Appendix 4

TRAFFIC IMPACT ASSESSMENT

Proposed Minor Relaxation of Building Height Restriction for Permitted Flat (Police Married Quarters) in "Government, Institution or Community(1)" Zone and Proposed Flat (Police Married Quarters) in "Government, Institution or Community" Zone in Government Land at Tung Chung Areas 134 and 135, Tung Chung, Lantau Island

Traffic Impact Assessment
Final Report
September 2025

Prepared by: CKM Asia Limited

Proposed Minor Relaxation of Building Height Restriction for Permitted Flat (Police Married Quarters) in "Government, Institution or Community (1)" Zone and Proposed Flat (Police Married Quarters) in Government, Institution or Community" Zone in Government Land Tung Chung Areas 134 and 135, Tung Chung, Lantau Island

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1.0 INTRODUCTION

Background

1.1 The subject site is located at Tung Chung Area 134 in Tung Chung East of Tung Chung New Town Extension ("TCNTE"), and it abuts Road D2 to the east and Road L7 to the south. The location of subject site is shown in Figure 1.1.

1.2 The subject site is zoned as "Government, Institution or Community (1)" ("G/IC(1)") with minor encroachment into the "Government, Institution or Community" ("G/IC") zone and the building height restrictions of G/IC(1) and G/IC zones are 70mPD and 50mPD respectively.

1.3 The Hong Kong Police Force intends to develop a Junior Police Officers Married Quarters with 432 units at Tung Chung Area 134 in TCNTE (the "Proposed JPOMQ at Area 134 in TCNTE") and the minor relaxation of building height restrictions is needed. Section 16 Planning Application is required for proposed minor relaxation of building height restriction for permitted flat (Police Married Quarters) in "G/IC(1)" zone and proposed flat (Police Married Quarters) in "G/IC" zone.

1.4 In December 2024, the Civil Engineering Development Department ("CEDD") commissioned a Traffic Impact Assessment ("TIA") to assess the increase in population within the TCNTE under "Agreement No. CE 69/2015 (CE) Tung Chung New Town Extension (East) Design and Construction Report on Traffic Impact Assessment Review for Population Increase and Development Intensity – Case 2 (Final) (Ref. PI50-02)" (TIA study of CE69/2015 (CE)).

1.5 Against this background, CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned to conduct a TIA in support of the Section 16 Planning Application for the Proposed JPOMQ at Area 134 in TCNTE. The report presents the findings and recommendations of the traffic impact assessment for the Proposed JPOMQ at Area 134 in TCNTE.

Contents of the Report

1.6 After this introduction, the remaining chapters contain the following:

Chapter Two	-	presents the Proposed JPOMQ at Area 134 in TCNTE;
Chapter Three	-	describes the traffic impact analysis; and
Chapter Four	-	summarises the overall conclusion.

2.0 THE PROPOSED JPOMQ AT AREA 134 IN TCNTE

Development Schedule

2.1 The Proposed JPOMQ at Area 134 in TCNTE has 2 blocks building with 432 flats and the detailed flat mix is found in Table 2.1.

TABLE 2.1 DETAILED FLAT MIX

Grade	Flat Size (GFA)	Number of Flats
E	85 m^2	54 (1)
F	70 m^2	54 (2)
G	55 m^2	324 (2)
	Total Number of Flats =	432

Note: (1) 54 flats @ 70.1 – 100m^2 (2) 378 flats @ 40.1 – 70m^2

2.2 The vehicular access to the Proposed JPOMQ at Area 134 in TCNTE is provided at Road L7, some 75m from the junction of Road D2 / Road L7.

Provision of Internal Transport Facilities

2.3 A comparison of the provision of internal transport facilities by the Proposed JPOMQ at Area 134 in TCNTE and the recommendations of the Hong Kong Planning Standards and Guidelines ("HKPSG") is presented in Table 2.2.

TABLE 2.2 PROVISION OF INTERNAL TRANSPORT FACILITIES FOR THE PROPOSED JPOMQ AT AREA 134 IN TCNTE

Use	HKPSG Recommendation 432 flats comprise of 378 flats @ 40.1 – 70m^2, 54 flats @ 70.1 – 100m^2	Proposed Provision
	Car Parking Space	
Residential (I)	Number of space = GPS x R1 x R2 x R3, where: Global Parking Standard (GPS) = 1 space per 4 – 7 flats R1 = 1.2 for flat size of 40.1 – 70m^2; 2.4 for flat size of 70.1 – 100m^2 R2 = 1.0 for development outside 500m of rail station R3 = 0.9 for domestic plot ratio (PR) = 6.5 Minimum =(378 x 1.2 ÷ 7 x 1 x 0.9) +(54 x 2.4÷7 x 1 x 0.9) = 58.3 + 16.7 = 59 + 17 = 76 nos. Maximum =(378 x 1.2 ÷ 4 x 1 x 0.9) +(54 x 2.4÷4 x 1 x 0.9) = 102.1 + 29.2 = 103 + 30 = 133 nos.	Residential (I) 77 nos. comprising of : (i) 76 nos. @ 5m(L)x 2.5m(W) x 2.4m(H); and (ii) 1 no. @ 5m(L) x 3.5m(W) x 2.4m(H) for persons with disabilities Visitor (II) 10 nos. comprising of : (i) 9 nos. @ 5m(L) x 2.5m(W) x 2.4m(H); and (ii) 1 no. @ 5m(L) x 3.5m(W) x 2.4m(H) for persons with disabilities Total (I) + (II) = 77 + 10 = 87 nos. > minimum & < maximum, OK
Visitor (II)	Visitor car parking spaces: 5 visitor spaces per block with > 75 units per block =10 nos. for 2 residential blocks	
Total (I) + (II)	Minimum = 76 + 10 = 86 nos. Maximum = 133 + 10 = 143 nos.	
	Motorcycle Parking Space	

Use	HKPSG Recommendation 432 flats comprise of 378 flats @ 40.1 – 70m^2, 54 flats @ 70.1 – 100m^2	Proposed Provision
Residential	1 motorcycle parking space per 100 – 150 flats Minimum = 432 / 150 = 2.9, say 3 nos. Maximum = 432 / 100 = 4.3, say 5 nos.	13 nos. @ 2.4m(L) x 1m(W) x 2.4m(H) > maximum
Loading / Unloading Bay		
Residential	Minimum of 1 loading / unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block = minimum 2nos. for 2 residential blocks	2 nos. HGV@ 11m(L) x 3.5m(W) x 4.7m(H) = HKPSG recommendation, OK

2.4 Table 2.2 shows that the car parking spaces and loading / unloading bays provided comply with the recommendation of the HKPSG.

2.5 In order to satisfy the operational needs of the residents of the Proposed JPOMQ at Area 134 in TCNTE, a total of 13 motorcycle parking spaces are provided.

2.6 The carpark layout plans for G/F and 1/F are shown in Figures 2.1 – 2.2.

Swept Path Analysis

2.7 The CAD-based swept path analysis program, Autodesk Vehicle Tracking, was used to check the ease of vehicle manoeuvring. Vehicles are found to have no manoeuvring problems and all vehicles could enter and leave the spaces with ease. The swept path analysis drawings for critical movements are found in Appendix A.

3.0 TRAFFIC IMPACT

Design Year

3.1 The Proposed JPOMQ at Area 134 in TCNTE is expected to be completed by 2031, and the design year adopted for this TIA is 2036.

Selected Junctions

3.2 The selected junctions for capacity analysis included the following:

- J1: Road D2 / Road L7;
- J2: Road P1 / Road D2;
- J3: Road P1 / Road D3;
- J4: Road D3 / Road L7;
- J5: Road L6 / Road L7;
- J6: Road D1 / Road D2 / Road D3;
- J7: Road D2 / Road L6;
- J8: Road P1 / Road D5;
- J9: Ying Hei Road / Ying Tung Road / Road P1;
- J10: Tung Chung Waterfront Road /Ying Hei Road / Yi Tung Road / Road L3;
- J11: Tai Ho Interchange; and
- J12 : Tung Chung East Interchange

3.3 The locations of selected junctions are shown in Figure 3.1.

2036 Traffic Flows

3.4 The 2036 traffic flows used for the junction analysis are produced with reference to the following:

(i) 2036 traffic flows from TIA study of CE69/2015 (CE);
(ii) the approved planned developments in the vicinity; and
(iii) Traffic generated by the Proposed JPOMQ at Area 134 in TCNTE.

The approved planned developments in the vicinity

3.5 The approved planned development included in the 2036 traffic flows are presented in Table 3.1.

TABLE 3.1 APPROVED PLANNED DEVELOPMENT IN THE VICINITY OF THE PROPOSED JPOMQ AT AREA 134 IN TCNTE

Site	Planning Application No.	Address	Application
1	A/I-TCE/1	Government Land at Area 99, Tung Chung, Lantau Island	Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat and Public Transport Terminus or Station Uses, and Proposed Public Vehicle Park
2	A/I-TCE/2	Government Land at Area 109, Tung Chung, Lantau Island	Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Public Housing Development
3	A/I-TCE/3	Government Land at Area 103, Tung Chung, Lantau Island	Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for Permitted Public Housing Development
4	A/I-TCE/4	Government Land at Area 133A, 133B and 133C, Tung Chung, Lantau Island	Proposed Minor Relaxation of Plot Ratio and Building Height Restrictions for Permitted Public Housing Development

Site	Planning Application No.	Address	Application
5	A/I-TCE/5	Government Land at Area 114 and 117, Tung Chung, Lantau Island	Proposed Minor Relaxation of Building Height Restriction for Permitted Public Housing Development

Traffic Generated by the Proposed JPOMQ at Area 134 in TCNTE

3.6 Trip generation survey was conducted during AM and PM weekday peak periods at 2 police quarters, the details of these 2 police quarters are found in Table 3.2.

TABLE 3.2 DETAILS OF 2 SURVEYED POLICE QUARTERS

Ref.	Police Quarters	Address	No. of flats	Distance from nearest MTR Station
1	Fan Garden	17 Fan Leng Lau Road, Fanling	1184	1.5km from Fanling Station
2	Tuen Mun Wu Hong Police Quarters	8 Wu Hong Street, Tuen Mun	336	2.3km from Tuen Mun Hang Station

3.7 The survey results and trip rates adopted for the Proposed JPOMQ at Area 134 in TCNTE is summarised in Table 3.3.

TABLE 3.3 ADOPTED TRIP RATES FOR THE PROPOSED JPOMQ AT AREA 134 IN TCNTE

Ref.	Police Quarters	AM Peak Hour		PM Peak Hour	
		IN	OUT	IN	OUT
Traffic Generation (pcu/hr)					
1	Fan Garden	54	49	70	42
2	Tuen Mun Wu Hong Police Quarters	15	14	19	12
Trip Rates (pcu/hour/flat)					
1	Fan Garden	0.0446	0.0417	0.0565	0.0357
2	Tuen Mun Wu Hong Police Quarters	0.0456	0.0414	0.0591	0.0355
3	Medium-Density / R(A) with an average flat size of 60m^2 [1]	0.0425	0.0718	0.0370	0.0286
	Adopted (maximum rates) =	0.0456	0.0718	0.0591	0.0357

Note: [1] the mean traffic rate from Transport Planning and Design Manual (TPDM)

3.8 Based on trip rates in Table 3.3, the traffic generation associated with the Proposed JPOMQ at Area 134 in TCNTE is calculated and presented in Table 3.4.

TABLE 3.4 TRAFFIC GENERATION OF THE PROPOSED JPOMQ AT AREA 134 IN TCNTE

Item	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Trip Generation Rates (pcu/hour/flat) from Table 3.3						
Police Quarters	0.0456	0.0718	NA	0.0591	0.0357	NA
Traffic Generation of Proposed JPOMQ at Area 134 in TCNTE (pcu/hour)						
432 flats	20	32	52	26	16	42

2036 Traffic Flows

3.9 To conduct the capacity analysis, year 2036 traffic flows are derived as follows:

2036 without the Proposed JPOMQ at Area 134 in TCNTE [A]	=	2036 traffic flows adopted from the TIA study of CE69/2015 (CE) + (ii) Approved Planned Development in the vicinity of the Proposed JPOMQ at Area 134 in TCNTE
2036 with the Proposed JPOMQ at Area 134 in TCNTE [B]	=	[A] + Traffic generated by the Proposed JPOMQ at Area 134 in TCNTE in Table 3.4

3.10 The 2036 peak hour traffic flows for the cases without and with the Proposed JPOMQ at Area 134 in TCNTE, are found in Figures 3.2 – 3.3, respectively.

2036 Junction Operational Performance

3.11 Year 2036 capacity analysis for the cases without and with the Proposed JPOMQ at Area 134 in TCNTE is summarized in Table 3.5, and detail calculations are found in Appendix B.

TABLE 3.5 2036 JUNCTION OPERATIONAL PERFORMANCE

Ref.	Junction	Type of Junction / Parameter	Without the Proposed JPOMQ at Area 134 in TCNTE		With the Proposed JPOMQ at Area 134 in TCNTE	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Road D2 / Road L7	Signal / RC	45%	78%	43%	75%
J2	Road P1 / Road D2	Signal / RC	39%	85%	38%	84%
J3	Road P1 / Road D3	Signal / RC	26%	45%	25%	41%
J4	Road D3 / Road L7	Signal / RC	50%	79%	46%	74%
J5	Road L6 / Road L7	Signal / RC	26%	61%	25%	59%
J6	Road D1 / Road D2 / Road D3	Signal / RC	31%	97%	28%	94%
J7	Road D2 / Road L6	Signal / RC	29%	74%	28%	72%
J8	Road P1 / Road D5	Signal / RC	29%	28%	29%	28%
J9	Ying Hei Road / Ying Tung Road / Road P1	Signal / RC	43%	45%	41%	44%
J10	Tung Chung Waterfront Road /Ying Hei Road / Yi Tung Road / Road L3	Signal / RC	71%	69%	69%	68%
J11	Tai Ho Interchange	Roundabout / DFC	0.19	0.17	0.19	0.17
J12	Tung Chung East Interchange	Roundabout / DFC	0.52	0.54	0.52	0.54

Note: RC – reserve capacity DFC – Design flow / capacity ratio

3.12 Table 3.5 shows that the junctions are expected to operate with capacities during the 2036 AM and PM peak hours for the cases without and with the Proposed JPOMQ at Area 134 in TCNTE.

2036 Link Capacity Assessment

3.13 2036 link capacity for the case without and with the Proposed JPOMQ at Area 134 in TCNTE is summarised in Table 3.6.

TABLE 3.6 2036 LINK CAPACITY ASSESSMENT

Ref.	Links	Direction	Design Flow (pcu/hr)	Traffic Flow (pcu/hr)		V/C Ratio	
				AM Peak	PM Peak	AM Peak	PM Peak
Without the Proposed JPOMQ at Area 134 in TCNTE							
L1	Road P1 (between Ying Tung Road and Road D5)	EB	920	665	545	0.72	0.59
		WB	920	120	145	0.13	0.16
L2	Road D2 (between Road P1 and Road L7)	NB	2800	110	125	0.04	0.04
		SB	2800	1460	1055	0.52	0.38
L3	Road P1 (between Road D3 and Road D2)	EB	3000	1404	1114	0.47	0.37
		WB	3000	2070	1772	0.69	0.59
L4	Road D3 (between Road P1 and Road L7)	NB	2800	1235	1125	0.44	0.40
		SB	2800	670	415	0.24	0.15
L5	Road L7 (between Road D3 and Road L6)	EB	920	675	670	0.73	0.73
		WB	920	170	155	0.18	0.17
L6	Road D3 (between Road L7 and Road L9)	NB	2800	295	295	0.11	0.11
		SB	2800	285	70	0.10	0.03
L7	Road D3 (between Road D1 and Road L9)	NB	2800	360	255	0.13	0.09
		SB	2800	285	75	0.10	0.03
L8	Road D2 (between Road D3 and Road L6)	EB	2800	910	575	0.33	0.21
		WB	2800	155	105	0.06	0.04
L9	Road D2 (between Road L6 and Road L7)	NB	2800	115	80	0.04	0.03
		SB	2800	920	600	0.33	0.21
L10	Road P1 (between Road D5 and Road D3)	EB	3000	1169	1164	0.39	0.39
		WB	3000	1275	1117	0.43	0.37
L11	Road P1 (between Ying Tung Road and Road D5)	EB	3000	715	745	0.24	0.25
		WB	3000	665	550	0.22	0.18
L12	Ying Hei Road	EB	2800	645	651	0.23	0.23
		WB	2800	693	673	0.25	0.24
L13	Yi Tung Road	NB	2800	745	876	0.27	0.31
		SB	2800	668	643	0.24	0.23
L14	Road P1 (between Road D2 and Tai Ho Interchange)	EB	3400	2754	2044	0.81	0.60
		WB	3400	2070	1772	0.61	0.52
With the Proposed JPOMQ at Area 134 in TCNTE							
L1	Road P1 (between Ying Tung Road and Road D5)	EB	920	681	553	0.74	0.60
		WB	920	136	153	0.15	0.17
L2	Road D2 (between Road P1 and Road L7)	NB	2800	110	125	0.04	0.04
		SB	2800	1476	1063	0.53	0.38
L3	Road P1 (between Road D3 and Road D2)	EB	3000	1404	1114	0.47	0.37
		WB	3000	2080	1785	0.69	0.60
L4	Road D3 (between Road P1 and Road L7)	NB	2800	1255	1151	0.45	0.41
		SB	2800	686	423	0.25	0.15
L5	Road L7 (between Road D3 and Road L6)	EB	920	685	683	0.74	0.74
		WB	920	186	163	0.20	0.18
L6	Road D3 (between Road L7 and Road L9)	NB	2800	305	308	0.11	0.11
		SB	2800	285	70	0.10	0.03
L7	Road D3 (between Road D1 and Road L9)	NB	2800	370	268	0.13	0.10
		SB	2800	285	75	0.10	0.03
L8	Road D2 (between Road D3 and Road L6)	EB	2800	920	588	0.33	0.21
		WB	2800	155	105	0.06	0.04
L9	Road D2 (between Road L6 and Road L7)	NB	2800	115	80	0.04	0.03
		SB	2800	930	613	0.33	0.22
L10	Road P1 (between Road D5 and Road D3)	EB	3000	1179	1177	0.39	0.39
		WB	3000	1291	1125	0.43	0.38
L11	Road P1 (between Ying Tung Road and Road D5)	EB	3000	725	758	0.24	0.25
		WB	3000	681	558	0.23	0.19
L12	Ying Hei Road	EB	2800	655	664	0.23	0.24
		WB	2800	709	681	0.25	0.24
L13	Yi Tung Road	NB	2800	755	889	0.27	0.32
		SB	2800	684	651	0.24	0.23

Ref.	Links	Direction	Design Flow (pcu/hr)	Traffic Flow (pcu/hr)		V/C Ratio	
				AM Peak	PM Peak	AM Peak	PM Peak
L14	Road P1 (between Road D2 and Tai Ho Interchange)	EB	3400	2770	2052	0.81	0.60
		WB	3400	2080	1785	0.61	0.53

3.14 Table 3.6 shows that the traffic generated by Proposed JPOMQ at Area 134 in TCNTE has negligible traffic impact to the road link analysed.

4.0 CONCLUSION

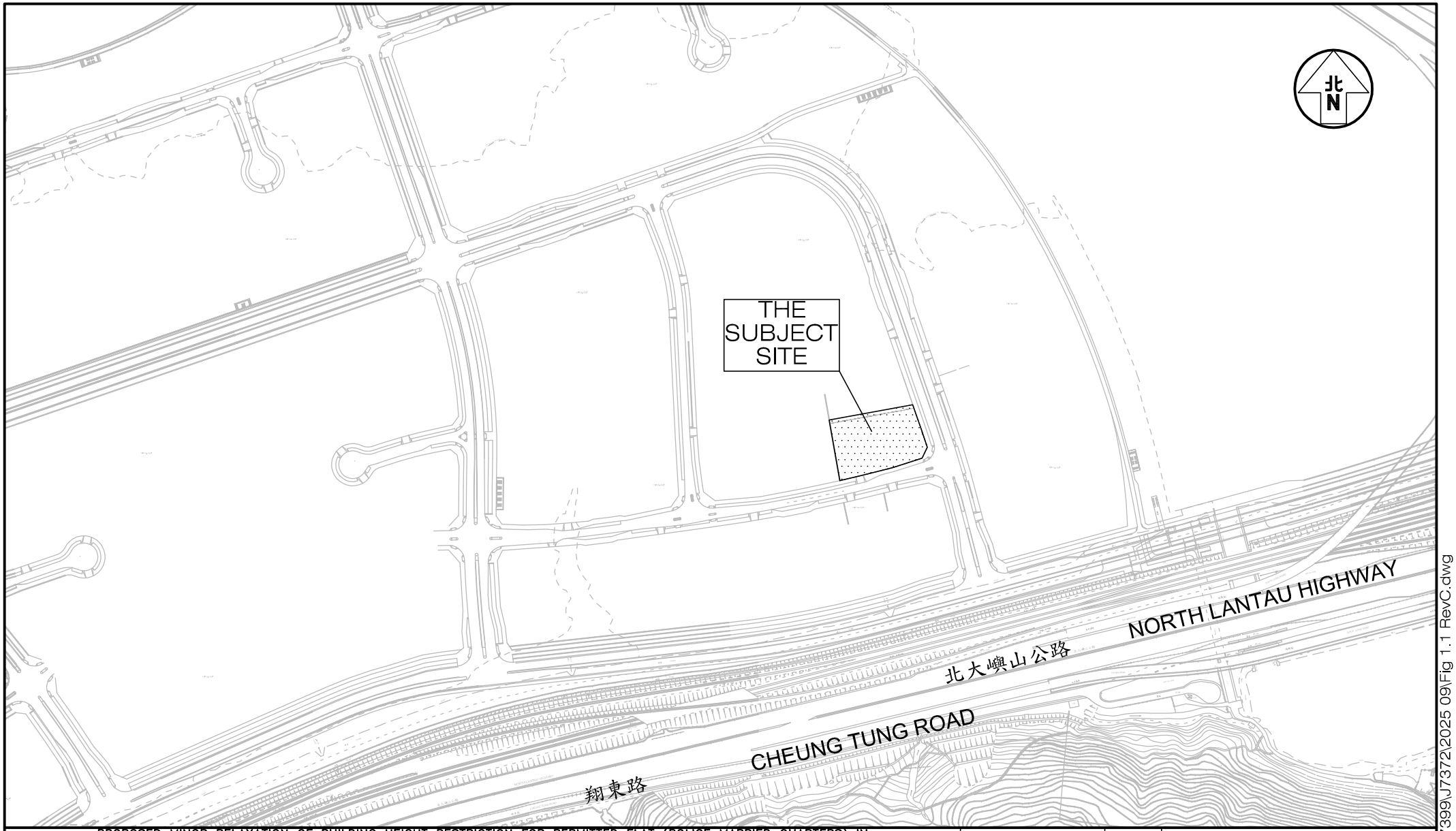
4.1 The subject site is located at Area 134 in TCNTE, and it abuts Road D2 to the east and Road L7 to the south. The Proposed JPOMQ at Area 134 in TCNTE with 432 units is to be built at Area 134 in TCNTE.

