Appendix B

Traffic Impact Assessment

CONFIDENTIAL

Civil Engineering and Development Department

Application for Permission under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Temporary Centralised Quarters for Imported Labour in Construction Sector for a Period of 3 Years in "Industrial" Zone and Area Shown as 'Road' of Planning Area 36 of Hung Shui Kiu/ Ha Tsuen New Development Area

Traffic Impact Assessment

| August 2026

Job number 278463

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ARUP

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Appendices

1. Introduction

1.1 General

1.1.1 Ove Arup and Partners Hong Kong Limited (Arup) was commissioned by the Civil Engineering and Development Department (CEDD) to submit a Section 16 Planning Application for Proposed Temporary Centralised Quarter for Imported Labour in Construction Sector within "Industrial" ("I") Zone and area shown as 'Road' of Planning Area 36 of the draft Hung Shui Kiu and Ha Tsuen Outline Zoning Plan ("the HSK/HT OZP") No. S/HSK/3 for a Period of 3 Years ("the proposed development").

1.1.2 The 8 nos. of two-storey residential blocks will provide about 450 residential module of Modular Integrated Construction (MiC) to provide accommodation for about 1,800 numbers of imported labour. The Proposed Development is targeted to commence operation in Q3 2027.

1.1.3 The Application Site is situated at the western part of HSK/HT NDA adjacent to the planned high-density development under the Second Phase Development of Hung Shui Kiu / Ha Tsuen New Development Area (HSK/HT NDA), of which the construction works have commenced since 2024. The Application Site itself is part of the Advance Works phase 3 of HSK/NT NDA for implementation of site clearance/ site formation and associated infrastructure works.

1.1.4 This Traffic Impact Assessment (TIA) is to review the traffic impact against the approved TTIA Report No. REP-034-05 (F3C) under the Agreement No. CE1/2020 (CE) Hung Shui Kiu/Ha Tsuen New Development Area Package A Works for Second Phase Development – Design and Construction.

1.2 Development Proposal

1.2.1 The Proposed Development is located at the western side of Kong Sham Western Highway at Hung Shui Kiu. The development parameters ("Proposed Scheme") upon the proposed amendment are summarized in **Table 1.1**. Two-storey quarter will be provided no later than Q3 2027. The technical assessments as shown in **Table 1.1** would be adopted for this S16 application.

Table 1.1 – Key Development Parameters of the Proposed Development

Key Development Parameters	Proposed Development
Site Area	About 31,787m^2
Maximum No. of Residential Module	About 450
Design Population	About 1,800
Target Year of Population Intake	No later than Q3 2027

Note: Development parameters are subject to detailed design.

1.3 Proposed Parking and Loading/ Unloading Facilities Provision

Private Car Parking Provision

1.3.1 Having regard to the temporary nature of the proposed development and the profile of the intended occupants, the likelihood of future tenants owning private cars is considered to be very low. Shuttle bus services are anticipated to serve as the primary mode of transport for commuting between the site and workplaces. Reference is made to a comparable existing construction sector imported labour quarters (CSILQ) at Tam Mi, Yuen Long, where no car parking provision is provided. Accordingly, no residential car parking spaces are proposed within the Site.

Shuttle Bus Service and Arrangement

1.3.2 Shuttle bus services will be provided to serve the future tenants travelling to and from their workplaces. Appropriate pick-up/drop-off facilities will be incorporated within the Proposed Development. Given the potentially diverse workplace locations of future tenants, the shuttle bus service catchment is not assumed to be confined to the Hung Shui Kiu area.

1.3.3 Assuming 60-seater shuttle would be adopted to serve the future population (i.e. ~1800 tenants), a fleet size of maximum of 30 no. of shuttles would be required to accommodate pick-up and drop-off demand during the commuting peaks of the tenants.

1.3.4 With reference to CSILQ, shuttle departures are primarily concentrated during the morning period (approximately 06:00–07:30). The return trips are more spread out during the evening period (approximately 17:30–22:00). This indicates that shuttle service demand would be more concentrated in the morning departure peak and comparatively dispersed during the afternoon/evening return period. In addition, the commuting peak of the CSILQ during the morning period was staggered from the general morning peak hours to minimise the traffic impact on the surrounding road network. It is anticipated that a similar travel pattern and operation arrangement will be adopted for the Proposed Development.

1.3.5 To facilitate the pick-up/drop-off of the tenants, L/UL bays would be provided within the site. Considering the tenant would depart in a narrower time period in AM (i.e. 1.5 hours) which is more critical than PM, the provision of L/UL bays would be determined based on the AM scenario. Assuming 10-minute boarding/alighting time for each shuttle and one bay would serve 6 shuttles per hour, the required no. of bays and provision is illustrated in **Table 1.2**.

Table 1.2 – Estimated Loading/ Unloading Provision for Proposed Development

Population	No. of shuttles per hour	No. of L/UL Bays		Sufficient (Y/N?)
		Required	Provision	
1800	20 (1)	4 (2)	10(3)	Y

Note:

(1) No. of shuttle per hour = 1,800 people/60-seat shuttle/1.5 hours departure period = 20

(2) The required no. of L/UL bays = 20 shuttles/ 6 shuttles per bay per hour = 4

(3) A total of 10 coach L/UL Bays will be provided within the site, including 2 shared-use bays serving both coaches and goods vehicles. For reference, please refer to Appendix E Master Layout Plan (Contractor Design).

2. Traffic and Transport Network

2.1 Existing Road Network

2.1.1 The HSK/HT NDA is bounded by Castle Peak Road – Hung Shui Kiu section to the south, Kong Sham Western Highway (KSWH) to the west and Hung Shiu Kiu Main Street to the east. The existing road network within the area of influence (AOI) is shown in **Figure 1.1**.

2.1.2 Currently, Yuen Long Highway and KSWH as expressways are the major strategic roads connecting HSK/HT with New Territories and urban area. Castle Peak Road – Hung Shui Kiu as a rural trunk road parallel to Yuen Long Highway serves as an alternative inter-district connection between HSK/HT area and North-West New Territories (NWNT).

2.1.3 KSWH, Hung Tin Road and Long Tin Road are three major North-South connections carrying HSK/HT area and Tin Shui Wai traffic to Yuen Long Highway and the external road network.

2.2 Existing Public Transport

2.2.1 HSK/HT area is currently served with light railway transit (LRT) providing inter-district transportation to neighbouring areas of Tuen Mun, Yuen Long and Tin Shui Wai. LRT passengers can interchange with Tuen Ma Line (TML) at Tuen Mun Station, Siu Hong Station, Tin Shui Wai Station and Yuen Long Existing Use and Condition

2.2.2 The alignment of Tuen Ma Line runs across HSK/HT area. However, HSK/HT area is located to the east Tuen Mun and to the west of Tin Shui Wai districts and is outside 500m railway catchment. MTR feeder buses are currently provided to serve HSK passengers to the nearest MTR Tin Shui Wai (TSW) Station.

2.2.3 The existing road-based public transport services within HSK/HT area are provided along Hung Tin Road, Ping Ha Road, Tin Ha Road and Lau Fau Shan Road. The area is mainly served with franchised buses and green mini-buses.

2.2.4 As the Proposed Development is located on the fringe of HSK and has limited access to public transport services, shuttle bus services will be provided to serve future tenants.

2.3 Existing Junctions Performance

2.3.1 The existing traffic condition within AOI based on the approved TTIA are summarized in **Table 2.1** respectively. The assessed locations are presented in **Figure 1.1**. Existing junction layouts are shown in **Appendix A.**

Table 2.1 – Existing Key Junctions Performance from Approved TTIA

No.	Junction	Junction Type (2)	Existing Junction Performance	
			AM	PM
J1	Junction of Castle Peak Road and Yick Yuen Road	S	>50%	>50%
J2	Kong Sham Western Highway Roundabout	R	0.47	0.13

Note:
(1) "R" denotes roundabout, "P" denotes priority junction and "S" denotes signalized junction
(2) Performance is assessed with "Design Flow to Capacity" (D.F.C) ratio for priority junctions and roundabout and "Reserve Capacity" (R.C) for signalised junctions

2.3.2 In general, all junctions were operating with a R.C. of not less than 15% for signalized junctions.

3. Future Road Network in Hung Shui Kiu/ Ha Tsuen New Development

3.1 Introduction

3.1.1

The HSK/HT NDA will provide new primary and district roads to facilitate east-west and north-south movements within the NDA to enhance the internal connectivity of the NDA. A comprehensive local road network, cycle tracks, pedestrian walkways and pedestrian streets will also be provided to facilitate internal vehicular and pedestrian movements. **Appendix B** shows the overall road layout plan of HSK/HT NDA. The general function of each road type in the proposed highway hierarchy is shown in **Table 3.1**.

Table 3.1 – Road Hierarchy Function and Characteristic

Hierarchy	Function	Characteristic	Road in HSK/HT NDA
Expressway/ Trunk Road	Connecting the main centres of population	High capacity roads; No frontage access or development, Segregation of pedestrians, Widely spaced grade-separated junctions, 24 hour stopping restrictions.	• Kong Sham Western Highway (Expressway) • Castle Peak Road – Hung Shui Kiu Section (Rural Trunk)
Primary Distributor	Forming the major network of the urban area	Having high capacity junctions, though may be at-grade; Segregated pedestrian facilities wherever possible and frontage access limited if not entirely restricted; 24 hour stopping restrictions	• Road P1
District Distributor	Linking Districts to the Primary Distributor Roads	High capacity at-grade junctions; Peak hour stopping restrictions; Parking restrictions throughout the day	• Road D1 to D8, Hung Tin Road, Tin Ying Road
Local Distributor	Linking developments to the District Distributor Roads		• Other local road network in HSK/HT NDA

3.2 Vehicular Access Arrangement

Access Arrangement with HSK/HT Second Phase Road Network

3.2.1

As part of the Second Phase Development, the Proposed Development will be served by the planned road network of the HSK/HT NDA, including connections to the adjacent Road P1 which is a primary distributor running in north-south direction underneath KSWH, providing linkage to KSWH, Castle Peak Road and other district distributors. Based on the best information available at the time of report preparation, Road P1 and Road L24 will be in

full operation in Q1 2030 tentatively. The future road network in the vicinity and the proposed vehicular access is shown in **Figure 3.1**.

Access Arrangement under existing network

3.2.2 Since the Proposed Development is tentatively scheduled to commence operation in 2027, the permanent road network under the Second Phase Development of the HSK/HT NDA is expected to remain under construction. As such, the traffic access arrangement to the Site during the interim period will vary depending on the construction programme and land resumption progress. Temporary haul roads will be provided to connect the site with the existing external road network during the construction phase. To minimise traffic impacts on the existing village clusters, a direct haul road connecting to Ha Tsuen Interchange will be provided, enabling shuttle buses to access KSWH directly without passing through local village roads.

4. Traffic Forecast and Methodology

4.1 Assessment Scenarios

4.1.1 The tentative year of population intake for the Proposed Development will be no later than 2027. Under this Application, the Proposed Development will operate for a period not exceeding three years, and any continued operation beyond this period will be subject to a separate extension application. As the Proposed Development is expected to remain in operation until Q3 2030, 2031 has been adopted as the design year for the traffic impact assessment and traffic forecasting.

4.1.2 Two scenarios with two design years and road network assumption have been used in the assessment:

4.1.3 Reference Scenario:

- Year 2031 – Design Case under "Approved TTIA"

4.1.4 Design Scenario:

- Year 2031 Reference Scenario + Withdraw the total traffic generation from Proposed Development (Original Scheme as Industrial) + Add total traffic generation from Proposed Development (Proposed Scheme as labour quarter)

4.1.5 The development parameters as presented in **Section 1.2** were adopted for Design scenario (Proposed Scheme). The changes of the trip generation are presented in **Section 4.2**.

