843 IN D.D. 129, LAU FAU SHAN\DATA\DRAWING\FIGURE 2.3.DWG

PROPOSAL -	S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories
DRAWING TITLE -	Swept Path Analysis for 12m Large Fire Appliance
Dwg. No. - Figure 2.3	Rev. - ---
Scale - 1:500@A4	Date - Sep 2024

Legend:
- Application Site
- Ingress/Egress (About 12m wide)

8FM CONSULTANCY LIMITED

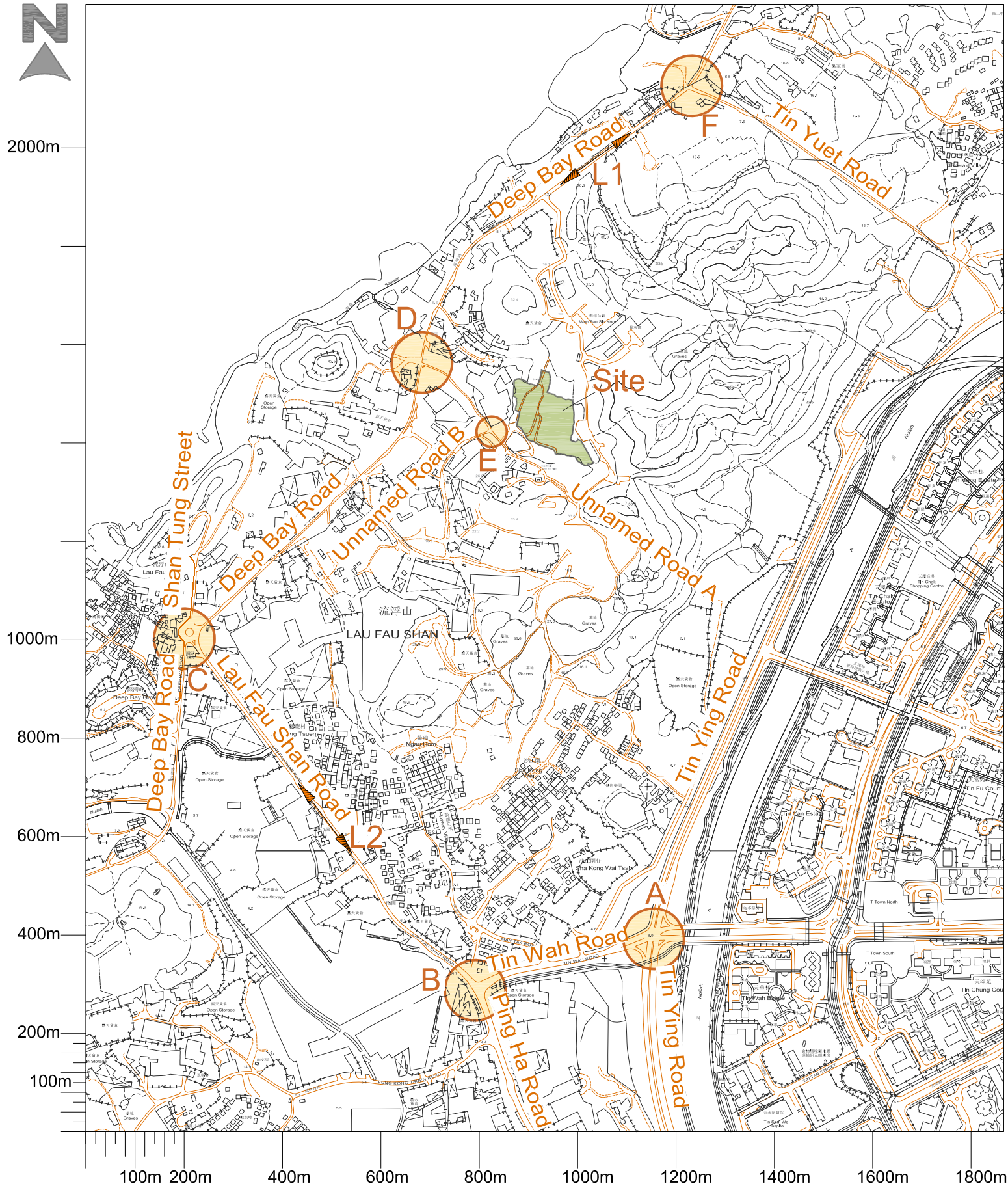


PROPOSAL - S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories

DRAWING TITLE - Public Transport Facilities

Dwg. No. - Figure 3.1	Rev. - ---	Legend:	
Scale - 1:10000@A4	Date - Sep 2024	BUS STOP GMB STOP	8FM CONSULTANCY LIMITED

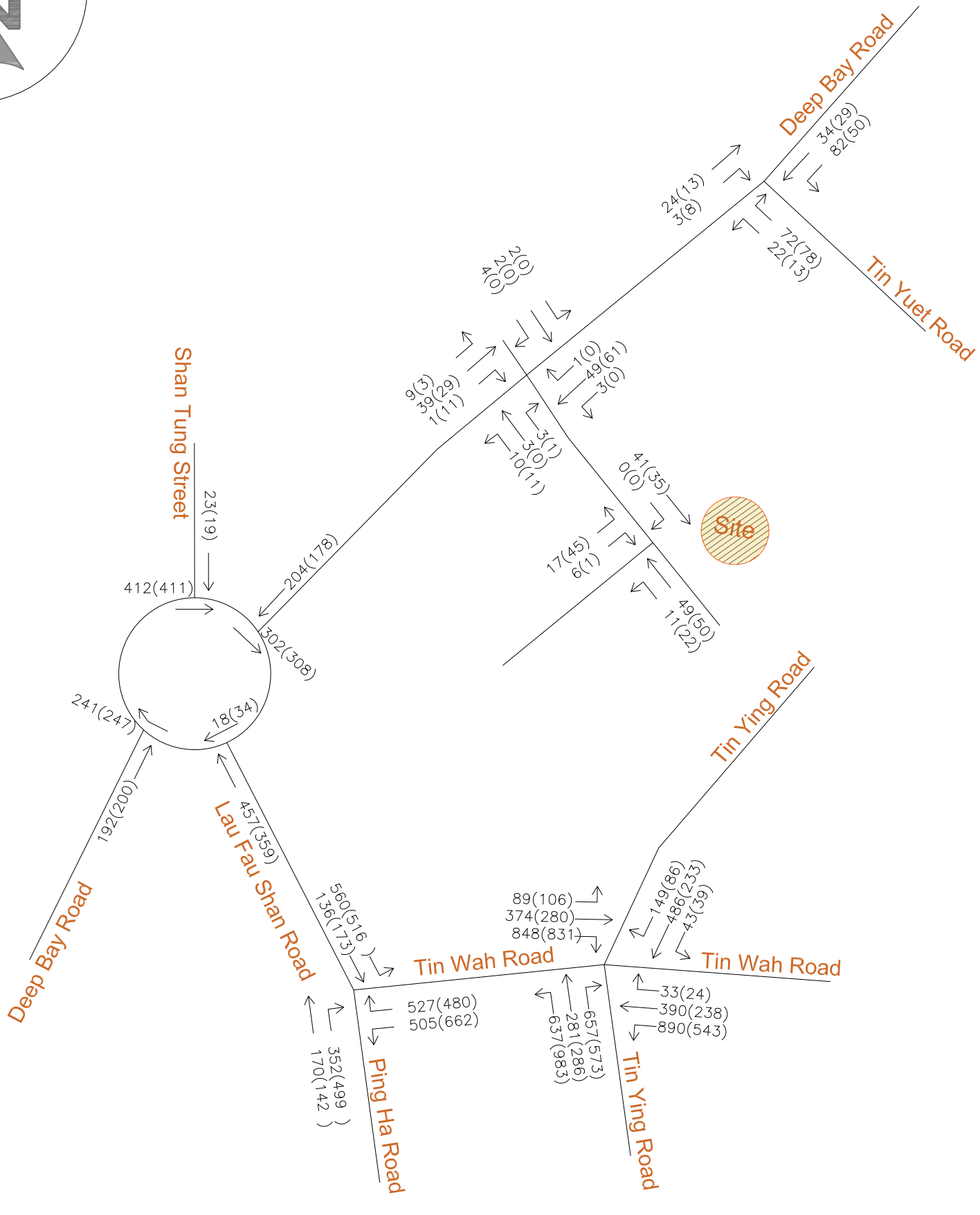
F:\8FM\8FM PROJECT\P80108 LOT NOS. 1809 (PART), ...1843 IN D.D. 129, LAU FAU SHAN\DATA\DRAWING\FIGURE 3.1.DWG



PROPOSAL - S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories

DRAWING TITLE - Key Road Links and Junctions

Dwg. No. - Figure 3.2	Rev. - ---	Legend:	
Scale - 1:10000@A4	Date - Sep 2024	Key Junction Key Road Link	8FM CONSULTANCY LIMITED

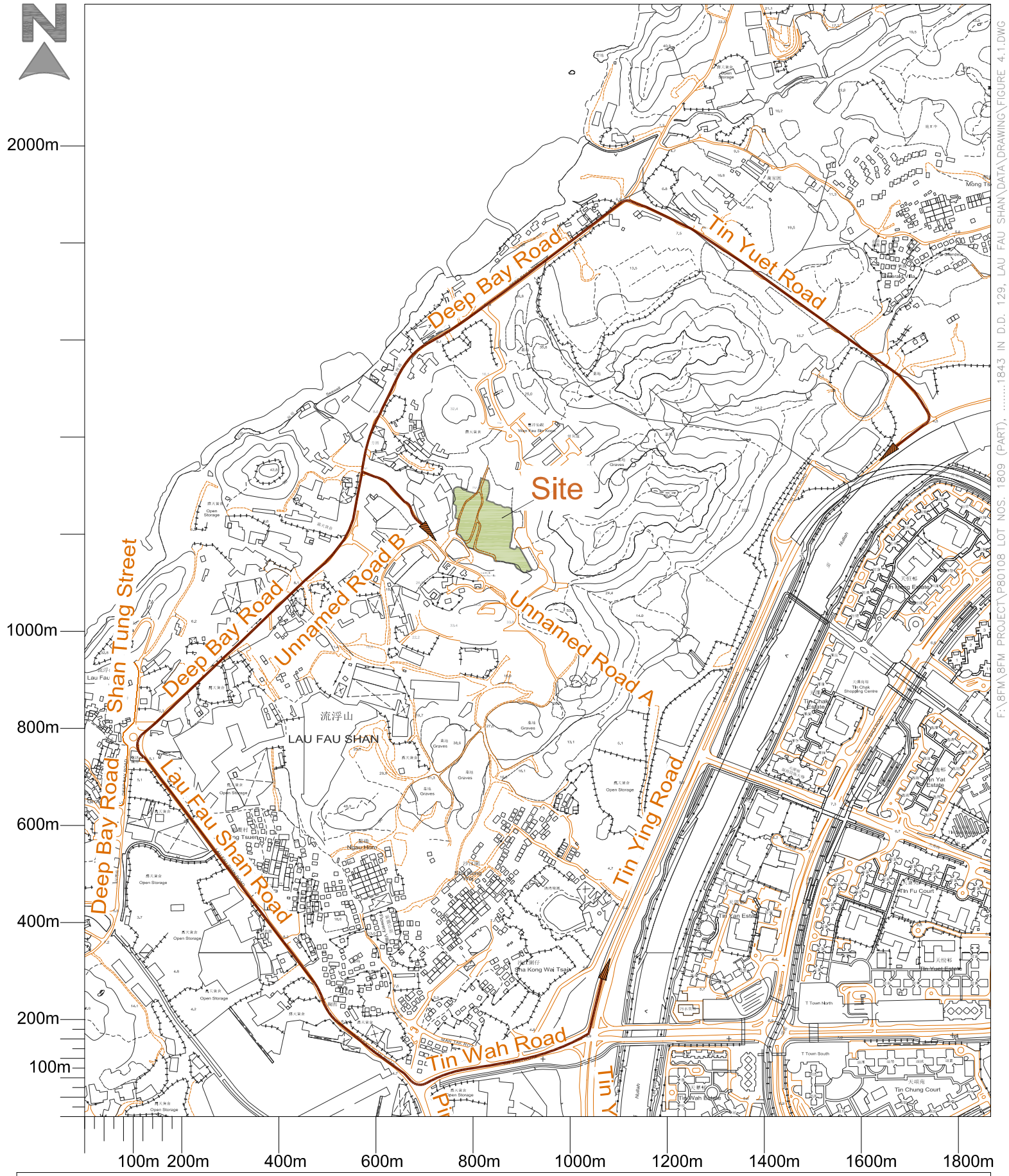


PROPOSAL - S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories

DRAWING TITLE - 2024 Observed Flows During AM & PM Peak Hours

Dwg. No. - Figure 3.3		Rev. - ---	Legend:
Scale - ---		Date - Sep 2024	Traffic Flows at AM Peak Hr (PCU/HR)_____100 Traffic Flows at PM Peak Hr (PCU/HR)_____(100)

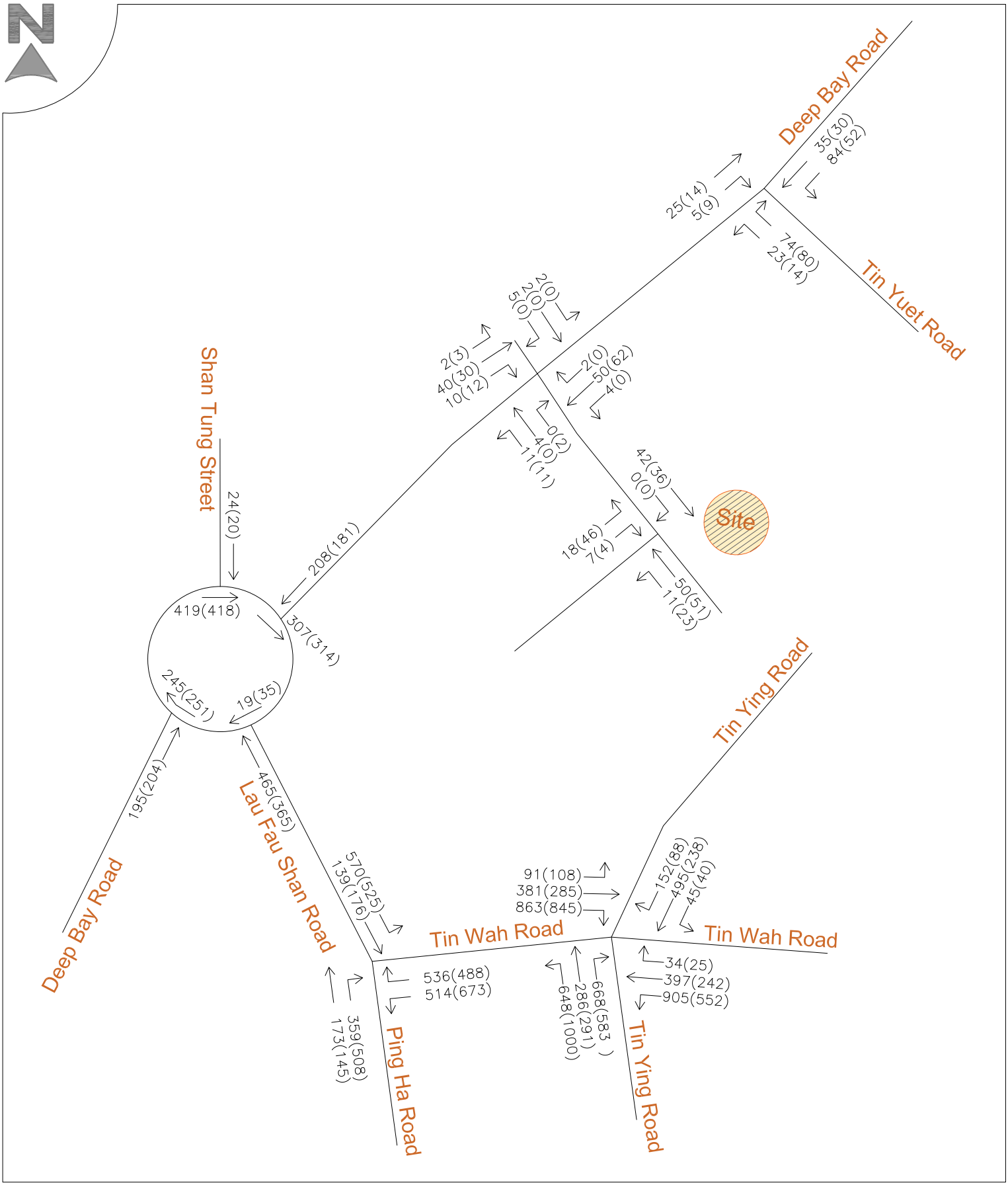
8FM CONSULTANCY LIMITED



F:\8FM\8FM PROJECT\P80108 LOT NOS. 1809 (PART), ...1843 IN D.D. 129, LAU FAU SHAN\DATA\DRAWING\FIGURE 4.1.DWG

PROPOSAL -	S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories
DRAWING TITLE -	Proposed Routings
Dwg. No. - Figure 4.1	Rev. - ---
Scale - 1:10000@A4	Date - Sep 2024