4.2 The car parking spaces and loading / unloading bays provided by the Proposed JPOMQ at Area 134 in TCNTE comply with recommendation of the HKPSG. In order to satisfy the operational needs of the residents of the Proposed JPOMQ at Area 134 in TCNTE, a total of 13 motorcycle parking spaces are provided.

4.3 The Proposed JPOMQ at Area 134 in TCNTE is expected to be completed by 2031 and the design year adopted for this TIA is 2036. The 2036 junction and link capacity analysis are expected to operate with capacities during peak hours for the cases without and with the Proposed JPOMQ at Area 134 in TCNTE.

4.4 It is concluded that the Proposed JPOMQ at Area 134 in TCNTE will result in no adverse traffic impact to the surrounding road networks. From traffic engineering grounds, the Proposed JPOMQ at Area 134 in TCNTE is acceptable.

Figures



Project Title: PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND — J7372

Figure Title

LOCATION OF SUBJECT SITE

Figure No.	Revision
1.1	C

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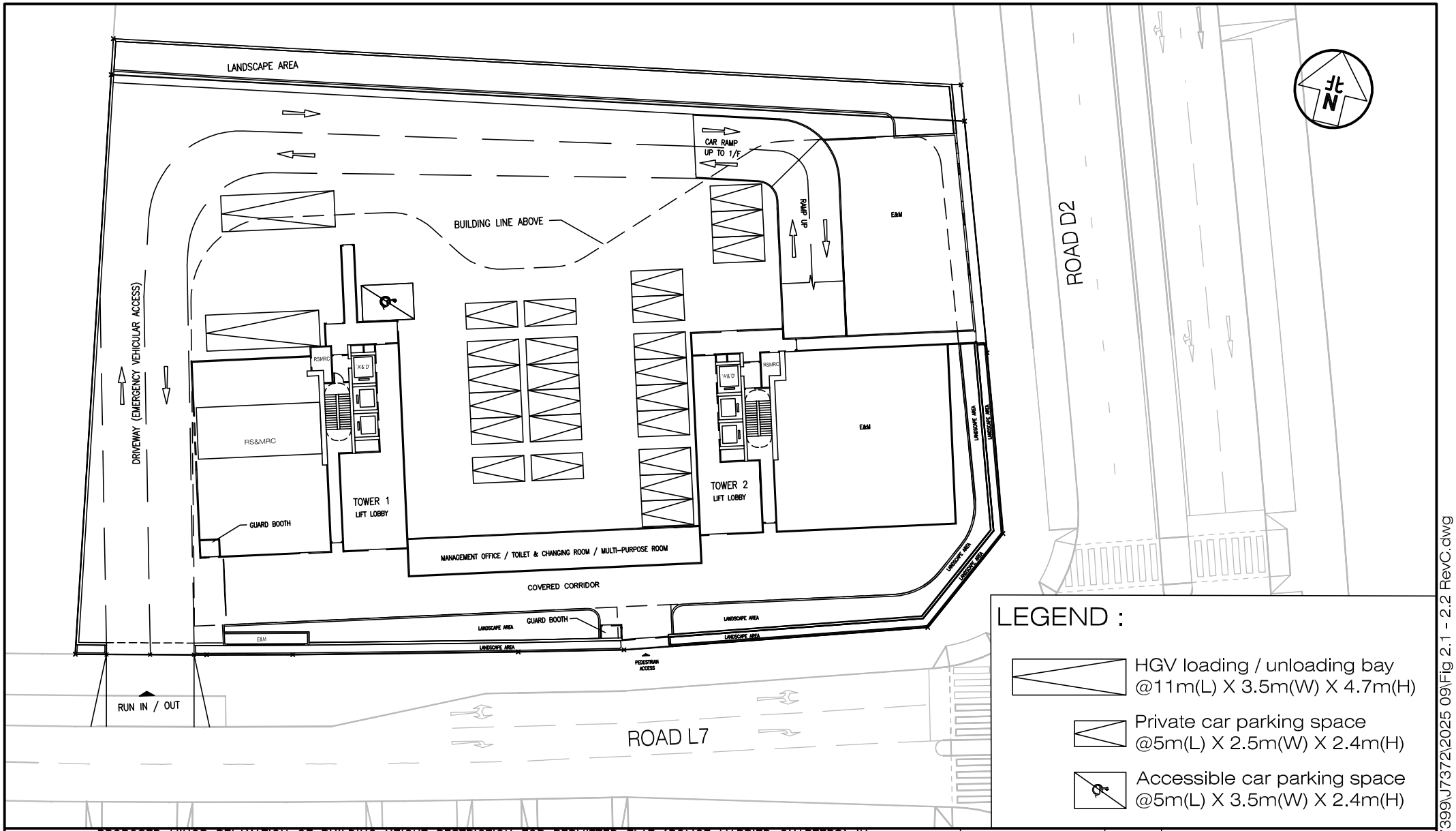

Project Title: PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND — J7372

Figure Title: G/F LAYOUT PLAN

Figure No.	Revision
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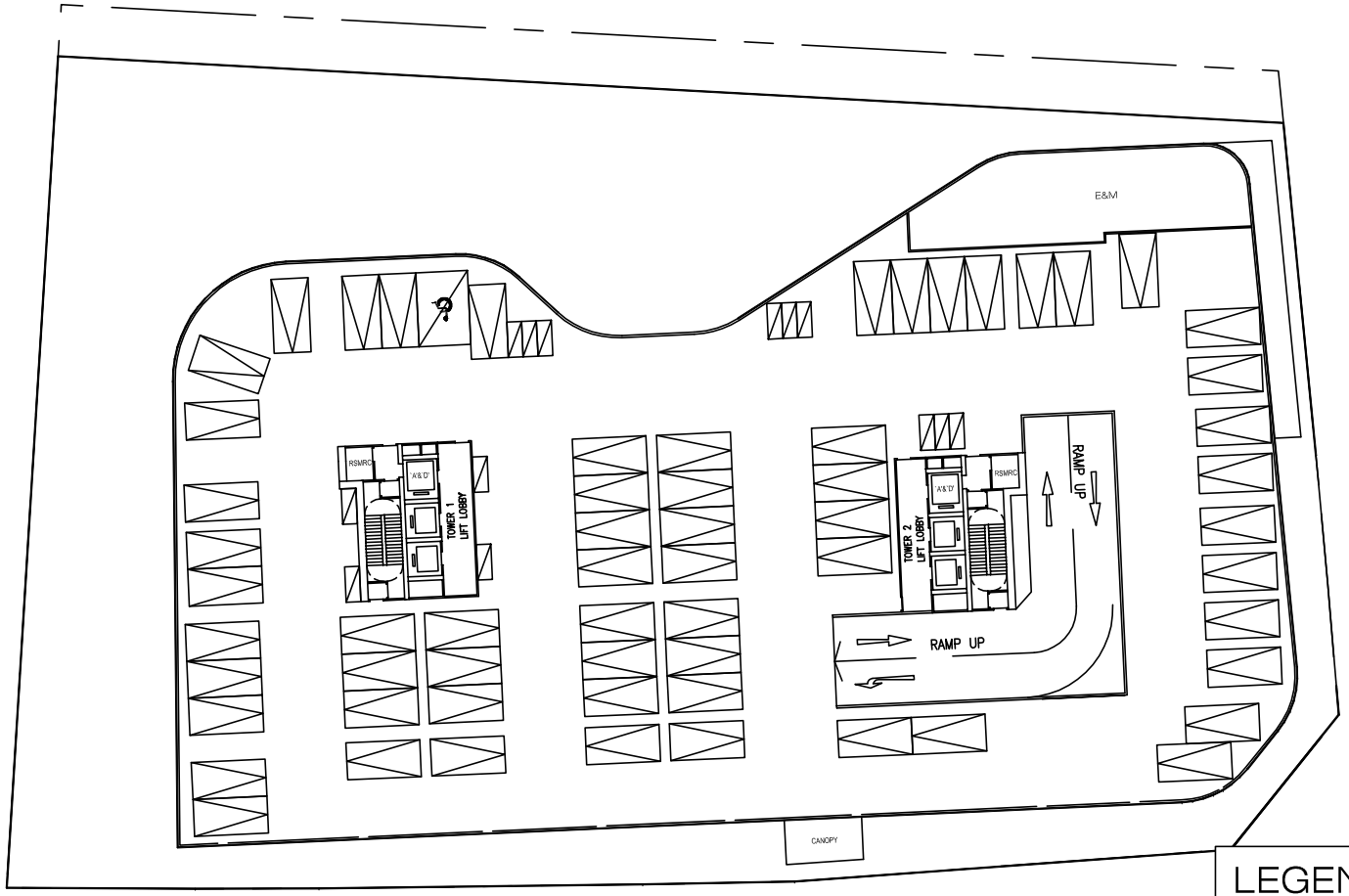

LEGEND :

- Private car parking space @5m(L) X 2.5m(W) X 2.4m(H)
- Accessible car parking space @5m(L) X 3.5m(W) X 2.4m(H)
- Motorcycle parking space @2.4m(L) X 1m(W) X 2.4m(H)

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Figure Title: 1/F LAYOUT PLAN	Designed by L C H / Drawn by N C M / Checked by K C		
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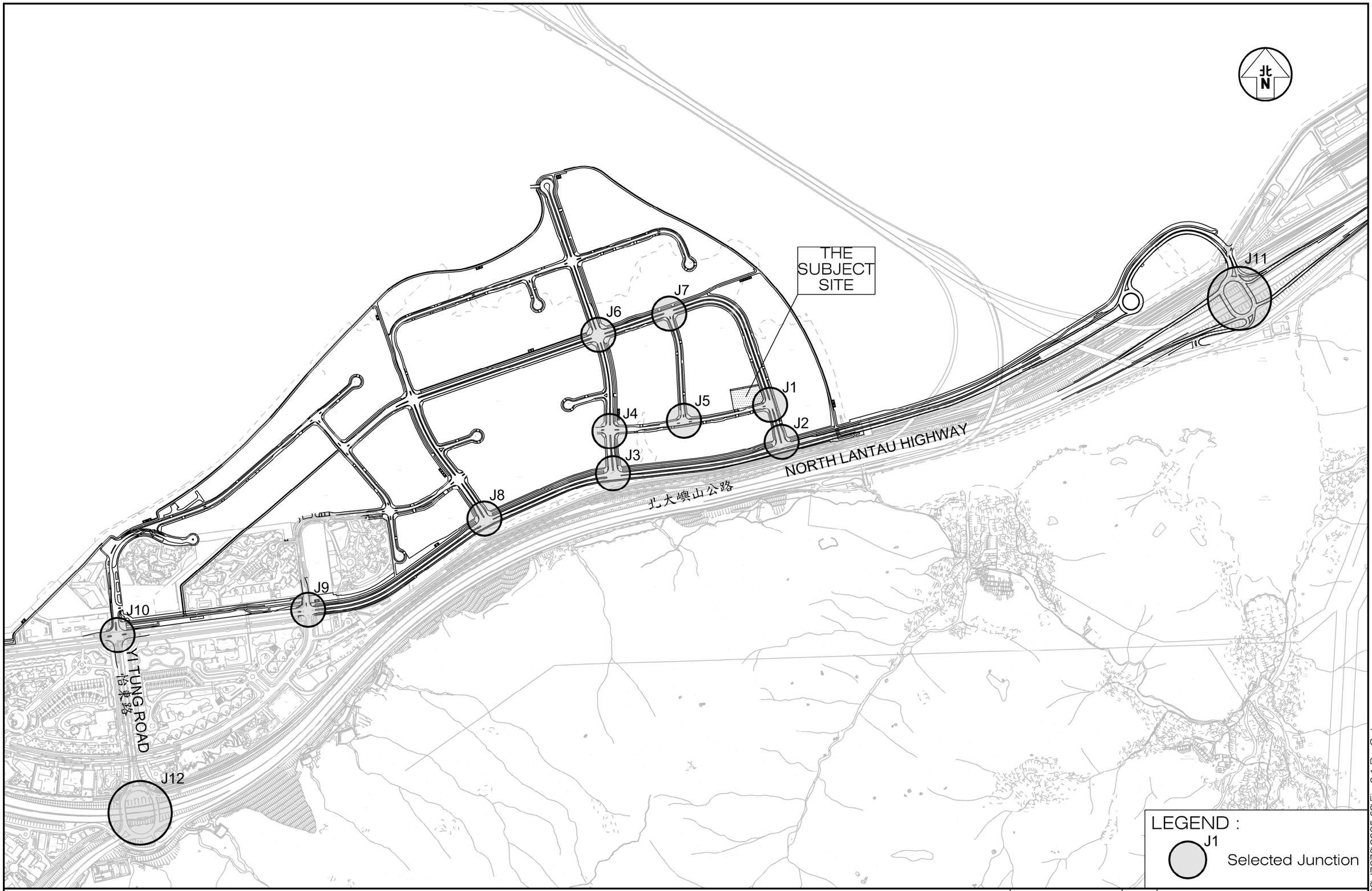

Project Title

PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND J7372

Figure Title

LOCATIONS OF SELECTED JUNCTIONS

Figure No. 3.1

Revision C

Designed by L C H | Drawn by N C M | Checked by K C

Scale in A3 1 : 10000

Date 10 SEP 2025

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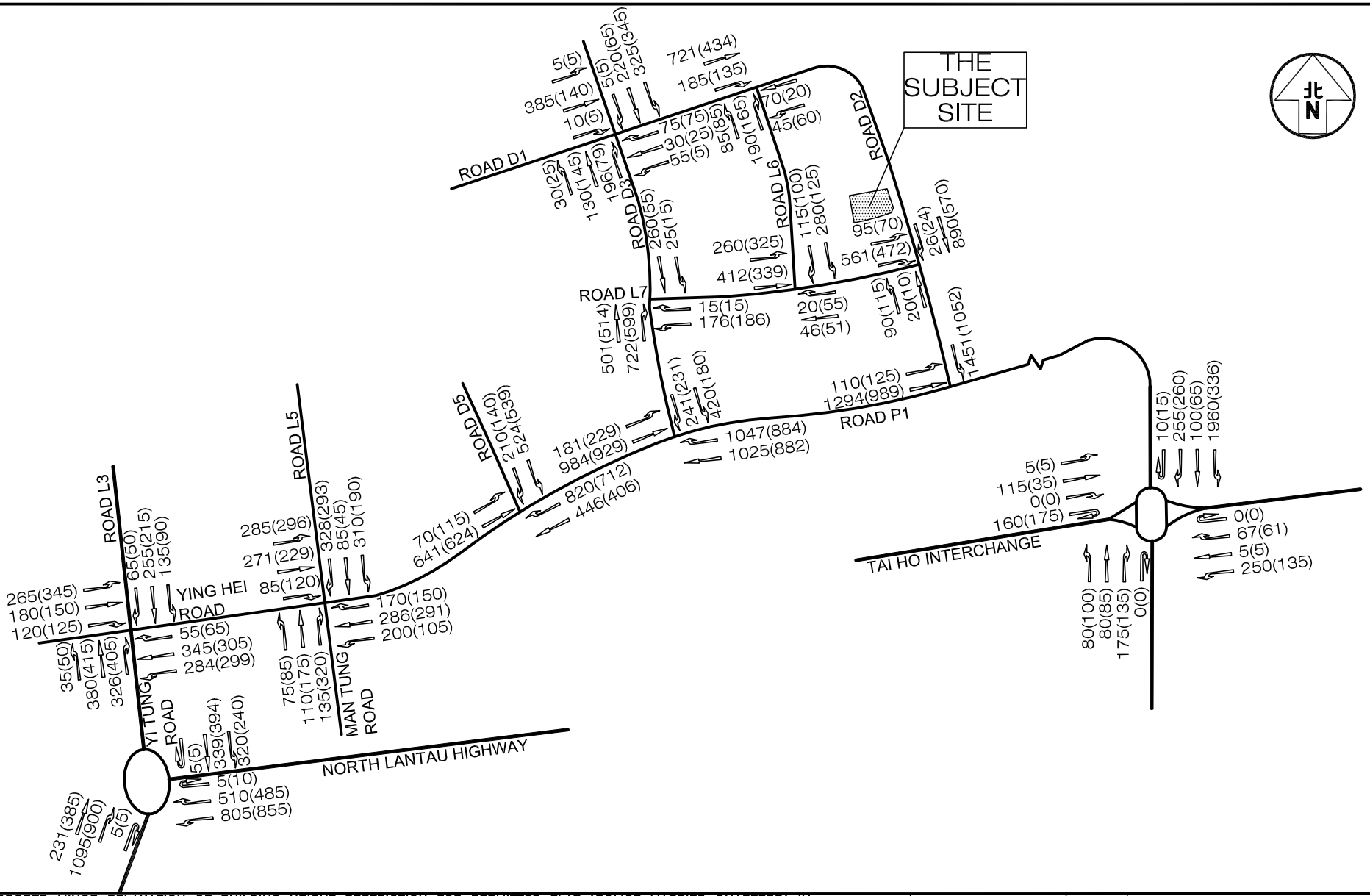

Project Title	PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND	J7372	Figure No. 3.2 / Revision C
Figure Title	2036 PEAK HOUR TRAFFIC FLOWS WITHOUT THE PROPOSED JPOMQ AT AREA 134 IN TCNTE		Designed by L C H / Drawn by N C M / Checked by K C
			Scale in A4 N.T.S. / Date 10 SEP 2025

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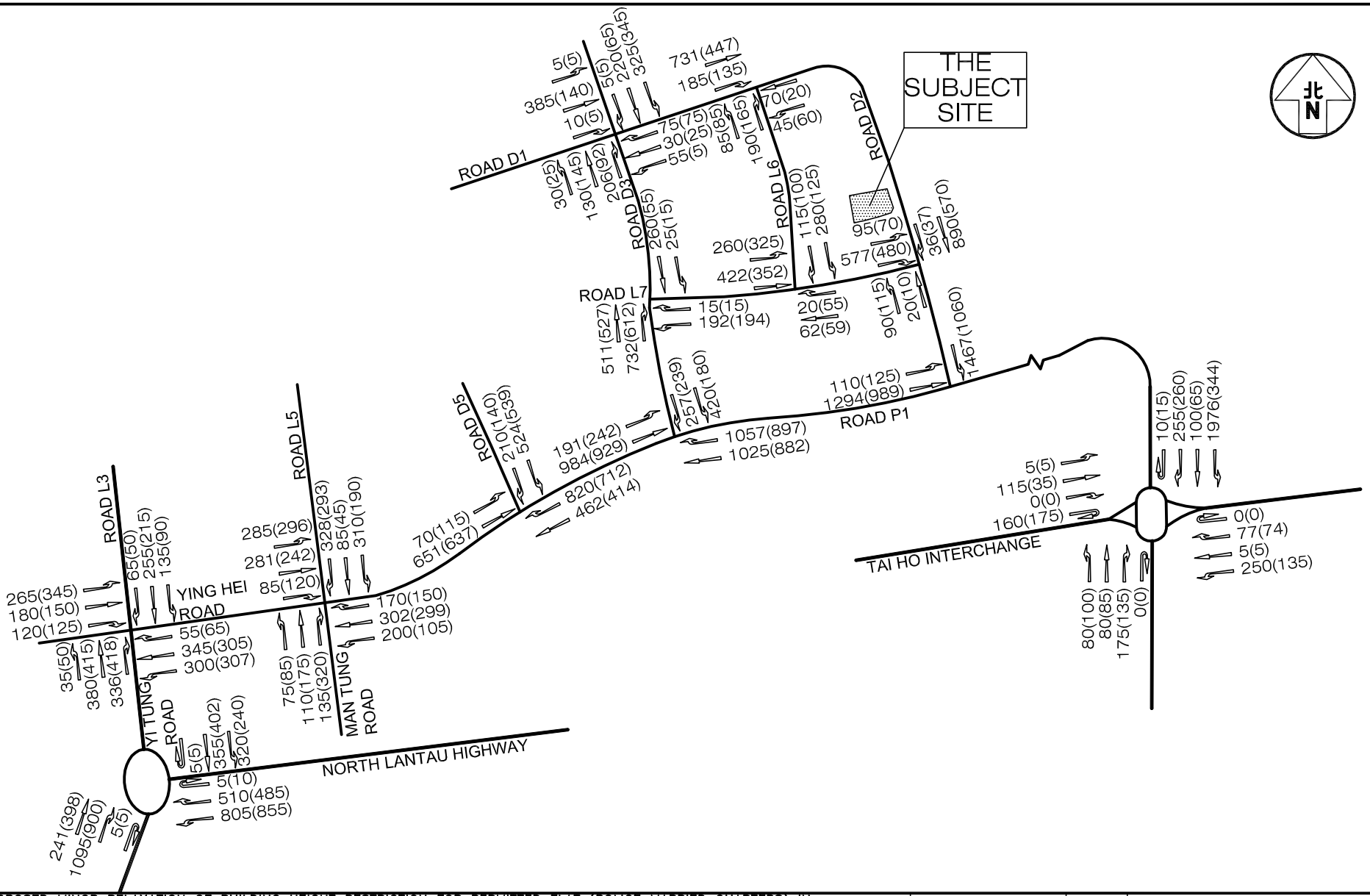