4.2 Traffic Generation Assumption

4.2.1 For the Proposed Development trip generation and attraction, it will be determined based on the numbers of shuttles during AM and PM Peak periods. For analysis the net increase of traffic demand, the trip rates and trip generation for the original scheme as industrial are summarized in **Table 4.1**.

Table 4.1 – Estimated Development Traffic under Original Scheme(PCU/hr)

Development Type	Unit	Trip Rate(1)				Trip Generation (PCU/hr)			
		AM Peak		PM Peak		AM Peak	PM Peak	AM Peak	PM Peak
		Gen	Att	Gen	Att	Gen	Att	Gen	Att
Industrial (80796m^2 GFA)(2)	pcu/hr/100m^2	0.0450	0.0870	0.0790	0.0490	36	70	64	40

Note:
(1) Trip rates adopted in the approved TTIA under Agreement No. CE1/2020 (CE) HSK/HT NDA Package A Works for Second Phase Development – Design and Construction
(2) Based on previous TTIA assumption

4.2.2 Based on the proposed shuttle service as described in Section 1.3, the estimated traffic volume induced by the Proposed Development are tabulated in **Table 4.2.** As the forecast traffic generation during the AM peak hour is higher than that during the PM peak hour, the AM peak traffic generation has been adopted for both the AM and PM peak period assessments as a conservative assumption.

Table 4.2 – Estimated Development Traffic (PCU/hr)

Development Type	Shuttle / hour	AM Peak		PM Peak	
		Gen	Att	Gen	Att
Shuttle service	20	50	50	50	50

Note:
(1) A pcu factor of 2.5 is applied (i.e. 20 veh/hr x 2.5 pcu/hr = 50 pcu/hr)

4.2.3 Based on the traffic generation estimates in **Table 4.1** and **Table 4.2**, the total additional trips induced by the Original Scheme and Proposed Scheme are estimated in **Table 4.3.**

Table 4.3 – Estimated Traffic Generation and Attraction (PCU/hr)

Schemes	Development	AM Peak		PM Peak	
		Gen	Att	Gen	Att
Original Scheme	Industrial	-36	-70	-64	-40
Proposed Scheme	Labour Quarter	50	50	50	50
Total (Net Increase)		**+14**	**-20**	**-14**	**+10**

4.2.4 The Proposed Scheme will generate around 100 two-way pcu/hr during the AM and PM peak periods respectively. The changes of the traffic generation between the Original Scheme and Proposed Scheme are around -6 and -4 two-way pcu/hr during the AM and PM peak periods respectively.

5. Traffic Impact Assessment

5.1 Reference and Design Scenario for Assessment

5.1.1 Traffic impact assessment has been conducted for design year 2031 for reference and design scenarios.

5.2 Key Junctions Performance

5.2.1 The performance of key junctions within and in the vicinity of the Proposed Development have been assessed and the assessment results are presented in **Table 5.1**. The assessment location for key junctions is shown in **Figure 5.1**. Detailed junction calculations for design year 2031 are shown in **Appendix C** and the future junction layouts are show in **Appendix D**. The traffic flow diagrams are shown in **Figure 5.2 – 5.3**.

Table 5.1 – Key Junctions Performance at Peak Hour in 2031

No.	Junction	Existing/ New Junction (1)	Junction Type (2)	Junction Performance (3)			
				2031 Ref		2031 Des	
				AM	PM	AM	PM
J1	Junction of Castle Peak Road and Yick Yuen Road	E	S	19%	32%	19%	32%
J2	Kong Sham Western Highway Roundabout	E	R	0.69	0.74	0.69	0.74
J3	Road P1 and Road D6	N	R	0.26	0.24	0.26	0.27
J4	Road P1 and Road D7	N	R	0.71	0.62	0.70	0.60
J5	Road P1 and Road D8	N	R	0.70	0.64	0.71	0.63

Note:
(1) "E" denotes existing junction and "N" denotes new junction in HSK/HT NDA
(2) "R" denotes roundabout, "P" denotes priority junction and "S" denotes signalized junction
(3) Performance is assessed with "Design Flow to Capacity" (D.F.C.) ratio for priority junctions and roundabout and "Reserve Capacity" (R.C.) for signalized junctions

5.2.2 By comparing the results between reference (Original Scheme) and design (Proposed Scheme) scenarios, the impact induced by the Proposed Development is insignificant .

5.2.3 In general, all existing junctions will be operating with a R.C. of not less than 15% for signalized junctions or D.F.C. ratio of not more than 0.85 for priority junctions and roundabouts in the peak hours for all scenarios with the planned junction improvement measures. New junctions within HSK/HT NDA will be operating with a R.C. of not less than 25% or D.F.C. ratio of not more than 0.75 in the peak hours and therefore the impacts induced by the Proposed Development are negligible.

6. Conclusion

6.1.1 This TIA Report is to ascertain the potential traffic impact by the Proposed Development. The development is located at the western side of Kong Sham Western Highway at Hung Shui Kiu.

6.1.2 The population intake is tentatively scheduled to commence operation in Q3 2027 to serve about 1800 population.

6.1.3 Shuttle service would be provided to serve the future tenants to/from the workplaces. Shuttle buses will be arranged for transport future tenants between the construction sites in Hong Kong and the Proposed Development. To facilitate pick-up/drop-off, adequate loading/unloading area of shuttle buses would be provided within the site.

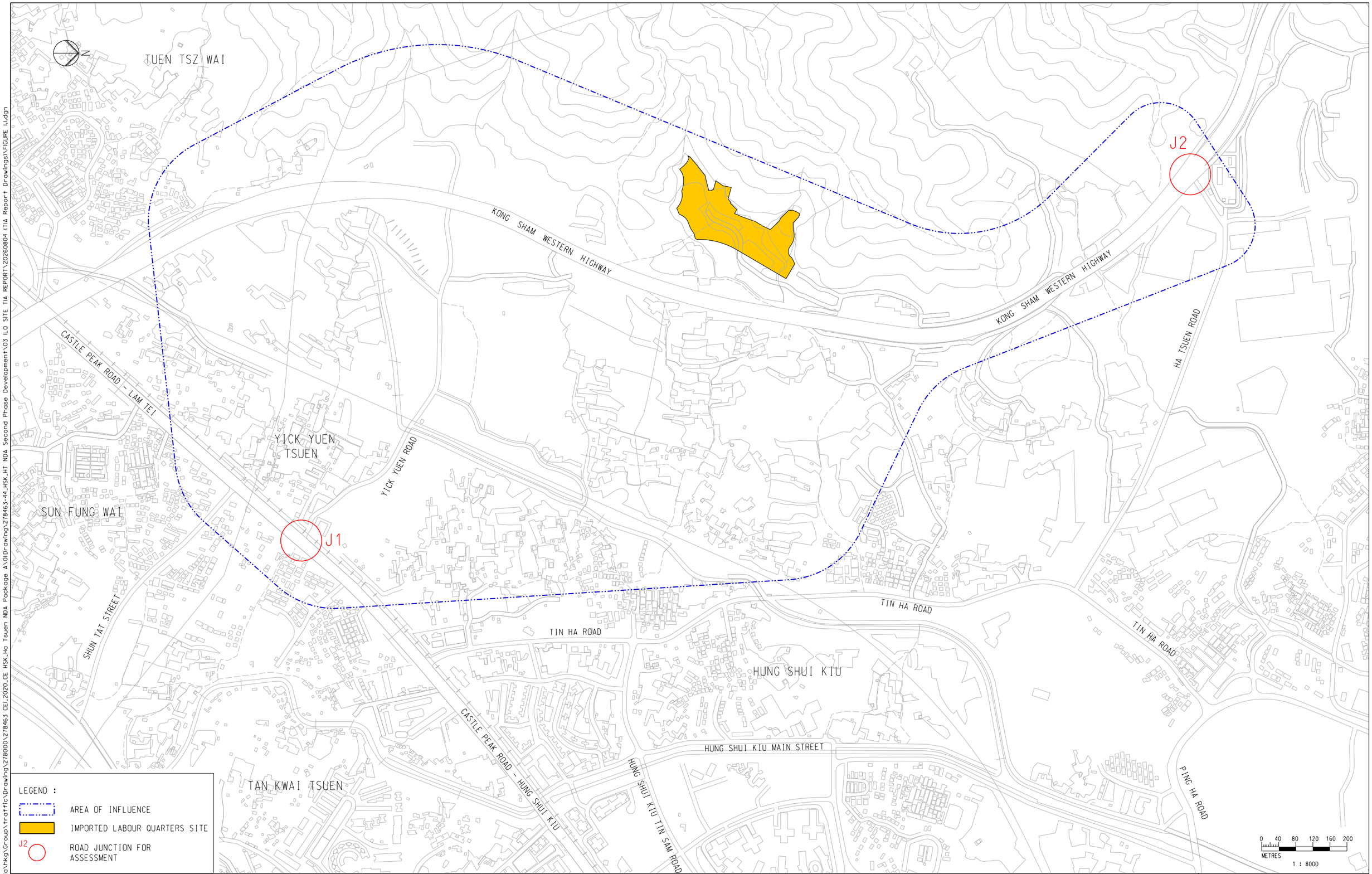
6.1.4 Since the Proposed Development is tentatively scheduled to commence operation in Q3 2027, the permanent road network under the Second Phase Development of the HSK/HT NDA is expected to remain under construction. As such, the traffic access arrangement to the Site during the interim period will vary depending on the construction programme and land resumption progress. Temporary haul roads will be provided to connect the site with the existing external road network during the construction phase. To minimise traffic impacts on the existing village clusters, a direct haul road connecting to Ha Tsuen Interchange will be provided, enabling shuttle buses to access KSWH directly without passing through local village roads.

6.1.5 Upon commissioning of the HSK/HT NDA planned road network, the Proposed Development will be served by Road L24 and adjacent Road P1 which is a primary distributor running in north-south direction underneath KSWH, providing linkage to KSWH, Castle Peak Road and other district distributors. Based on the best information available at the time of report preparation, Road P1 and Road L24 will be in full operation in Q1 2030 tentatively.

6.1.6 The performance of key junctions within and in the vicinity of HSK/HT NDA have been assessed for Design Year 2031. The assessment results reveal that the assessed junctions would operate with sufficient capacity in Design Year 2031 with and without HSK/HT road network.

6.1.7 Based on the assessment under this report, no insurmountable traffic and transport impact will be induced by the Proposed Development under this Application.