8FM CONSULTANCY LIMITED

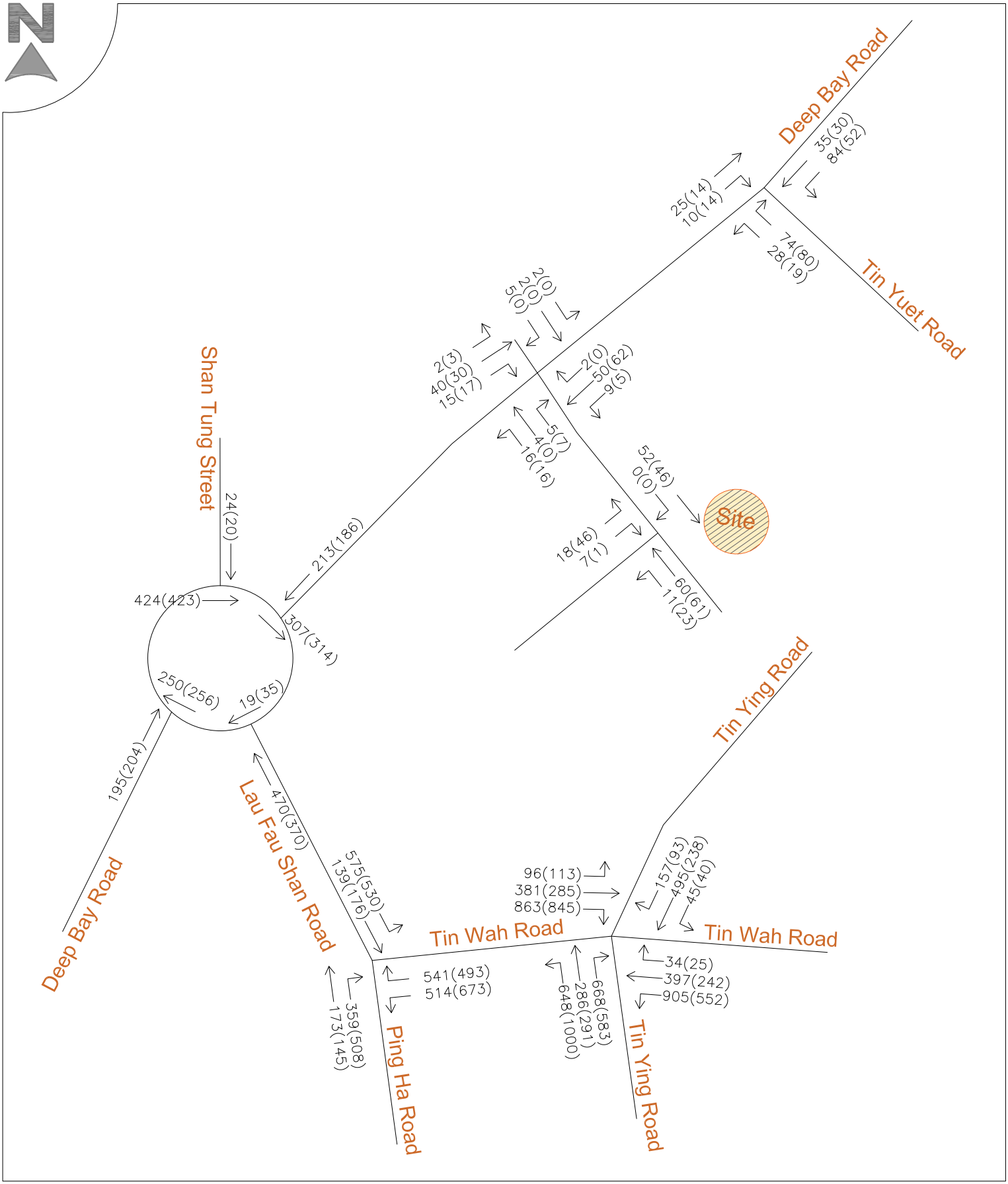


PROPOSAL - S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories

DRAWING TITLE - 2027 Reference Traffic Flows during Peak Hours

Dwg. No. - Figure 5.1		Rev. - ---	Legend:
Scale - ---		Date - Sep 2024	Traffic Flows at AM Peak Hr (PCU/HR)_____100 Traffic Flows at PM Peak Hr (PCU/HR)_____(100)

8FM CONSULTANCY LIMITED



PROPOSAL -	S.16 Planning Application For Proposed Temporary Open Storage of Construction Materials and Construction Equipment for a Period of 3 Years at Various Lots in D.D.129 Lau Fau Shan, Yuen Long, New Territories
DRAWING TITLE -	2027 Design Traffic Flows during Peak Hours
Dwg. No. - Figure 5.2	Rev. - ---
Scale - ---	Date - Sep 2024

Legend:

Traffic Flows at AM Peak Hr (PCU/HR)_____100

Traffic Flows at PM Peak Hr (PCU/HR)_____(100)

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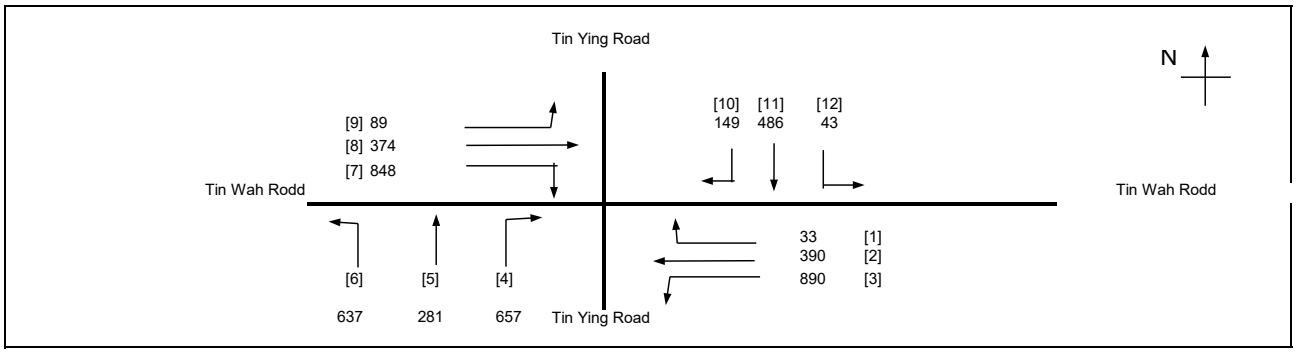
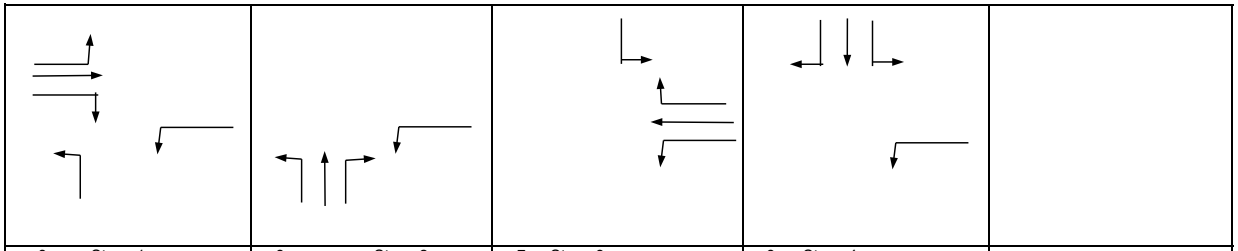
Appendix A

Junction Calculation Sheets

8FM CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
Various Lots in DD129, Lau Fau Shan		Project No.: 80108	Prepared By:	FF	Sep-24
Tin Wah Road / Tin Ying Road	2024 Observed - AM Peak		Checked By:	MM	Sep-24
			Reviewed By:	FM	Sep-24



No. of stages per cycle	N =	4
Intergreen Period	I =	31 sec
Cycle time	C =	120 sec
Sum(y)	Y =	0.444
Loss time	L =	45 sec
Total Flow	=	4877.6 pcu
Co = (1.5*L+5)/(1-Y)	=	130.4 sec
Cm = L/(1-Y)	=	81.0 sec
Yult	=	0.563
R.C.ult = (Yult-Y)/Y*100%	=	26.6 %
Cp = 0.9*L/(0.9-Y)	=	88.9 sec
Ymax = 1-L/C	=	0.625
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	26.6 %

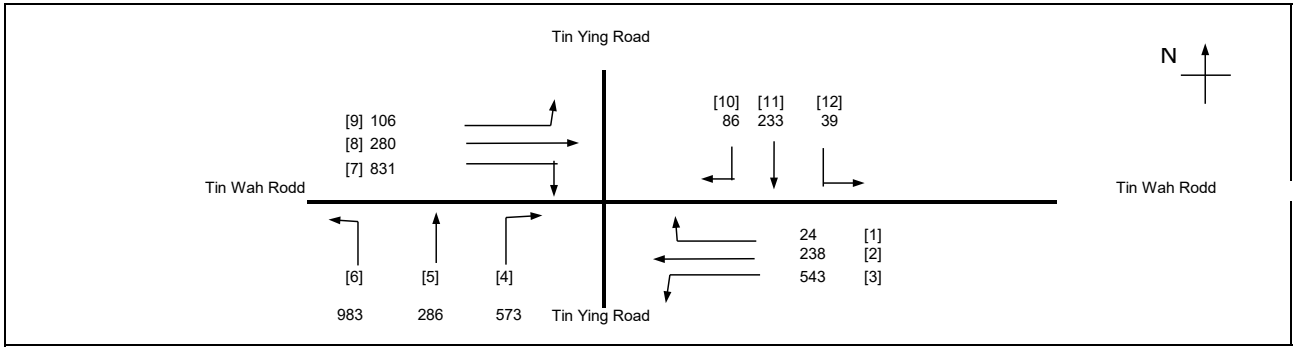


8 Stage 1	8 Stage 2	7 Stage 3	8 Stage 4	

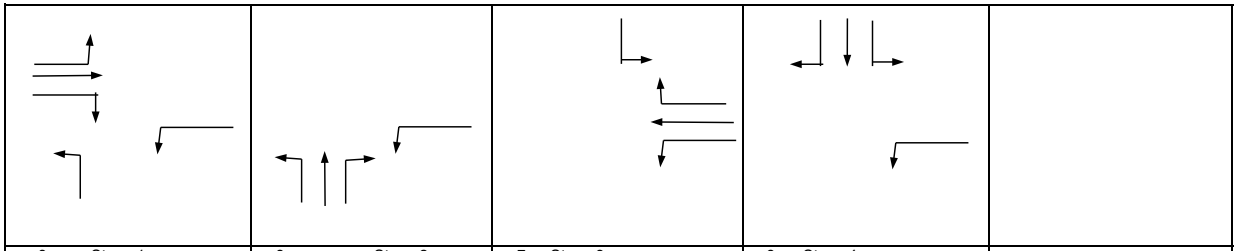
Pedestrian Phase	Width (m)	Stage	Green Time Required SG	Green Time Required FG	Green Time Provided (s) SG	Green Time Provided (s) FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lan Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
																				27					
3	1,2,3,4	3.40		1	20		N	1955	890			890	1.00	1819			1819	0.489			83	19	3.126	890	2018
2	3	3.40		2				4190		390		390	0.00	4190			4190	0.093			16	19	0.594	55	48
1	3	3.40		1	25			2095			33	33	1.00	1976			1976	0.016	0.016	9	3	12	0.168	5	51
								0																	
6	1,2	4.80		1	25		N	2095	637			637	1.00	1976			1976	0.322			54	42	0.911	84	56
5	2	3.40		1				2095		281		281	0.00	2095			2095	0.134	0.134		23	23	0.711	39	50
4,5	2	3.40		1	35			2095		0	329	329	1.00	2009			2009	0.164			28				
4	2	3.40		1	30			2095			327	327	1.00	1995			1995	0.164			28	23	0.868	53	68
8,9	1	3.40		1	25		N	1955	89	334		423	0.21	1931			1931	0.219	0.219		37	45	0.584	44	32
7,8	1	3.30		1	28			2085		40	417	457	0.91	1988			1988	0.230			39	45	0.613	48	32
7	1	3.30		1	25			2085			431	431	1.00	1967			1967	0.219			37	37	0.711	50	40
12	3,4	3.30		1	25		N	1945	43			43	1.00	1835			1835	0.024			4	22	0.131	6	42
11	4	3.30		2				4170		486		486	0.00	4170			4170	0.117			20	22	0.650	67	47
10	4	3.30		1	40			2085			149	149	1.00	2010			2010	0.074	0.074	9	13	22	0.414	20	45
																					0	0			

8FM CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
Various Lots in DD129, Lau Fau Shan	Project No.: 80108	Prepared By:	FF	Sep-24
Tin Wah Road / Tin Ying Road	2024 Observed - PM Peak	Checked By:	MM	Sep-24
		Reviewed By:	FM	Sep-24



No. of stages per cycle	N =	4
Intergreen Period	I =	31 sec
Cycle time	C =	120 sec
Sum(y)	Y =	0.392
Loss time	L =	45 sec
Total Flow	=	4223 pcu
Co = (1.5*L+5)/(1-Y)	=	119.3 sec
Cm = L/(1-Y)	=	74.1 sec
Yult	=	0.563
R.C.ult = (Yult-Y)/Y*100%	=	43.4 %
Cp = 0.9*L/(0.9-Y)	=	79.8 sec
Ymax = 1-L/C	=	0.625
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	43.4 %

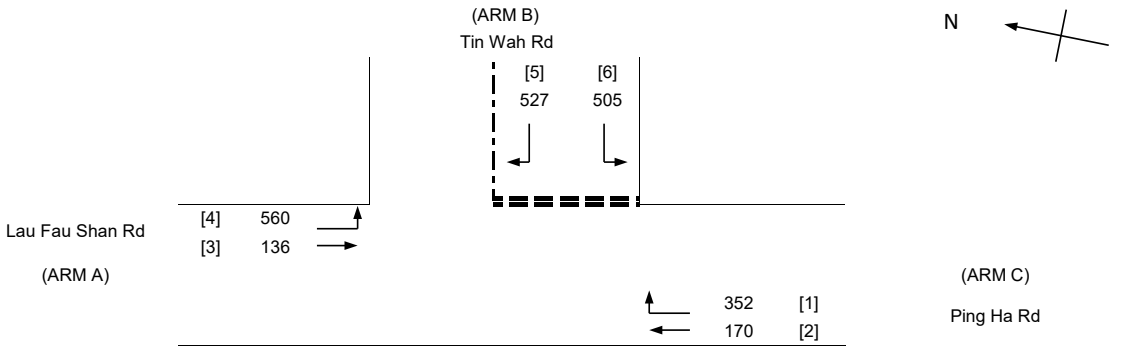


8 Stage 1	8 Stage 2	7 Stage 3	8 Stage 4	

Pedestrian Phase	Width (m)	Stage	Green Time Required SG	Green Time Required FG	Green Time Provided (s) SG	Green Time Provided (s) FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lan Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
																				27					
3	1,2,3,4	3.40		1	20		N	1955	543			543	1.00	1819			1819	0.298			57	18	1.955	418	946
2	3	3.40		2				4190		238		238	0.00	4190			4190	0.057			11	18	0.372	34	46
1	3	3.40		1	25			2095			24	24	1.00	1976			1976	0.012	0.012	9	2	11	0.129	4	51
								0																	
6	1,2	4.80		1	25		N	2095	983			983	1.00	1976			1976	0.498			95	45	1.314	409	342
5	2	3.40		1				2095		286		286	0.00	2095			2095	0.137	0.137		26	26	0.628	37	45
4,5	2	3.40		1	35			2095		0	287	287	1.00	2009			2009	0.143			27				
4	2	3.40		1	30			2095			285	285	1.00	1995			1995	0.143			27	26	0.658	37	46
8,9	1	3.40		1	25		N	1955	106	280		386	0.28	1923			1923	0.201	0.201		38	47	0.510	39	29
7,8	1	3.30		1	28			2085		0	428	428	1.00	1979			1979	0.216			41	47	0.549	43	30
7	1	3.30		1	25			2085			404	404	1.00	1967			1967	0.205			39	39	0.628	45	36
12	3,4	3.30		1	25		N	1945	39			39	1.00	1835			1835	0.021			4	17	0.149	6	46
11	4	3.30		2				4170		233		233	0.00	4170			4170	0.056			11	17	0.391	33	47
10	4	3.30		1	40			2085			86	86	1.00	2010			2010	0.043	0.043	9	8	17	0.299	12	47
																					0	0			

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn B - Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	2024 Observed - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	8.9	(metres)
W cr	=	0	(metres)
q a-b	=	560	(pcu/hr)
q a-c	=	136	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.5	(metres)
Vr c-b	=	150	(metres)
q c-a	=	170	(pcu/hr)
q c-b	=	352	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.2	(metres)
W b-c	=	4.2	(metres)
Vl b-a	=	200	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	50	(metres)
q b-a	=	527	(pcu/hr)
q b-c	=	505	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.161
E	=	0.985
F	=	1.013
Y	=	0.693

THE CAPACITY OF MOVEMENT :

Q b-a	=	445	(pcu/hr)
Q b-c	=	645	(pcu/hr)
Q c-b	=	577	(pcu/hr)
Q c-a	=	701	(pcu/hr)

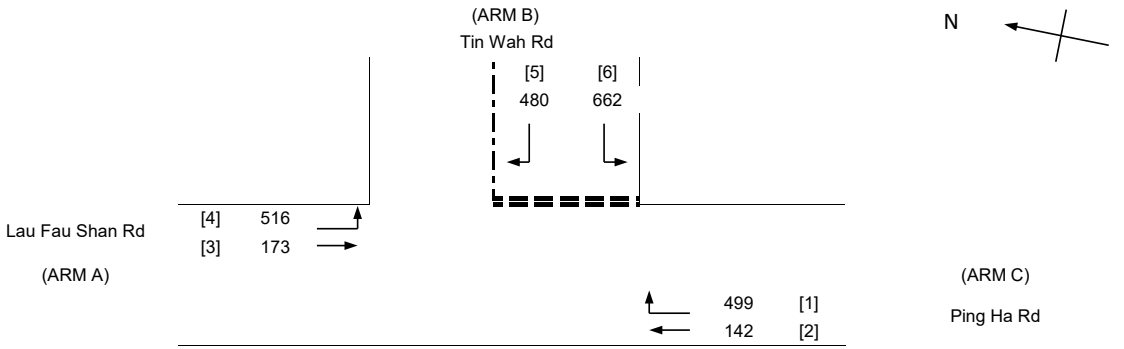
TOTAL FLOW = 2250 (pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.1843
DFC b-c	=	0.7829
DFC c-b	=	0.6107
DFC c-a	=	0.2426