Project Title	PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND	J7372	Figure No. 3.3 / Revision C
Figure Title	2036 PEAK HOUR TRAFFIC FLOWS WITH THE PROPOSED JPOMQ AT AREA 134 IN TCNTE		Designed by L C H / Drawn by N C M / Checked by K C
			Scale in A4 N.T.S. / Date 10 SEP 2025

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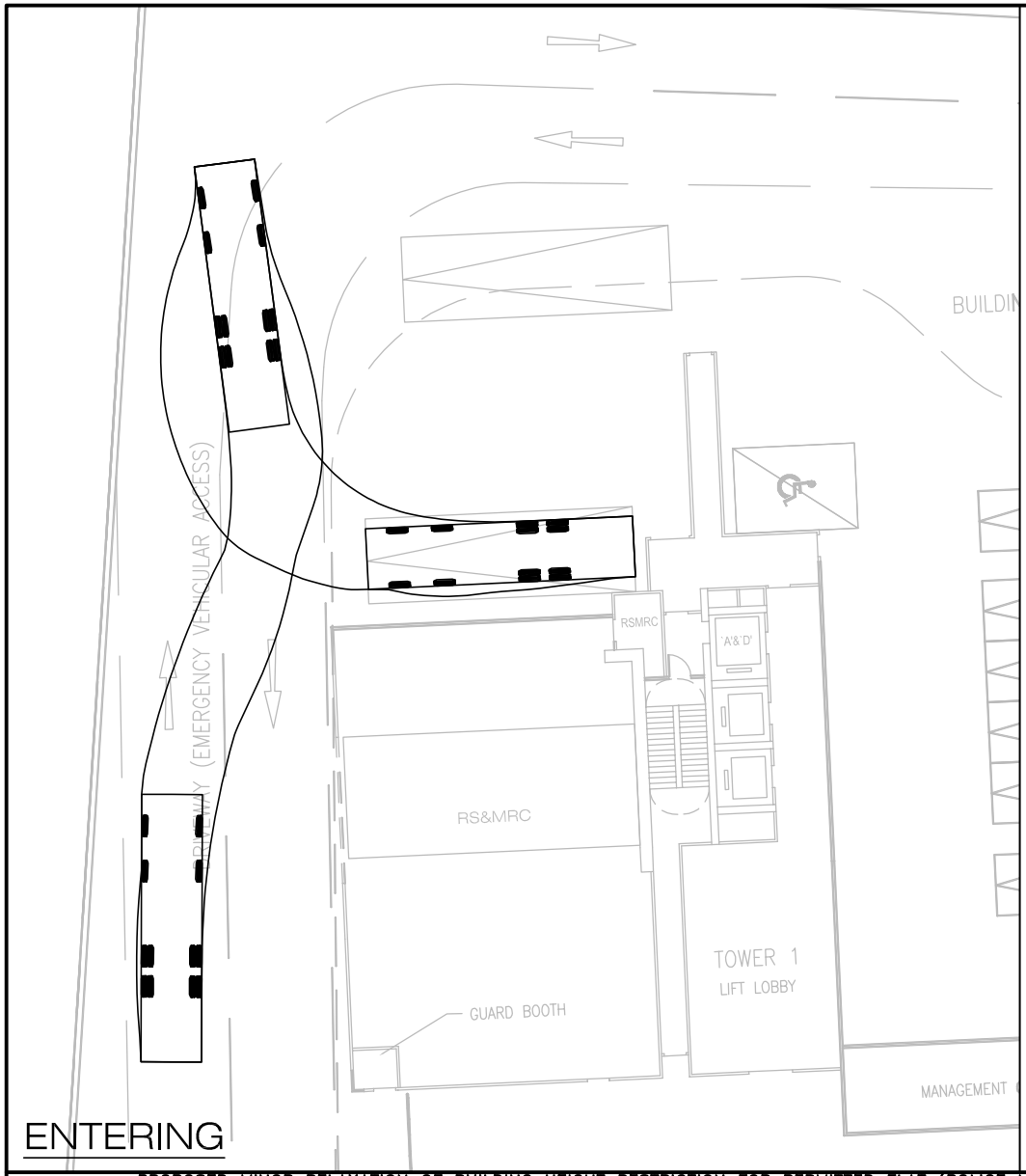
Appendix A– Swept Path Analysis



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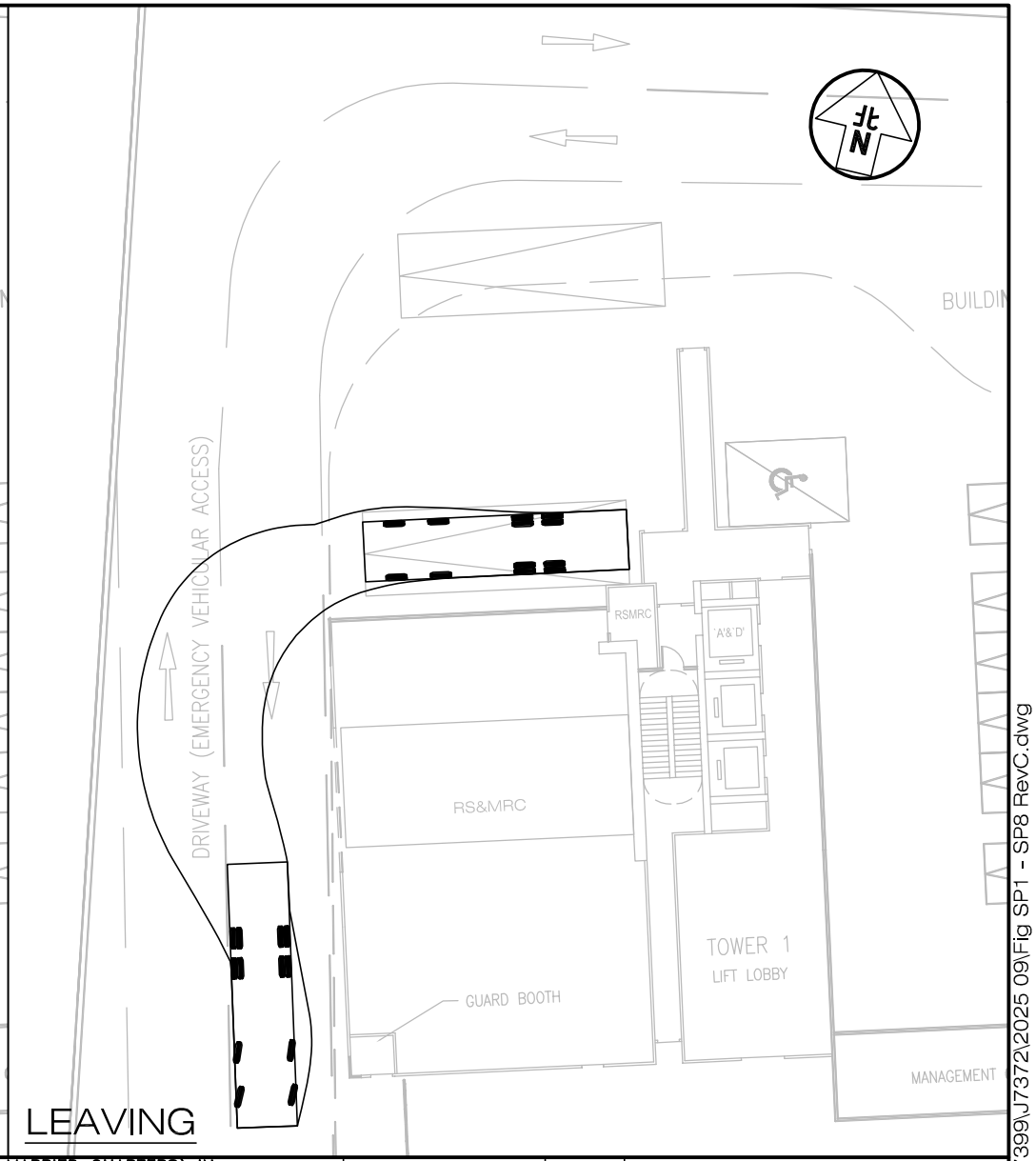

LEAVING

Project Title: PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND — J7372

Figure Title

SWEPT PATH OF HGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY HGV ON G/F

Figure No.	Revision
SP1	C

Designed by	Drawn by	Checked by
L C H	N C M	K C

Scale in A4	Date
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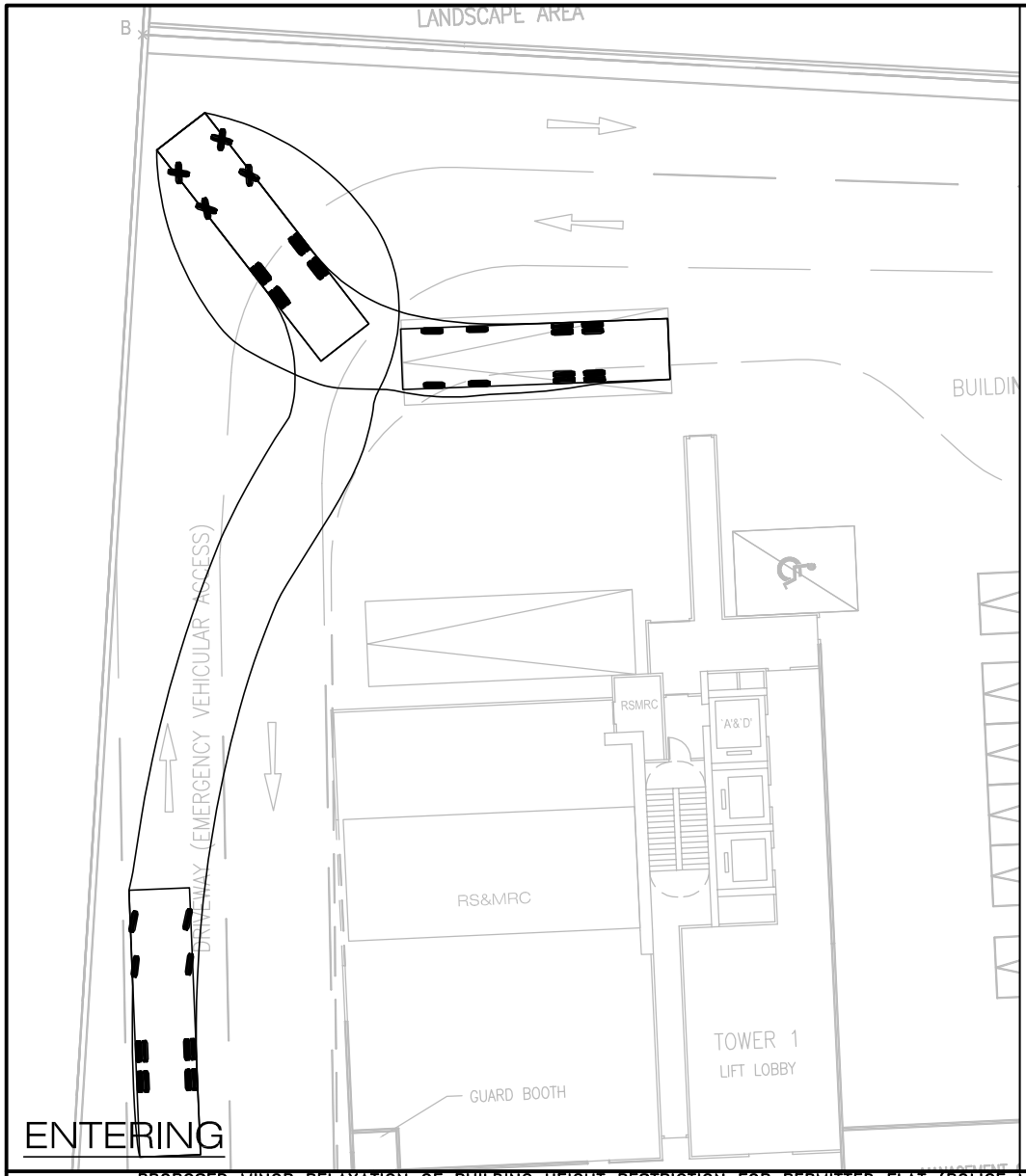

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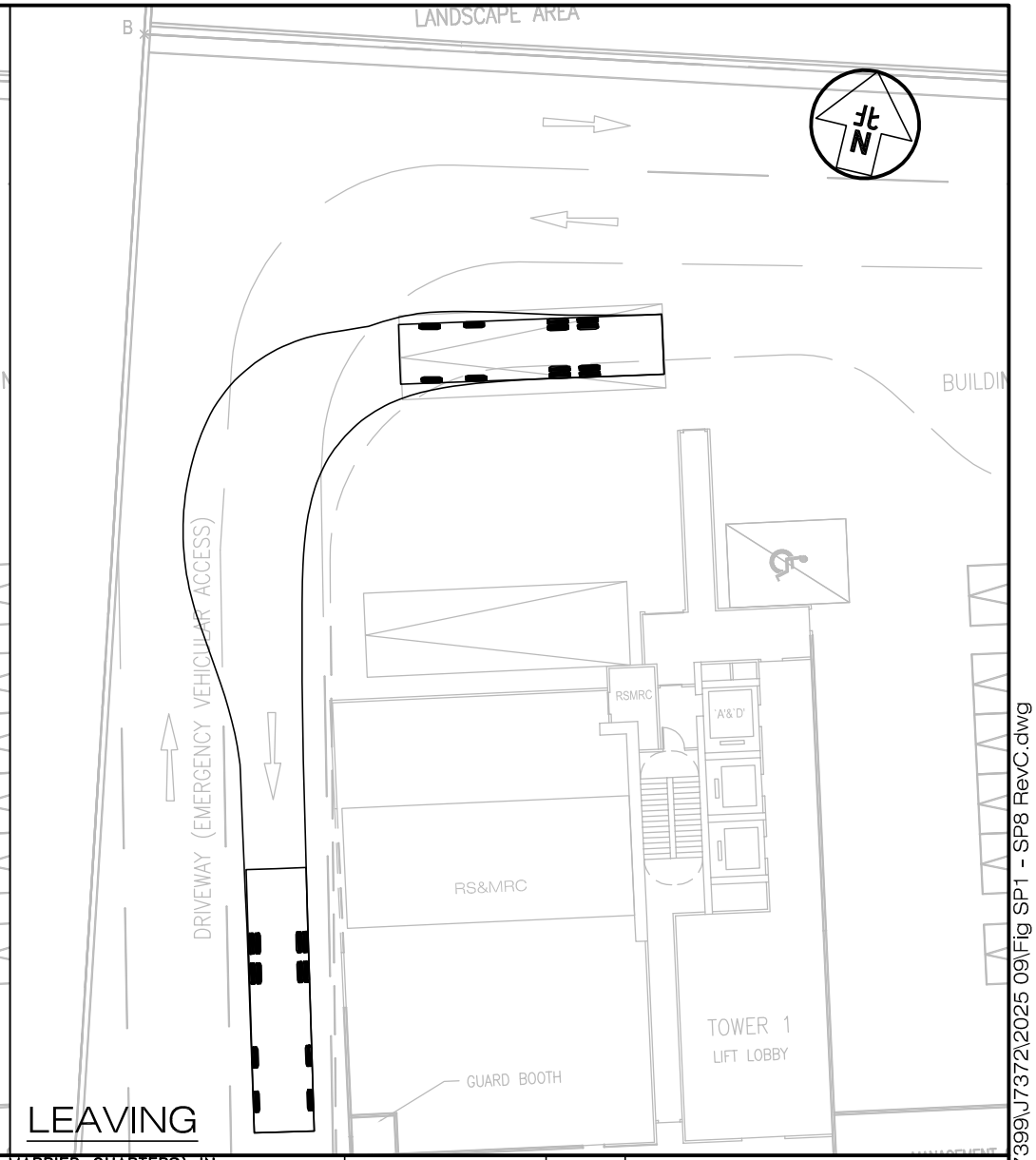

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Figure Title

SWEPT PATH OF HGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY HGV ON G/F

Figure No.	Revision
SP2	C

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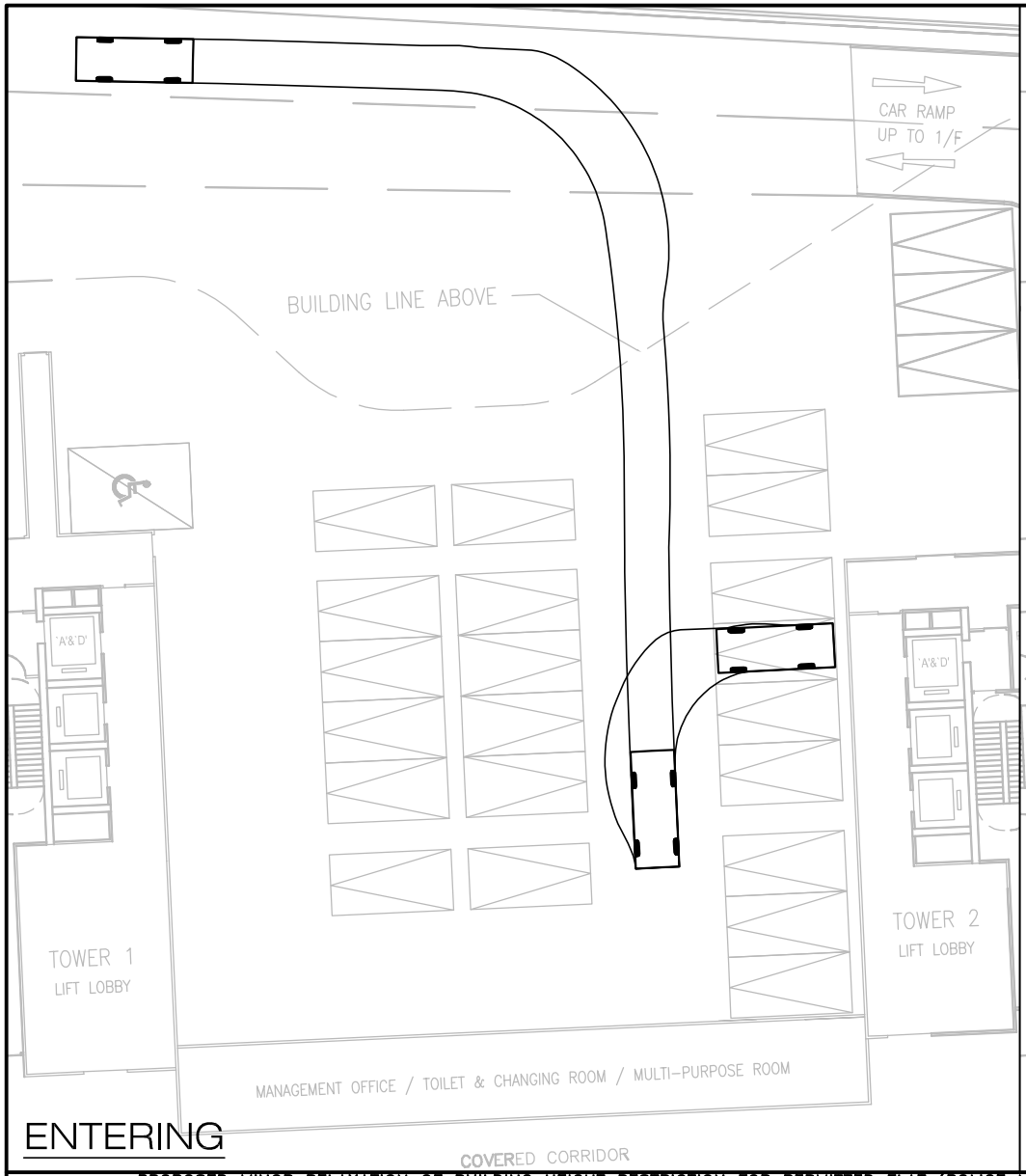