Figures



Job Title

CE01/2020 (CE) HUNG SHUI KIU/ HA TSUEN NEW DEVELOPMENT AREA PACKAGE A WORKS FOR SECOND PHASE DEVELOPMENT - DESIGN AND CONSTRUCTION

Figure 1.1

Date	Scale	Drawing Title
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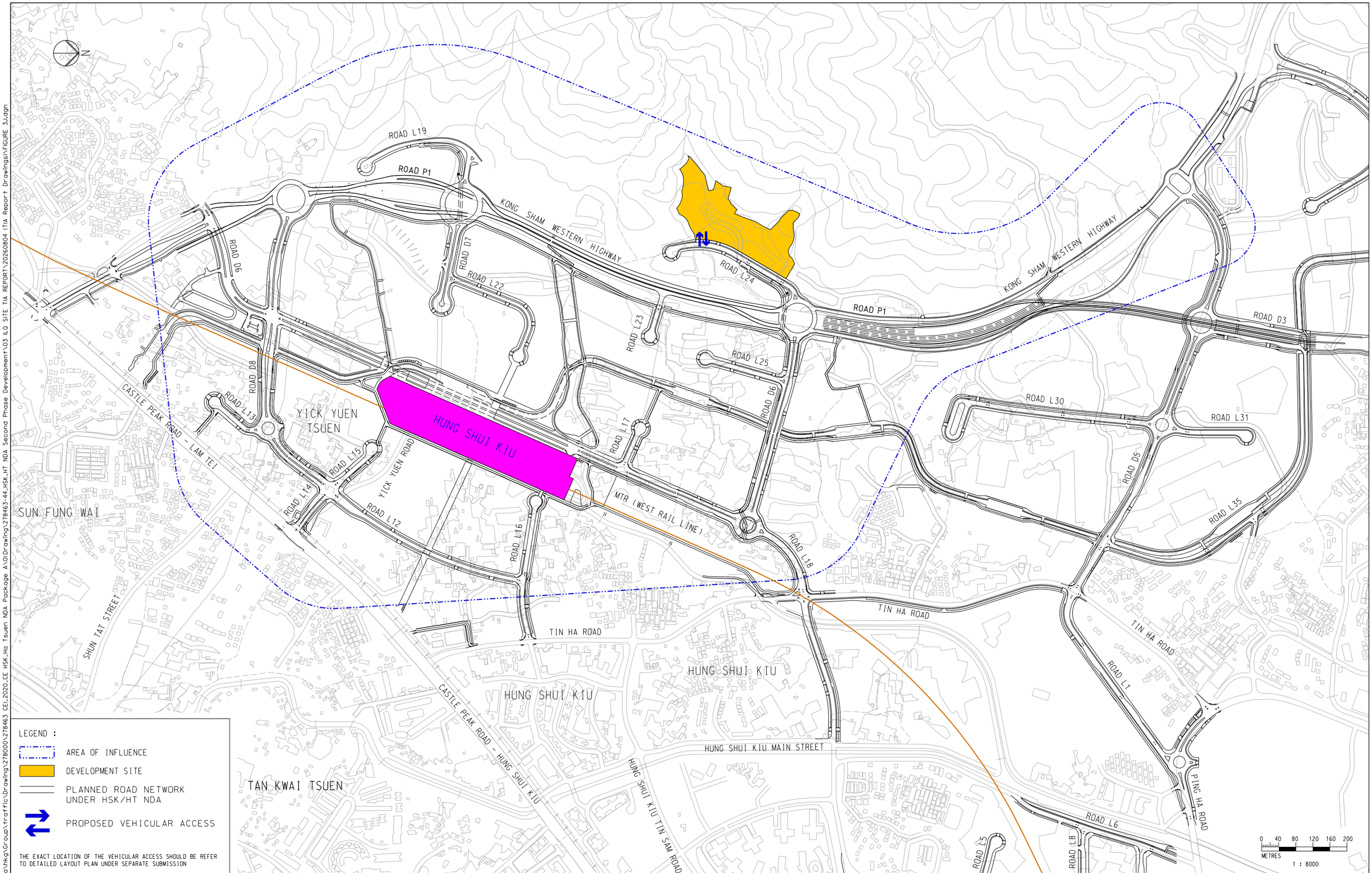

LEGEND :

- AREA OF INFLUENCE
- DEVELOPMENT SITE
- PLANNED ROAD NETWORK UNDER HSK/HT NDA
- PROPOSED VEHICULAR ACCESS

THE EXACT LOCATION OF THE VEHICULAR ACCESS SHOULD BE REFER TO DETAILED LAYOUT PLAN UNDER SEPARATE SUBMISSION

Job Title

CE01/2020 (CE) HUNG SHUI KIU/ HA TSUEN NEW DEVELOPMENT AREA PACKAGE A WORKS FOR SECOND PHASE DEVELOPMENT - DESIGN AND CONSTRUCTION

Figure 3.1

Date	Scale
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WKKL	278463-44

Drawing Title

FUTURE ROAD NETWORK AND PROPOSED VEHICULAR ACCESS

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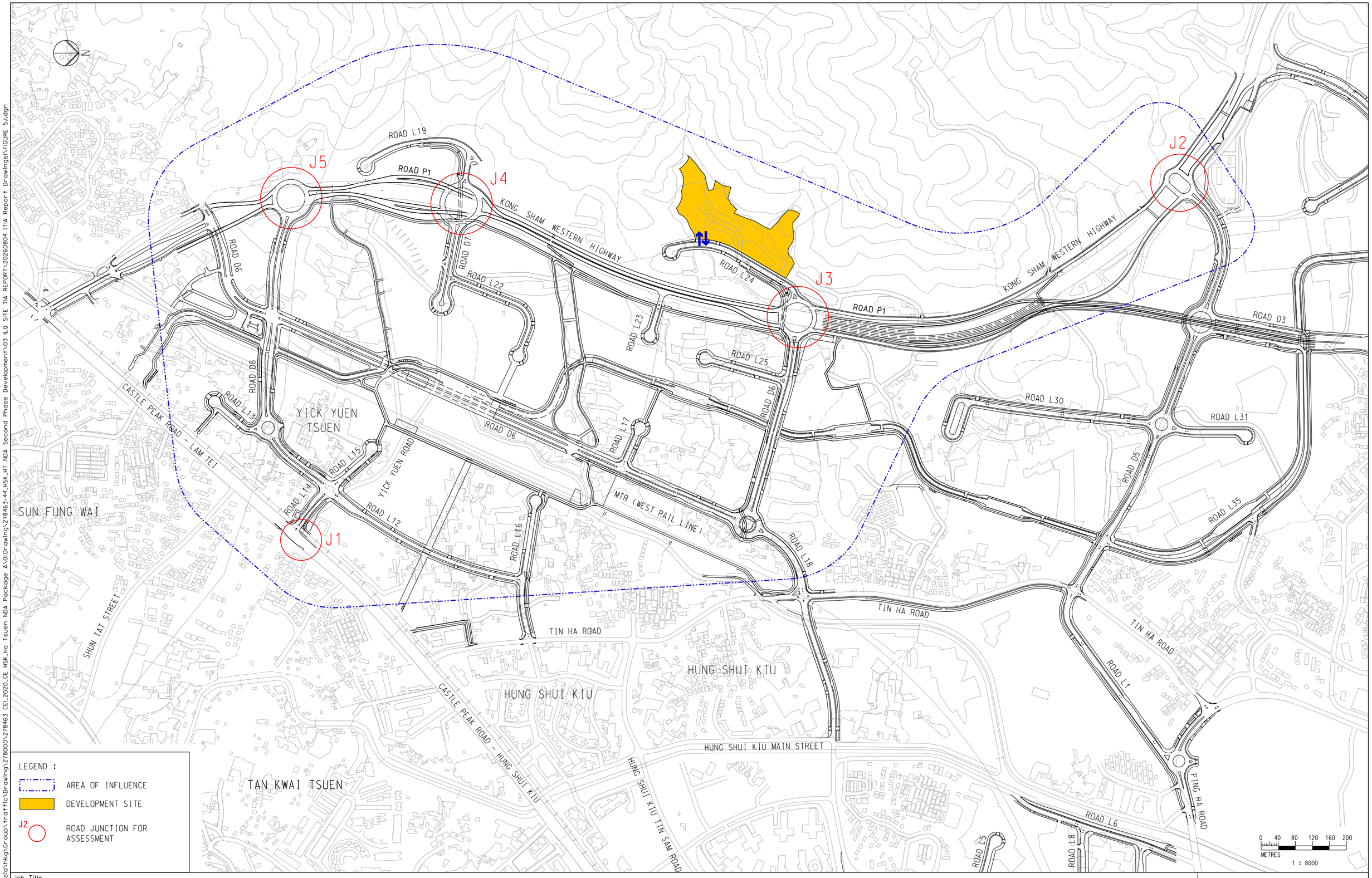

Job Title

CE01/2020 (CE) HUNG SHUI KIU/ HA TSUEN NEW DEVELOPMENT AREA PACKAGE A WORKS FOR SECOND PHASE DEVELOPMENT - DESIGN AND CONSTRUCTION

Figure 5.1

Date	Scale	Drawing Title
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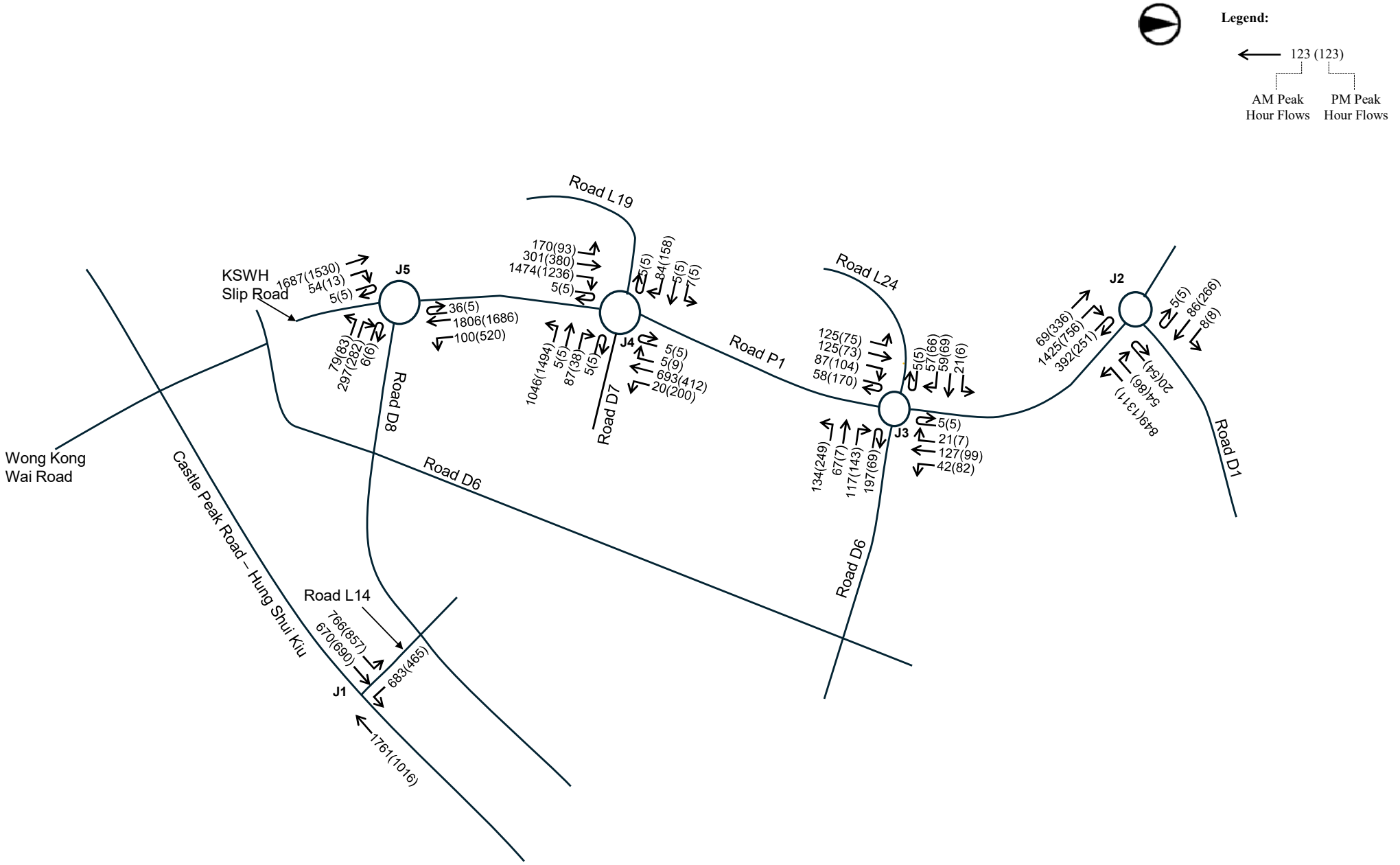