CRITICAL DFC = 1.18

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn B - Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	2024 Observed - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	8.9	(metres)
W cr	=	0	(metres)
q a-b	=	516	(pcu/hr)
q a-c	=	173	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.5	(metres)
Vr c-b	=	150	(metres)
q c-a	=	142	(pcu/hr)
q c-b	=	499	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.2	(metres)
W b-c	=	4.2	(metres)
Vl b-a	=	200	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	50	(metres)
q b-a	=	480	(pcu/hr)
q b-c	=	662	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.161
E	=	0.985
F	=	1.013
Y	=	0.693

THE CAPACITY OF MOVEMENT :

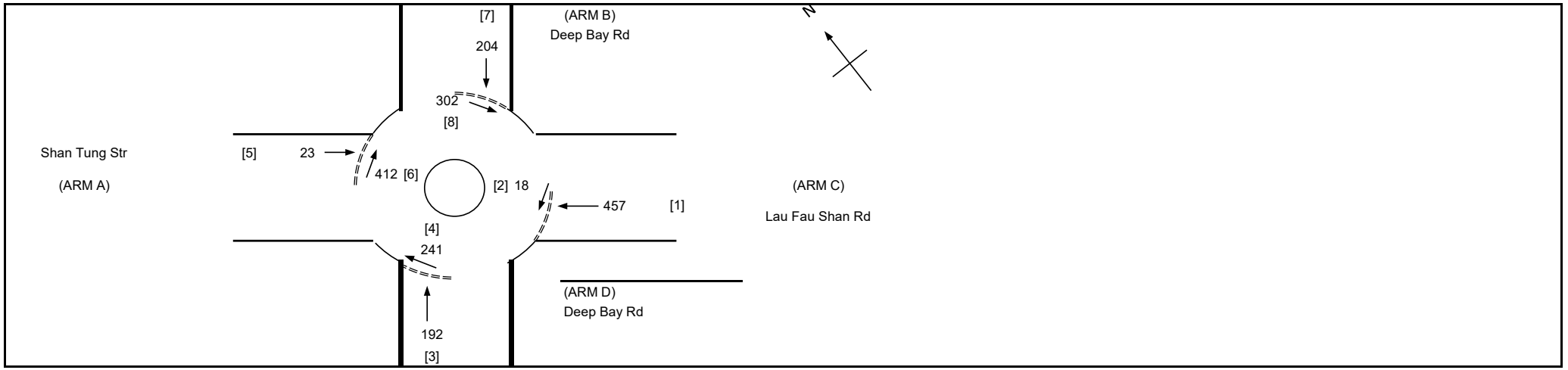
Q b-a	=	383	(pcu/hr)
Q b-c	=	640	(pcu/hr)
Q c-b	=	578	(pcu/hr)
Q c-a	=	246	(pcu/hr)
TOTAL FLOW	=	2471	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.2533
DFC b-c	=	1.0336
DFC c-b	=	0.8633
DFC c-a	=	0.5772

CRITICAL DFC = 1.25

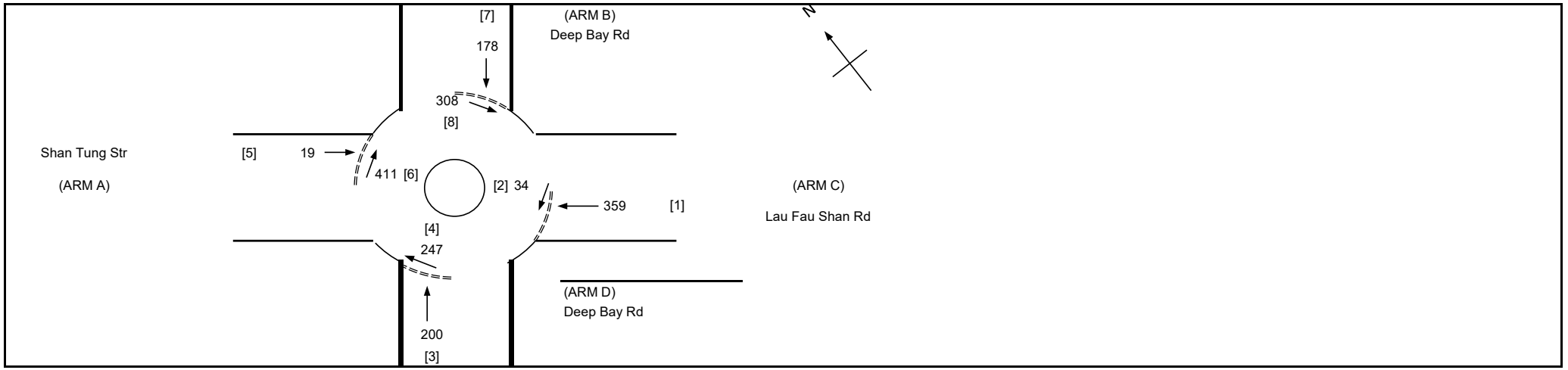
8FM CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn C - Lau Fau Shan Rd / Deep Bay Rd / Shan Tung Str / Lau Fau Shan Main Str	2024 Observed - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



GEOMETRIC DETAILS:			ARM A	B	C	D
V	=	Approach half width (m)	1.9	1.5	3.2	1.9
E	=	Entry width (m)	1.9	4.1	4.2	3.7
L	=	Effective length of flare (m)	1.0	2.3	1.5	1.8
R	=	Entry radius (m)	14.0	46.0	7.4	7.5
D	=	Inscribed circle diameter (m)	38.0	38.0	38.0	38.0
A	=	Entry angle (degree)	42.0	52.0	20.0	51.0
Q	=	Entry flow (pcu/h)	23	204	457	192
Qc	=	Circulating flow across entry (pcu/h)	412	302	18	241
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	1.81	1.07	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.94	0.95	0.95	0.85
X2	=	V + ((E-V)/(1+2S))	1.90	2.06	3.52	2.33
M	=	EXP((D-60)/10)	0.11	0.11	0.11	0.11
F	=	303*X2	576	625	1066	706
Td	=	1+(0.5/(1+M))	1.45	1.45	1.45	1.45
Fc	=	0.21*Td(1+0.2*X2)	0.42	0.43	0.52	0.45
Qe	=	K(F-Fc*Qc)	377	471	1006	506
DFC	=	Design flow/Capacity = Q/Qe	0.06	0.43	0.45	0.38

TOTAL FLOW = 1847 (pcu/hr)
CRITICAL DFC = 0.45

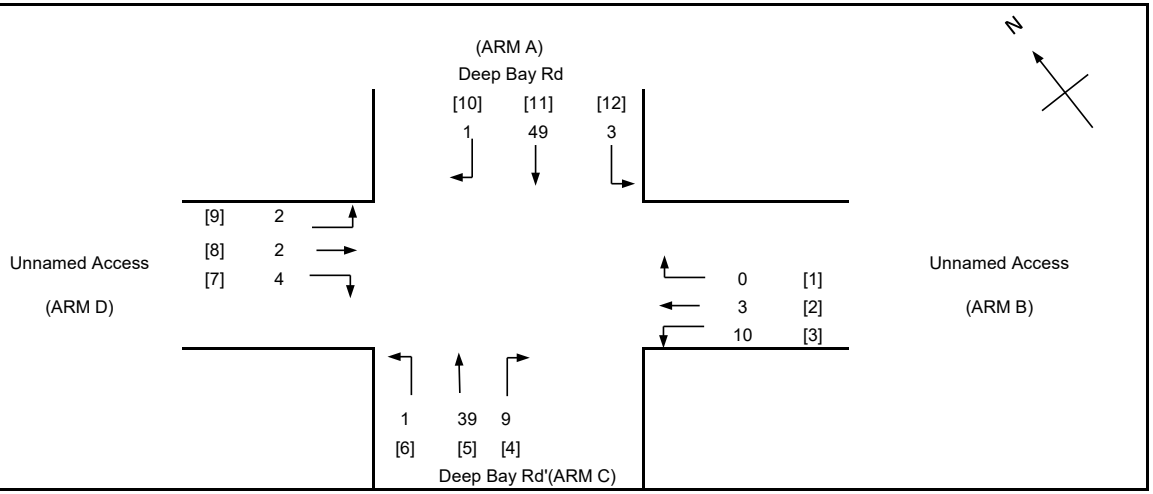
8FM CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn C - Lau Fau Shan Roundabout	2024 Observed - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



GEOMETRIC DETAILS:			ARM A	B	C	D
V	=	Approach half width (m)	1.9	1.5	3.2	1.9
E	=	Entry width (m)	1.9	4.1	4.2	3.7
L	=	Effective length of flare (m)	1.0	2.3	1.5	1.8
R	=	Entry radius (m)	14.0	46.0	7.4	7.5
D	=	Inscribed circle diameter (m)	38.0	38.0	38.0	38.0
A	=	Entry angle (degree)	42.0	52.0	20.0	51.0
Q	=	Entry flow (pcu/h)	19	178	359	200
Qc	=	Circulating flow across entry (pcu/h)	411	308	34	247
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	1.81	1.07	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.94	0.95	0.95	0.85
X2	=	V + ((E-V)/(1+2S))	1.90	2.06	3.52	2.33
M	=	EXP((D-60)/10)	0.11	0.11	0.11	0.11
F	=	303*X2	576	625	1066	706
Td	=	1+(0.5/(1+M))	1.45	1.45	1.45	1.45
Fc	=	0.21*Td(1+0.2*X2)	0.42	0.43	0.52	0.45
Qe	=	K(F-Fc*Qc)	378	469	998	504
DFC	=	Design flow/Capacity = Q/Qe	0.05	0.38	0.36	0.40

TOTAL FLOW = 1757 (pcu/hr)
CRITICAL DFC = 0.40

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn D - Deep Bay Rd / Unnamed Access	2024 Observed - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

GENERAL

W	=	3.90 (metres)			
W cr	=	0 (metres)	Y	=	0.865

MAJOR ROAD (ARM A)			MAJOR MAJOR ROAD (ARM C)		
W a-d	=	2.0 (metres)	W c-b	=	2.0 (metres)
Vr a-d	=	120 (metres)	Vr c-b	=	60 (metres)
q a-b	=	3 (pcu/hr)	q c-a	=	39 (pcu/hr)
q a-c	=	49 (pcu/hr)	q c-b	=	9 (pcu/hr)
q a-d	=	1 (pcu/hr)	q c-d	=	1 (pcu/hr)

MINOR ROAD (ARM B)			MINOR ROAD (ARM D)		
W b-a	=	3.3 (metres)	W d-c	=	6.0 (metres)
W b-c	=	3.3 (metres)	W d-a	=	6.0 (metres)
Vl b-a	=	28 (metres)	Vl d-c	=	22 (metres)
Vr b-a	=	28 (metres)	Vr d-c	=	60 (metres)
Vr b-c	=	80 (metres)	Vr d-a	=	90 (metres)
q b-a	=	0 (pcu/hr)	q d-c	=	4 (pcu/hr)
q b-c	=	10 (pcu/hr)	q d-a	=	2 (pcu/hr)
q b-d	=	3 (pcu/hr)	q d-b	=	2 (pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.818	X a	=	0.845
X c	=	0.799	X d	=	1.066
Z b	=	0.928	Z d	=	1.188
M b	=	0.860	M d	=	1.097

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.007	
ql b-d	=	1.5	(pcu/hr)	ql d-b	=	0.7550628	(pcu/hr)
qr b-d	=	1.5	(pcu/hr)	qr d-b	=	0.7449372	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	489	(pcu/hr)	Q d-c	=	637	(pcu/hr)
Q b-c	=	677	(pcu/hr)	Q d-a	=	869	(pcu/hr)
Q c-b	=	582	(pcu/hr)	Q a-d	=	615	(pcu/hr)
Ql b-d	=	515	(pcu/hr)	Ql d-b	=	659	(pcu/hr)
Qr b-d	=	490	(pcu/hr)	Qr d-b	=	641	(pcu/hr)

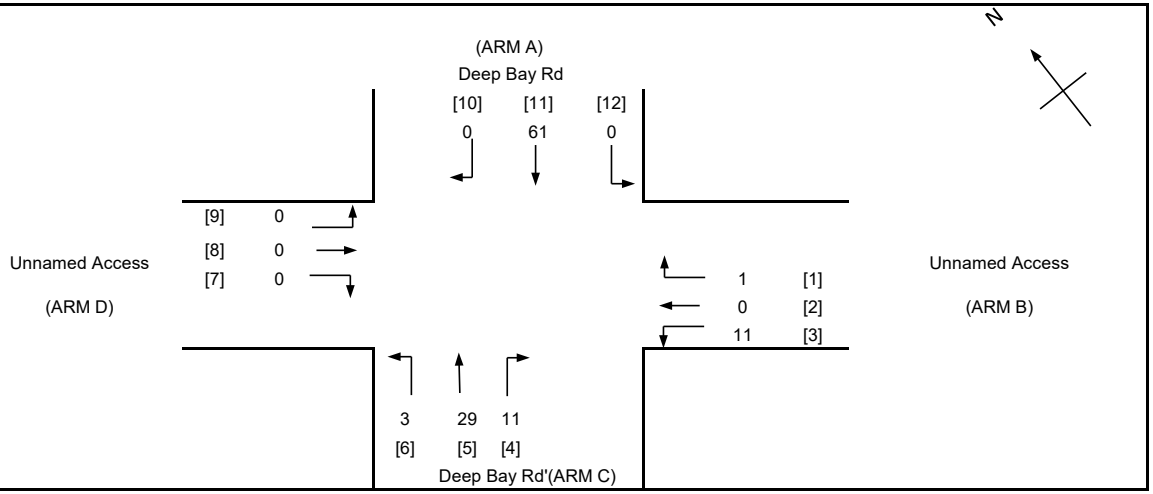
TOTAL FLOW = 122.7 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0154
DFC c-b	=	0.0160
DFCl b-d	=	0.0029
DFCr b-d	=	0.0031
DFC d-c	=	0.0068
DFC d-a	=	0.0017
DFC a-d	=	0.0016
DFCl d-b	=	0.0011
DFCr d-b	=	0.0012

CRITICAL DFC = 0.02

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn D - Deep Bay Rd / Unnamed Access	2024 Observed - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

GENERAL

W	=	3.90 (metres)			
W cr	=	0 (metres)	Y	=	0.865

MAJOR ROAD (ARM A)

W a-d	=	2.0 (metres)
Vr a-d	=	120 (metres)
q a-b	=	0 (pcu/hr)
q a-c	=	61 (pcu/hr)
q a-d	=	0 (pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	2.0 (metres)
Vr c-b	=	60 (metres)
q c-a	=	29 (pcu/hr)
q c-b	=	11 (pcu/hr)
q c-d	=	3 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.3 (metres)
W b-c	=	3.3 (metres)
Vl b-a	=	28 (metres)
Vr b-a	=	28 (metres)
Vr b-c	=	80 (metres)
q b-a	=	1 (pcu/hr)
q b-c	=	11 (pcu/hr)
q b-d	=	0 (pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	6.0 (metres)
W d-a	=	6.0 (metres)
Vl d-c	=	22 (metres)
Vr d-c	=	60 (metres)
Vr d-a	=	90 (metres)
q d-c	=	0 (pcu/hr)
q d-a	=	0 (pcu/hr)
q d-b	=	0 (pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.818	X a	=	0.845
X c	=	0.799	X d	=	1.066
Z b	=	0.928	Z d	=	1.188
M b	=	0.860	M d	=	1.097

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.001567	r d-c	=	0.000
ql b-d	=	0 (pcu/hr)	ql d-b	=	0 (pcu/hr)
qr b-d	=	0 (pcu/hr)	qr d-b	=	0 (pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	488 (pcu/hr)	Q d-c	=	638 (pcu/hr)
Q b-c	=	673 (pcu/hr)	Q d-a	=	874 (pcu/hr)
Q c-b	=	580 (pcu/hr)	Q a-d	=	617 (pcu/hr)
Ql b-d	=	513 (pcu/hr)	Ql d-b	=	660 (pcu/hr)
Qr b-d	=	488 (pcu/hr)	Qr d-b	=	642 (pcu/hr)

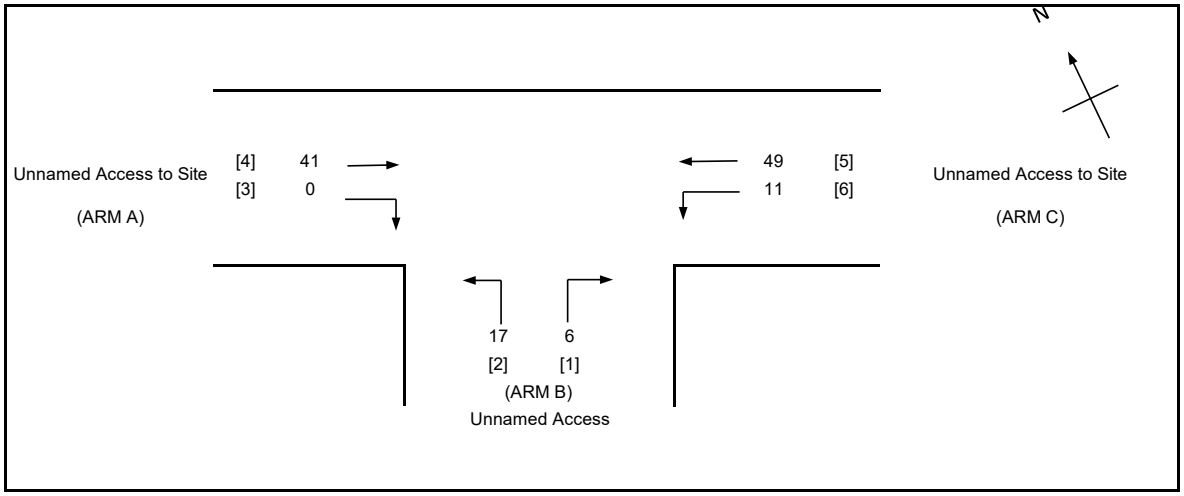
TOTAL FLOW = 115.5 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0020
DFC b-c	=	0.0160
DFC c-b	=	0.0195
DFCl b-d	=	0.0000
DFCr b-d	=	0.0000
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.02