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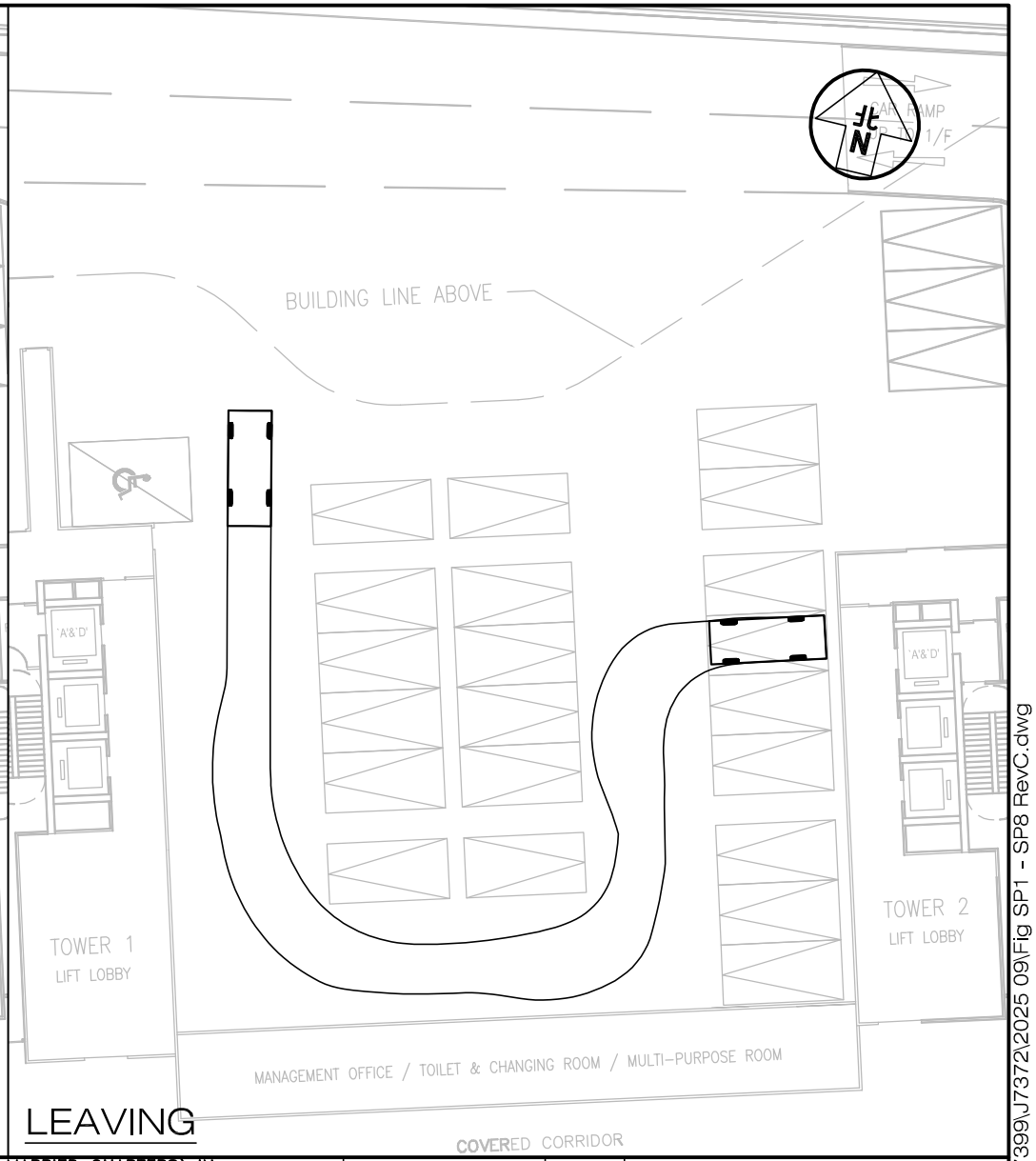

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Figure Title

SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON G/F

Figure No.	Revision
SP3	C

Designed by	Drawn by	Checked by
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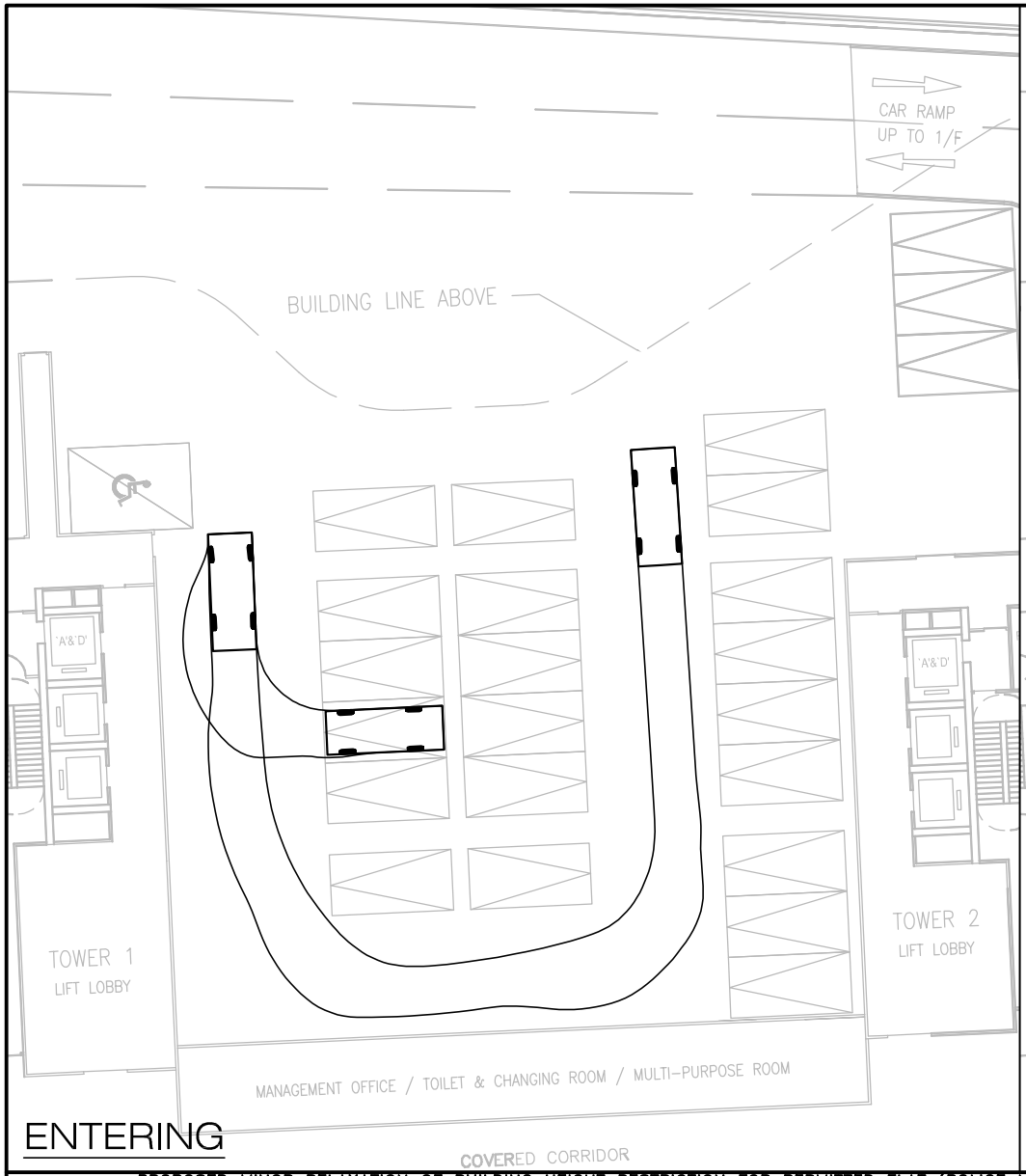

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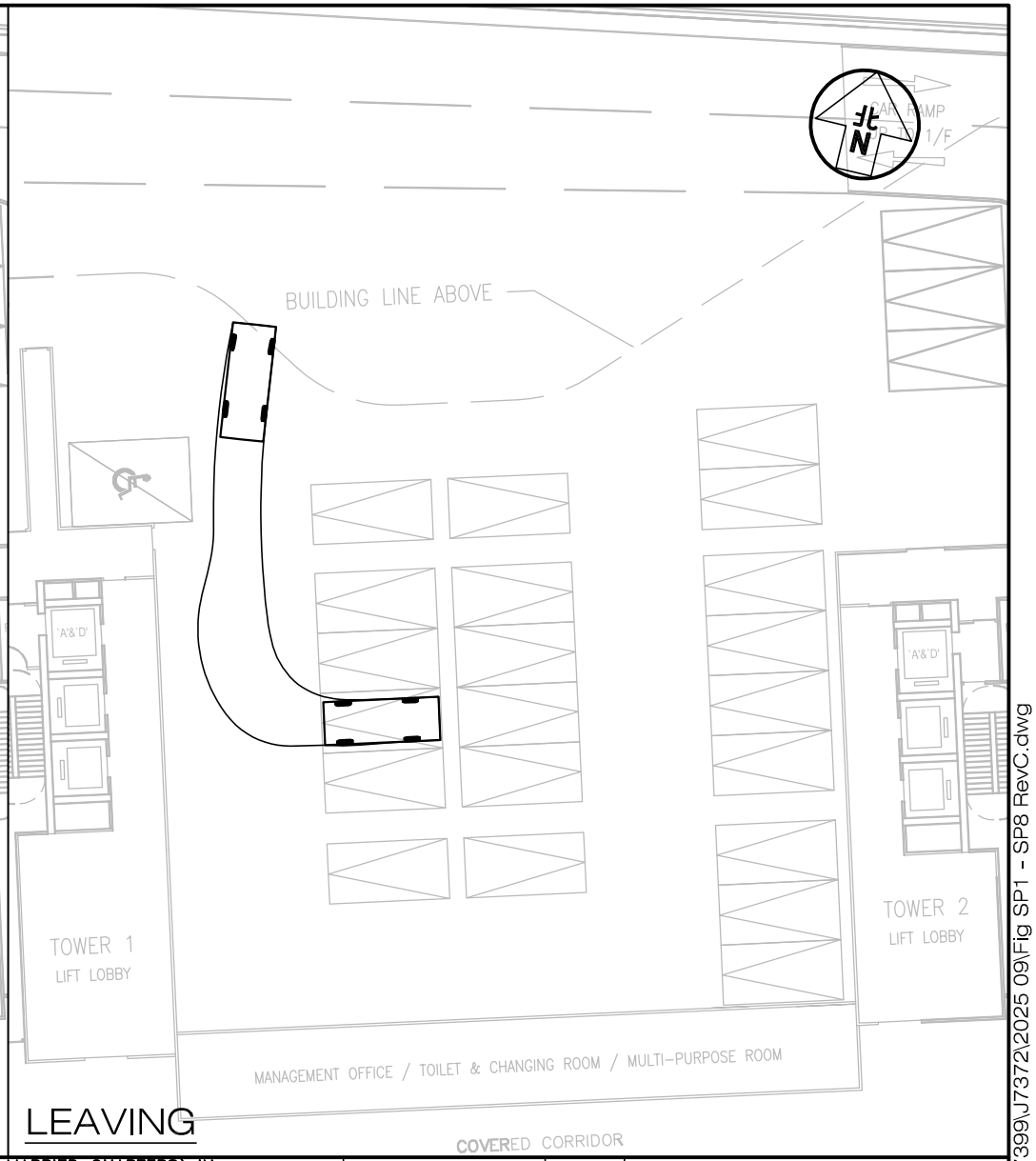

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Figure Title

SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON G/F

Figure No.	Revision
SP4	C

Designed by	Drawn by	Checked by
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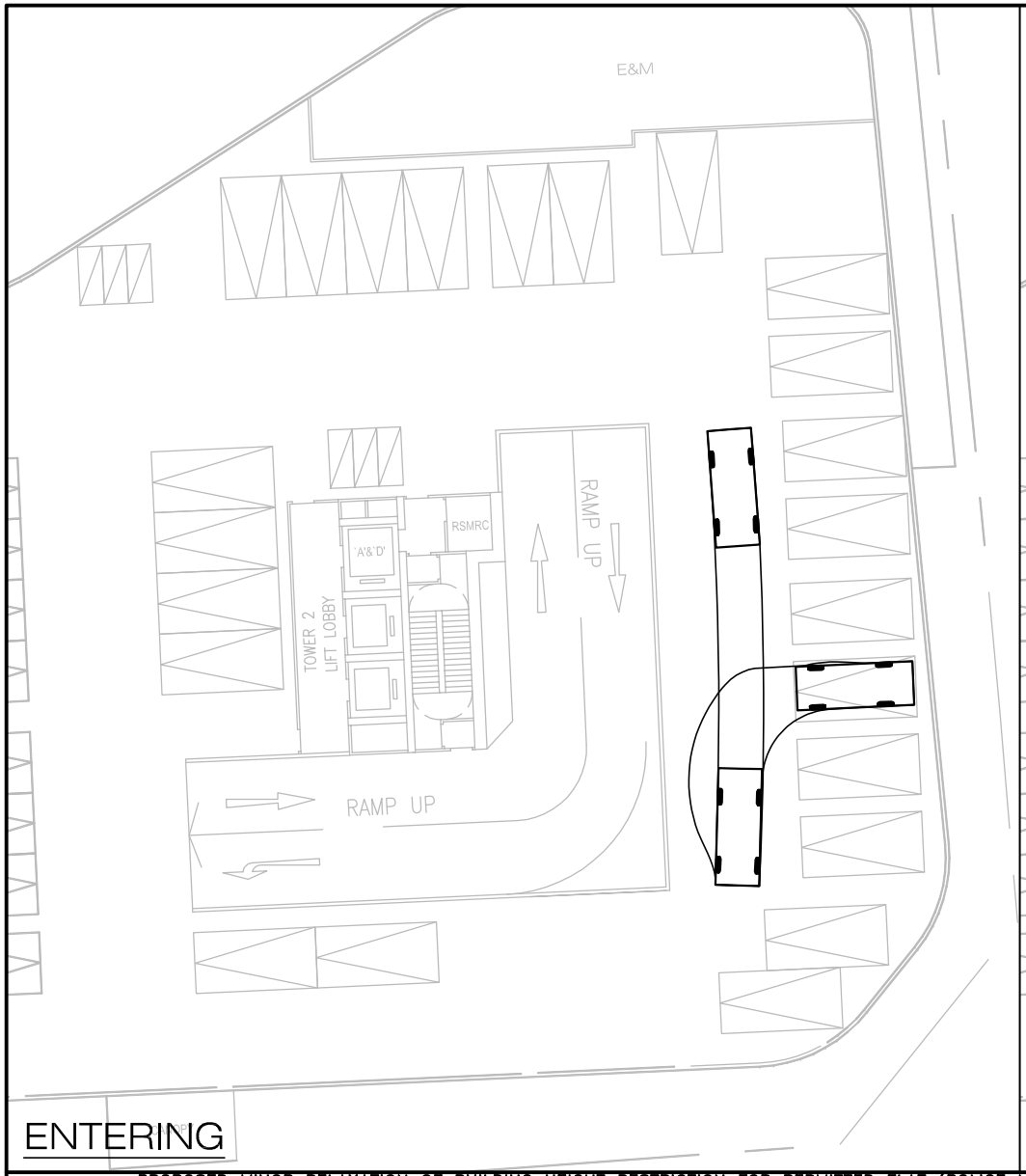

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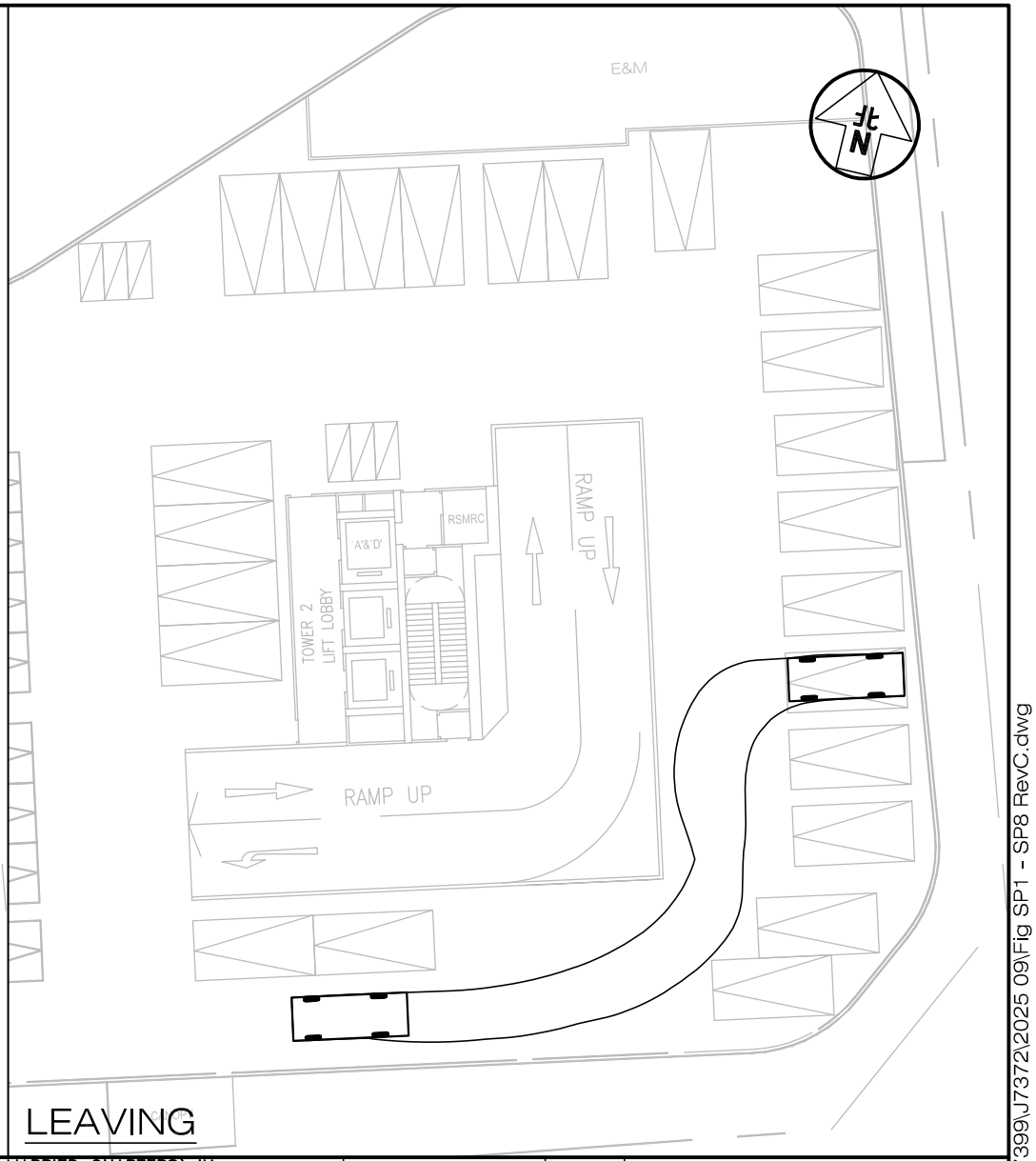

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Figure Title

SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON 1/F

Figure No.	Revision
SP5	C

Designed by	Drawn by	Checked by
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Scale in A4	Date
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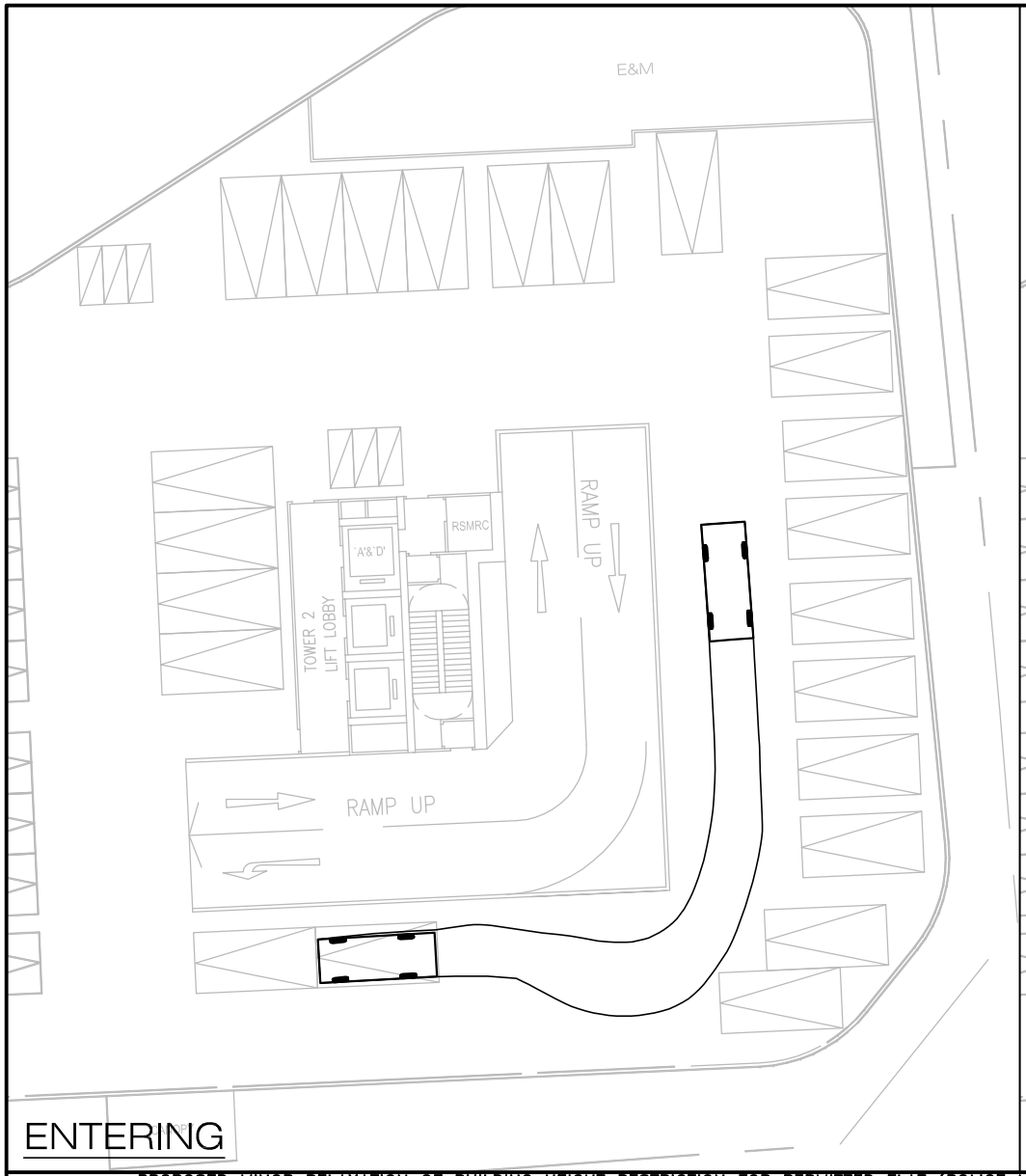