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CE01/2020 (CE) HUNG SHUI KIU/ HA TSUEN NEW DEVELOPMENT AREA PACKAGE A WORKS FOR SECOND PHASE DEVELOPMENT - DESIGN AND CONSTRUCTION

Figure 5.2

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Drawing Title
2031 PEAK HOUR REFERENCE TRAFFIC FLOW

Drawn WKKL | Job No. 278463

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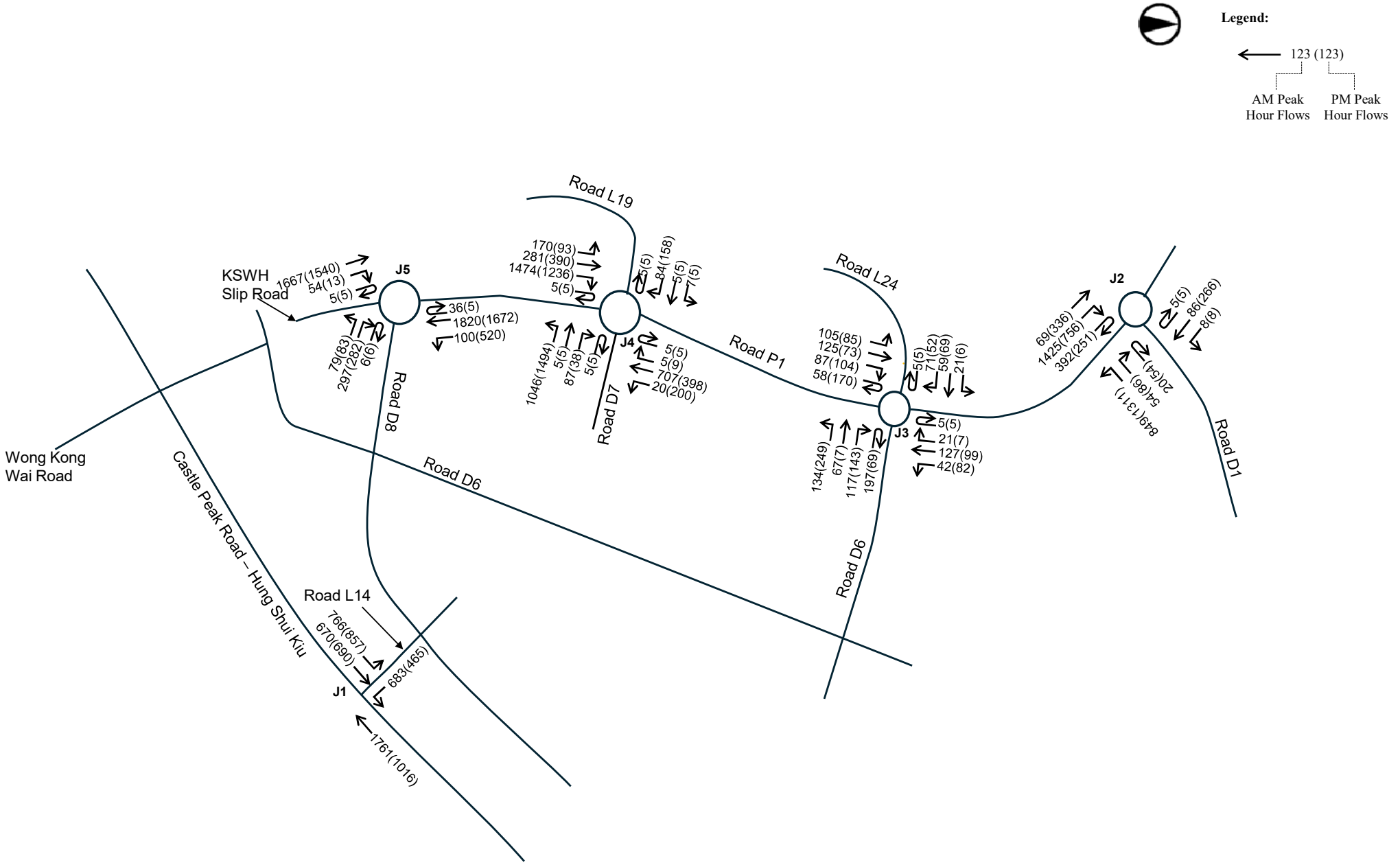

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CE01/2020 (CE) HUNG SHUI KIU/ HA TSUEN NEW DEVELOPMENT AREA PACKAGE A WORKS FOR SECOND PHASE DEVELOPMENT - DESIGN AND CONSTRUCTION

Figure 5.3

Date 09/25 | Scale 1: 8000 @ A3

Drawing Title
2031 PEAK HOUR DESIGN TRAFFIC FLOW

Drawn WKKL | Job No. 278463

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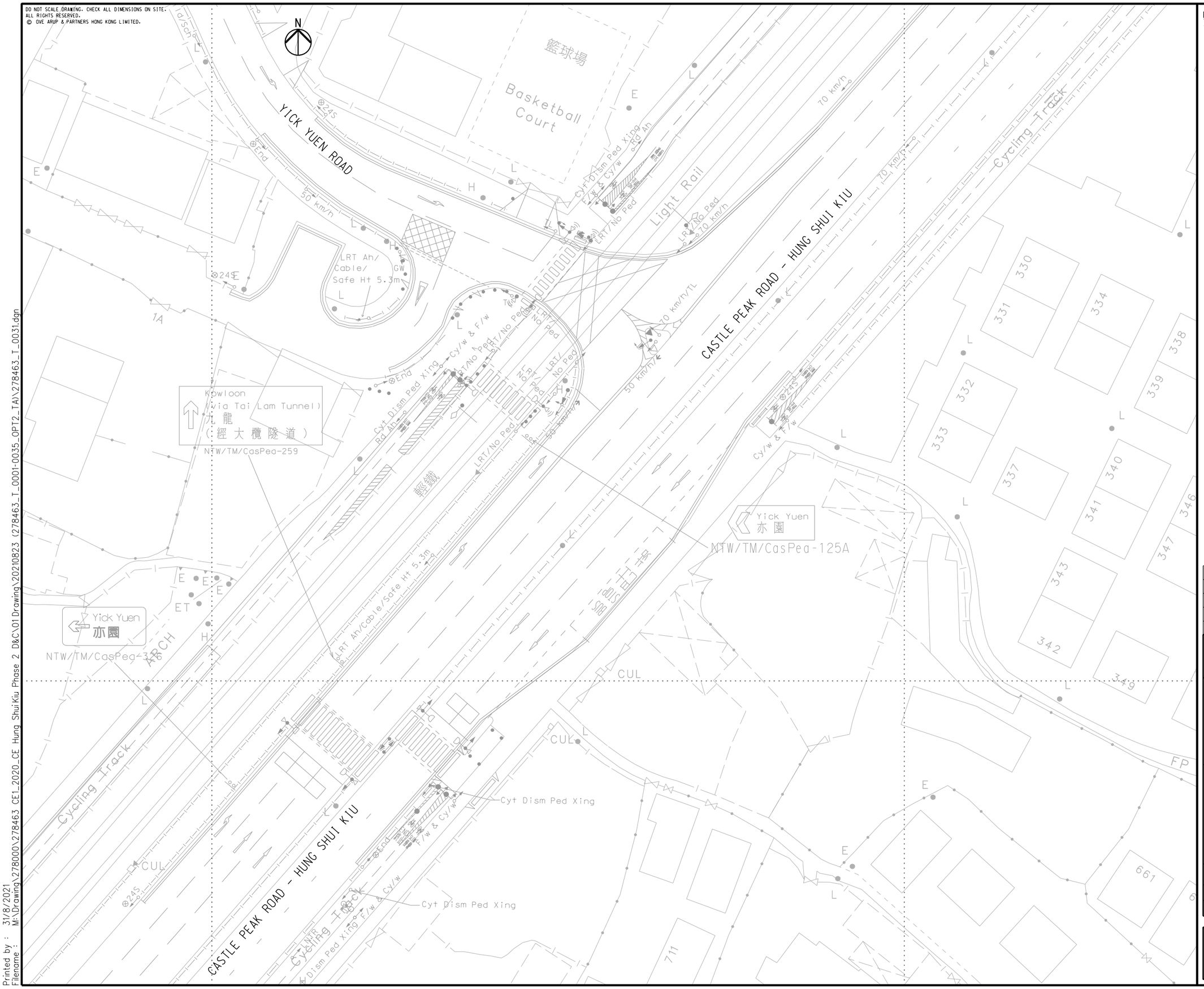
Appendix A

Existing Junction Layouts



NOTES:

1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

JUNCTION LAYOUT PLAN - J1
CASTLE PEAK ROAD / YICK YUEN ROAD

Drawing no.			Rev.
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Civil Engineering and Development Department

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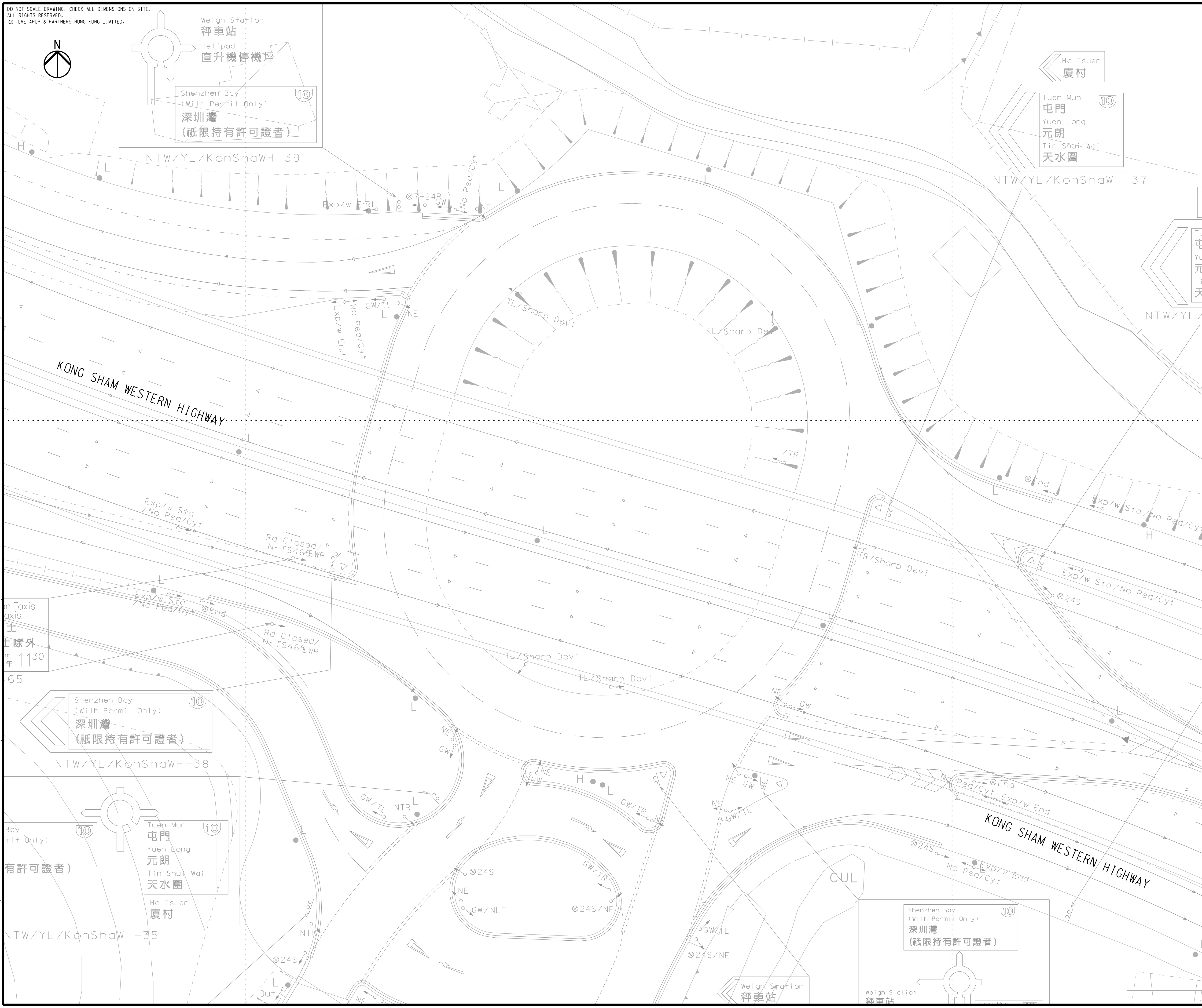