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn E - Unnamed Access to Subject Site / Unnamed Access	2024 Observed - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	5.2	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	41	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.5	(metres)
Vr c-b	=	22	(metres)
q c-a	=	49	(pcu/hr)
q c-b	=	11	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	22	(metres)
q b-a	=	17	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.813
F	=	0.813
Y	=	0.821
F for (Qb-ac)	=	0.263

THE CAPACITY OF MOVEMENT :

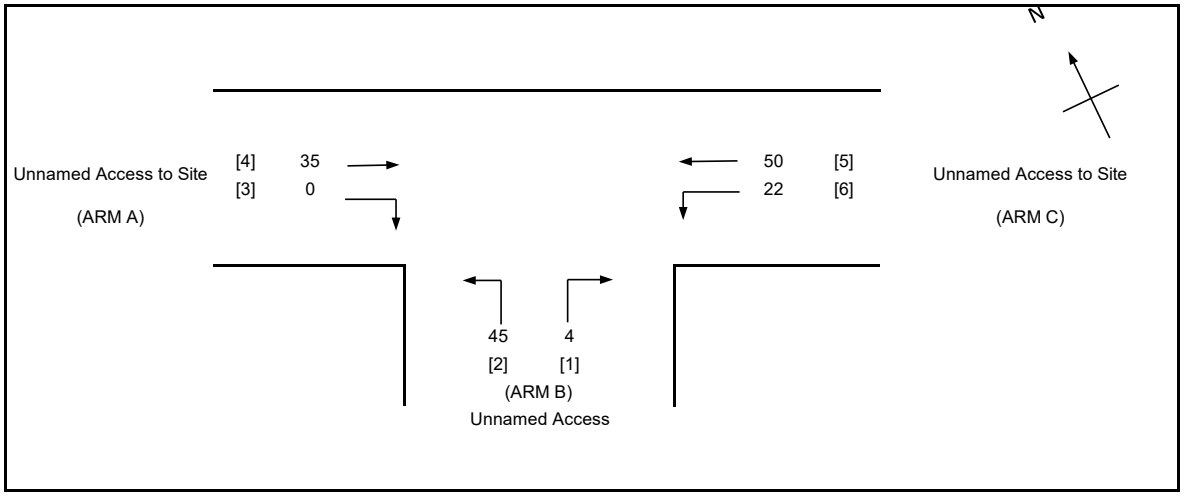
Q b-a	=	452	(pcu/hr)
Q b-c	=	596	(pcu/hr)
Q c-b	=	596	(pcu/hr)
Q b-ac	=	483	(pcu/hr)
Q c-a	=	1768	(pcu/hr)
TOTAL FLOW	=	59.1	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0372
DFC b-c	=	0.0101
DFC c-b	=	0.0178
DFC b-ac	=	0.0472
(Share Lane)		
DFC c-a	=	0.0274

CRITICAL DFC = 0.05

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn E - Unnamed Access to Subject Site / Unnamed Access	2024 Observed - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	5.2	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	35	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.5	(metres)
Vr c-b	=	22	(metres)
q c-a	=	50	(pcu/hr)
q c-b	=	22	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	22	(metres)
q b-a	=	45	(pcu/hr)
q b-c	=	4	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.813
F	=	0.813
Y	=	0.821
F for (Qb-ac)	=	0.072

THE CAPACITY OF MOVEMENT :

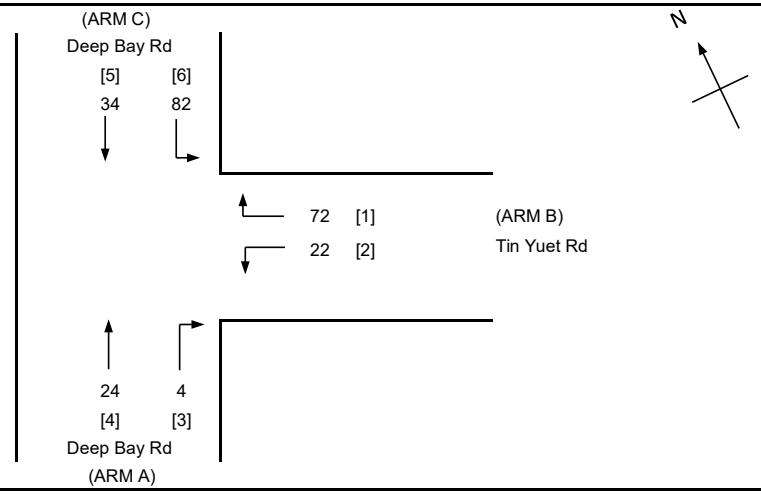
Q b-a	=	450	(pcu/hr)
Q b-c	=	597	(pcu/hr)
Q c-b	=	597	(pcu/hr)
Q b-ac	=	458	(pcu/hr)
Q c-a	=	1735	(pcu/hr)
TOTAL FLOW	=	71.8	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0996
DFC b-c	=	0.0059
DFC c-b	=	0.0363
DFC b-ac	=	0.1054
(Share Lane)		
DFC c-a	=	0.0289

CRITICAL DFC = 0.11

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn F - Deep Bay Rd / Tin Yuet Rd	2024 Observed - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	4.8	(metres)
W cr	=	0	(metres)
q a-b	=	4	(pcu/hr)
q a-c	=	24	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.1	(metres)
Vr c-b	=	38	(metres)
q c-a	=	34	(pcu/hr)
q c-b	=	82	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	38	(metres)
q b-a	=	22	(pcu/hr)
q b-c	=	72	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.826
F	=	0.791
Y	=	0.834
F for (Qb-ac)	=	0.766

THE CAPACITY OF MOVEMENT :

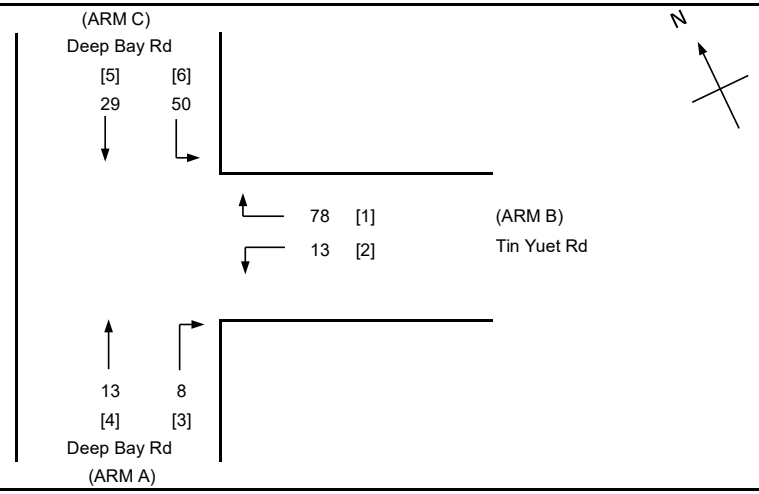
Q b-a	=	434 (pcu/hr)
Q b-c	=	609 (pcu/hr)
Q c-b	=	583 (pcu/hr)
Q b-ac	=	556 (pcu/hr)
Q c-a	=	1547 (pcu/hr)
TOTAL FLOW	=	82 (pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0509
DFC b-c	=	0.1186
DFC c-b	=	0.1407
DFC b-ac	=	0.1695
(Share Lane)		
DFC c-a	=	0.0222

CRITICAL DFC = 0.17

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn F - Deep Bay Rd / Tin Yuet Rd	2024 Observed - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	4.8	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	13	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.1	(metres)
Vr c-b	=	38	(metres)
q c-a	=	29	(pcu/hr)
q c-b	=	50.3	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	38	(metres)
q b-a	=	13	(pcu/hr)
q b-c	=	78	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.826
F	=	0.791
Y	=	0.834
F for (Qb-ac)	=	0.857

THE CAPACITY OF MOVEMENT :

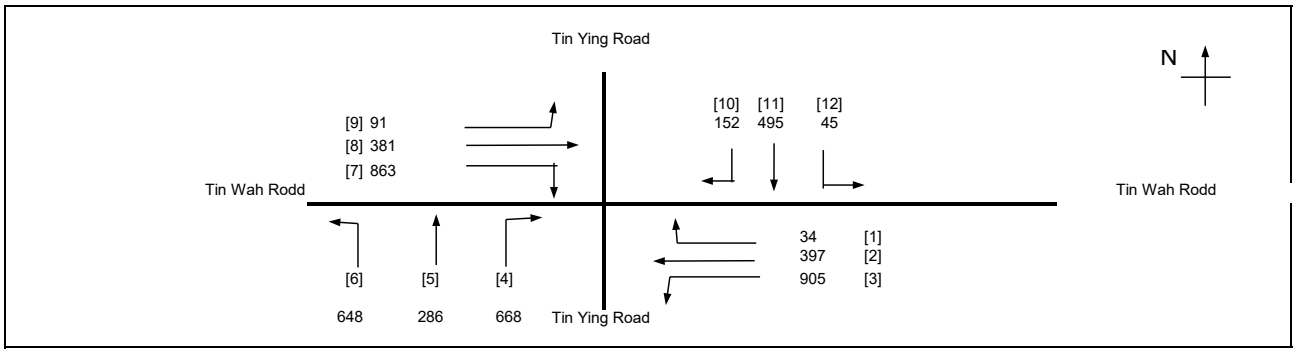
Q b-a	=	447	(pcu/hr)
Q b-c	=	611	(pcu/hr)
Q c-b	=	584	(pcu/hr)
Q b-ac	=	580	(pcu/hr)
Q c-a	=	1645	(pcu/hr)
TOTAL FLOW	=	50.3	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

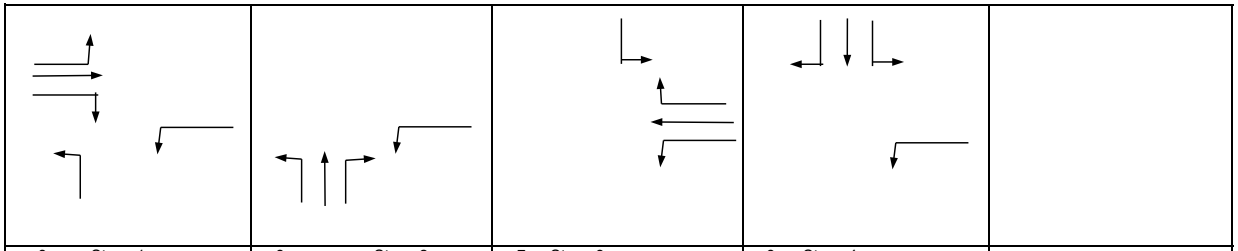
DFC b-a	=	0.0293
DFC b-c	=	0.1282
DFC c-b	=	0.0861
DFC b-ac	=	0.1575
(Share Lane)		
DFC c-a	=	0.0174

CRITICAL DFC = 0.16

8FM CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
Various Lots in DD129, Lau Fau Shan		Project No.: 80108	Prepared By:	FF	Sep-24
Tin Wah Road / Tin Ying Road	2027 Reference - AM Peak		Checked By:	MM	Sep-24
			Reviewed By:	FM	Sep-24



No. of stages per cycle	N =	4
Intergreen Period	I =	31 sec
Cycle time	C =	120 sec
Sum(y)	Y =	0.453
Loss time	L =	45 sec
Total Flow	=	4965 pcu
Co = (1.5*L+5)/(1-Y)	=	132.4 sec
Cm = L/(1-Y)	=	82.2 sec
Yult	=	0.563
R.C.ult = (Yult-Y)/Y*100%	=	24.3 %
Cp = 0.9*L/(0.9-Y)	=	90.5 sec
Ymax = 1-L/C	=	0.625
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	24.3 %

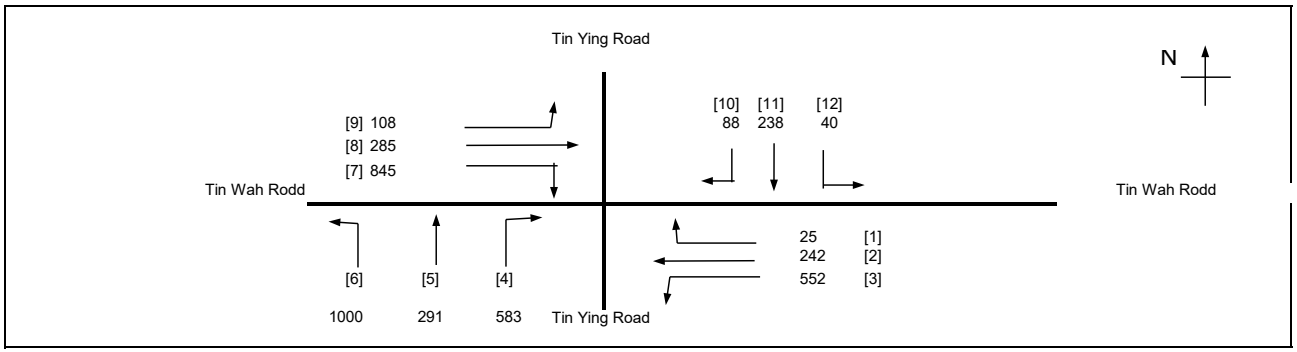


8 Stage 1	8 Stage 2	7 Stage 3	8 Stage 4	

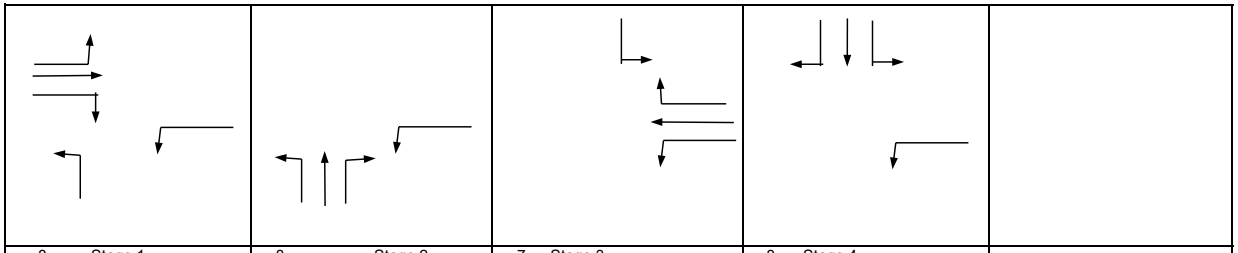
Pedestrian Phase	Width (m)	Stage	Green Time Required SG	Green Time Required FG	Green Time Provided (s) SG	Green Time Provided (s) FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lan Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
																				27					
3	1,2,3,4	3.40		1	20		N	1955	905			905	1.00	1819			1819	0.498			82	19	3.168	910	2057
2	3	3.40		2				4190		397		397	0.00	4190			4190	0.095			16	19	0.603	56	48
1	3	3.40		1	25			2095			34	34	1.00	1976			1976	0.017	0.017	9	3	12	0.174	5	51
								0																	
6	1,2	4.80		1	25		N	2095	648			648	1.00	1976			1976	0.328			54	42	0.926	91	62
5	2	3.40		1				2095		286		286	0.00	2095			2095	0.137	0.137		23	23	0.724	40	51
4,5	2	3.40		1	35			2095		0	335	335	1.00	2009			2009	0.167			28				
4	2	3.40		1	30			2095			333	333	1.00	1995			1995	0.167			28	23	0.885	56	73
8,9	1	3.40		1	25		N	1955	91	340		431	0.21	1931			1931	0.223	0.223		37	45	0.595	45	32
7,8	1	3.30		1	28			2085		41	424	465	0.91	1988			1988	0.234			39	45	0.624	48	33
7	1	3.30		1	25			2085			439	439	1.00	1967			1967	0.223			37	37	0.724	51	41
12	3,4	3.30		1	25		N	1945	45			45	1.00	1835			1835	0.025			4	22	0.137	6	42
11	4	3.30		2				4170		495		495	0.00	4170			4170	0.119			20	22	0.661	68	47
10	4	3.30		1	40			2085			152	152	1.00	2010			2010	0.076	0.076	9	13	22	0.421	21	45
																					0	0			

8FM CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
Various Lots in DD129, Lau Fau Shan		Project No.: 80108	Prepared By:	FF	Sep-24
Tin Wah Road / Tin Ying Road	2027 Reference - PM Peak		Checked By:	MM	Sep-24
			Reviewed By:	FM	Sep-24



No. of stages per cycle	N = 4
Intergreen Period	I = 31 sec
Cycle time	C = 120 sec
Sum(y)	Y = 0.400
Loss time	L = 45 sec
Total Flow	= 4297 pcu
Co = (1.5*L+5)/(1-Y)	= 120.8 sec
Cm = L/(1-Y)	= 75.0 sec
Yult	= 0.563
R.C.ult = (Yult-Y)/Y*100%	= 40.7 %
Cp = 0.9*L/(0.9-Y)	= 80.9 sec
Ymax = 1-L/C	= 0.625
R.C.(C) = (0.9*Ymax-Y)/Y*100%	= 40.7 %