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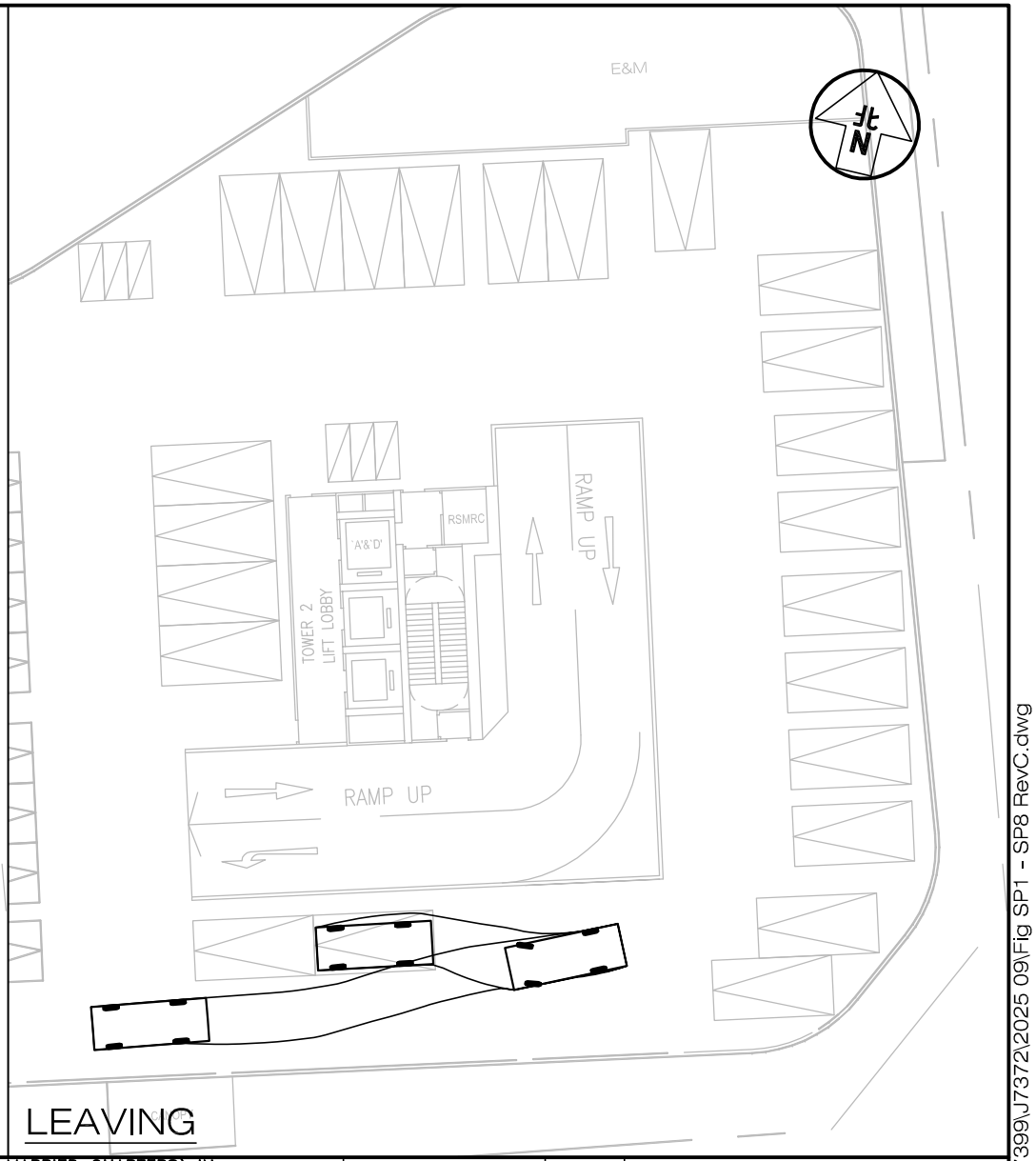

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Figure Title

SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON 1/F

Figure No.	Revision
SP6	C

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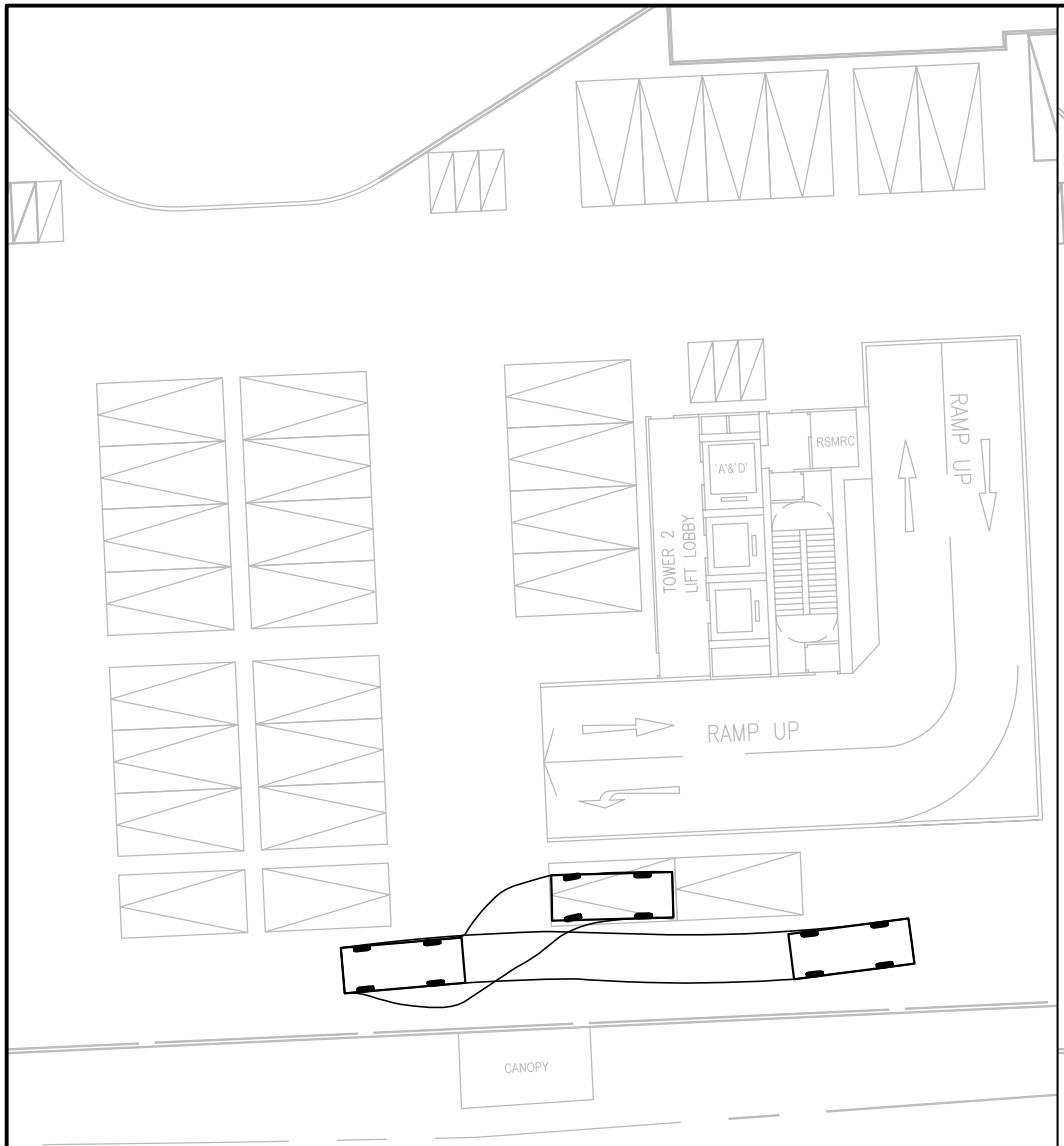

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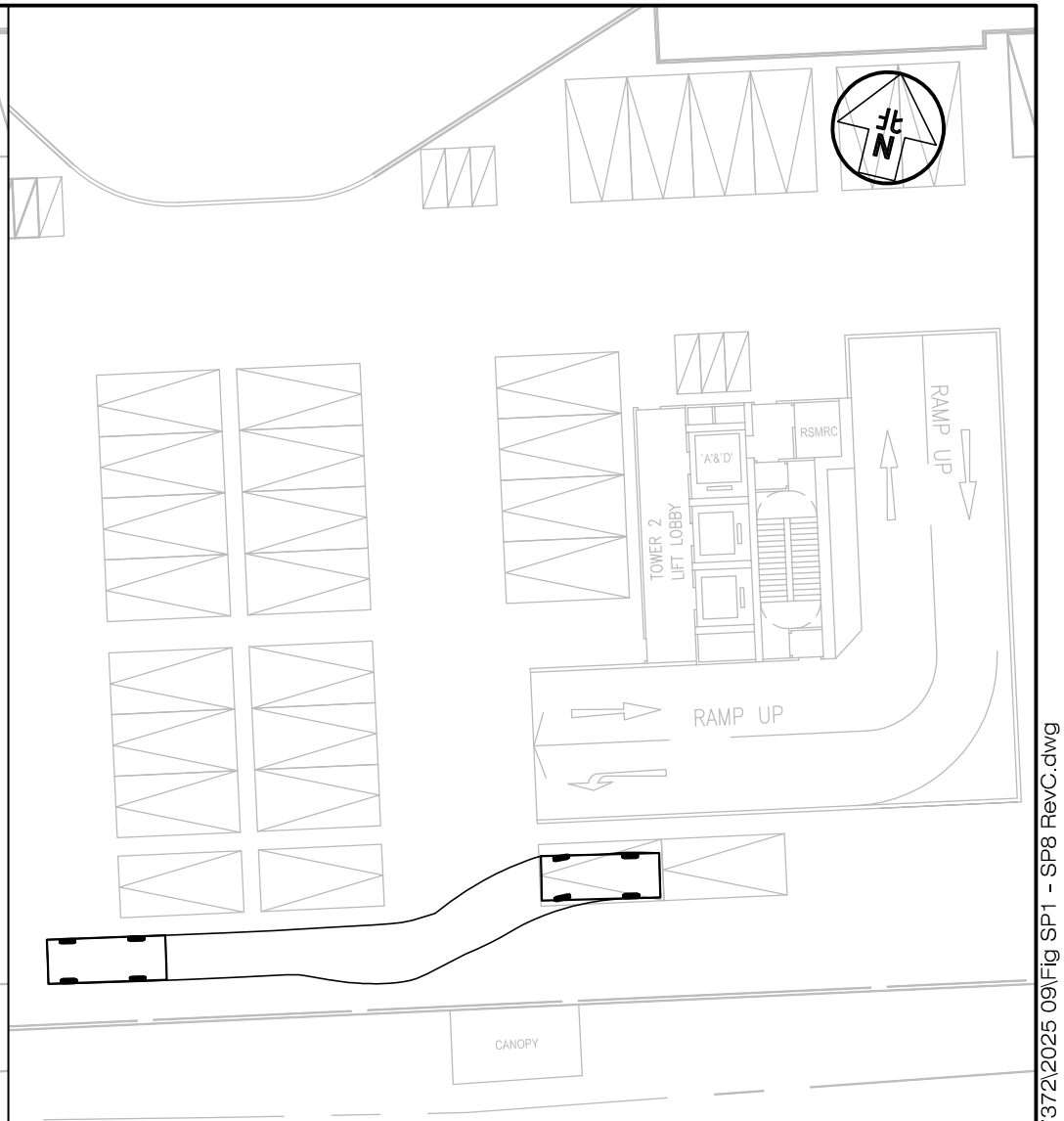

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Project Title: PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY(1)" ZONE AND PROPOSED FLAT (POLICE MARRIED QUARTERS) IN "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE IN GOVERNMENT LAND AT TUNG CHUNG AREAS 134 AND 135, TUNG CHUNG, LANTAU ISLAND J7372

Figure Title

SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON 1/F

Figure No.	Revision
SP7	C

Designed by	Drawn by	Checked by
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Scale in A4	Date
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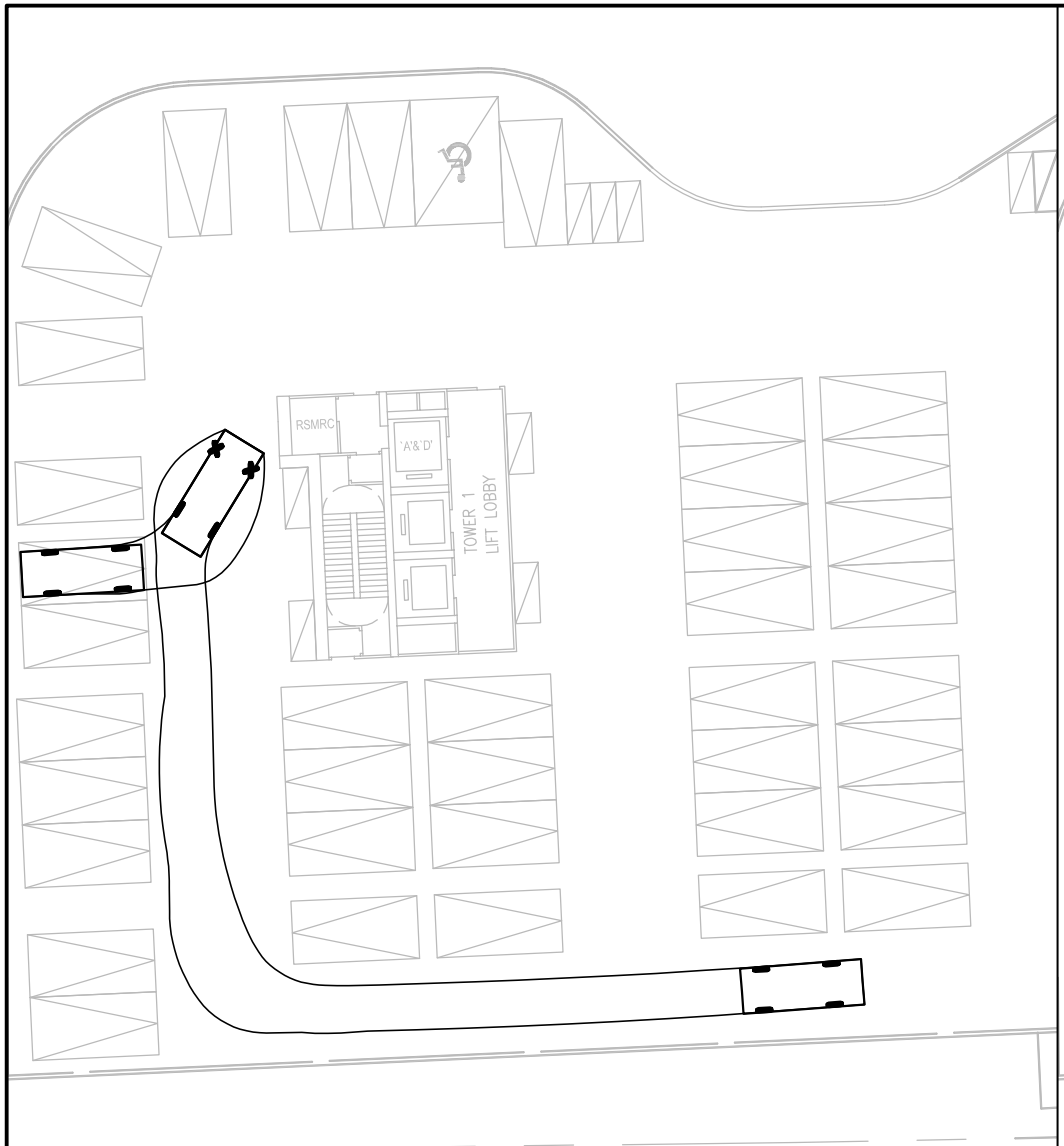

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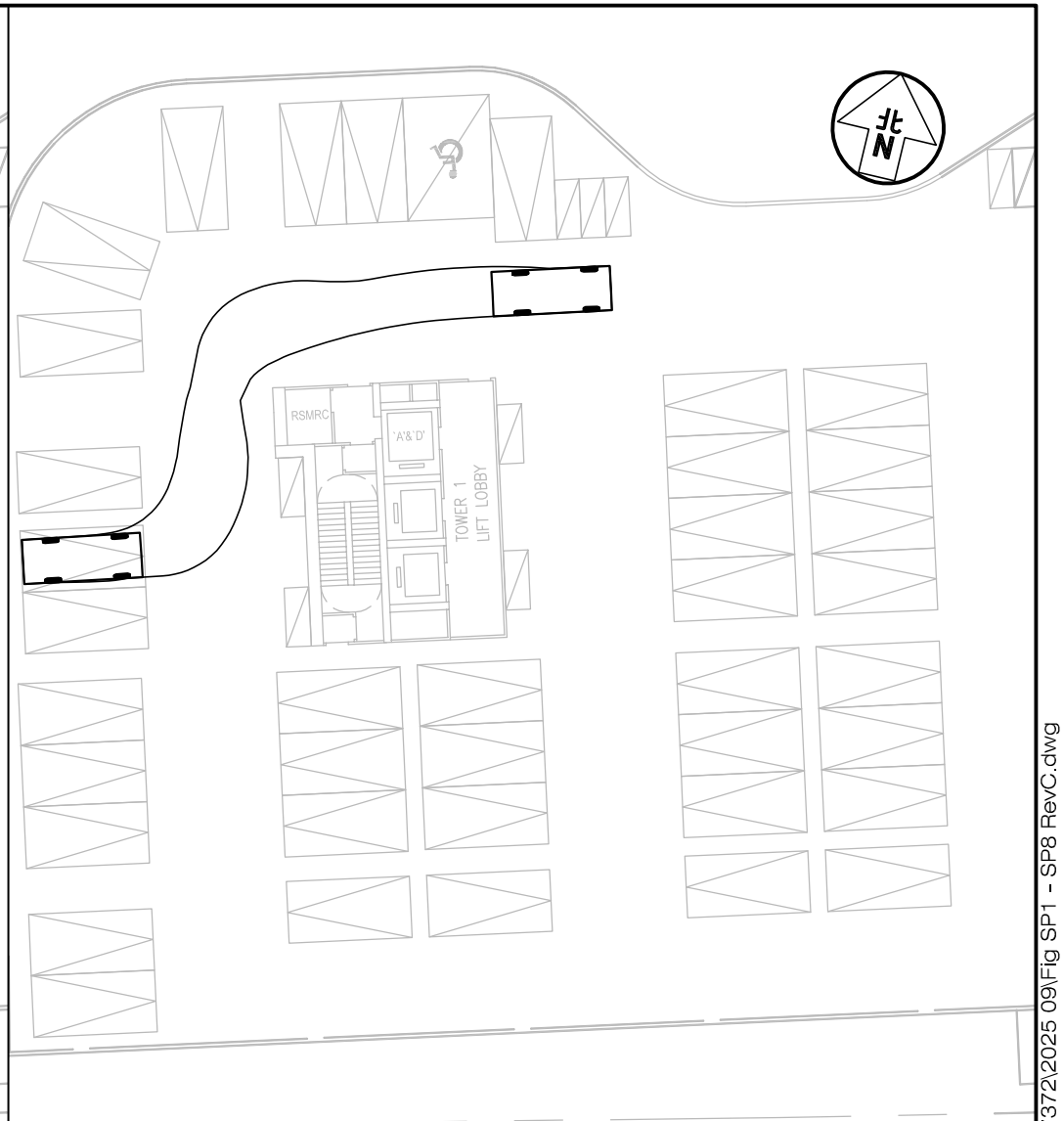

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Figure Title

SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON 1/F

Figure No.	Revision
SP8	C

Designed by	Drawn by	Checked by
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Scale in A4	Date
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Appendix B – Calculation

Signal Junction Analysis

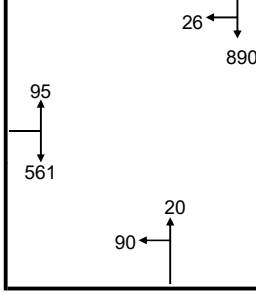
Junction: Road D2 / Road L7 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 1

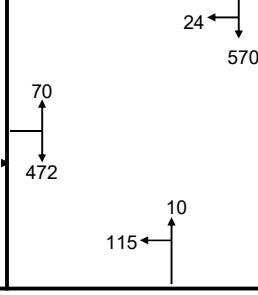
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D2 SB	SA	A1	1	3.30				1945	292	0.150	0.150		1945	189	0.097	
	SA	A2	1	3.30				2085	313	0.150			2085	203	0.097	
	SA+RT	A3	1	3.30	30.0		10	2075	311	0.150		15	2069	202	0.098	0.098
Road L7 EB	LT+RT	B1	2	3.50	18.0		100	1814	315	0.174	0.174	100	1814	261	0.144	0.144
	RT	B2	2	3.50	20.0		100	1958	341	0.174		100	1958	281	0.144	
Road D2 NB	LT	C1	3	3.80	18.0		100	1842	90	0.049	0.049	100	1842	115	0.062	0.062
	SA	C2	3	3.80				2135	20	0.009			2135	10	0.005	
pedestrian phase		D(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		
		E(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		
		F(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

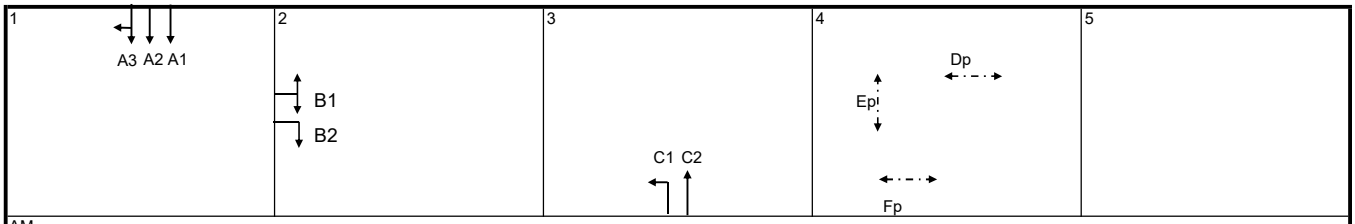


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.373		0.304	
L (s)	38		38	
C (s)	95		95	
practical y	0.540		0.540	
R.C. (%)	45%		78%	