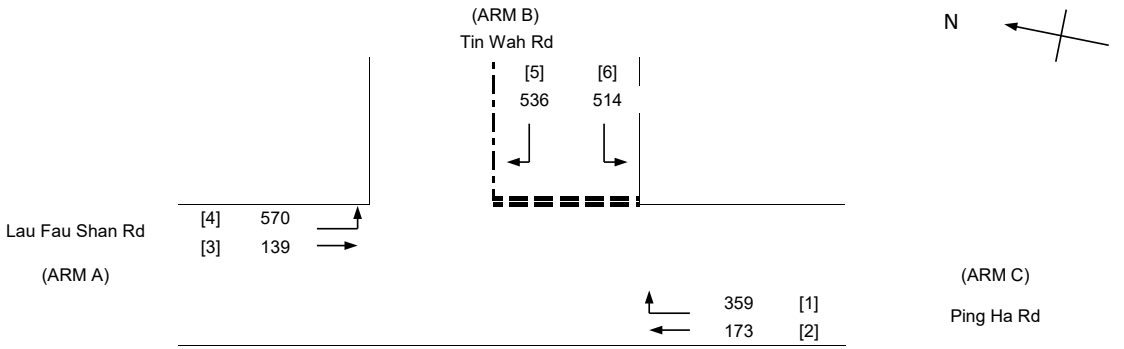


8 Stage 1	8 Stage 2	7 Stage 3	8 Stage 4	

Pedestrian Phase	Width (m)	Stage	Green Time Required SG	Green Time Required FG	Green Time Provided (s) SG	Green Time Provided (s) FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lan Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
																				27					
3	1,2,3,4	3.40		1	20		N	1955	552			552	1.00	1819			1819	0.304			57	18	1.982	429	971
2	3	3.40		2				4190		242		242	0.00	4190			4190	0.058			11	18	0.377	34	46
1	3	3.40		1	25			2095			25	25	1.00	1976			1976	0.013	0.013	9	2	11	0.133	4	51
								0																	
6	1,2	4.80		1	25		N	2095	1000			1000	1.00	1976			1976	0.506			95	45	1.336	431	362
5	2	3.40		1				2095		291		291	0.00	2095			2095	0.139	0.139		26	26	0.639	38	45
4,5	2	3.40		1	35			2095		0	292	292	1.00	2009			2009	0.146			27				
4	2	3.40		1	30			2095			291	291	1.00	1995			1995	0.146			27	26	0.670	38	46
8,9	1	3.40		1	25		N	1955	108	285		393	0.27	1923			1923	0.204	0.204		38	47	0.520	40	29
7,8	1	3.30		1	28			2085		0	435	435	1.00	1979			1979	0.220			41	47	0.559	44	30
7	1	3.30		1	25			2085			410	410	1.00	1967			1967	0.209			39	39	0.639	46	37
12	3,4	3.30		1	25		N	1945	40			40	1.00	1835			1835	0.022			4	17	0.152	6	46
11	4	3.30		2				4170		238		238	0.00	4170			4170	0.057			11	17	0.398	34	47
10	4	3.30		1	40			2085			88	88	1.00	2010			2010	0.044	0.044	9	8	17	0.305	13	47
																					0	0			

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn B - Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	2027 Reference - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	8.9	(metres)
W cr	=	0	(metres)
q a-b	=	570	(pcu/hr)
q a-c	=	139	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.5	(metres)
Vr c-b	=	150	(metres)
q c-a	=	173	(pcu/hr)
q c-b	=	359	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.2	(metres)
W b-c	=	4.2	(metres)
Vl b-a	=	200	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	50	(metres)
q b-a	=	536	(pcu/hr)
q b-c	=	514	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.161
E	=	0.985
F	=	1.013
Y	=	0.693

THE CAPACITY OF MOVEMENT :

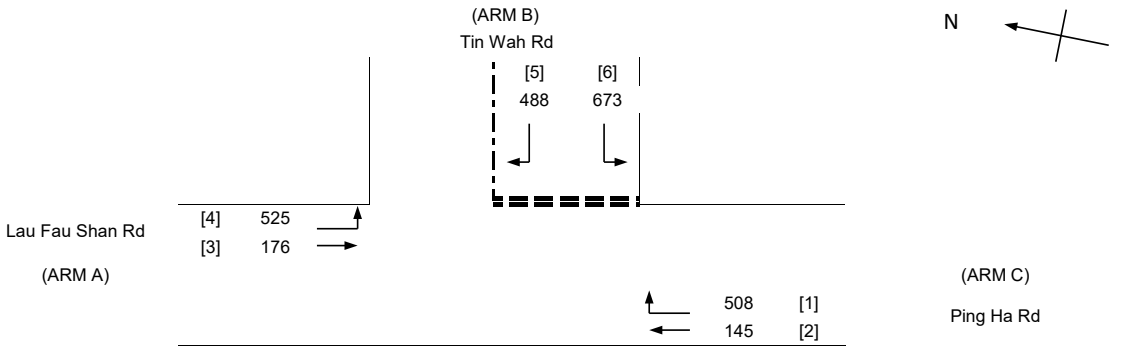
Q b-a	=	439	(pcu/hr)
Q b-c	=	644	(pcu/hr)
Q c-b	=	573	(pcu/hr)
Q c-a	=	672	(pcu/hr)
TOTAL FLOW	=	2291	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.2210
DFC b-c	=	0.7981
DFC c-b	=	0.6265
DFC c-a	=	0.2573

CRITICAL DFC = 1.22

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn B - Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	2027 Reference - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	8.9	(metres)
W cr	=	0	(metres)
q a-b	=	525	(pcu/hr)
q a-c	=	176	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.5	(metres)
Vr c-b	=	150	(metres)
q c-a	=	145	(pcu/hr)
q c-b	=	508	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.2	(metres)
W b-c	=	4.2	(metres)
Vl b-a	=	200	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	50	(metres)
q b-a	=	488	(pcu/hr)
q b-c	=	673	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.161
E	=	0.985
F	=	1.013
Y	=	0.693

THE CAPACITY OF MOVEMENT :

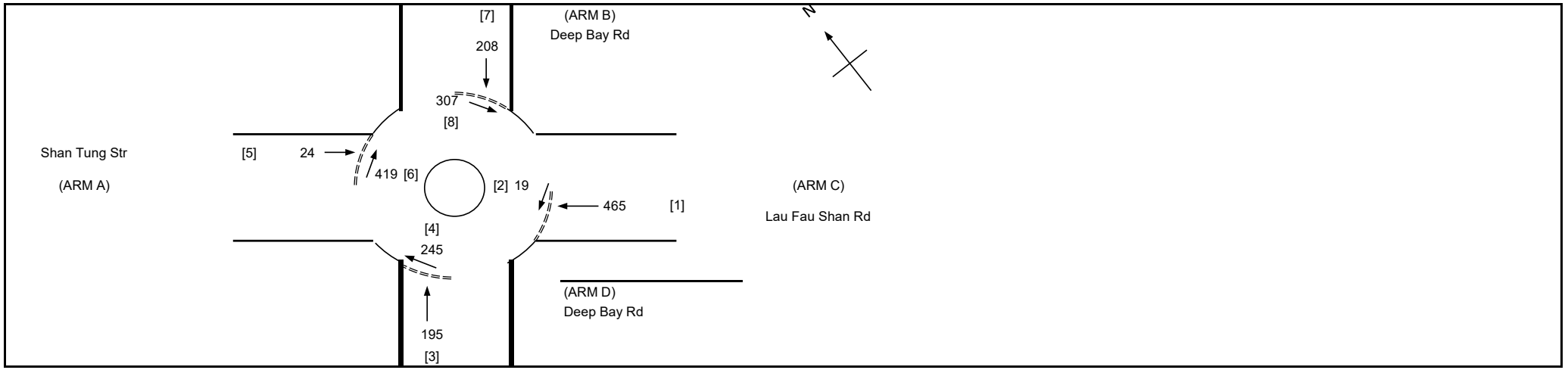
Q b-a	=	376	(pcu/hr)
Q b-c	=	639	(pcu/hr)
Q c-b	=	575	(pcu/hr)
Q c-a	=	210	(pcu/hr)
TOTAL FLOW	=	2515	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.2979
DFC b-c	=	1.0532
DFC c-b	=	0.8835
DFC c-a	=	0.6913

CRITICAL DFC = 1.30

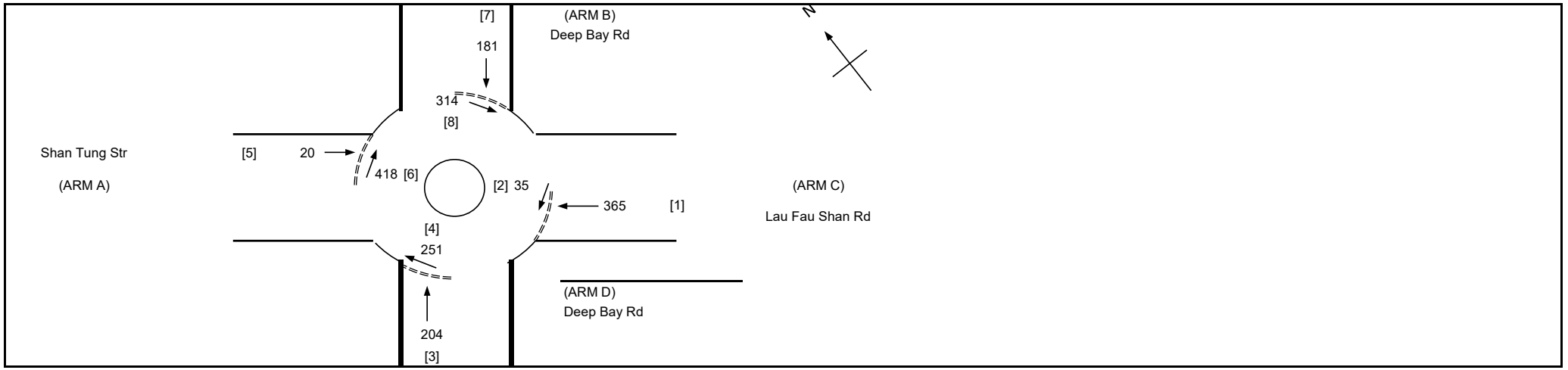
8FM CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn C - Lau Fau Shan Roundabout	2027 Reference - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



GEOMETRIC DETAILS:			ARM A	B	C	D
V	=	Approach half width (m)	1.9	1.5	3.2	1.9
E	=	Entry width (m)	1.9	4.1	4.2	3.7
L	=	Effective length of flare (m)	1.0	2.3	1.5	1.8
R	=	Entry radius (m)	14.0	46.0	7.4	7.5
D	=	Inscribed circle diameter (m)	38.0	38.0	38.0	38.0
A	=	Entry angle (degree)	42.0	52.0	20.0	51.0
Q	=	Entry flow (pcu/h)	24	208	465	195
Qc	=	Circulating flow across entry (pcu/h)	419	307	19	245
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	1.81	1.07	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.94	0.95	0.95	0.85
X2	=	V + ((E-V)/(1+2S))	1.90	2.06	3.52	2.33
M	=	EXP((D-60)/10)	0.11	0.11	0.11	0.11
F	=	303*X2	576	625	1066	706
Td	=	1+(0.5/(1+M))	1.45	1.45	1.45	1.45
Fc	=	0.21*Td(1+0.2*X2)	0.42	0.43	0.52	0.45
Qe	=	K(F-Fc*Qc)	375	469	1005	504
DFC	=	Design flow/Capacity = Q/Qe	0.06	0.44	0.46	0.39

TOTAL FLOW = 1882 (pcu/hr)
CRITICAL DFC = 0.46

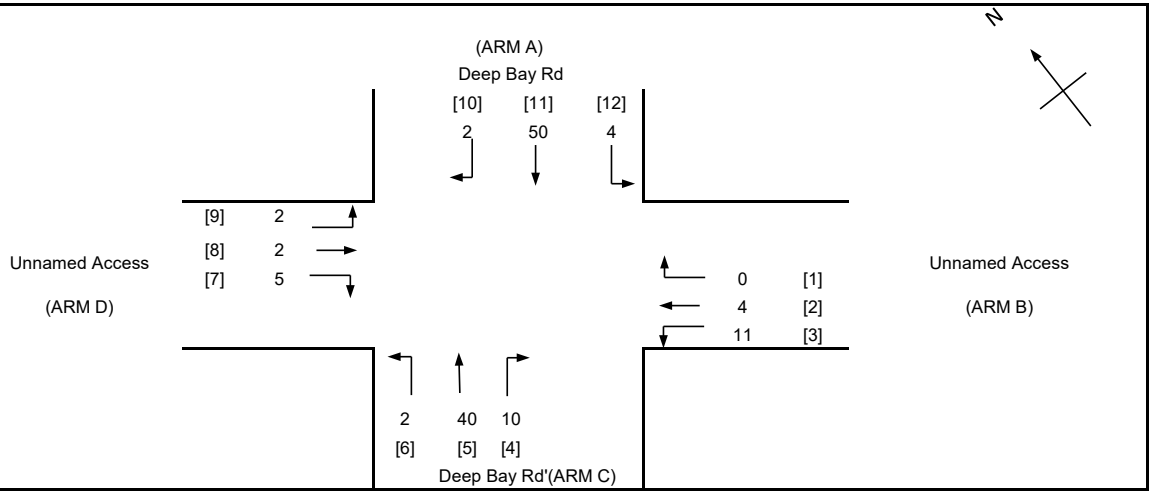
8FM CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn C - Lau Fau Shan Roundabout	2027 Reference - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



GEOMETRIC DETAILS:			ARM A	B	C	D
V	=	Approach half width (m)	1.9	1.5	3.2	1.9
E	=	Entry width (m)	1.9	4.1	4.2	3.7
L	=	Effective length of flare (m)	1.0	2.3	1.5	1.8
R	=	Entry radius (m)	14.0	46.0	7.4	7.5
D	=	Inscribed circle diameter (m)	38.0	38.0	38.0	38.0
A	=	Entry angle (degree)	42.0	52.0	20.0	51.0
Q	=	Entry flow (pcu/h)	20	181	365	204
Qc	=	Circulating flow across entry (pcu/h)	418	314	35	251
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	1.81	1.07	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.94	0.95	0.95	0.85
X2	=	V + ((E-V)/(1+2S))	1.90	2.06	3.52	2.33
M	=	EXP((D-60)/10)	0.11	0.11	0.11	0.11
F	=	303*X2	576	625	1066	706
Td	=	1+(0.5/(1+M))	1.45	1.45	1.45	1.45
Fc	=	0.21*Td(1+0.2*X2)	0.42	0.43	0.52	0.45
Qe	=	K(F-Fc*Qc)	375	466	997	502
DFC	=	Design flow/Capacity = Q/Qe	0.05	0.39	0.37	0.41

TOTAL FLOW = 1788 (pcu/hr)
CRITICAL DFC = 0.41

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn D - Deep Bay Rd / Unnamed Access	2027 Reference - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

GENERAL

W	=	3.90 (metres)			
W cr	=	0 (metres)	Y	=	0.865

MAJOR ROAD (ARM A)

W a-d	=	2.0 (metres)
Vr a-d	=	120 (metres)
q a-b	=	4 (pcu/hr)
q a-c	=	50 (pcu/hr)
q a-d	=	2 (pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	2.0 (metres)
Vr c-b	=	60 (metres)
q c-a	=	40 (pcu/hr)
q c-b	=	10 (pcu/hr)
q c-d	=	2 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.3 (metres)
W b-c	=	3.3 (metres)
Vl b-a	=	28 (metres)
Vr b-a	=	28 (metres)
Vr b-c	=	80 (metres)
q b-a	=	0 (pcu/hr)
q b-c	=	11 (pcu/hr)
q b-d	=	4 (pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	6.0 (metres)
W d-a	=	6.0 (metres)
Vl d-c	=	22 (metres)
Vr d-c	=	60 (metres)
Vr d-a	=	90 (metres)
q d-c	=	5 (pcu/hr)
q d-a	=	2 (pcu/hr)
q d-b	=	2 (pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.818	X a	=	0.845
X c	=	0.799	X d	=	1.066
Z b	=	0.928	Z d	=	1.188
M b	=	0.860	M d	=	1.097

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0		r d-c	=	0.008	
ql b-d	=	2	(pcu/hr)	ql d-b	=	1.007874	(pcu/hr)
qr b-d	=	2	(pcu/hr)	qr d-b	=	0.992126	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	487	(pcu/hr)	Q d-c	=	635	(pcu/hr)
Q b-c	=	676	(pcu/hr)	Q d-a	=	868	(pcu/hr)
Q c-b	=	581	(pcu/hr)	Q a-d	=	614	(pcu/hr)
Ql b-d	=	514	(pcu/hr)	Ql d-b	=	657	(pcu/hr)
Qr b-d	=	489	(pcu/hr)	Qr d-b	=	639	(pcu/hr)

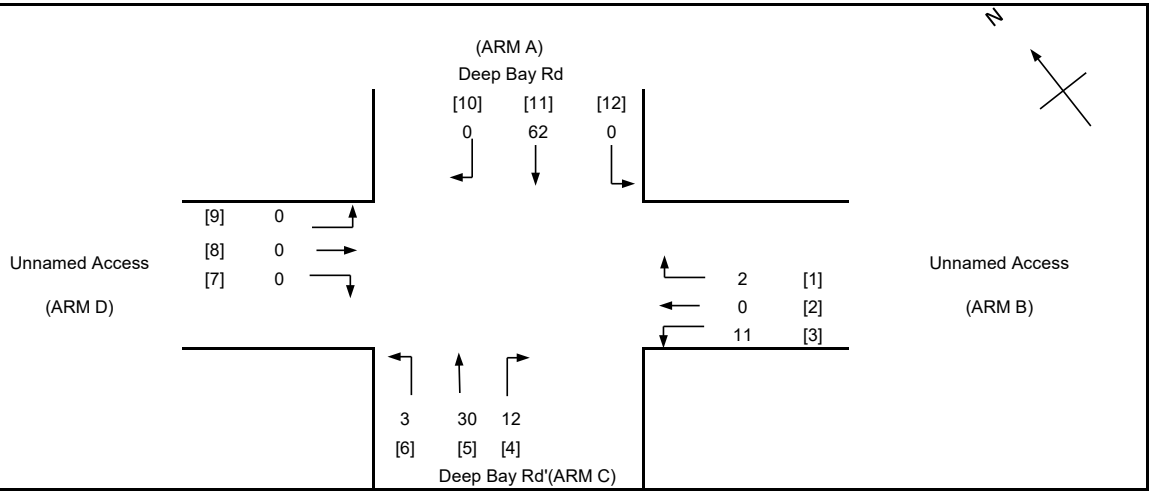
TOTAL FLOW = 132 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0163
DFC c-b	=	0.0172
DFCl b-d	=	0.0039
DFCr b-d	=	0.0041
DFC d-c	=	0.0079
DFC d-a	=	0.0023
DFC a-d	=	0.0033
DFCl d-b	=	0.0015
DFCr d-b	=	0.0016

CRITICAL DFC = 0.02

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn D - Deep Bay Rd / Unnamed Access	2027 Reference - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

GENERAL

W	=	3.90 (metres)			
W cr	=	0 (metres)	Y	=	0.865

MAJOR ROAD (ARM A)

W a-d	=	2.0 (metres)
Vr a-d	=	120 (metres)
q a-b	=	0 (pcu/hr)
q a-c	=	62 (pcu/hr)
q a-d	=	0 (pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	2.0 (metres)
Vr c-b	=	60 (metres)
q c-a	=	30 (pcu/hr)
q c-b	=	12 (pcu/hr)
q c-d	=	3 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.3 (metres)
W b-c	=	3.3 (metres)
Vl b-a	=	28 (metres)
Vr b-a	=	28 (metres)
Vr b-c	=	80 (metres)
q b-a	=	2 (pcu/hr)
q b-c	=	11 (pcu/hr)
q b-d	=	0 (pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	6.0 (metres)
W d-a	=	6.0 (metres)
Vl d-c	=	22 (metres)
Vr d-c	=	60 (metres)
Vr d-a	=	90 (metres)
q d-c	=	0 (pcu/hr)
q d-a	=	0 (pcu/hr)
q d-b	=	0 (pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.818	X a	=	0.845
X c	=	0.799	X d	=	1.066
Z b	=	0.928	Z d	=	1.188
M b	=	0.860	M d	=	1.097

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.00314	r d-c	=	0.000
ql b-d	=	0 (pcu/hr)	ql d-b	=	0 (pcu/hr)
qr b-d	=	0 (pcu/hr)	qr d-b	=	0 (pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	488 (pcu/hr)	Q d-c	=	637 (pcu/hr)
Q b-c	=	673 (pcu/hr)	Q d-a	=	873 (pcu/hr)
Q c-b	=	580 (pcu/hr)	Q a-d	=	616 (pcu/hr)
Ql b-d	=	512 (pcu/hr)	Ql d-b	=	659 (pcu/hr)
Qr b-d	=	487 (pcu/hr)	Qr d-b	=	641 (pcu/hr)

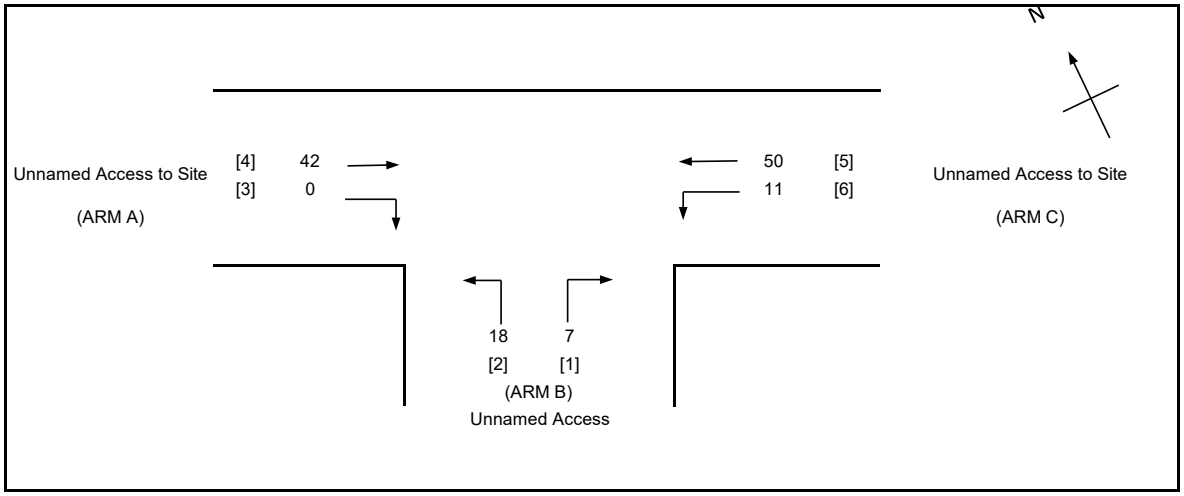
TOTAL FLOW = 120 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0041
DFC b-c	=	0.0163
DFC c-b	=	0.0207
DFCl b-d	=	0.0000
DFCr b-d	=	0.0000
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.02

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn E - Unnamed Access to Subject Site / Unnamed Access	2027 Reference - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	5.2	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	42	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.5	(metres)
Vr c-b	=	22	(metres)
q c-a	=	50	(pcu/hr)
q c-b	=	11	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	22	(metres)
q b-a	=	18	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.813
F	=	0.813
Y	=	0.821
F for (Qb-ac)	=	0.28

THE CAPACITY OF MOVEMENT :

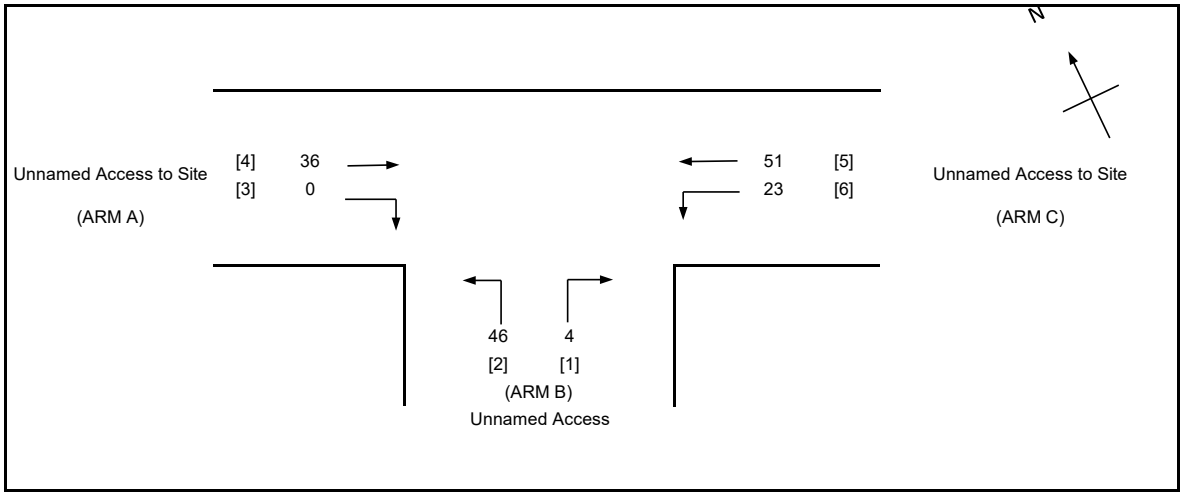
Q b-a	=	452	(pcu/hr)
Q b-c	=	596	(pcu/hr)
Q c-b	=	596	(pcu/hr)
Q b-ac	=	485	(pcu/hr)
Q c-a	=	1767	(pcu/hr)
TOTAL FLOW	=	61	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0398
DFC b-c	=	0.0117
DFC c-b	=	0.0185
DFC b-ac	=	0.0516
(Share Lane)		
DFC c-a	=	0.0283

CRITICAL DFC = 0.05

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn E - Unnamed Access to Subject Site / Unnamed Access	2027 Reference - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	5.2	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	36	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.5	(metres)
Vr c-b	=	22	(metres)
q c-a	=	51	(pcu/hr)
q c-b	=	23	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	22	(metres)
q b-a	=	46	(pcu/hr)
q b-c	=	4	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.813
F	=	0.813
Y	=	0.821
F for (Qb-ac)	=	0.08

THE CAPACITY OF MOVEMENT :

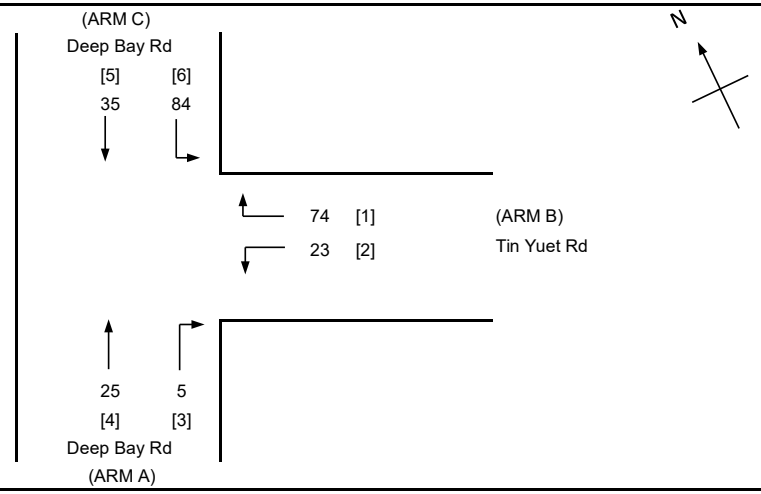
Q b-a	=	449	(pcu/hr)
Q b-c	=	597	(pcu/hr)
Q c-b	=	597	(pcu/hr)
Q b-ac	=	458	(pcu/hr)
Q c-a	=	1731	(pcu/hr)
TOTAL FLOW	=	74	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1024
DFC b-c	=	0.0067
DFC c-b	=	0.0385
DFC b-ac	=	0.1092
(Share Lane)		
DFC c-a	=	0.0295

CRITICAL DFC = 0.11

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn F - Deep Bay Rd / Tin Yuet Rd	2027 Reference - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	4.8	(metres)
W cr	=	0	(metres)
q a-b	=	5	(pcu/hr)
q a-c	=	25	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.1	(metres)
Vr c-b	=	38	(metres)
q c-a	=	35	(pcu/hr)
q c-b	=	84	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	38	(metres)
q b-a	=	23	(pcu/hr)
q b-c	=	74	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.826
F	=	0.791
Y	=	0.834
F for (Qb-ac)	=	0.763

THE CAPACITY OF MOVEMENT :

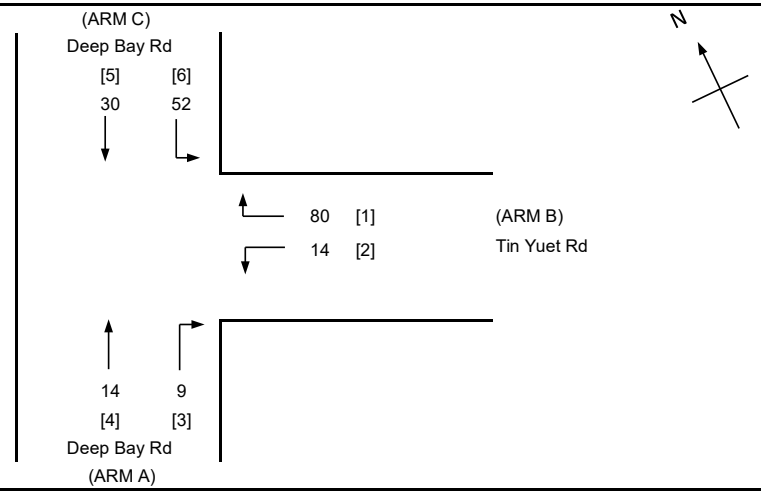
Q b-a	=	433	(pcu/hr)
Q b-c	=	609	(pcu/hr)
Q c-b	=	582	(pcu/hr)
Q b-ac	=	555	(pcu/hr)
Q c-a	=	1540	(pcu/hr)
TOTAL FLOW	=	84	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0531
DFC b-c	=	0.1215
DFC c-b	=	0.1443
DFC b-ac	=	0.1746
(Share Lane)		
DFC c-a	=	0.0227

CRITICAL DFC = 0.17

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn F - Deep Bay Rd / Tin Yuet Rd	2027 Reference - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	4.8	(metres)
W cr	=	0	(metres)
q a-b	=	9	(pcu/hr)
q a-c	=	14	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.1	(metres)
Vr c-b	=	38	(metres)
q c-a	=	30	(pcu/hr)
q c-b	=	52	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	38	(metres)
q b-a	=	14	(pcu/hr)
q b-c	=	80	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.826
F	=	0.791
Y	=	0.834
F for (Qb-ac)	=	0.851

THE CAPACITY OF MOVEMENT :

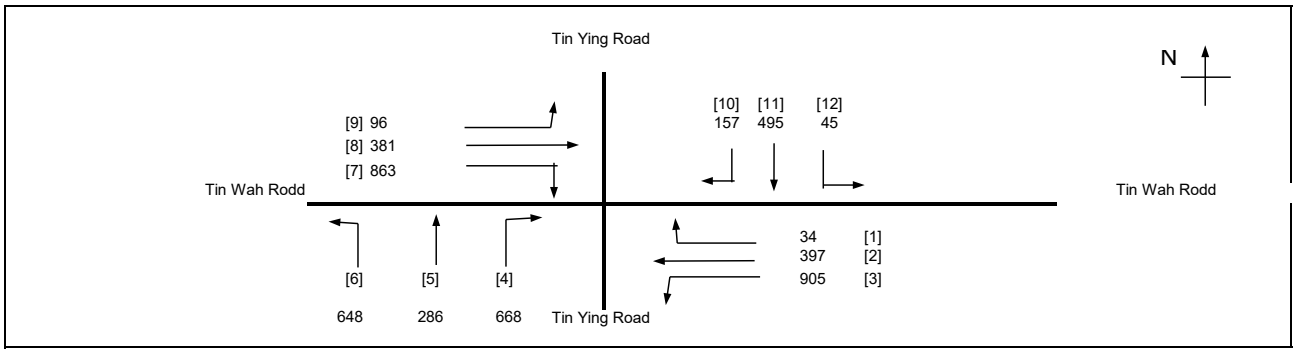
Q b-a	=	446 (pcu/hr)
Q b-c	=	611 (pcu/hr)
Q c-b	=	584 (pcu/hr)
Q b-ac	=	579 (pcu/hr)
Q c-a	=	1640 (pcu/hr)
TOTAL FLOW	=	52 (pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

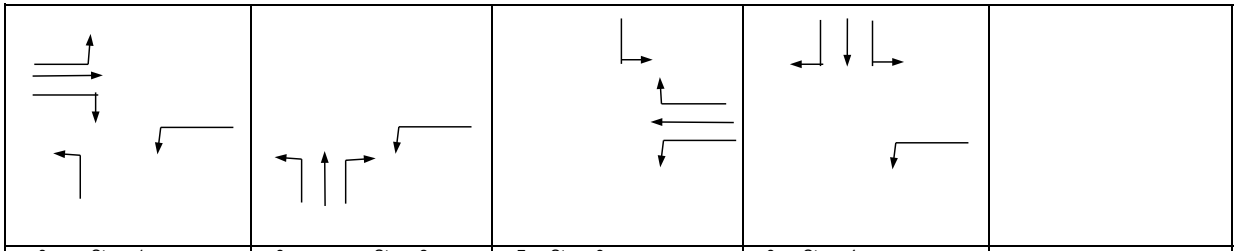
DFC b-a	=	0.0314
DFC b-c	=	0.1309
DFC c-b	=	0.0890
DFC b-ac	=	0.1623
(Share Lane)		
DFC c-a	=	0.0183

CRITICAL DFC = 0.16

8FM CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
Various Lots in DD129, Lau Fau Shan	Project No.: 80108	Prepared By:	FF	Sep-24
Tin Wah Road / Tin Ying Road	'2027 Design - AM Peak	Checked By:	MM	Sep-24
		Reviewed By:	FM	Sep-24



No. of stages per cycle	N = 4
Intergreen Period	I = 31 sec
Cycle time	C = 120 sec
Sum(y)	Y = 0.456
Loss time	L = 45 sec
Total Flow	= 4975 pcu
Co = (1.5*L+5)/(1-Y)	= 133.3 sec
Cm = L/(1-Y)	= 82.7 sec
Yult	= 0.563
R.C.ult = (Yult-Y)/Y*100%	= 23.4 %
Cp = 0.9*L/(0.9-Y)	= 91.2 sec
Ymax = 1-L/C	= 0.625
R.C.(C) = (0.9*Ymax-Y)/Y*100%	= 23.4 %