Note:



AM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	11	G =	10	I/G =	10	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	11	G =	10	I/G =	10	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Signal Junction Analysis

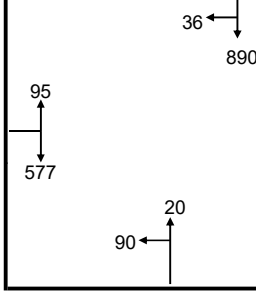
Junction: Road D2 / Road L7 Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) P. 2

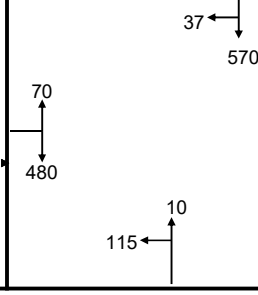
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D2 SB	SA	A1	1	3.30				1945	295	0.152	0.152		1945	194	0.100	0.100
	SA	A2	1	3.30				2085	316	0.152			2085	208	0.100	
	SA+RT	A3	1	3.30	30.0		10	2075	315	0.152		15	2069	205	0.099	
Road L7 EB	LT+RT	B1	2	3.50	18.0		100	1814	323	0.178	0.178	100	1814	265	0.146	0.146
	RT	B2	2	3.50	20.0		100	1958	349	0.178		100	1958	285	0.146	
Road D2 NB	LT	C1	3	3.80	18.0		100	1842	90	0.049	0.049	100	1842	115	0.062	0.062
	SA	C2	3	3.80				2135	20	0.009			2135	10	0.005	
pedestrian phase		D(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		
		E(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		
		F(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

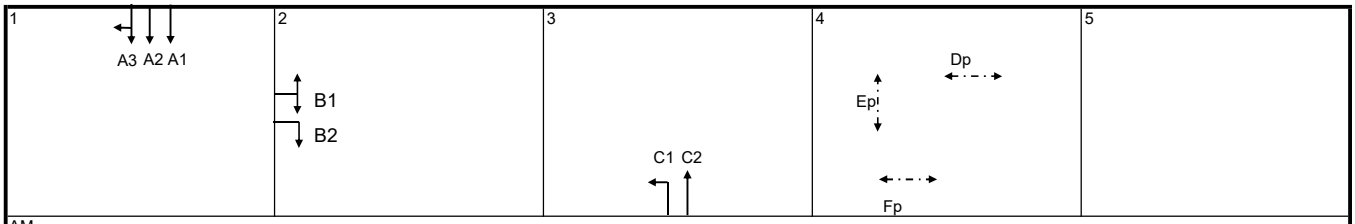


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.379		0.308	
L (s)	38		38	
C (s)	95		95	
practical y	0.540		0.540	
R.C. (%)	43%		75%	

Note:



AM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	11	G =	10	I/G =	10	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	11	G =	10	I/G =	10	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Signal Junction Analysis

Junction: Road P1 / Road D2 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 3

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road P1 EB	LT	A1	1	3.30	15.0		100	1768	110	0.062		100	1768	125	0.071	0.071
	SA	A2	1,3	3.30				2085	647	0.310	0.310		2085	495	0.237	
	SA	A3	1,3	3.30				2085	646	0.310			2085	494	0.237	
Road D2 SB	LT	B1	2	3.40	15.0		100	1777	462	0.260	0.260	100	1777	335	0.189	0.189
	LT	B2	2	3.40	15.0		100	1905	495	0.260		100	1905	359	0.188	
	LT	B3	2	3.40	15.0		100	1905	494	0.259		100	1905	358	0.188	
pedestrian phase		C(p)	3		min crossing time =		14	sec GM +		12		sec FGM =		26	sec	

AM Traffic Flow (pcu/hr)

1451

110

1294

PM Traffic Flow (pcu/hr)

1052

125

989

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1,3+2		1+2	
Sum y	0.570		0.259	
L (s)	9		35	
C (s)	75		75	
practical y	0.792		0.480	
R.C. (%)	39%		85%	

Note:

1	2	3	4	5
A1, A2, A3	B3 B2 B1	Cp, A2, A3		
AM				
G = I/G = 6	G = I/G = 5	G = I/G =	G = I/G =	G = I/G =
G = I/G =	G = I/G =	G = I/G =	G = I/G =	G = I/G =
PM				
G = I/G = 5	G = I/G = 4	G = 14 I/G = 14	G = I/G =	G = I/G =
G = I/G =	G = I/G =	G = I/G =	G = I/G =	G = I/G =

Signal Junction Analysis

Junction: Road P1 / Road D2 Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) P. 4

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road P1 EB	LT	A1	1	3.30	15.0		100	1768	110	0.062		100	1768	125	0.071	0.071
	SA	A2	1,3	3.30				2085	647	0.310	0.310		2085	495	0.237	
	SA	A3	1,3	3.30				2085	646	0.310			2085	494	0.237	
Road D2 SB	LT	B1	2	3.40	15.0		100	1777	467	0.263	0.263	100	1777	337	0.190	0.190
	LT	B2	2	3.40	15.0		100	1905	500	0.262		100	1905	361	0.190	
	LT	B3	2	3.40	15.0		100	1905	500	0.262		100	1905	362	0.190	
pedestrian phase		C(p)	3		min crossing time =		14	sec GM +		12		sec FGM =		26	sec	

AM Traffic Flow (pcu/hr)

1467

110

1294

PM Traffic Flow (pcu/hr)

1060

125

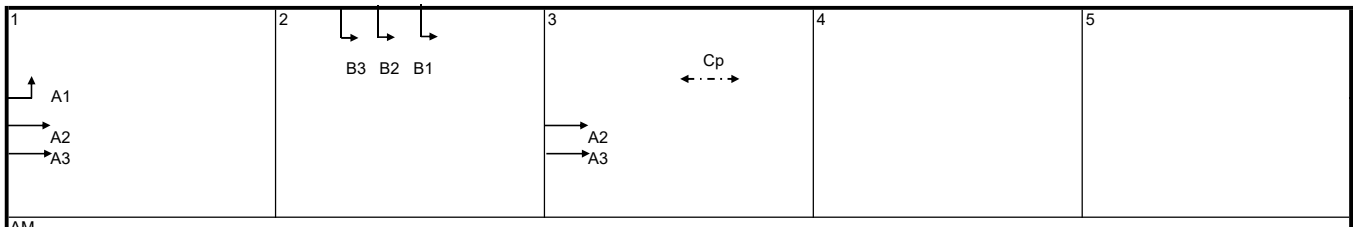
989

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

Note:

	AM Peak		PM Peak	
Group	1,3+2		1+2	
Sum y	0.573		0.260	
L (s)	9		35	
C (s)	75		75	
practical y	0.792		0.480	
R.C. (%)	38%		84%	



AM																					
	G =	I/G =	6	G =	I/G =	5	G =		I/G =		G =	I/G =		G =	I/G =						
	G =	I/G =		G =	I/G =		G =		I/G =		G =	I/G =		G =	I/G =						
PM																					
	G =	I/G =	5	G =	I/G =	4	G =	14	I/G =	14	G =	I/G =		G =	I/G =						
	G =	I/G =		G =	I/G =		G =		I/G =		G =	I/G =		G =	I/G =						

Signal Junction Analysis

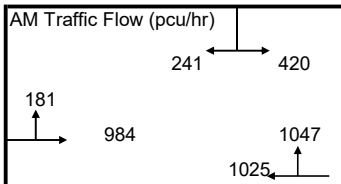
Junction: Road P1 / Road D3 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 5

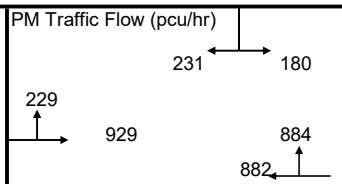
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road P1 EB	LT	A1	3	3.20	15.0		100	1759	181	0.103		100	1759	229	0.130	0.130
	SA	A2	1	3.20				2075	492	0.237	0.237		2075	465	0.224	
	SA	A3	1	3.20				2075	492	0.237			2075	465	0.224	
Road P1 WB	SA	B1	1,2	3.50				1965	1025	0.522			1965	882	0.449	
	RT	B2	2	3.00	25.0		100	1939	524	0.270	0.270	100	1939	442	0.228	0.228
	RT	B3	2	3.00	25.0		100	1939	523	0.270		100	1939	442	0.228	
Road D3 SB	LT	C1	3	3.40	15.0		100	1777	206	0.116		100	1777	180	0.101	
	LT+RT	C2	3	3.40	20.0		100	1949	226	0.116	0.116	100	1949	115	0.059	
	RT	C3	3	3.40	25.0		100	1976	229	0.116		100	1976	116	0.059	
pedestrian phase		F(p)	4		min crossing time =		14	sec GM +		12	sec FGM =		26	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

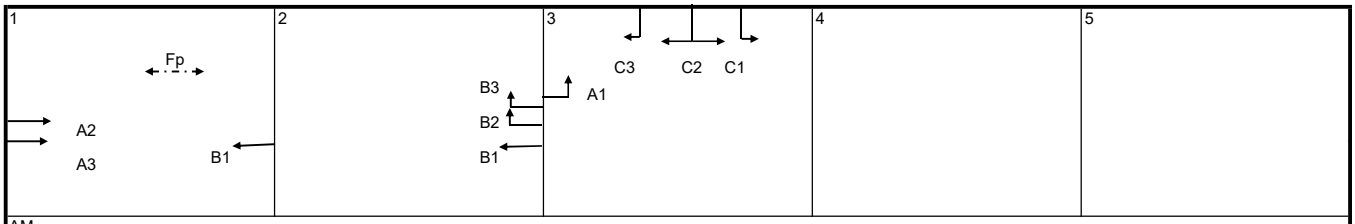


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		2+3	
Sum y	0.623		0.358	
L (s)	12		40	
C (s)	95		95	
practical y	0.786		0.521	
R.C. (%)	26%		45%	

Note:



AM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	5	G =		I/G =		G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =	14	I/G =	14	G =		I/G =	5	G =		I/G =	9	G =		I/G =		G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Signal Junction Analysis

Junction: Road P1 / Road D3 Job Number: J7372

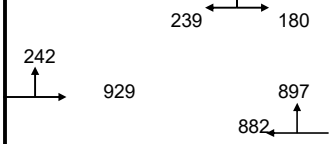
Scenario: Future Condition (With Proposed JPOMQ) P. 6

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road P1 EB	LT	A1	3	3.20	15.0		100	1759	191	0.109		100	1759	242	0.138	0.138
	SA	A2	1	3.20				2075	492	0.237	0.237		2075	465	0.224	
	SA	A3	1	3.20				2075	492	0.237			2075	465	0.224	
Road P1 WB	SA	B1	1,2	3.00				1915	1025	0.535			1915	882	0.461	
	RT	B2	2	3.00	25.0		100	1939	529	0.273	0.273	100	1939	449	0.232	0.232
	RT	B3	2	3.00	25.0		100	1939	528	0.272		100	1939	448	0.231	
Road D3 SB	LT	C1	3	3.40	15.0		100	1777	211	0.119		100	1777	180	0.101	
	LT+RT	C2	3	3.40	20.0		100	1949	231	0.119	0.119	100	1949	119	0.061	
	RT	C3	3	3.40	25.0		100	1976	235	0.119		100	1976	120	0.061	
pedestrian phase		F(p)	4		min crossing time =		14	sec GM +		12		sec FGM =		26	sec	

AM Traffic Flow (pcu/hr)

PM Traffic Flow (pcu/hr)

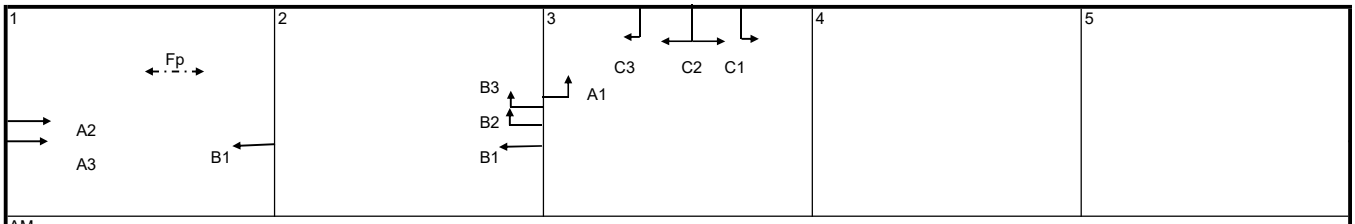


S=1940+100(W–3.25) **S=2080+100(W–3.25)**

S_M=S÷(1+1.5f/r) **S_M=(S–230)÷(1+1.5f/r)**

	AM Peak		PM Peak	
Group	1+2+3		2+3	
Sum y	0.628		0.369	
L (s)	12		40	
C (s)	95		95	
practical y	0.786		0.521	
R.C. (%)	25%		41%	

Note:



AM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	5	G =		I/G =		G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =	14	I/G =	14	G =		I/G =	5	G =		I/G =	9	G =		I/G =		G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Signal Junction Analysis

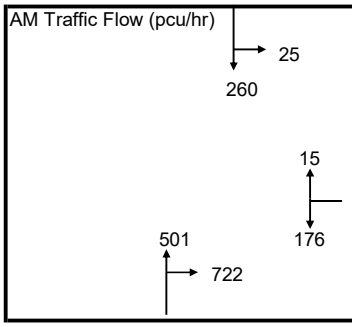
Junction: Road D3 / Road L7 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 7

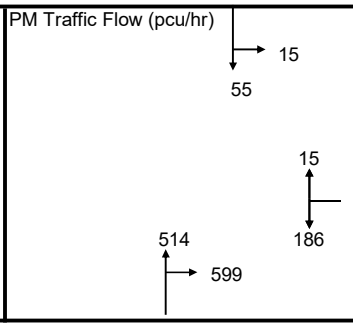
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D3 NB	SA	A1	1	3.50				1965	402	0.205	0.205		1965	365	0.186	
	SA+RT	A2	1	3.50	30.0		76	2028	415	0.205		61	2043	379	0.186	
	RT	A3	1	3.50	25.0		100	1986	406	0.204		100	1986	369	0.186	0.186
Road L7 WB	LT	B1	2	3.30	15.0		100	1768	92	0.052	0.052	100	1768	97	0.055	
	LT+RT	B2	2	3.30	15.0		100	1895	99	0.052		100	1895	104	0.055	0.055
Road D3 SB	LT+SA	C1	3	3.65	15.0		18	1945	136	0.070		45	1895	33	0.017	
	SA	C2	3	3.65				2120	149	0.070	0.070		2120	37	0.017	
pedestrian phase		D(p)	5		min crossing time =			12	sec GM +		10	sec FGM =		22	sec	
		E(p)	5		min crossing time =			12	sec GM +		10	sec FGM =		22	sec	
		F(p)	5		min crossing time =			9	sec GM +		7	sec FGM =		16	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

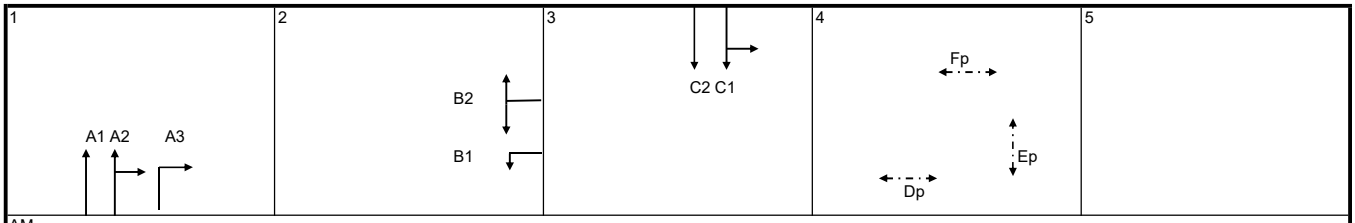


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.327		0.241	
L (s)	41		47	
C (s)	90		90	
practical y	0.490		0.430	
R.C. (%)	50%		79%	

Note:



AM																			
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	9	G =	12	I/G =	13	G =		I/G =
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =
PM																			
	G =		I/G =	5	G =		I/G =	5	G =	5	I/G =	9	G =	12	I/G =	13	G =		I/G =
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =

Signal Junction Analysis

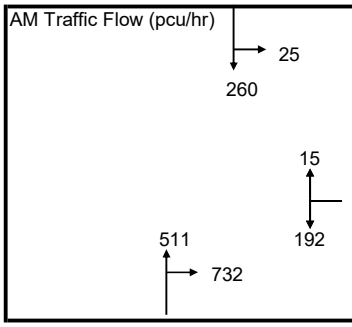
Junction: Road D3 / Road L7 Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) P. 8

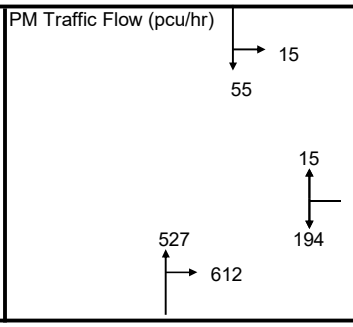
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D3 NB	SA	A1	1	3.50				1965	409	0.208	0.208		1965	373	0.190	
	SA+RT	A2	1	3.50	30.0		76	2028	422	0.208		61	2043	388	0.190	
	RT	A3	1	3.50	25.0		100	1986	412	0.207		100	1986	378	0.190	0.190
Road L7 WB	LT	B1	2	3.30	15.0		100	1768	100	0.057	0.057	100	1768	101	0.057	
	LT+RT	B2	2	3.30	15.0		100	1895	107	0.056		100	1895	108	0.057	0.057
Road D3 SB	LT+SA	C1	3	3.65	15.0		18	1945	136	0.070		45	1895	33	0.017	
	SA	C2	3	3.65				2120	149	0.070	0.070		2120	37	0.017	
pedestrian phase		D(p)	5		min crossing time =			12	sec GM +		10	sec FGM =		22	sec	
		E(p)	5		min crossing time =			12	sec GM +		10	sec FGM =		22	sec	
		F(p)	5		min crossing time =			9	sec GM +		7	sec FGM =		16	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

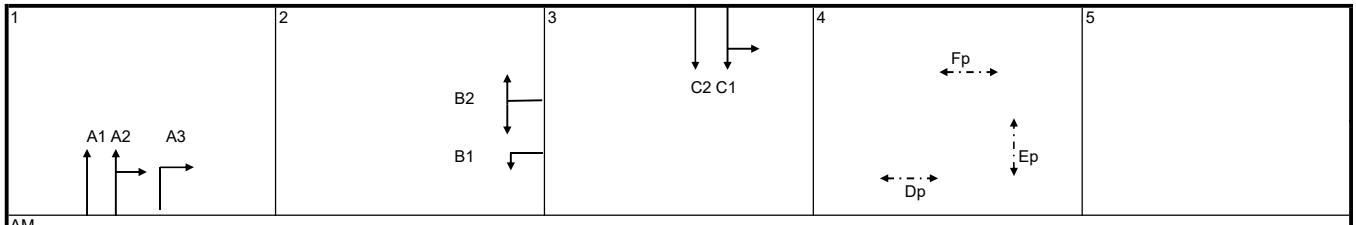


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.335		0.247	
L (s)	41		47	
C (s)	90		90	
practical y	0.490		0.430	
R.C. (%)	46%		74%	

Note:



AM

G = I/G = 5 | G = I/G = 5 | G = I/G = 9 | G = 12 I/G = 13 | G = I/G =

G = I/G = | G = I/G = | G = I/G = | G = I/G = | G = I/G =

PM

G = I/G = 5 | G = I/G = 5 | G = 5 I/G = 9 | G = 12 I/G = 13 | G = I/G =

G = I/G = | G = I/G = | G = I/G = | G = I/G = | G = I/G =

Signal Junction Analysis

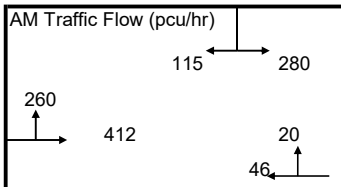
Junction: Road L6 / Road L7 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 9

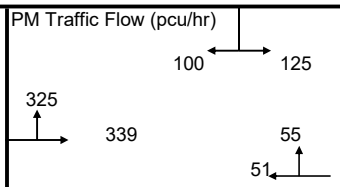
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road L7 WB	SA+RT	A1	1	3.65	25.0		27	1948	66	0.034		50	1922	106	0.055	0.055
Road L6 SB	LT+RT	B1	2	3.65	20.0		100	1842	395	0.214	0.214	100	1842	225	0.122	0.122
Road L7 EB	LT	C1	3	3.30	15.0		100	1768	260	0.147		100	1768	325	0.184	0.184
	SA	C2	3	3.30				2085	412	0.198	0.198		2085	339	0.163	
pedestrian phase		D(p)	4		min crossing time =		7	sec GM +		5	sec FGM =		12	sec		
		E(p)	4		min crossing time =		7	sec GM +		5	sec FGM =		12	sec		
		F(p)	4		min crossing time =		8	sec GM +		6	sec FGM =		14	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

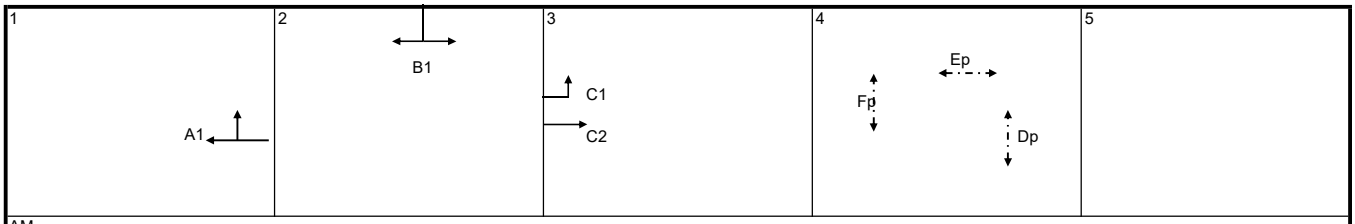


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.412		0.361	
L (s)	38		32	
C (s)	90		90	
practical y	0.520		0.580	
R.C. (%)	26%		61%	