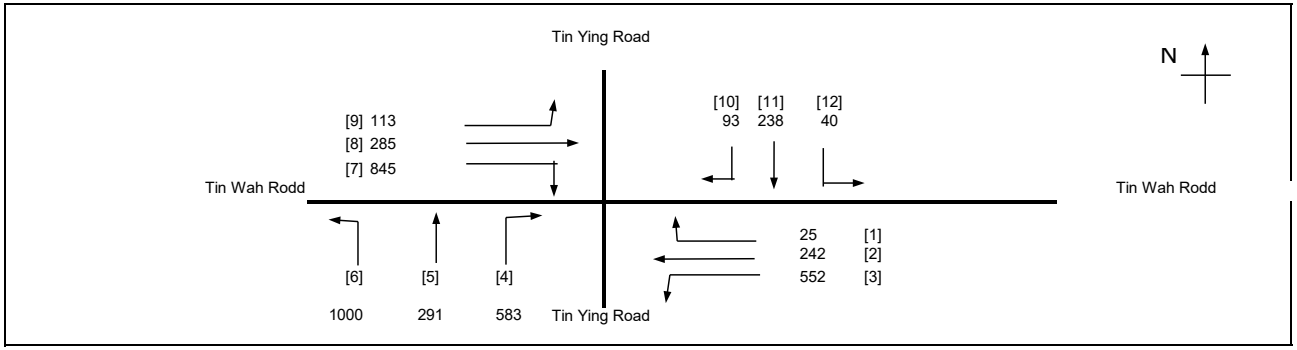


8 Stage 1	8 Stage 2	7 Stage 3	8 Stage 4	

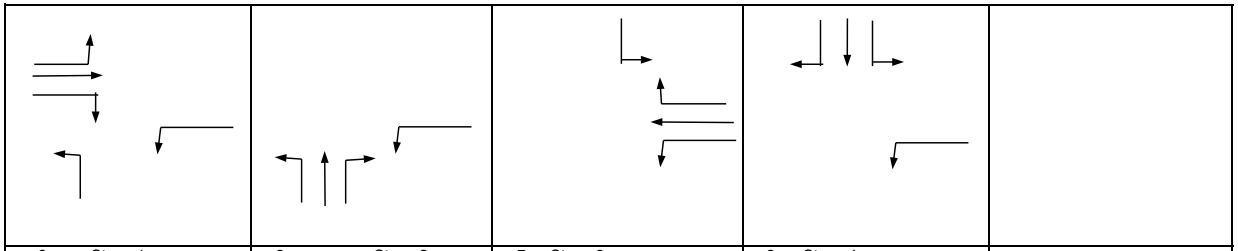
Pedestrian Phase	Width (m)	Stage	Green Time Required SG	Green Time Required FG	Green Time Provided (s) SG	Green Time Provided (s) FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lan Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
																				27					
3	1,2,3,4	3.40		1	20		N	1955	905			905	1.00	1819			1819	0.498			82	19	3.171	910	2061
2	3	3.40		2				4190		397		397	0.00	4190			4190	0.095			16	19	0.604	56	48
1	3	3.40		1	25			2095			34	34	1.00	1976			1976	0.017	0.017	9	3	12	0.175	5	51
								0																	
6	1,2	4.80		1	25		N	2095	648			648	1.00	1976			1976	0.328			54	42	0.930	93	64
5	2	3.40		1				2095		286		286	0.00	2095			2095	0.137	0.137		22	22	0.729	40	51
4,5	2	3.40		1	35			2095		0	335	335	1.00	2009			2009	0.167			27				
4	2	3.40		1	30			2095			333	333	1.00	1995			1995	0.167			27	22	0.891	58	76
8,9	1	3.40		1	25		N	1955	96	336		432	0.22	1929			1929	0.224	0.224		37	45	0.599	45	32
7,8	1	3.30		1	28			2085		45	422	467	0.90	1989			1989	0.235			39	45	0.628	49	33
7	1	3.30		1	25			2085			441	441	1.00	1967			1967	0.224			37	37	0.729	52	41
12	3,4	3.30		1	25		N	1945	45			45	1.00	1835			1835	0.025			4	22	0.135	6	42
11	4	3.30		2				4170		495		495	0.00	4170			4170	0.119			20	22	0.652	67	47
10	4	3.30		1	40			2085			157	157	1.00	2010			2010	0.078	0.078	9	13	22	0.429	21	45
																					0	0			

8FM CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION		INITIALS	DATE
Various Lots in DD129, Lau Fau Shan	Project No.: 80108	Prepared By:	FF	Sep-24
Tin Wah Road / Tin Ying Road	'2027 Design - PM Peak	Checked By:	MM	Sep-24
		Reviewed By:	FM	Sep-24



No. of stages per cycle	N = 4
Intergreen Period	I = 31 sec
Cycle time	C = 120 sec
Sum(y)	Y = 0.405
Loss time	L = 45 sec
Total Flow	= 4307 pcu
Co = (1.5*L+5)/(1-Y)	= 121.8 sec
Cm = L/(1-Y)	= 75.6 sec
Yult	= 0.563
R.C.ult = (Yult-Y)/Y*100%	= 38.9 %
Cp = 0.9*L/(0.9-Y)	= 81.8 sec
Ymax = 1-L/C	= 0.625
R.C.(C) = (0.9*Ymax-Y)/Y*100%	= 38.9 %

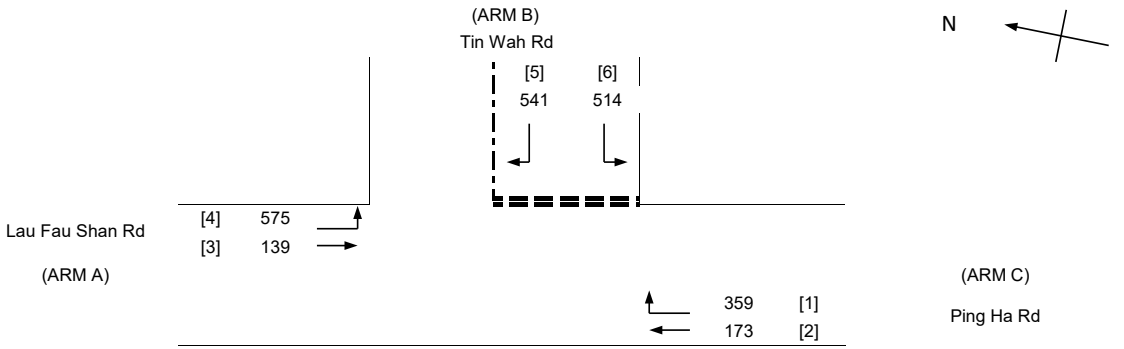


8 Stage 1	8 Stage 2	7 Stage 3	8 Stage 4	

Pedestrian Phase	Width (m)	Stage	Green Time Required SG	Green Time Required FG	Green Time Provided (s) SG	Green Time Provided (s) FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lan Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
																				27					
3	1,2,3,4	3.40		1	20		N	1955	552			552	1.00	1819			1819	0.304			56	18	1.986	430	974
2	3	3.40		2				4190		242		242	0.00	4190			4190	0.058			11	18	0.378	34	46
1	3	3.40		1	25			2095			25	25	1.00	1976			1976	0.013	0.013	9	2	11	0.134	4	51
								0																	
6	1,2	4.80		1	25		N	2095	1000			1000	1.00	1976			1976	0.506			94	45	1.347	439	372
5	2	3.40		1				2095		291		291	0.00	2095			2095	0.139	0.139		26	26	0.648	38	46
4,5	2	3.40		1	35			2095		0	292	292	1.00	2009			2009	0.146			27				
4	2	3.40		1	30			2095			291	291	1.00	1995			1995	0.146			27	26	0.679	38	47
8,9	1	3.40		1	25		N	1955	113	285		398	0.28	1922			1922	0.207	0.207		38	47	0.533	41	30
7,8	1	3.30		1	28			2085		0	435	435	1.00	1979			1979	0.220			41	47	0.565	44	30
7	1	3.30		1	25			2085			410	410	1.00	1967			1967	0.209			39	39	0.648	46	37
12	3,4	3.30		1	25		N	1945	40			40	1.00	1835			1835	0.022			4	18	0.149	6	46
11	4	3.30		2				4170		238		238	0.00	4170			4170	0.057			11	18	0.390	34	47
10	4	3.30		1	40			2085			93	93	1.00	2010			2010	0.046	0.046	9	9	18	0.316	13	47
																					0	0			

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION		INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan		Prepared By:	FF	Sep-2024
Jn B - Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	2027 Design - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
		Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	8.9	(metres)
W cr	=	0	(metres)
q a-b	=	575	(pcu/hr)
q a-c	=	139	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.5	(metres)
Vr c-b	=	150	(metres)
q c-a	=	173	(pcu/hr)
q c-b	=	359	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.2	(metres)
W b-c	=	4.2	(metres)
Vl b-a	=	200	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	50	(metres)
q b-a	=	541	(pcu/hr)
q b-c	=	514	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.161
E	=	0.985
F	=	1.013
Y	=	0.693

THE CAPACITY OF MOVEMENT :

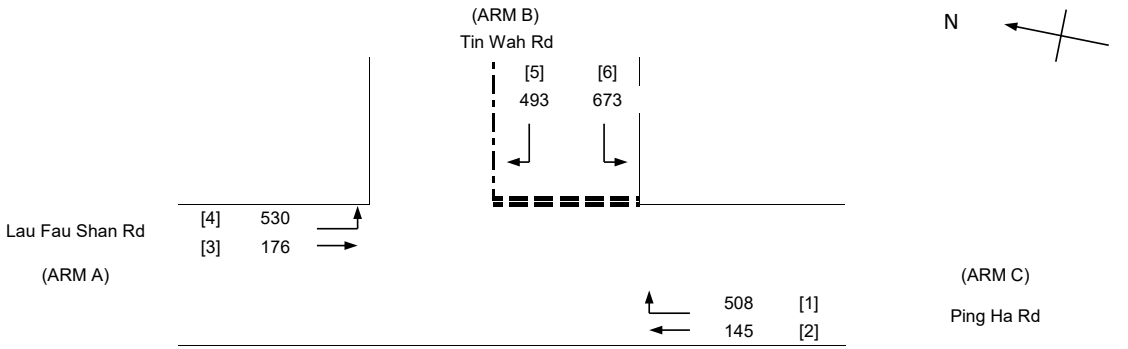
Q b-a	=	439	(pcu/hr)
Q b-c	=	643	(pcu/hr)
Q c-b	=	572	(pcu/hr)
Q c-a	=	670	(pcu/hr)
TOTAL FLOW	=	2301	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.2323
DFC b-c	=	0.7994
DFC c-b	=	0.6276
DFC c-a	=	0.2581

CRITICAL DFC = 1.23

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn B - Lau Fau Shan Rd / Tin Wah Rd / Ping Ha Rd	2027 Design - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	8.9	(metres)
W cr	=	0	(metres)
q a-b	=	530	(pcu/hr)
q a-c	=	176	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.5	(metres)
Vr c-b	=	150	(metres)
q c-a	=	145	(pcu/hr)
q c-b	=	508	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.2	(metres)
W b-c	=	4.2	(metres)
Vl b-a	=	200	(metres)
Vr b-a	=	200	(metres)
Vr b-c	=	50	(metres)
q b-a	=	493	(pcu/hr)
q b-c	=	673	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.161
E	=	0.985
F	=	1.013
Y	=	0.693

THE CAPACITY OF MOVEMENT :

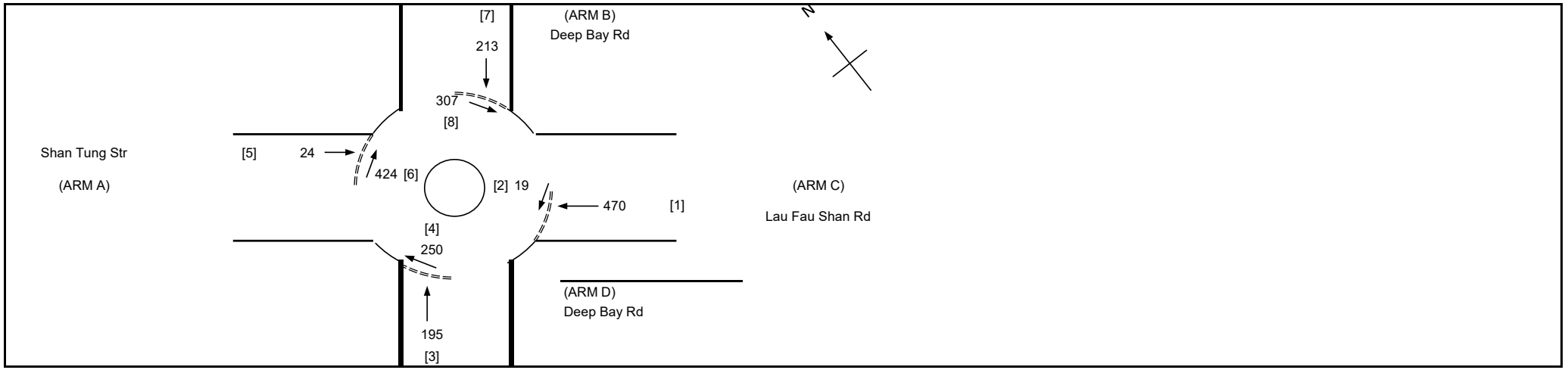
Q b-a	=	376	(pcu/hr)
Q b-c	=	638	(pcu/hr)
Q c-b	=	574	(pcu/hr)
Q c-a	=	207	(pcu/hr)
TOTAL FLOW	=	2525	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.3112
DFC b-c	=	1.0549
DFC c-b	=	0.8850
DFC c-a	=	0.7006

CRITICAL DFC = 1.31

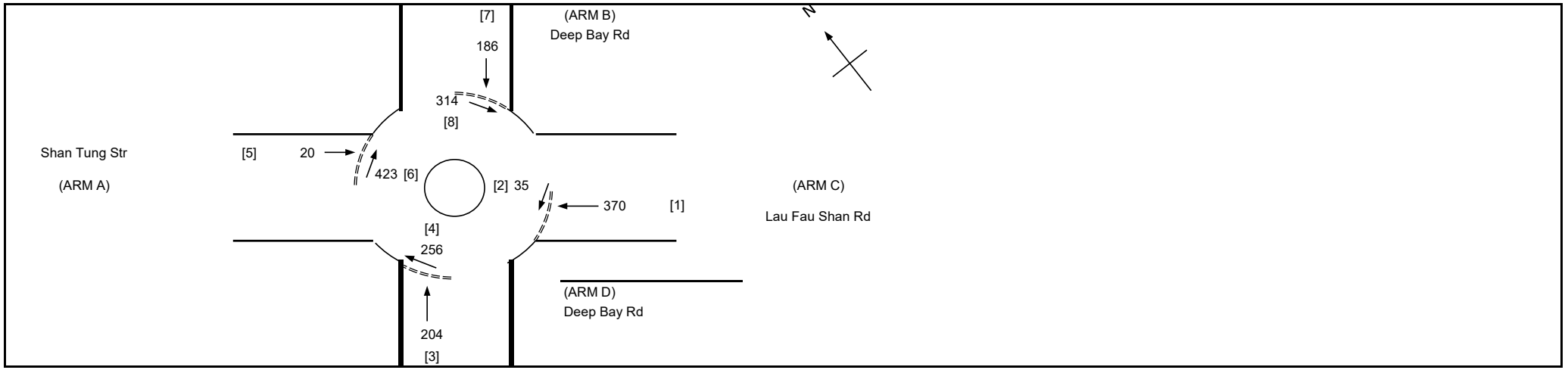
8FM CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn C - Lau Fau Shan Roundabout	2027 Design - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



GEOMETRIC DETAILS:			ARM	A	B	C	D
V	=	Approach half width (m)		1.9	1.5	3.2	1.9
E	=	Entry width (m)		1.9	4.1	4.2	3.7
L	=	Effective length of flare (m)		1.0	2.3	1.5	1.8
R	=	Entry radius (m)		14.0	46.0	7.4	7.5
D	=	Inscribed circle diameter (m)		38.0	38.0	38.0	38.0
A	=	Entry angle (degree)		42.0	52.0	20.0	51.0
Q	=	Entry flow (pcu/h)		24	213	470	195
Qc	=	Circulating flow across entry (pcu/h)		424	307	19	250
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L		0.00	1.81	1.07	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)		0.94	0.95	0.95	0.85
X2	=	V + ((E-V)/(1+2S))		1.90	2.06	3.52	2.33
M	=	EXP((D-60)/10)		0.11	0.11	0.11	0.11
F	=	303*X2		576	625	1066	706
Td	=	1+(0.5/(1+M))		1.45	1.45	1.45	1.45
Fc	=	0.21*Td(1+0.2*X2)		0.42	0.43	0.52	0.45
Qe	=	K(F-Fc*Qc)		373	469	1005	502
DFC	=	Design flow/Capacity = Q/Qe		0.06	0.45	0.47	0.39

TOTAL FLOW = 1902 (pcu/hr)
CRITICAL DFC = 0.47

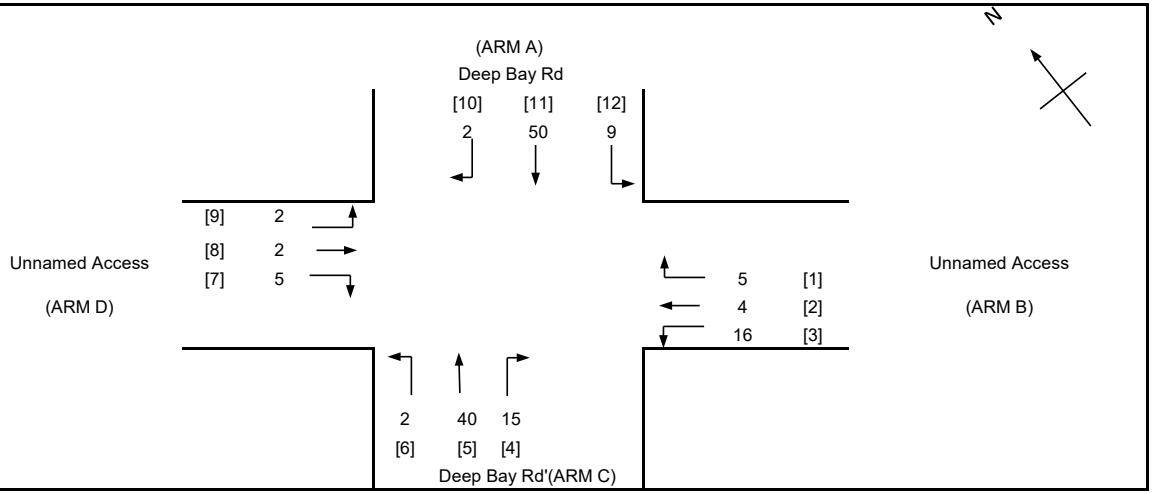
8FM CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn C - Lau Fau Shan Roundabout	2027 Design - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



GEOMETRIC DETAILS:			ARM A	B	C	D
V	=	Approach half width (m)	1.9	1.5	3.2	1.9
E	=	Entry width (m)	1.9	4.1	4.2	3.7
L	=	Effective length of flare (m)	1.0	2.3	1.5	1.8
R	=	Entry radius (m)	14.0	46.0	7.4	7.5
D	=	Inscribed circle diameter (m)	38.0	38.0	38.0	38.0
A	=	Entry angle (degree)	42.0	52.0	20.0	51.0
Q	=	Entry flow (pcu/h)	20	186	370	204
Qc	=	Circulating flow across entry (pcu/h)	423	314	35	256
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	1.81	1.07	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.94	0.95	0.95	0.85
X2	=	V + ((E-V)/(1+2S))	1.90	2.06	3.52	2.33
M	=	EXP((D-60)/10)	0.11	0.11	0.11	0.11
F	=	303*X2	576	625	1066	706
Td	=	1+(0.5/(1+M))	1.45	1.45	1.45	1.45
Fc	=	0.21*Td(1+0.2*X2)	0.42	0.43	0.52	0.45
Qe	=	K(F-Fc*Qc)	373	466	997	500
DFC	=	Design flow/Capacity = Q/Qe	0.05	0.40	0.37	0.41

TOTAL FLOW = 1808 (pcu/hr)
CRITICAL DFC = 0.41

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn D - Deep Bay Rd / Unnamed Access	2027 Design - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

GENERAL

W	=	3.90 (metres)			
W cr	=	0 (metres)	Y	=	0.865

MAJOR ROAD (ARM A)

W a-d	=	2.0 (metres)
Vr a-d	=	120 (metres)
q a-b	=	9 (pcu/hr)
q a-c	=	50 (pcu/hr)
q a-d	=	2 (pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	2.0 (metres)
Vr c-b	=	60 (metres)
q c-a	=	40 (pcu/hr)
q c-b	=	15 (pcu/hr)
q c-d	=	2 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.3 (metres)
W b-c	=	3.3 (metres)
Vl b-a	=	28 (metres)
Vr b-a	=	28 (metres)
Vr b-c	=	80 (metres)
q b-a	=	5 (pcu/hr)
q b-c	=	16 (pcu/hr)
q b-d	=	4 (pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	6.0 (metres)
W d-a	=	6.0 (metres)
Vl d-c	=	22 (metres)
Vr d-c	=	60 (metres)
Vr d-a	=	90 (metres)
q d-c	=	5 (pcu/hr)
q d-a	=	2 (pcu/hr)
q d-b	=	2 (pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.818	X a	=	0.845
X c	=	0.799	X d	=	1.066
Z b	=	0.928	Z d	=	1.188
M b	=	0.860	M d	=	1.097

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.007924	r d-c	=	0.008
ql b-d	=	2.015848 (pcu/hr)	ql d-b	=	1.0079239 (pcu/hr)
qr b-d	=	1.984152 (pcu/hr)	qr d-b	=	0.9920761 (pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	485 (pcu/hr)	Q d-c	=	631 (pcu/hr)
Q b-c	=	674 (pcu/hr)	Q d-a	=	868 (pcu/hr)
Q c-b	=	580 (pcu/hr)	Q a-d	=	613 (pcu/hr)
Ql b-d	=	511 (pcu/hr)	Ql d-b	=	655 (pcu/hr)
Qr b-d	=	486 (pcu/hr)	Qr d-b	=	636 (pcu/hr)

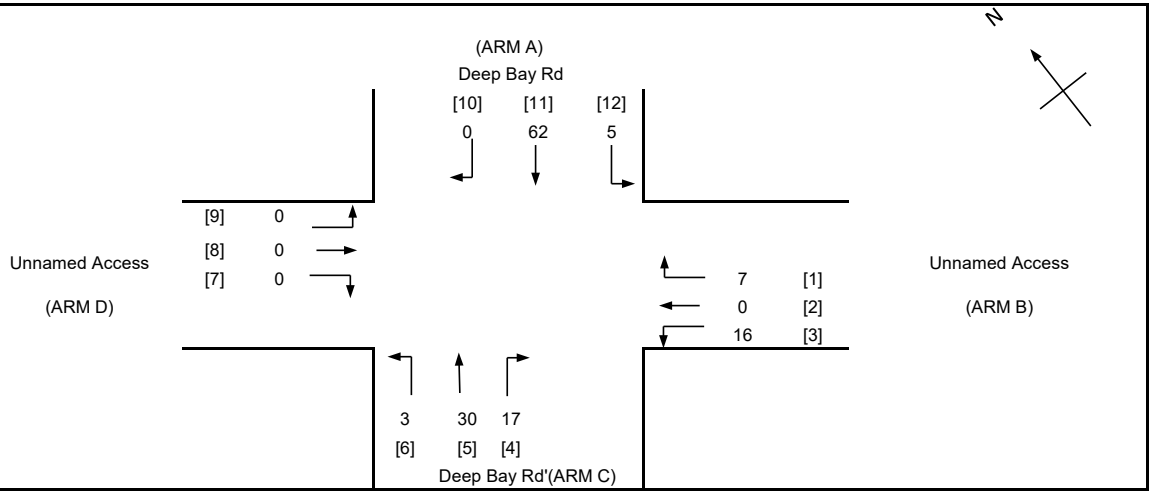
TOTAL FLOW = 152 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0103
DFC b-c	=	0.0237
DFC c-b	=	0.0259
DFCl b-d	=	0.0039
DFCr b-d	=	0.0041
DFC d-c	=	0.0079
DFC d-a	=	0.0023
DFC a-d	=	0.0033
DFCl d-b	=	0.0015
DFCr d-b	=	0.0016

CRITICAL DFC = 0.03

8FM CONSULTANCY LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Traffic Impact Assessment for Proposed Temporary Open Storage of Construction Material and Equipment of 3 Years at Various Lots in D.D.129, Lau Fau Shan			Prepared By:	FF	Sep-2024
Jn D - Deep Bay Rd / Unnamed Access	2027 Design - PM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

GENERAL

W	=	3.90 (metres)			
W cr	=	0 (metres)	Y	=	0.865

MAJOR ROAD (ARM A)

W a-d	=	2.0 (metres)
Vr a-d	=	120 (metres)
q a-b	=	5 (pcu/hr)
q a-c	=	62 (pcu/hr)
q a-d	=	0 (pcu/hr)

MAJOR MAJOR ROAD (ARM C)

W c-b	=	2.0 (metres)
Vr c-b	=	60 (metres)
q c-a	=	30 (pcu/hr)
q c-b	=	17 (pcu/hr)
q c-d	=	3 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.3 (metres)
W b-c	=	3.3 (metres)
Vl b-a	=	28 (metres)
Vr b-a	=	28 (metres)
Vr b-c	=	80 (metres)
q b-a	=	7 (pcu/hr)
q b-c	=	16 (pcu/hr)
q b-d	=	0 (pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	6.0 (metres)
W d-a	=	6.0 (metres)
Vl d-c	=	22 (metres)
Vr d-c	=	60 (metres)
Vr d-a	=	90 (metres)
q d-c	=	0 (pcu/hr)
q d-a	=	0 (pcu/hr)
q d-b	=	0 (pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.818	X a	=	0.845
X c	=	0.799	X d	=	1.066
Z b	=	0.928	Z d	=	1.188
M b	=	0.860	M d	=	1.097

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.011058	r d-c	=	0.000
ql b-d	=	0 (pcu/hr)	ql d-b	=	0 (pcu/hr)
qr b-d	=	0 (pcu/hr)	qr d-b	=	0 (pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	485 (pcu/hr)	Q d-c	=	633 (pcu/hr)
Q b-c	=	671 (pcu/hr)	Q d-a	=	873 (pcu/hr)
Q c-b	=	579 (pcu/hr)	Q a-d	=	614 (pcu/hr)
Ql b-d	=	510 (pcu/hr)	Ql d-b	=	656 (pcu/hr)
Qr b-d	=	485 (pcu/hr)	Qr d-b	=	638 (pcu/hr)

TOTAL FLOW = 140 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0144
DFC b-c	=	0.0238
DFC c-b	=	0.0294
DFCl b-d	=	0.0000
DFCr b-d	=	0.0000
DFC d-c	=	0.0000
DFC d-a	=	0.0000
DFC a-d	=	0.0000
DFCl d-b	=	0.0000
DFCr d-b	=	0.0000

CRITICAL DFC = 0.03

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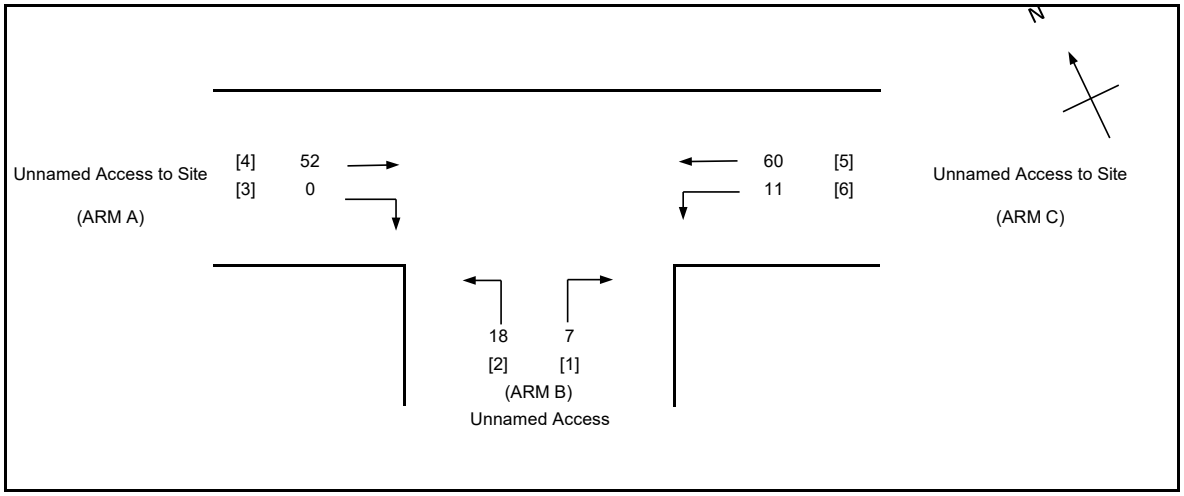
Jn E - Unnamed Access to Subject Site / Unnamed Access	2027 Design - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
			Reviewed By:	FM	Sep-2024



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	5.2	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	52	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.5	(metres)
Vr c-b	=	22	(metres)
q c-a	=	60	(pcu/hr)
q c-b	=	11	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	22	(metres)
q b-a	=	18	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.813
F	=	0.813
Y	=	0.821
F for (Qb-ac)	=	0.28

THE CAPACITY OF MOVEMENT :

Q b-a	=	448	(pcu/hr)
Q b-c	=	593	(pcu/hr)
Q c-b	=	593	(pcu/hr)
Q b-ac	=	481	(pcu/hr)
Q c-a	=	1767	(pcu/hr)
TOTAL FLOW	=	71	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0402
DFC b-c	=	0.0118
DFC c-b	=	0.0185
DFC b-ac	=	0.0520
(Share Lane)		
DFC c-a	=	0.0340

CRITICAL DFC = 0.05

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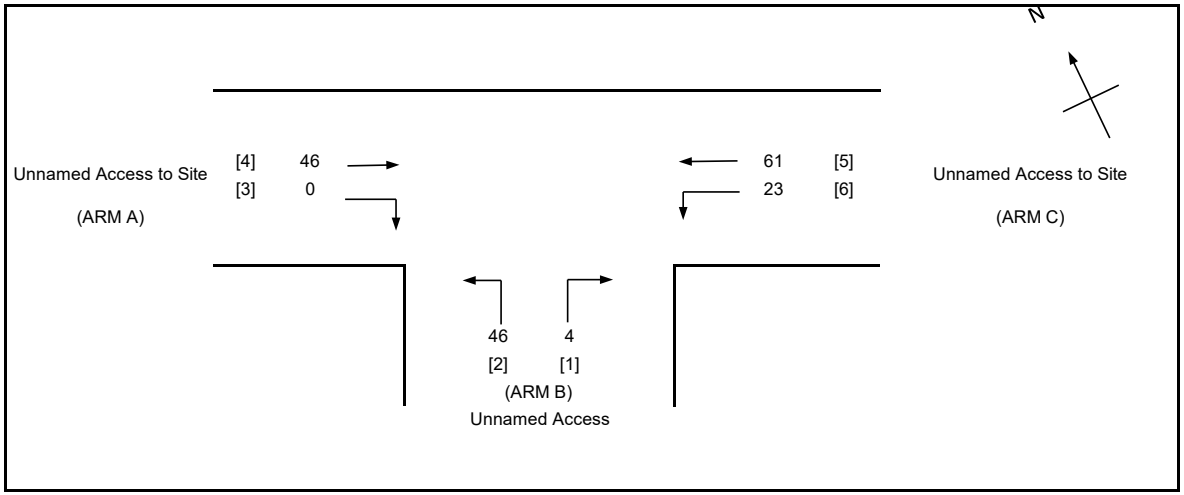

NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	5.2	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	46	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.5	(metres)
Vr c-b	=	22	(metres)
q c-a	=	61	(pcu/hr)
q c-b	=	23	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	22	(metres)
q b-a	=	46	(pcu/hr)
q b-c	=	4	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.813
F	=	0.813
Y	=	0.821
F for (Qb-ac)	=	0.08

THE CAPACITY OF MOVEMENT :

Q b-a	=	445	(pcu/hr)
Q b-c	=	595	(pcu/hr)
Q c-b	=	595	(pcu/hr)
Q b-ac	=	454	(pcu/hr)
Q c-a	=	1730	(pcu/hr)
TOTAL FLOW	=	84	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1034
DFC b-c	=	0.0067
DFC c-b	=	0.0387
DFC b-ac	=	0.1101
(Share Lane)		
DFC c-a	=	0.0353

CRITICAL DFC = 0.11

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Jn F - Deep Bay Rd / Tin Yuet Rd	2027 Design - AM Peak	Project No.: 80108	Checked By:	MM	Sep-2024
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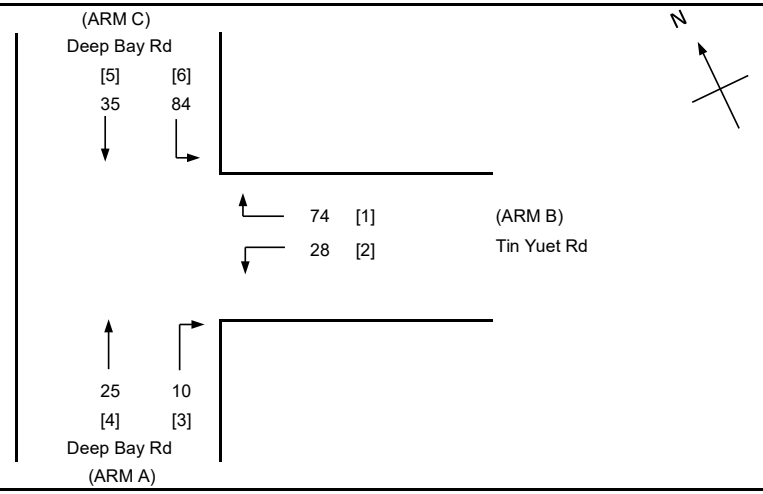

NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	4.8	(metres)
W cr	=	0	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	25	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.1	(metres)
Vr c-b	=	38	(metres)
q c-a	=	35	(pcu/hr)
q c-b	=	84	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	38	(metres)
q b-a	=	28	(pcu/hr)
q b-c	=	74	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.826
F	=	0.791
Y	=	0.834
F for (Qb-ac)	=	0.725

THE CAPACITY OF MOVEMENT :

Q b-a	=	433 (pcu/hr)
Q b-c	=	608 (pcu/hr)
Q c-b	=	581 (pcu/hr)
Q b-ac	=	547 (pcu/hr)
Q c-a	=	1540 (pcu/hr)
TOTAL FLOW	=	84 (pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0647
DFC b-c	=	0.1217
DFC c-b	=	0.1446
DFC b-ac	=	0.1864
(Share Lane)		
DFC c-a	=	0.0227

CRITICAL DFC = 0.19

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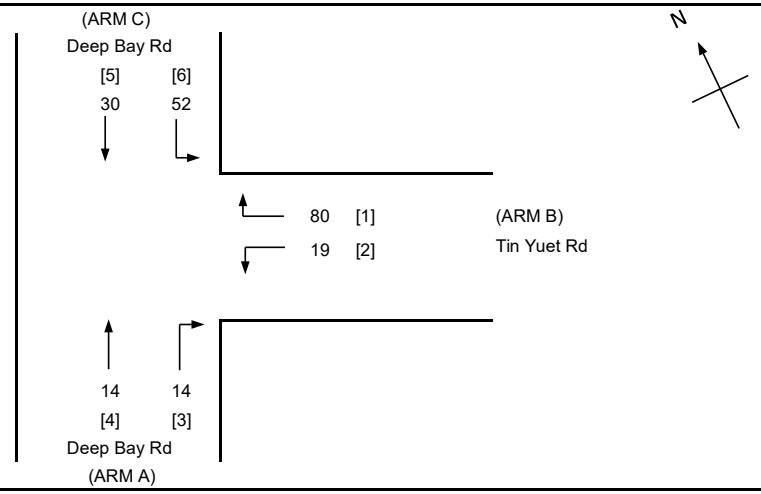

NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
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	=	4.8	(metres)
W cr	=	0	(metres)
q a-b	=	14	(pcu/hr)
q a-c	=	14	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.1	(metres)
Vr c-b	=	38	(metres)
q c-a	=	30	(pcu/hr)
q c-b	=	52	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.5	(metres)
W b-c	=	2.5	(metres)
Vl b-a	=	22	(metres)
Vr b-a	=	24	(metres)
Vr b-c	=	38	(metres)
q b-a	=	19	(pcu/hr)
q b-c	=	80	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.752
E	=	0.826
F	=	0.791
Y	=	0.834
F for (Qb-ac)	=	0.808

THE CAPACITY OF MOVEMENT :

Q b-a	=	446 (pcu/hr)
Q b-c	=	611 (pcu/hr)
Q c-b	=	583 (pcu/hr)
Q b-ac	=	570 (pcu/hr)
Q c-a	=	1639 (pcu/hr)
TOTAL FLOW	=	52 (pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0426
DFC b-c	=	0.1309
DFC c-b	=	0.0892
DFC b-ac	=	0.1735
(Share Lane)		
DFC c-a	=	0.0183

CRITICAL DFC = 0.17