Note:



AM	G =	5	I/G =	6	G =		I/G =	5	G =		I/G =	9	G =	7	I/G =	8	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	
PM	G =		I/G =	6	G =		I/G =	5	G =		I/G =	9	G =	7	I/G =	8	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	

Signal Junction Analysis

Junction: Road L6 / Road L7 Job Number: J7372

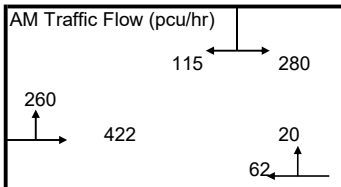
Scenario: Future Condition (With Proposed JPOMQ) P. 10

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

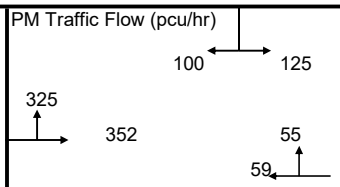
Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road L7 WB SA+RT	A1	1	3.65	25.0		27	1948	82	0.042		50	1922	114	0.059	0.059
Road L6 SB LT+RT	B1	2	3.65	20.0		100	1842	395	0.214	0.214	100	1842	225	0.122	0.122
Road L7 EB LT	C1	3	3.30	15.0		100	1768	260	0.147		100	1768	325	0.184	0.184
SA	C2	3	3.30				2085	422	0.202	0.202		2085	352	0.169	

pedestrian phase	D(p)	4		min crossing time =	7	sec GM +	5	sec FGM =	12	sec		
	E(p)	4		min crossing time =	7	sec GM +	5	sec FGM =	12	sec		
	F(p)	4		min crossing time =	8	sec GM +	6	sec FGM =	14	sec		

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

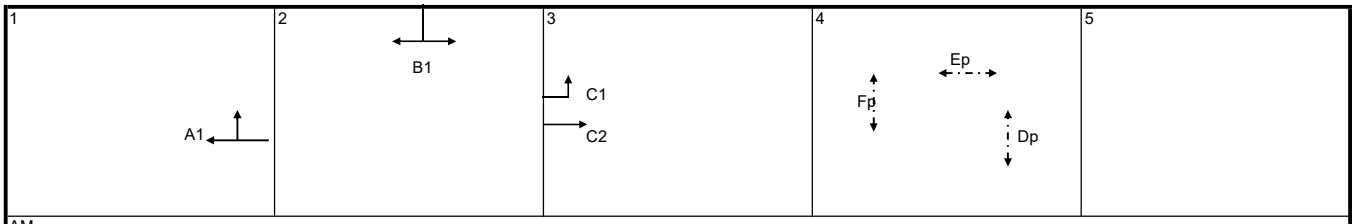


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

Note:

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.417		0.365	
L (s)	38		32	
C (s)	90		90	
practical y	0.520		0.580	
R.C. (%)	25%		59%	



AM

G = 5 I/G = 6 G = I/G = 5 G = I/G = 9 G = 7 I/G = 8 G = I/G =

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

PM

G = I/G = 6 G = I/G = 5 G = I/G = 9 G = 7 I/G = 8 G = I/G =

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

Signal Junction Analysis

Junction: Road D1 / Road D2 / Road D3 Job Number: J7372

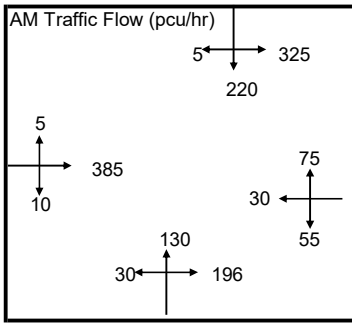
Scenario: Future Condition (Without Proposed JPOMQ) P. 11

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

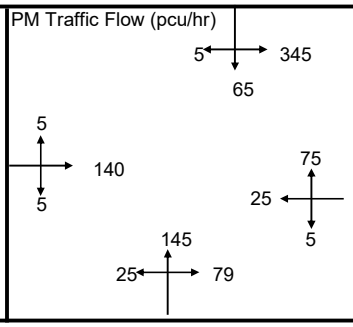
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D1 EB	LT+SA	A1	1	3.65	15.0		3	1974	193	0.098		7	1966	72	0.037	0.037
	SA+RT	A2	1	3.65	25.0		5	2114	207	0.098	0.098	6	2112	78	0.037	
Road D3 NB	LT+SA	B1	2	3.65	15.0		19	1943	160	0.082		20	1941	121	0.062	
	SA+RT	B2	2	3.65	25.0		100	2000	196	0.098	0.098	65	2040	128	0.063	0.063
Road D2 WB	LT+SA	C1	3	3.65	15.0		72	1847	77	0.042		17	1947	30	0.015	
	SA+RT	C2	3	3.65	25.0		90	2011	83	0.041		100	2000	75	0.038	
Road D3 SB	LT	D1	4	3.30	15.0		100	1768	168	0.095	0.095	100	1768	165	0.093	0.093
	LT+SA	D2	4	3.30	18.0		85	1947	185	0.095		100	1925	180	0.094	
	SA+RT	D3	4	3.30	25.0		3	2081	197	0.095		7	2076	70	0.034	

pedestrian phase	E(p)	5		min crossing time =	10	sec GM +	7	sec FGM =	17	sec
	F(p)	5		min crossing time =	9	sec GM +	7	sec FGM =	16	sec
	G(p)	5		min crossing time =	9	sec GM +	7	sec FGM =	16	sec
	H(p)	5		min crossing time =	11	sec GM +	9	sec FGM =	20	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

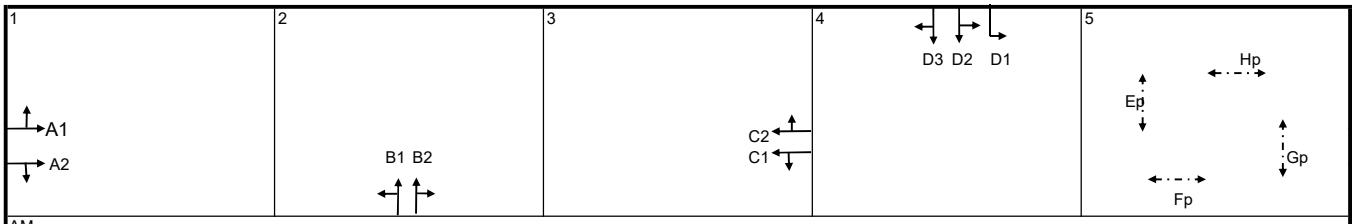


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

Note:

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.291		0.193	
L (s)	52		52	
C (s)	90		90	
practical y	0.380		0.380	
R.C. (%)	31%		97%	



AM	G =		I/G =	6	G =		I/G =	5	G =	5	I/G =	5	G =		I/G =	14	G =	10	I/G =	10
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	
PM	G =		I/G =	6	G =		I/G =	5	G =	5	I/G =	5	G =		I/G =	14	G =	10	I/G =	10
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	

Signal Junction Analysis

Junction: Road D1 / Road D2 / Road D3 Job Number: J7372

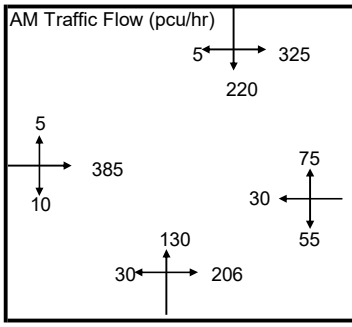
Scenario: Future Condition (With Proposed JPOMQ) P. 12

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

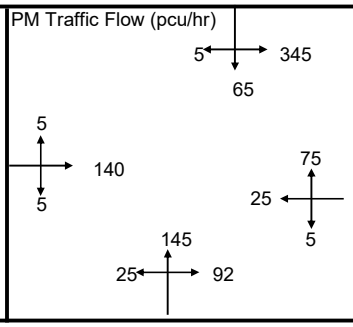
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D1 EB	LT+SA	A1	1	3.65	15.0		3	1974	193	0.098		7	1966	72	0.037	0.037
	SA+RT	A2	1	3.65	25.0		5	2114	207	0.098	0.098	6	2112	78	0.037	
Road D3 NB	LT+SA	B1	2	3.65	15.0		19	1943	160	0.082		20	1941	128	0.066	
	SA+RT	B2	2	3.65	25.0		100	2000	206	0.103	0.103	65	2040	134	0.066	0.066
Road D2 WB	LT+SA	C1	3	3.65	15.0		72	1847	77	0.042		17	1947	30	0.015	
	SA+RT	C2	3	3.65	25.0		90	2011	83	0.041		100	2000	75	0.038	
Road D3 SB	LT	D1	4	3.30	15.0		100	1768	168	0.095	0.095	100	1768	165	0.093	0.093
	LT+SA	D2	4	3.30	18.0		85	1947	185	0.095		100	1925	180	0.094	
	SA+RT	D3	4	3.30	25.0		3	2081	197	0.095		7	2076	70	0.034	

pedestrian phase	E(p)	5		min crossing time =	10	sec GM +	7	sec FGM =	17	sec
	F(p)	5		min crossing time =	9	sec GM +	7	sec FGM =	16	sec
	G(p)	5		min crossing time =	9	sec GM +	7	sec FGM =	16	sec
	H(p)	5		min crossing time =	11	sec GM +	9	sec FGM =	20	sec

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

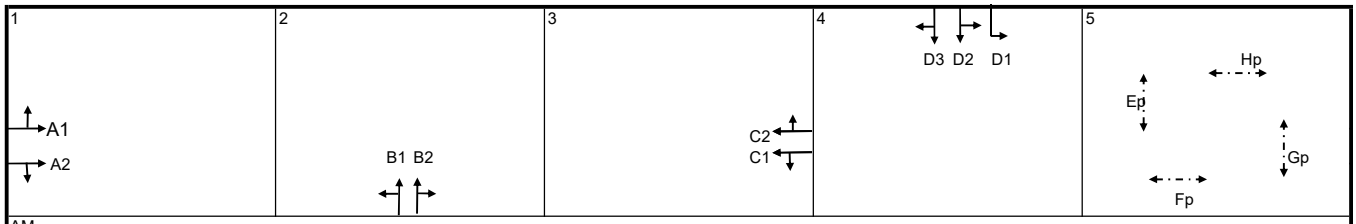


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.296		0.196	
L (s)	52		52	
C (s)	90		90	
practical y	0.380		0.380	
R.C. (%)	28%		94%	

Note:



AM	G =		I/G =	6	G =		I/G =	5	G =	5	I/G =	5	G =		I/G =	14	G =	10	I/G =	10
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	
PM	G =		I/G =	6	G =		I/G =	5	G =	5	I/G =	5	G =		I/G =	14	G =	10	I/G =	10
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	

Signal Junction Analysis

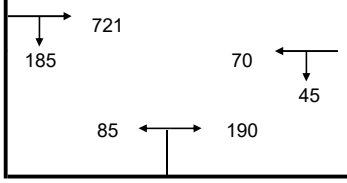
Junction: Road D1 / Road D2 / Road L6 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 13

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D1 EB	SA	A1	1	3.60				1975	443	0.224	0.224		1975	279	0.141	0.141
	SA+RT	A2	1	3.60	25.0		40	2065	463	0.224		46	2058	290	0.141	
Road L6 NB	LT+RT	B1	2	3.80	20.0		100	1856	275	0.148	0.148	100	1856	250	0.135	0.135
Road D2 WB	LT+SA	C1	3	3.65	15.0		85	1825	45	0.025		100	1800	60	0.033	
	SA	C2	3	3.65				2120	70	0.033			2120	20	0.009	
pedestrian phase		D(p)	4		min crossing time =		9	sec GM +		7	sec FGM =		16	sec		
		E(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		
		F(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		

AM Traffic Flow (pcu/hr)



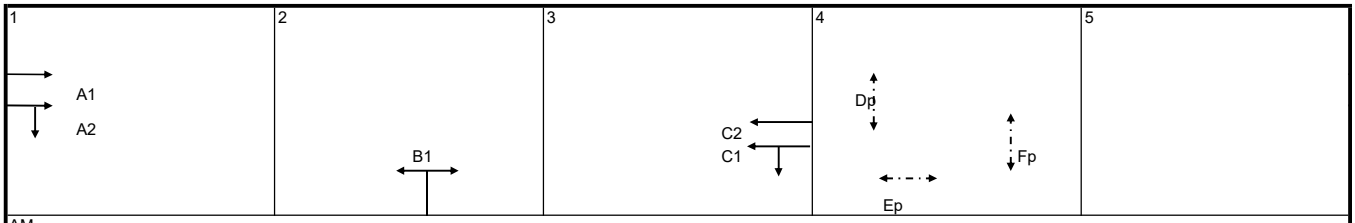
PM Traffic Flow (pcu/hr)

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.372		0.276	
L (s)	42		42	
C (s)	90		90	
practical y	0.480		0.480	
R.C. (%)	29%		74%	

Note:



AM	G =	I/G =	5	G =	I/G =	5	G =	5	I/G =	10	G =	9	I/G =	10	G =	I/G =					
	G =	I/G =		G =	I/G =		G =		I/G =		G =		I/G =		G =	I/G =					
PM	G =	I/G =	5	G =	I/G =	5	G =	5	I/G =	10	G =	9	I/G =	10	G =	I/G =					
	G =	I/G =		G =	I/G =		G =		I/G =		G =		I/G =		G =	I/G =					

Signal Junction Analysis

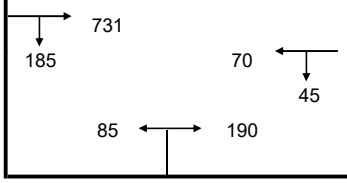
Junction: Road D1 / Road D2 / Road L6 Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) P. 14

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road D1 EB	SA	A1	1	3.60				1975	448	0.227	0.227		1975	285	0.144	0.144
	SA+RT	A2	1	3.60	25.0		40	2065	468	0.227		46	2058	297	0.144	
Road L6 NB	LT+RT	B1	2	3.80	20.0		100	1856	275	0.148	0.148	100	1856	250	0.135	0.135
Road D2 WB	LT+SA	C1	3	3.65	15.0		85	1825	45	0.025		100	1800	60	0.033	
	SA	C2	3	3.65				2120	70	0.033			2120	20	0.009	
pedestrian phase		D(p)	4		min crossing time =		9	sec GM +		7	sec FGM =		16	sec		
		E(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		
		F(p)	4		min crossing time =		10	sec GM +		8	sec FGM =		18	sec		

AM Traffic Flow (pcu/hr)



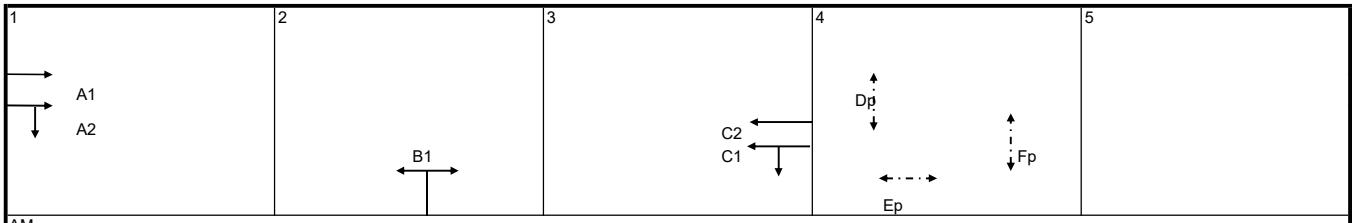
PM Traffic Flow (pcu/hr)

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.375		0.279	
L (s)	42		42	
C (s)	90		90	
practical y	0.480		0.480	
R.C. (%)	28%		72%	

Note:



AM	G =		I/G =	5	G =		I/G =	5	G =	5	I/G =	10	G =	9	I/G =	10	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	
PM	G =		I/G =	5	G =		I/G =	5	G =	5	I/G =	10	G =	9	I/G =	10	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	

Signal Junction Analysis

Junction: Road P1 / Road D5 Job Number: J7372

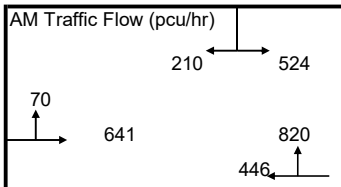
Scenario: Future Condition (Without Proposed JPOMQ) P. 15

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

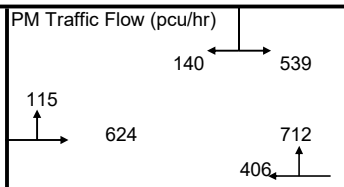
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road P1 EB	LT	A1	1	3.20	15.0		100	1759	70	0.040		100	1759	115	0.065	0.065
	SA	A2	1,4	3.20				2075	321	0.154			2075	312	0.150	
	SA	A3	1,4	3.20				2075	321	0.154			2075	312	0.150	
Road P1 WB	SA	B1	1,2,4	3.50				1965	446	0.227			1965	406	0.207	
	RT	B2	2	3.50	25.0		100	1854	410	0.221	0.221	100	1854	356	0.192	0.192
	RT	B3	2	3.50	25.0		100	1854	410	0.221		100	1854	356	0.192	
Road D5 SB	LT	C1	3	3.50	20.0		100	1828	231	0.126	0.126	100	1828	258	0.141	0.141
	LT+RT	C2	3	3.50	25.0		100	1986	251	0.126		100	1986	281	0.141	
	RT	C3	3	3.50	25.0		100	1986	252	0.127		100	1986	140	0.070	

pedestrian phase	D(p)	4		min crossing time =	14	sec GM +	12	sec FGM =	26	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

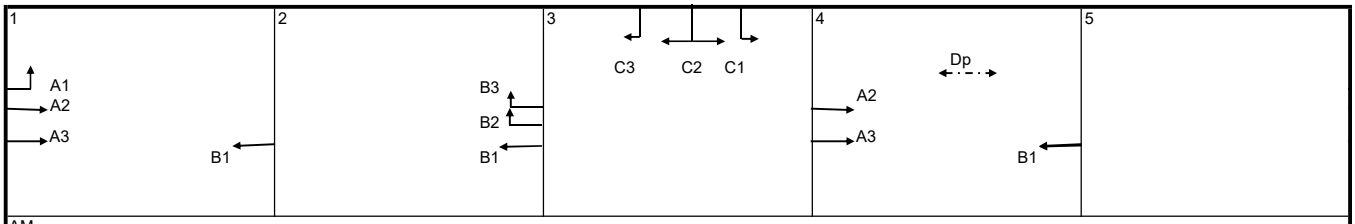


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.348		0.399	
L (s)	45		39	
C (s)	90		90	
practical y	0.450		0.510	
R.C. (%)	29%		28%	

Note:



AM																				
	G =	5	I/G =	5	G =		I/G =	5	G =		I/G =	4	G =	14	I/G =	14	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	
PM																				
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	4	G =	14	I/G =	14	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	

Signal Junction Analysis

Junction: Road P1 / Road D5 Job Number: J7372

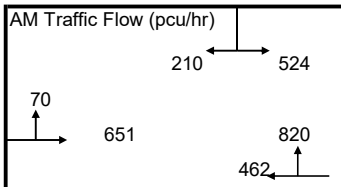
Scenario: Future Condition (With Proposed JPOMQ) P. 16

Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

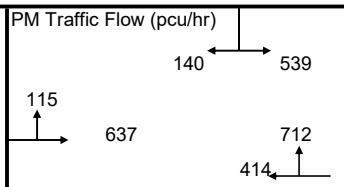
Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Road P1 EB	LT	A1	1	3.20	15.0		100	1759	70	0.040		100	1759	115	0.065	0.065
	SA	A2	1,4	3.20				2075	326	0.157			2075	319	0.153	
	SA	A3	1,4	3.20				2075	326	0.157			2075	319	0.153	
Road P1 WB	SA	B1	1,2,4	3.50				1965	462	0.235			1965	414	0.211	
	RT	B2	2	3.50	25.0		100	1854	410	0.221	0.221	100	1854	356	0.192	0.192
	RT	B3	2	3.50	25.0		100	1854	410	0.221		100	1854	356	0.192	
Road D5 SB	LT	C1	3	3.50	20.0		100	1828	231	0.126	0.126	100	1828	258	0.141	0.141
	LT+RT	C2	3	3.50	25.0		100	1986	251	0.126		100	1986	281	0.141	
	RT	C3	3	3.50	25.0		100	1986	252	0.127		100	1986	140	0.070	

pedestrian phase	D(p)	4		min crossing time =	14	sec GM +	12	sec FGM =	26	sec	

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

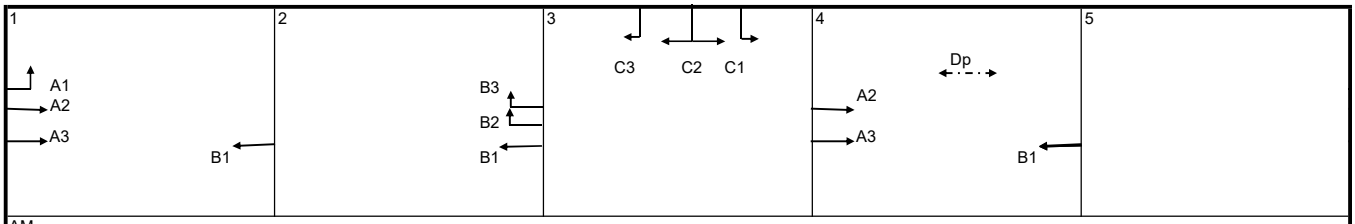


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3		1+2+3	
Sum y	0.348		0.399	
L (s)	45		39	
C (s)	90		90	
practical y	0.450		0.510	
R.C. (%)	29%		28%	

Note:



AM																				
	G =	5	I/G =	5	G =		I/G =	5	G =		I/G =	4	G =	14	I/G =	14	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	
PM																				
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	4	G =	14	I/G =	14	G =		I/G =	
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =	

Signal Junction Analysis

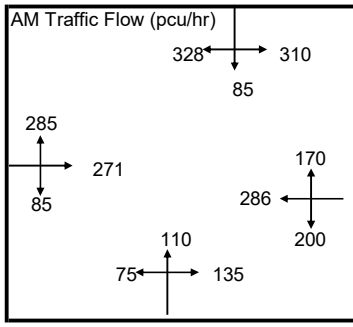
Junction: Ying Hei Road / Ying Tung Road / Road P1 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 17

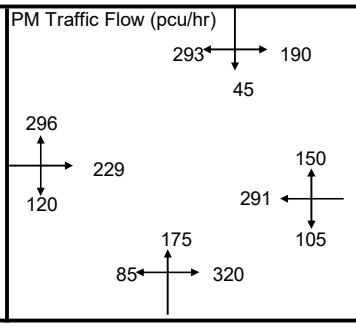
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Ying Hei Road EB	LT	A1	1	3.65	15.0		100	1800	195	0.108	0.108	100	1800	197	0.109	
	LT+SA	A2	1	3.65	18.0		40	2052	222	0.108		40	2052	225	0.110	0.110
	SA+RT	A3	1	3.65	20.0		38	2061	224	0.109		54	2037	223	0.109	
Man Tung Road NB	LT+SA	B1	2	3.00	15.0		48	1827	157	0.086	0.086	33	1854	260	0.140	
	SA+RT	B2	2	3.00	15.0		83	1898	163	0.086		100	1868	320	0.171	0.171
Road P1 WB	LT+SA	C1	3	3.65	15.0		63	1863	313	0.168		40	1904	264	0.139	0.139
	SA+RT	C2	3	3.65	20.0		49	2045	343	0.168	0.168	53	2039	282	0.138	
Ying Tung Road SB	LT+SA	D1	4	3.40	15.0		100	1777	310	0.174	0.174	100	1777	190	0.107	0.107
	SA+RT	D2	4	3.40	25.0		59	2023	210	0.104		74	2006	171	0.085	
	RT	D3	4	3.40	20.0		100	1949	203	0.104		100	1949	167	0.086	
pedestrian phase																

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

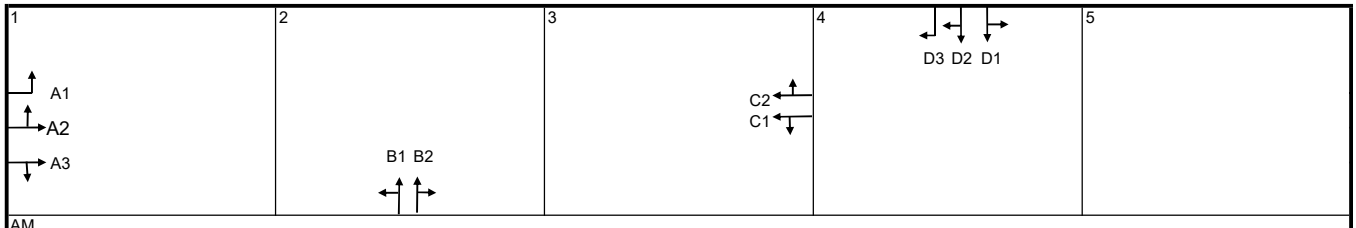


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.536		0.527	
L (s)	18		18	
C (s)	120		120	
practical y	0.765		0.765	
R.C. (%)	43%		45%	

Note:



AM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	7	G =		I/G =	5	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =		I/G =	5	G =		I/G =	5	G =		I/G =	7	G =		I/G =	5	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Signal Junction Analysis

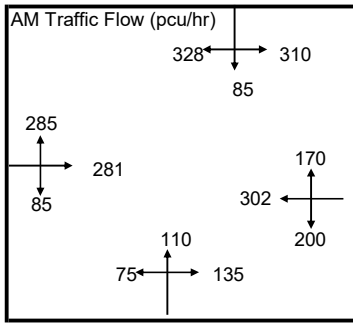
Junction: Ying Hei Road / Ying Tung Road / Road P1 Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) P. 18

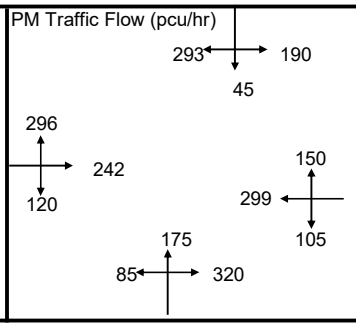
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Ying Hei Road EB	LT	A1	1	3.65	15.0		100	1800	198	0.110	0.110	100	1800	201	0.112	
	LT+SA	A2	1	3.65	18.0		40	2052	226	0.110		40	2052	229	0.112	0.112
	SA+RT	A3	1	3.65	20.0		38	2061	227	0.110		54	2037	228	0.112	
Man Tung Road NB	LT+SA	B1	2	3.00	15.0		48	1827	157	0.086	0.086	33	1854	260	0.140	
	SA+RT	B2	2	3.00	15.0		83	1898	163	0.086		100	1868	320	0.171	0.171
Road P1 WB	LT+SA	C1	3	3.65	15.0		63	1863	320	0.172		40	1904	268	0.141	0.141
	SA+RT	C2	3	3.65	20.0		49	2045	352	0.172	0.172	53	2039	286	0.140	
Ying Tung Road SB	LT+SA	D1	4	3.40	15.0		100	1777	310	0.174	0.174	100	1777	190	0.107	0.107
	SA+RT	D2	4	3.40	25.0		59	2023	210	0.104		74	2006	171	0.085	
	RT	D3	4	3.40	20.0		100	1949	203	0.104		100	1949	167	0.086	
pedestrian phase																

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

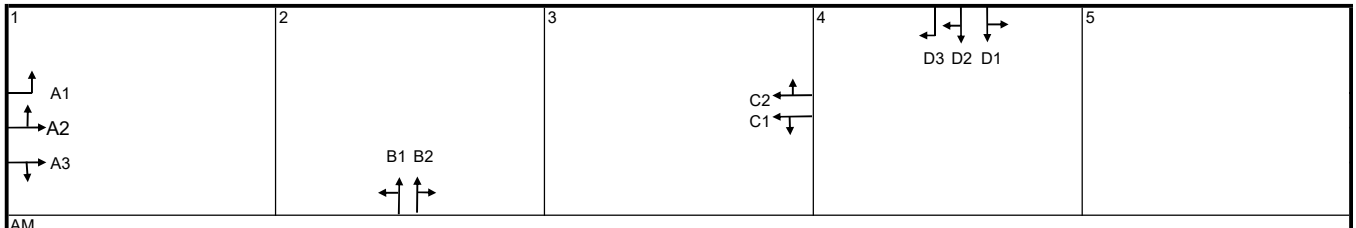


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.543		0.531	
L (s)	18		18	
C (s)	120		120	
practical y	0.765		0.765	
R.C. (%)	41%		44%	

Note:



AM																
	G =	I/G =	5	G =	I/G =	5	G =	I/G =	7	G =	I/G =	5	G =	I/G =		
	G =	I/G =		G =	I/G =		G =	I/G =		G =	I/G =		G =	I/G =		
PM																
	G =	I/G =	5	G =	I/G =	5	G =	I/G =	7	G =	I/G =	5	G =	I/G =		
	G =	I/G =		G =	I/G =		G =	I/G =		G =	I/G =		G =	I/G =		

Signal Junction Analysis

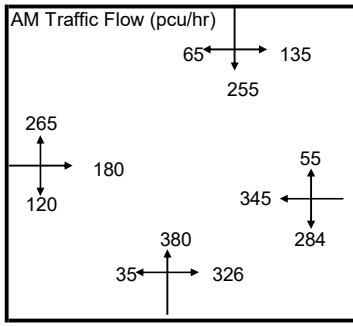
Junction: Tung Chung Waterfront Road / Ying Hei Road / Yi Tung Road / Road L3 Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) P. 19

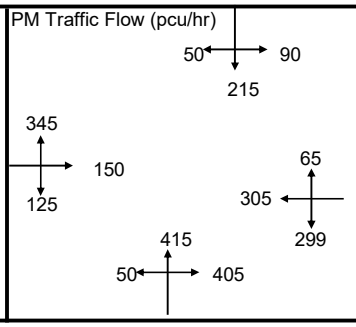
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Yi Tung Road NB	LT+SA	A1	1	3.65	15.0		15	1951	239	0.123		18	1945	281	0.144	
	SA+RT	A2	1	3.65	30.0		32	2087	256	0.123		38	2080	300	0.144	
	RT	A3	1	3.65	25.0		100	2000	245	0.123	0.123	100	2000	289	0.145	0.145
Tung Chung	LT	B1	2	3.65	20.0		100	1842	210	0.114		100	1842	206	0.112	
Waterfront Road WB	LT+SA	B2	2	3.65	25.0		32	2080	237	0.114		41	2069	231	0.112	
	SA+RT	B3	2	3.65	20.0		23	2084	237	0.114	0.114	28	2076	232	0.112	0.112
Yi Tung Road SB	LT+SA	C1	3	3.65	20.0		62	1892	217	0.115		53	1904	170	0.089	
	SA+RT	C2	3	3.65	20.0		27	2078	238	0.115	0.115	27	2078	185	0.089	0.089
Tung Chung	LT	D1	4	3.50	15.0		100	1786	173	0.097	0.097	100	1786	191	0.107	0.107
Waterfront Road EB	LT+SA	D2	4	3.50	18.0		47	2026	196	0.097		73	1984	212	0.107	
	SA+RT	D3	4	3.50	25.0		61	2031	196	0.097		58	2034	217	0.107	
pedestrian phase																

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

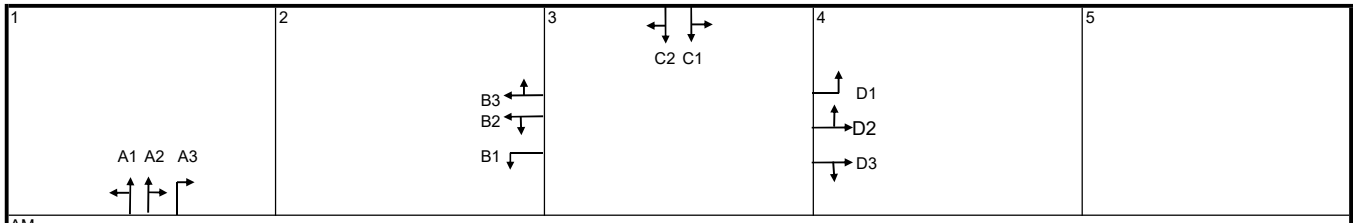


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.448		0.452	
L (s)	18		18	
C (s)	120		120	
practical y	0.765		0.765	
R.C. (%)	71%		69%	

Note:



AM																					
	G =		I/G =	7	G =		I/G =	5	G =		I/G =	5	G =		I/G =	5	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =		I/G =	7	G =		I/G =	5	G =		I/G =	5	G =		I/G =	5	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Signal Junction Analysis

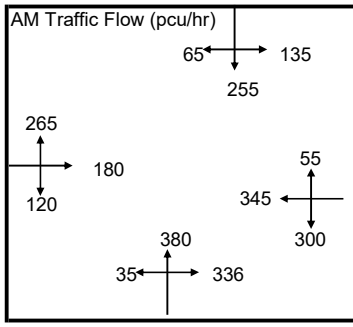
Junction: Tung Chung Waterfront Road / Ying Hei Road / Yi Tung Road / Road L3 Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) P. 20

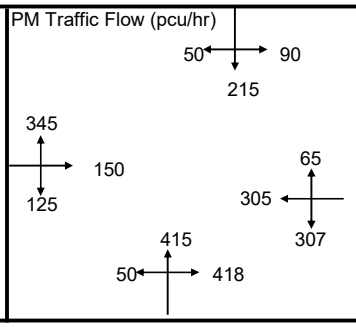
Design Year: 2036 Designed By: Checked By: Date: 7 Feb 2025

Approach		Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak Turning %	AM Peak Sat. Flow (pcu/hr)	AM Peak Flow (pcu/hr)	AM Peak y value	AM Peak Critical y	PM Peak Turning %	PM Peak Sat. Flow (pcu/hr)	PM Peak Flow (pcu/hr)	PM Peak y value	PM Peak Critical y
Yi Tung Road NB	LT+SA	A1	1	3.65	15.0		15	1951	243	0.125		18	1945	285	0.147	
	SA+RT	A2	1	3.65	30.0		32	2087	260	0.125		38	2080	305	0.147	
	RT	A3	1	3.65	25.0		100	2000	249	0.125	0.125	100	2000	293	0.147	0.147
Tung Chung	LT	B1	2	3.65	20.0		100	1842	215	0.117		100	1842	208	0.113	
Waterfront Road WB	LT+SA	B2	2	3.65	25.0		32	2080	242	0.116		41	2069	234	0.113	
	SA+RT	B3	2	3.65	20.0		23	2084	243	0.117	0.117	28	2076	235	0.113	0.113
Yi Tung Road SB	LT+SA	C1	3	3.65	20.0		62	1892	217	0.115		53	1904	170	0.089	
	SA+RT	C2	3	3.65	20.0		27	2078	238	0.115	0.115	27	2078	185	0.089	0.089
Tung Chung	LT	D1	4	3.50	15.0		100	1786	173	0.097	0.097	100	1786	191	0.107	0.107
Waterfront Road EB	LT+SA	D2	4	3.50	18.0		47	2026	196	0.097		73	1984	212	0.107	
	SA+RT	D3	4	3.50	25.0		61	2031	196	0.097		58	2034	217	0.107	
pedestrian phase																

AM Traffic Flow (pcu/hr)



PM Traffic Flow (pcu/hr)

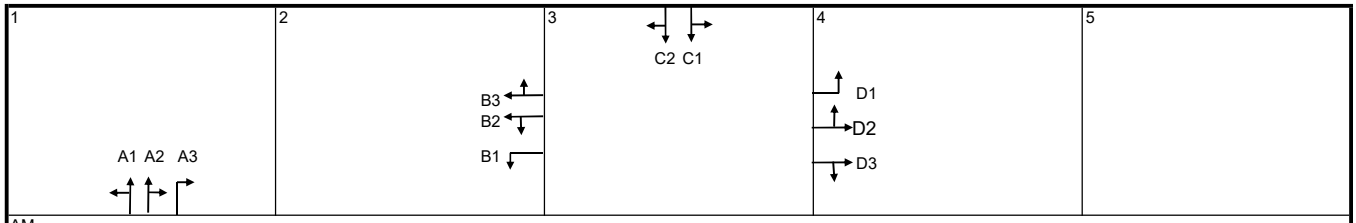


$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

	AM Peak		PM Peak	
Group	1+2+3+4		1+2+3+4	
Sum y	0.453		0.456	
L (s)	18		18	
C (s)	120		120	
practical y	0.765		0.765	
R.C. (%)	69%		68%	

Note:



AM																					
	G =		I/G =	7	G =		I/G =	5	G =		I/G =	5	G =		I/G =	5	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		
PM																					
	G =		I/G =	7	G =		I/G =	5	G =		I/G =	5	G =		I/G =	5	G =		I/G =		
	G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		G =		I/G =		

Roundabout Analysis

Junction: Tai Ho Interchange | Job Number: J7372

Scenario: Future Condition (Without Proposed JPOMQ) | P. 21

Design Year: 2036 | Designed By: | Checked By: | Date: 7 Feb 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	10	0	100	255			365	450
From B	67	0	250	5			322	525
From C	80	175	0	80			335	497
From D	5	115	0	160			280	332
From E								
From F								
Total	162	290	350	500			1302	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	15	0	65	260			340	345
From B	61	0	135	5			201	515
From C	85	135	0	100			320	516
From D	5	35	0	175			215	296
From E								
From F								
Total	166	170	200	540			1076	

Note : Arm A to B is a free flow movement.

Legend

Arm	Road (in clockwise order)
A	Road P1 SB
B	North Lantau Highway WB
C	Cheung Tung Road NB
D	North Lantau Highway EB
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	7.5	7.3	29.0	1.0	80	40	0.3
From B	7.9	7.3	26.0	2.0	80	35	0.5
From C	8.0	7.0	26.0	1.0	80	40	1.6
From D	8.5	3.65	26.0	10.0	80	40	0.8
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= $303x_2$
f_c	= $0.210t_D(1+0.2x_2)$
t_D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x_2	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

							Q_E		Entry Flow		RFC	
Arm	x_2	M	t_D	K	F	f_c	AM	PM	AM	PM	AM	PM
From A	7.42	7.39	1.06	0.98	2248.85	0.55	1961.03	2018	365	340	0.19	0.17
From B	7.61	7.39	1.06	0.99	2304.66	0.56	1997.93	2004	322	201	0.16	0.10
From C	7.24	7.39	1.06	0.98	2193.14	0.54	1877.44	1867	335	320	0.18	0.17
From D	5.55	7.39	1.06	0.98	1681.79	0.47	1490.18	1507	280	215	0.19	0.14
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Tai Ho Interchange | Job Number: J7372

Scenario: Future Condition (With Proposed JPOMQ) | P. 22

Design Year: 2036 | Designed By: | Checked By: | Date: 7 Feb 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	10	0	100	255			365	450
From B	77	0	250	5			332	525
From C	80	175	0	80			335	507
From D	5	115	0	160			280	342
From E								
From F								
Total	172	290	350	500			1312	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	15	0	65	260			340	345
From B	74	0	135	5			214	515
From C	85	135	0	100			320	529
From D	5	35	0	175			215	309
From E								
From F								
Total	179	170	200	540			1089	

Note : Arm A to B is a free flow movement.

Legend

Arm	Road (in clockwise order)
A	Road P1 SB
B	North Lantau Highway WB
C	Cheung Tung Road NB
D	North Lantau Highway EB
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	7.5	7.3	29.0	1.0	80	40	0.3
From B	7.9	7.3	26.0	2.0	80	35	0.5
From C	8.0	7.0	26.0	1.0	80	40	1.6
From D	8.5	3.7	26.0	10.0	80	40	0.8
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= $303x_2$
f_c	= $0.210t_D(1+0.2x_2)$
t_D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x_2	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

							Q_E		Entry Flow		RFC	
Arm	x_2	M	t_D	K	F	f_c	AM	PM	AM	PM	AM	PM
From A	7.42	7.39	1.06	0.98	2248.85	0.55	1961	2018	365	340	0.19	0.17
From B	7.61	7.39	1.06	0.99	2304.66	0.56	1998	2004	332	214	0.17	0.11
From C	7.24	7.39	1.06	0.98	2193.14	0.54	1872	1860	335	320	0.18	0.17
From D	5.55	7.39	1.06	0.98	1681.79	0.47	1486	1501	280	215	0.19	0.14
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Tung Chung East Interchange | Job Number: J7372
Scenario: Future Condition (Without Proposed JPOMQ) | P. 23
Design Year: 2036 | Designed By: | Checked By: | Date: 7 Feb 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	5	320	339				664	1105
From B	510	5	805				1320	349
From C	231	1095	5				1331	520
From D								
From E								
From F								
Total	746	1420	1149				3315	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	5	240	394				639	915
From B	485	10	855				1350	404
From C	385	900	5				1290	500
From D								
From E								
From F								
Total	875	1150	1254				3279	

Legend

Arm	Road (in clockwise order)
A	Yi Tung Road SB
B	Yi Tung Road NB
C	North Lantau Highway WB
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	12.0	8.0	55.0	10.0	107	40	0.6
From B	12.0	7.1	60.0	12.0	107	45	0.7
From C	12.0	8.0	40.0	12.0	107	45	0.5
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= $303x_2$
f_c	= $0.210t_D(1+0.2x_2)$
t_D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x_2	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

							Q_E		Entry Flow		RFC	
Arm	x_2	M	t_D	K	F	f_c	AM	PM	AM	PM	AM	PM
From A	9.75	109.95	1.00	1.00	2955.58	0.62	2260	2377	664	639	0.29	0.27
From B	9.22	109.95	1.00	0.98	2794.96	0.60	2535	2503	1320	1350	0.52	0.54
From C	9.94	109.95	1.00	0.97	3010.45	0.63	2609	2621	1331	1290	0.51	0.49
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Tung Chung East Interchange | Job Number: J7372
Scenario: Future Condition (With Proposed JPOMQ) | P. 24
Design Year: 2036 | Designed By: | Checked By: | Date: 7 Feb 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	5	320	355				680	1105
From B	510	5	805				1320	365
From C	241	1095	5				1341	520
From D								
From E								
From F								
Total	756	1420	1165				3341	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	Total	q_c
From A	5	240	402				647	915
From B	485	10	855				1350	412
From C	398	900	5				1303	500
From D								
From E								
From F								
Total	888	1150	1262				3300	

Legend

Arm	Road (in clockwise order)
A	Yi Tung Road SB
B	Yi Tung Road NB
C	North Lantau Highway WB
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	12.0	8.0	55.0	10.0	107	40	0.6
From B	12.0	7.1	60.0	12.0	107	45	0.7
From C	12.0	8.0	40.0	12.0	107	45	0.5
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= $303x_2$
f_c	= $0.210t_D(1+0.2x_2)$
t_D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x_2	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

							Q_E		Entry Flow		RFC	
Arm	x_2	M	t_D	K	F	f_c	AM	PM	AM	PM	AM	PM
From A	9.75	109.95	1.00	1.00	2955.58	0.62	2260	2377	680	647	0.30	0.27
From B	9.22	109.95	1.00	0.98	2794.96	0.60	2526	2498	1320	1350	0.52	0.54
From C	9.94	109.95	1.00	0.97	3010.45	0.63	2609	2621	1341	1303	0.51	0.50
From D												
From E												
From F												
From G												
From H												