NOTES:

1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

JUNCTION LAYOUT PLAN – J2
KONG SHAM WESTERN HIGHWAY
ROUNDABOUT

Drawing no.		Rev.
		–

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Civil Engineering and Development Department

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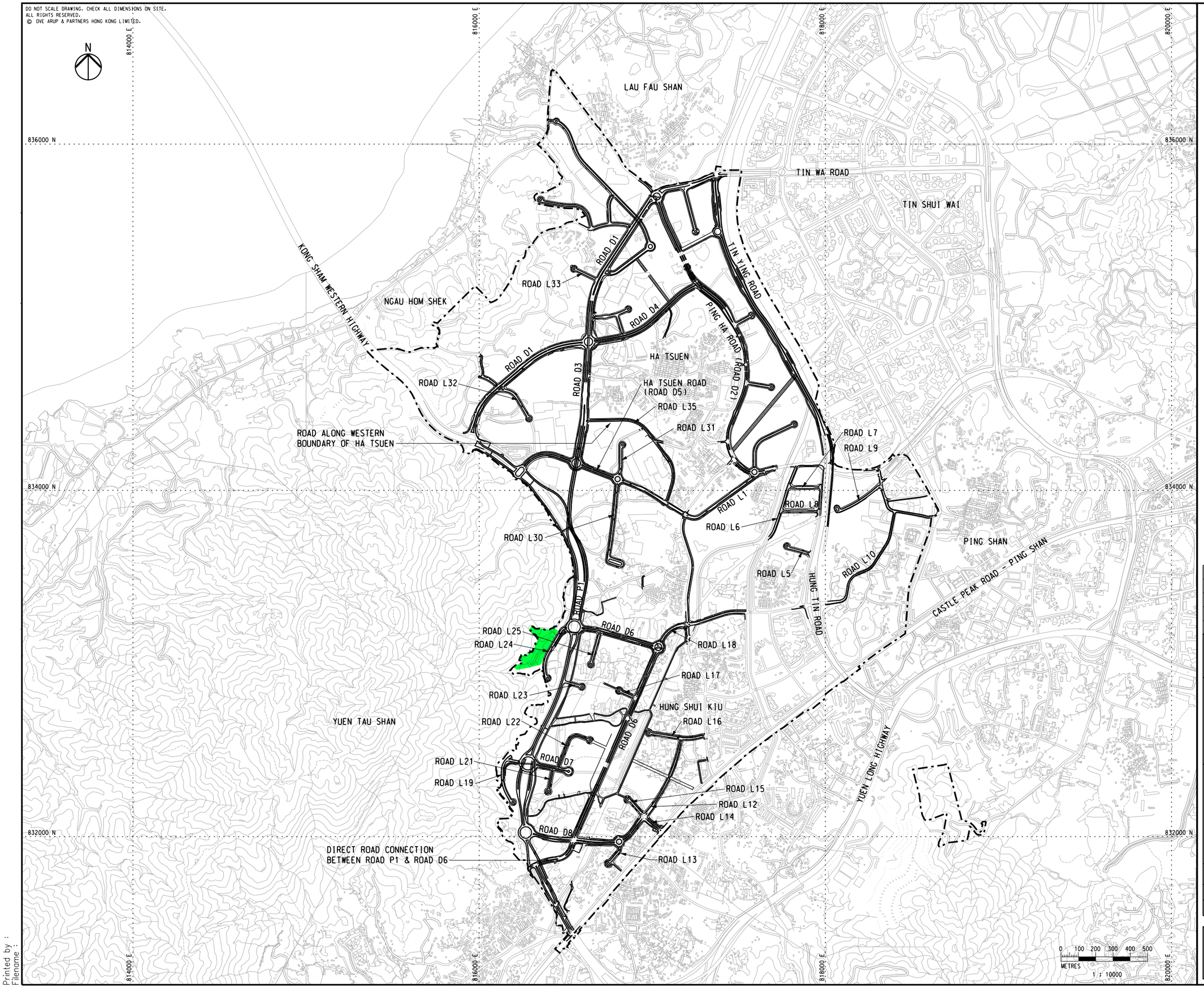
Appendix B

Overall Road Layout Plan of HSK/HT NDA



LEGEND

- SITE BOUNDARY
- PROPOSED APPLICATION SITE

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

OVERALL ROAD LAYOUT PLAN OF HSK/HT NDA

Drawing no.		Rev.
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Civil Engineering and Development Department

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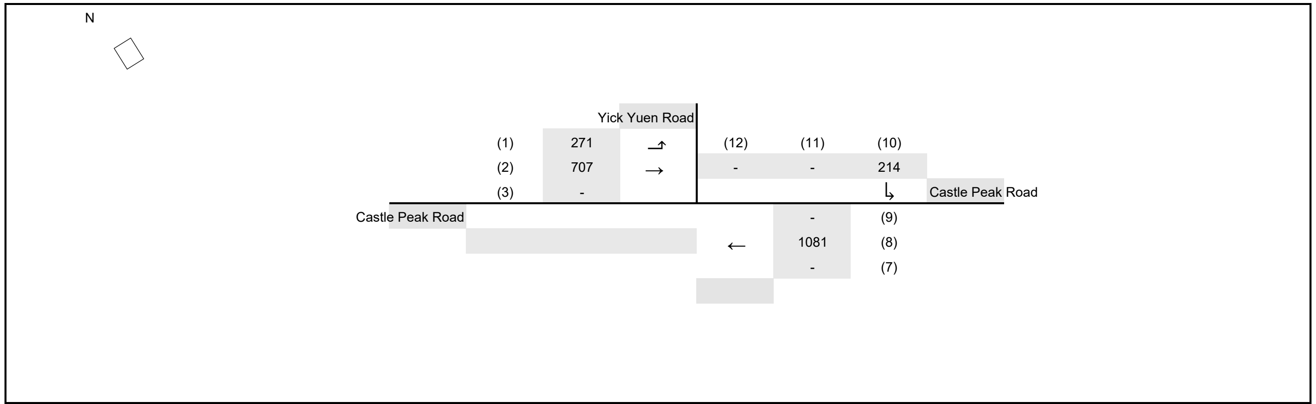
Appendix C

Junction Calculation Sheets

Existing Case

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J1_AM	PROJECT NO: 278463
J1 - Junction of Castle Peak Road and Yick Yuen Road	Year 2021 Base Case (AM Peak)	DATE: 02-Jul-26	FILENAME:



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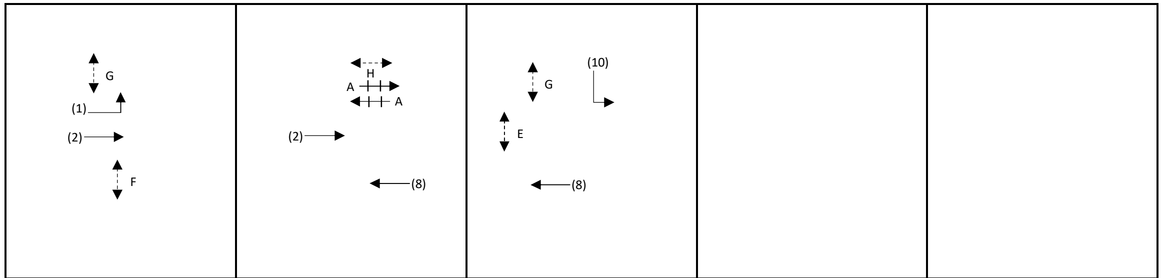
No. of Stage Using for Calculation		N=	2
Cycle Time		C=	90 sec
Sum(y)		Y=	0.420
Loss Time		L=	10 sec
Total Flow		=	2273 pcu
Co	=(1.5*L+5)/(1-Y)	=	34 sec
Cm	=L/(1-Y)	=	17 sec
Yult		=	0.825
R.C.ult	=(Yult-Y)/Y*100%	=	96.4 %
Cp	=0.9*L/(0.9-Y)	=	18.7 sec
Ymax	=1-L/C	=	0.889
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	90.5 %



Stage 1	Int = 6	Stage 2	Int =	Stage 3	Int = 6	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	E	11.00	10	2	12	20	2	12	OK
1,3	G	16.00	8	6	8	54	6	8	OK
2	H	16.00	8	6	8	8	6	8	OK
1	F	7.00	5	2	7	25	2	7	OK
2	A(LRT)		7	2	8	12	2	8	OK
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			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.60	B	1	12		N	1975	271			271	1.00	1756		-	1756	0.154	0.154	0	29	29	0.472	23
2	1,2	3.60	C	2				4230		707		707	0.00	4230		-	4230	0.167			32	51	0.293	9
10	3	3.60	I	2	15		N	4090	214			214	1.00	3718		-	3718	0.058			11	29	0.181	5
8	2,3	3.50	D	2			N	4070		1081		1081	0.00	4070		-	4070	0.266	0.266	0	51	51	0.472	15
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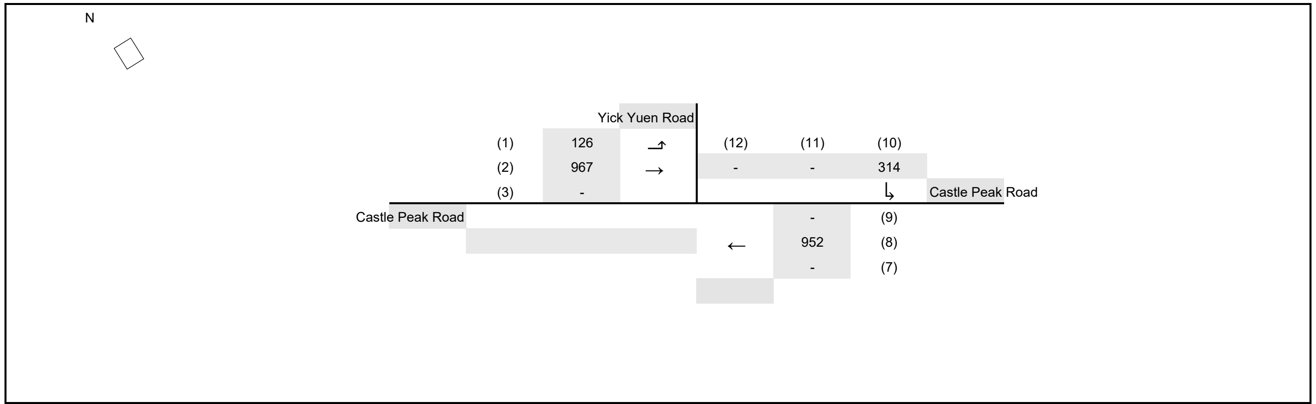
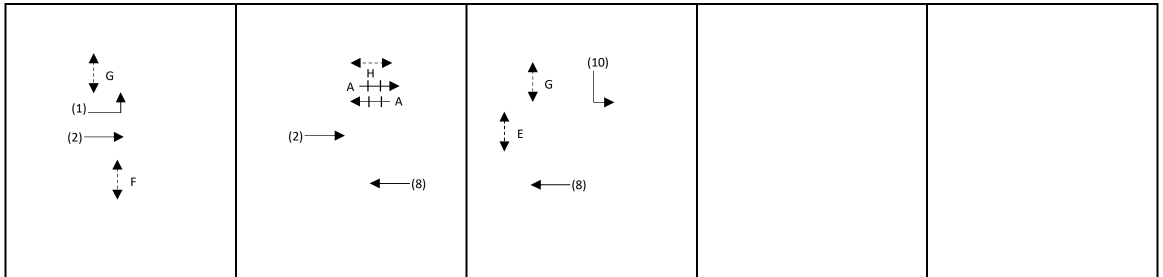
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J1_PM	PROJECT NO: 278463
J1 - Junction of Castle Peak Road and Yick Yuen Road	Year 2021 Base Case (PM Peak)	DATE: 02-Jul-26	FILENAME:



No. of Stages per Cycle		N=	3
No. of Stage Using for Calculation		N=	2
Cycle Time		C=	90 sec
Sum(y)		Y=	0.313
Loss Time		L=	10 sec
Total Flow		=	2359 pcu
Co	=(1.5*L+5)/(1-Y)	=	29 sec
Cm	=L/(1-Y)	=	15 sec
Yult		=	0.825
R.C.ult	=(Yult-Y)/Y*100%	=	163.5 %
Cp	=0.9*L/(0.9-Y)	=	15.3 sec
Ymax	=1-L/C	=	0.889
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	155.5 %



Stage 1	Int =	Stage 2	Int = 6	Stage 3	Int = 6	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3	E	11.00	10	2	12	13	2	12	OK
1,3	G	16.00	8	6	8	37	6	8	OK
2	H	16.00	8	6	8	25	6	8	OK
1	F	7.00	5	2	7	15	2	7	OK
2	A(LRT)		7	2	8	29	2	8	OK
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			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.60	B	1	12		N	1975	126			126	1.00	1756		-	1756	0.072			18	19	0.340	12
2	1,2	3.60	C	2				4230		967		967	0.00	4230		-	4230	0.229	0.229	0	58	58	0.352	11
10	3	3.60	I	2	15		N	4090	314			314	1.00	3718		-	3718	0.084	0.084	0	22	22	0.352	7
8	2,3	3.50	D	2			N	4070		952		952	0.00	4070		-	4070	0.234			60	61	0.345	10
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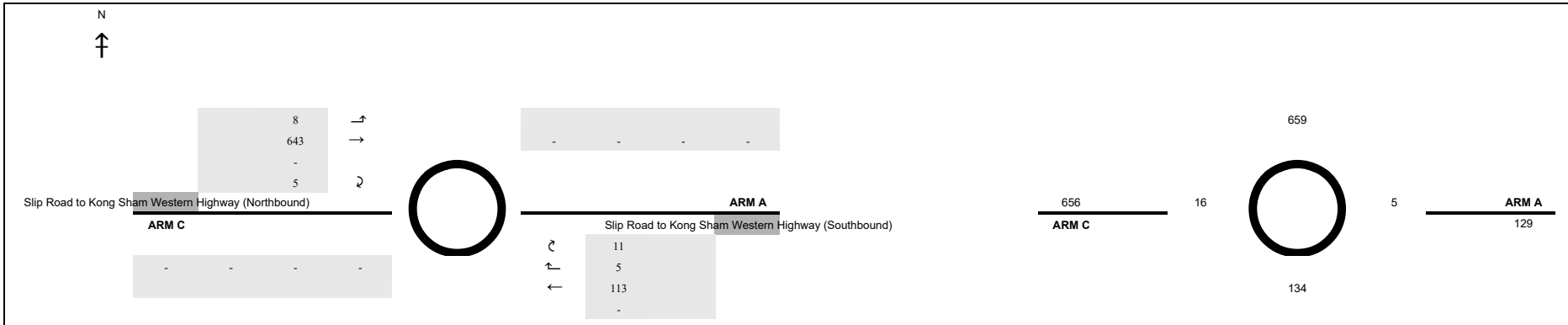
OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J2_AM	PROJECT NO: 278463
J2 - Kong Sham Western Highway Roundabout	Year 2021 Base Case (AM Peak)	DATE: 02-Jul-26	FILENAME:

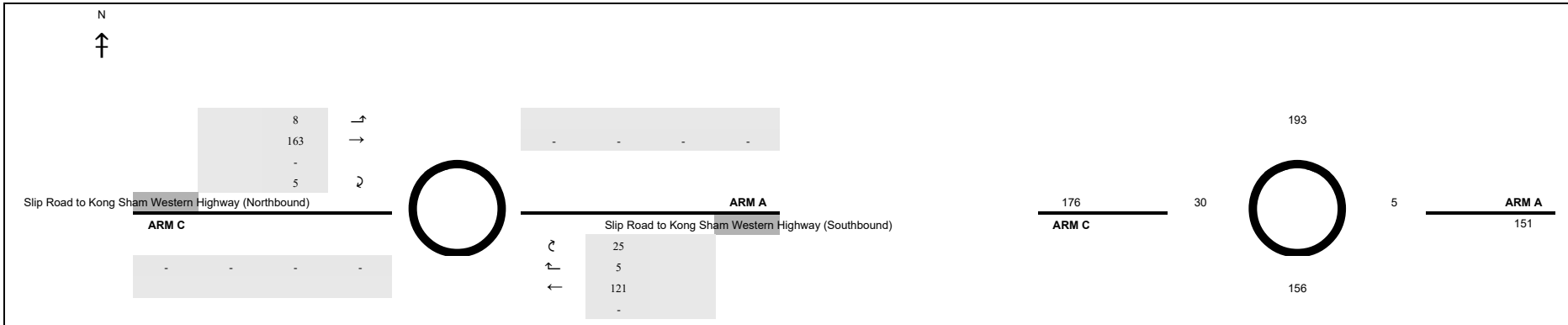


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	4.00		4.00
E	=	Entry width (m)	6.00		5.00
L	=	Effective length of flare (m)	11		6
R	=	Entry radius (m)	33		70
D	=	Inscribed circle diameter (m)	68		68
A	=	Entry angle (degree)	25		40
Q	=	Entry flow (pcu/h)	129		656
Qc	=	Circulating flow across entry (pcu/h)	5		16
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.29		0.27
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04		1.00
X2	=	V + ((E-V)/(1+2S))	5.26		4.65
M	=	EXP((D-60)/10)	2.23		2.23
F	=	303*X2	1595		1410
Td	=	1+(0.5/(1+M))	1.16		1.16
Fc	=	0.21*Td(1+0.2*X2)	0.50		0.47
Qe	=	K(F-Fc*Qc)	1651		1402
DFC	=	Design flow/Capacity = Q/Qe	0.08		0.47

Total In Sum = 785 PCU

DFC of Critical Approach = 0.47

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J2_PM	PROJECT NO: 278463
J2 - Kong Sham Western Highway Roundabout	Year 2021 Base Case (PM Peak)	DATE: 02-Jul-26	FILENAME:



ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width (m)	4.00		4.00
E	=	Entry width (m)	6.00		5.00
L	=	Effective length of flare (m)	11		6
R	=	Entry radius (m)	33		70
D	=	Inscribed circle diameter (m)	68		68
A	=	Entry angle (degree)	25		40
Q	=	Entry flow (pcu/h)	151		176
Qc	=	Circulating flow across entry (pcu/h)	5		30
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.29		0.27
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.04		1.00
X2	=	V + ((E-V)/(1+2S))	5.26		4.65
M	=	EXP((D-60)/10)	2.23		2.23
F	=	303*X2	1595		1410
Td	=	1+(0.5/(1+M))	1.16		1.16
Fc	=	0.21*Td(1+0.2*X2)	0.50		0.47
Qe	=	K(F-Fc*Qc)	1651		1396
DFC	=	Design flow/Capacity = Q/Qe	0.09		0.13

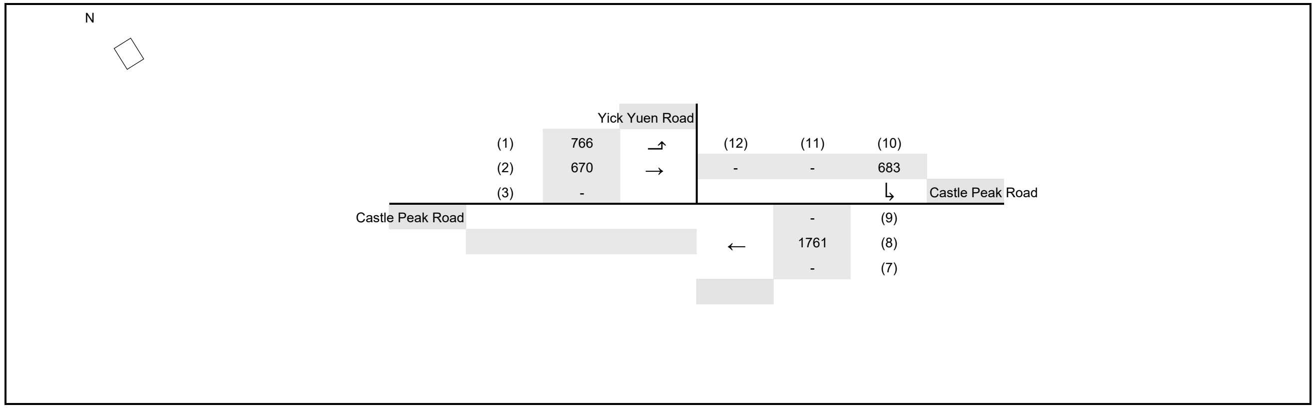
Total In Sum = 327 PCU

DFC of Critical Approach = 0.13

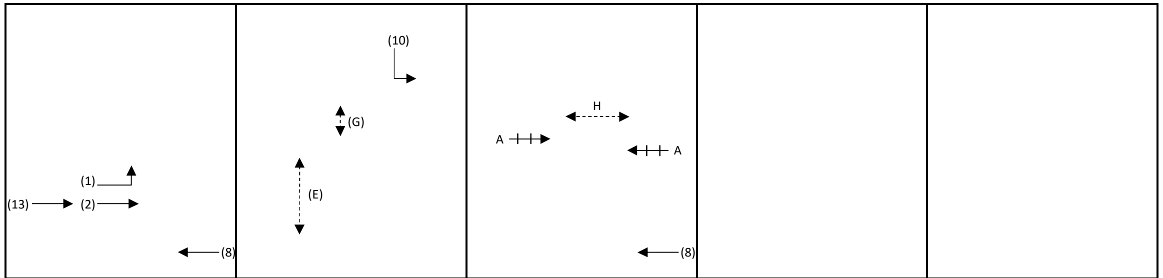
2031 Reference Case

OVE ARUP & PARTNERS | **TRAFFIC SIGNAL CALCULATION**

Hung Shui Kiu Phase 2 D&C		SHEET: J1_AM	PROJECT NO: 278463
J1 - Junction of Castle Peak Road and Yick Yuen Road	Year 2031 Reference Case (AM Peak)	DATE: 02-Jul-26	FILENAME:



No. of Stages per Cycle		N=	3
No. of Stage Using for Calculation		N=	2
Cycle Time		C=	108 sec
Sum(y)		Y=	0.617
Loss Time		L=	20 sec
Total Flow		=	5316 pcu
Co	=(1.5*L+5)/(1-Y)	=	91 sec
Cm	=L/(1-Y)	=	52 sec
Yult		=	0.750
R.C.ult	=(Yult-Y)/Y*100%	=	21.5 %
Cp	=0.9*L/(0.9-Y)	=	63.7 sec
Ymax	=1-L/C	=	0.815
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	18.8 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	10	5	9	17	5	9	OK
2	G	10.00	5	5	8	18	5	8	OK
3	H	18.00	8	5	15	8	5	15	OK
3	A (LRT)		7	7	8	13	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.50	A	1	15		N	1965	438			438	1.00	1786		-	1786	0.245			35	42	0.635	40
1,2	1	3.50	A	1	15			2105	328	155		483	0.68	1971		-	1971	0.245			35	42	0.635	44
2	1	3.50	A	1				2105		515		515	0.00	2105		-	2105	0.245			35	42	0.634	47
13	1	3.50	D	3			N	6175		1436		1436	0.00	6175		-	6175	0.233			33	34	0.746	16
10	2	3.50	B	2	15		N	4070	683			683	1.00	3700		-	3700	0.185	0.185	0	26	26	0.758	20
8	3,1	3.50	C	2			N	4070		1761		1761	0.00	4070		-	4070	0.433	0.433	10	62	72	0.652	22
								-				-	-	-		-	-	-			-		-	-
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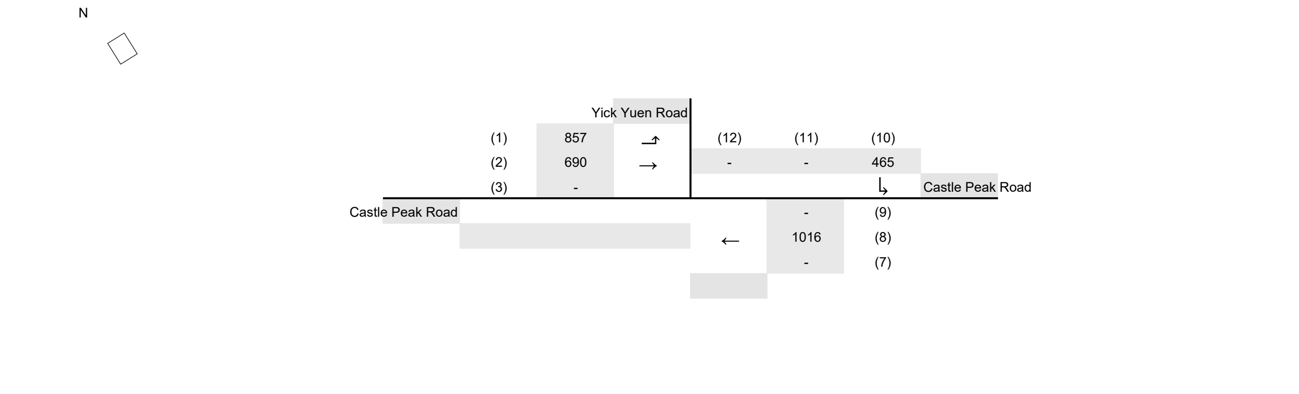
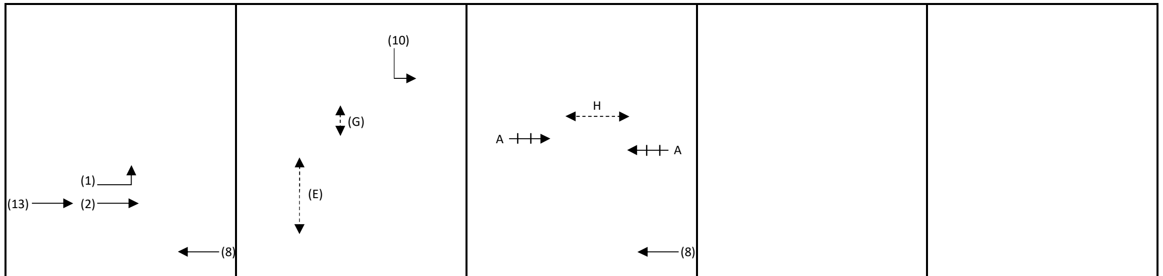
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J1_PM	PROJECT NO: 278463
J1 - Junction of Castle Peak Road and Yick Yuen Road	Year 2031 Reference Case (PM Peak)	DATE: 02-Jul-26	FILENAME:



No. of Stages per Cycle		N=	3
No. of Stage Using for Calculation		N=	2
Cycle Time		C=	108 sec
Sum(y)		Y=	0.390
Loss Time		L=	46 sec
Total Flow		=	4575 pcu
Co	=(1.5*L+5)/(1-Y)	=	121 sec
Cm	=L/(1-Y)	=	75 sec
Yult		=	0.555
R.C.ult	=(Yult-Y)/Y*100%	=	42.1 %
Cp	=0.9*L/(0.9-Y)	=	81.2 sec
Ymax	=1-L/C	=	0.574
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	32.3 %



Stage 1	Int = 8	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	10	5	9	11	5	9	OK
2	G	10.00	5	5	8	12	5	8	OK
3	H	18.00	8	5	15	8	5	15	OK
3	A (LRT)		7	7	8	13	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
																			S3	28				
1	1	3.50	A	1	15		N	1965	473			473	1.00	1786		-	1786	0.265	0.265	6	42	48	0.595	39
1,2	1	3.50	A	1	15			2105	384	134		518	0.74	1960		-	1960	0.264			42	48	0.594	43
2	1	3.50	A	1				2105		556		556	0.00	2105		-	2105	0.264			42	48	0.594	46
13	1	3.50	D	3			N	6175		1547		1547	0.00	6175		-	6175	0.251			40	40	0.676	16
10	2	3.50	B	2	15		N	4070	465			465	1.00	3700		-	3700	0.126	0.126	0	20	20	0.680	14
8	3,1	3.50	C	2			N	4070		1016		1016	0.00	4070		-	4070	0.250			40	78	0.345	11
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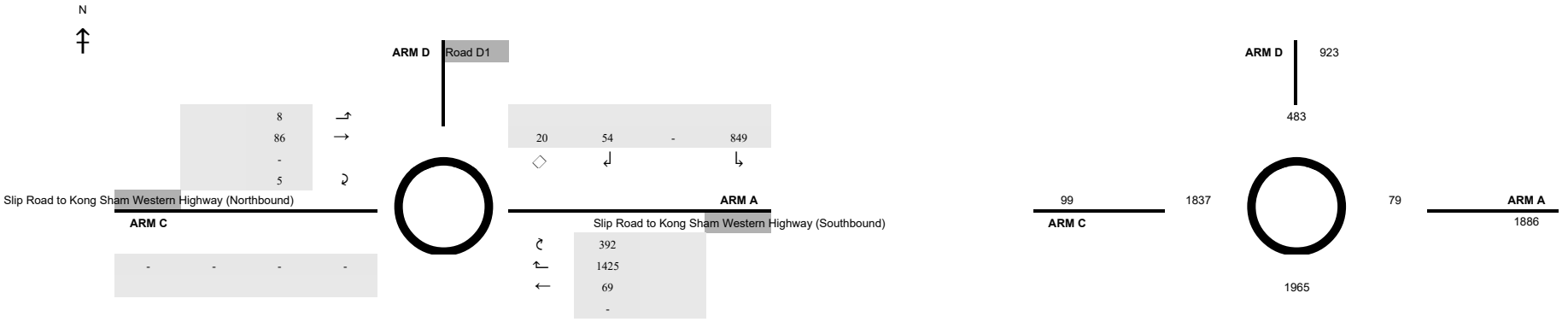
OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J2_AM	PROJECT NO: 278463
J2 - Kong Sham Western Highway Roundabout	Year 2031 Reference Case (AM Peak)	DATE: 2-Jul-26	FILENAME:

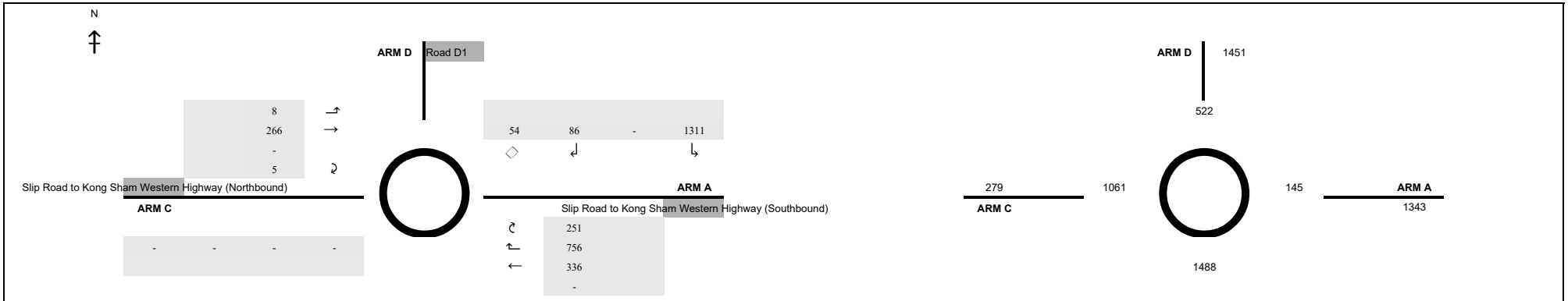


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30		7.30	7.30
E	=	Entry width (m)	9.60		8.00	7.30
L	=	Effective length of flare (m)	30		15	1
R	=	Entry radius (m)	100		40	60
D	=	Inscribed circle diameter (m)	68		68	68
A	=	Entry angle (degree)	40		25	30
Q	=	Entry flow (pcu/h)	1886		99	923
Qc	=	Circulating flow across entry (pcu/h)	79		1837	483
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.12		0.07	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.00		1.04	1.03
X2	=	V + ((E-V)/(1+2S))	9.15		7.91	7.30
M	=	EXP((D-60)/10)	2.23		2.23	2.23
F	=	303*X2	2772		2396	2212
Td	=	1+(0.5/(1+M))	1.16		1.16	1.16
Fc	=	0.21*Td(1+0.2*X2)	0.69		0.63	0.60
Qe	=	K(F-Fc*Qc)	2729		1298	1986
DFC	=	Design flow/Capacity = Q/Qe	0.69		0.08	0.46

Total In Sum = 2908 PCU

DFC of Critical Approach = 0.69

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J2_PM	PROJECT NO: 278463
J2 - Kong Sham Western Highway Roundabout	Year 2031 Reference Case (PM Peak)	DATE: 2-Jul-26	FILENAME:

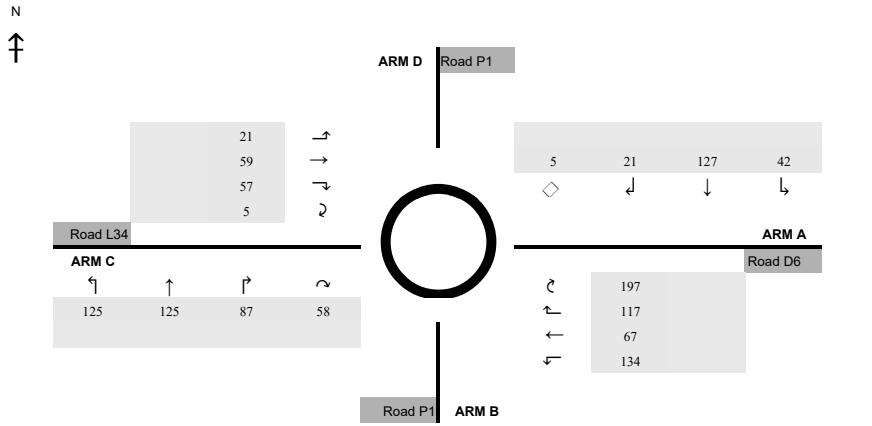


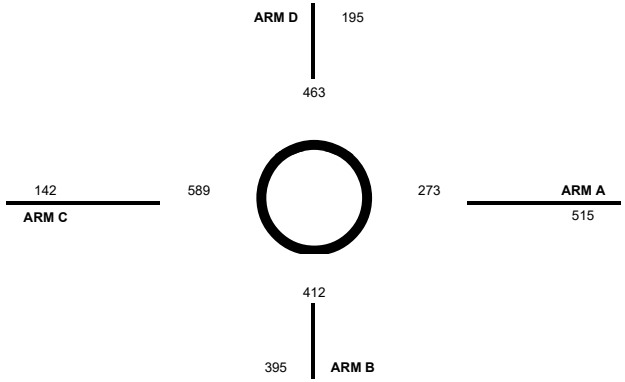
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30		7.30	7.30
E	=	Entry width (m)	9.60		8.00	7.30
L	=	Effective length of flare (m)	30		15	1
R	=	Entry radius (m)	100		40	60
D	=	Inscribed circle diameter (m)	68		68	68
A	=	Entry angle (degree)	40		25	30
Q	=	Entry flow (pcu/h)	1343		279	1451
Qc	=	Circulating flow across entry (pcu/h)	145		1061	522
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.12		0.07	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.00		1.04	1.03
X2	=	V + ((E-V)/(1+2S))	9.15		7.91	7.30
M	=	EXP((D-60)/10)	2.23		2.23	2.23
F	=	303*X2	2772		2396	2212
Td	=	1+(0.5/(1+M))	1.16		1.16	1.16
Fc	=	0.21*Td(1+0.2*X2)	0.69		0.63	0.60
Qe	=	K(F-Fc*Qc)	2684		1804	1962
DFC	=	Design flow/Capacity = Q/Qe	0.50		0.15	0.74

Total In Sum = 3073 PCU

DFC of Critical Approach = 0.74

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J3_AM	PROJECT NO: 278463
J3 - Junction of Road P1 and Road D6	Year 2031 Reference Case (AM Peak)	DATE: 2-Jul-26	FILENAME:



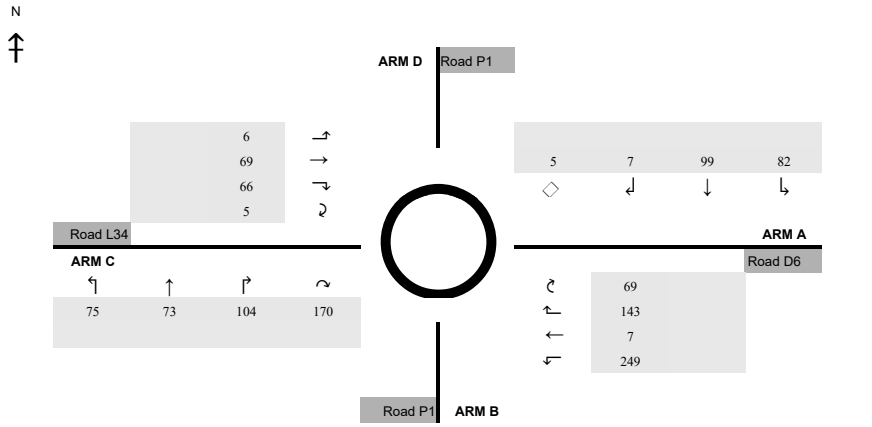


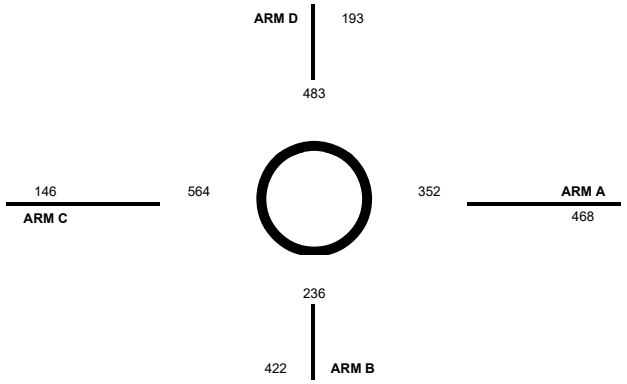
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	6.75	3.65	7.30
E	=	Entry width (m)	7.30	6.75	5.75	7.30
L	=	Effective length of flare (m)	1	1	22	1
R	=	Entry radius (m)	20	15	40	30
D	=	Inscribed circle diameter (m)	74	74	74	74
A	=	Entry angle (degree)	40	42	25	27
Q	=	Entry flow (pcu/h)	515	395	142	195
Qc	=	Circulating flow across entry (pcu/h)	273	412	589	463
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	0.00	0.15	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.94	1.04	1.03
X2	=	V + ((E-V)/(1+2S))	7.30	6.75	5.26	7.30
M	=	EXP((D-60)/10)	4.06	4.06	4.06	4.06
F	=	303*X2	2212	2045	1593	2212
Td	=	1+(0.5/(1+M))	1.10	1.10	1.10	1.10
Fc	=	0.21*Td(1+0.2*X2)	0.57	0.54	0.47	0.57
Qe	=	K(F-Fc*Qc)	1986	1716	1369	2001
DFC	=	Design flow/Capacity = Q/Qe	0.26	0.23	0.10	0.10

Total In Sum = 1247 PCU

DFC of Critical Approach = 0.26

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J3_PM	PROJECT NO: 278463
J3 - Junction of Road P1 and Road D6	Year 2031 Reference Case (PM Peak)	DATE: 2-Jul-26	FILENAME:



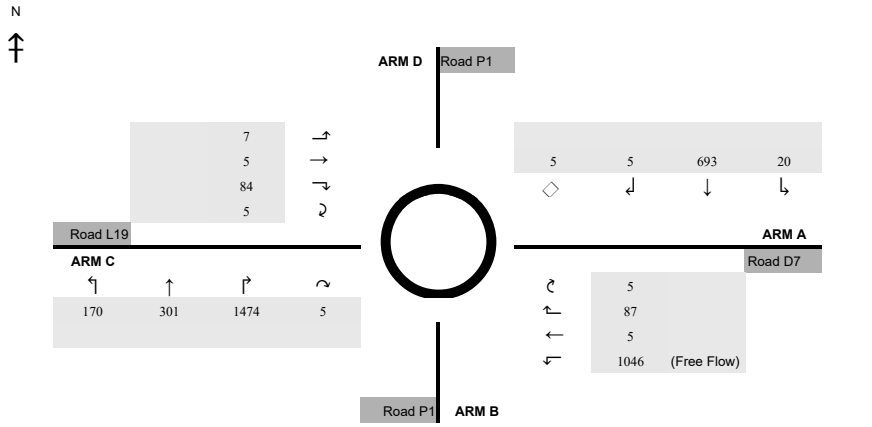


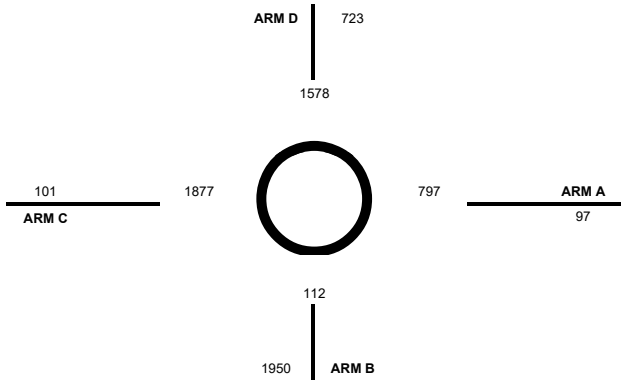
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	6.75	3.65	7.30
E	=	Entry width (m)	7.30	6.75	5.75	7.30
L	=	Effective length of flare (m)	1	1	22	1
R	=	Entry radius (m)	20	15	40	30
D	=	Inscribed circle diameter (m)	74	74	74	74
A	=	Entry angle (degree)	40	42	25	27
Q	=	Entry flow (pcu/h)	468	422	146	193
Qc	=	Circulating flow across entry (pcu/h)	352	236	564	483
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	0.00	0.15	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.94	1.04	1.03
X2	=	V + ((E-V)/(1+2S))	7.30	6.75	5.26	7.30
M	=	EXP((D-60)/10)	4.06	4.06	4.06	4.06
F	=	303*X2	2212	2045	1593	2212
Td	=	1+(0.5/(1+M))	1.10	1.10	1.10	1.10
Fc	=	0.21*Td(1+0.2*X2)	0.57	0.54	0.47	0.57
Qe	=	K(F-Fc*Qc)	1942	1806	1382	1989
DFC	=	Design flow/Capacity = Q/Qe	0.24	0.23	0.11	0.10

Total In Sum = 1229 PCU

DFC of Critical Approach = 0.24

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J4_AM	PROJECT NO: 278463
J4 - Junction of Road P1 and Road D7	Year 2031 Reference Case (AM Peak)	DATE: 2-Jul-26	FILENAME:



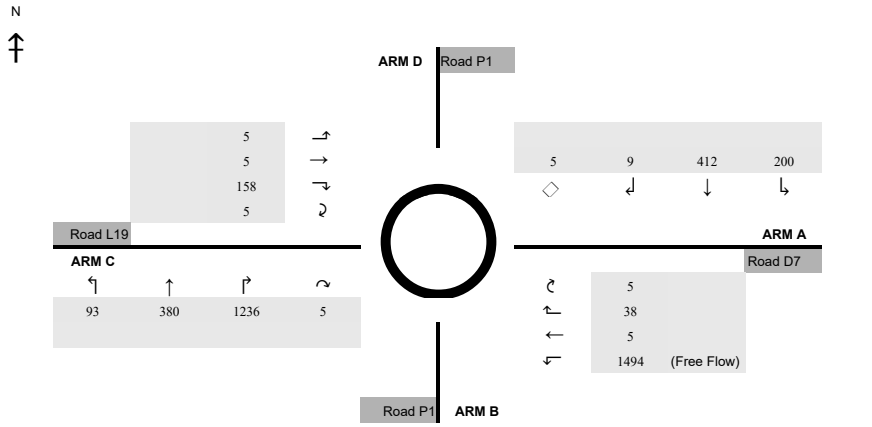


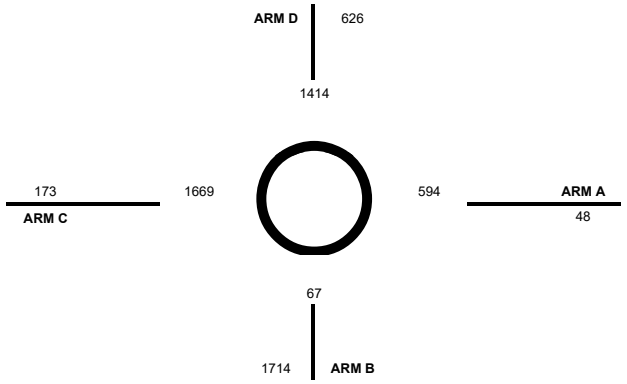
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	3.65	7.30	3.65	6.75
E	=	Entry width (m)	6.00	10.00	6.00	6.75
L	=	Effective length of flare (m)	5	8.8	8	1
R	=	Entry radius (m)	20	40	20	20
D	=	Inscribed circle diameter (m)	100	100	100	100
A	=	Entry angle (degree)	15	15	15	25
Q	=	Entry flow (pcu/h)	97	1950	101	723
Qc	=	Circulating flow across entry (pcu/h)	797	112	1877	1578
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.75	0.49	0.47	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.08	1.05	1.02
X2	=	V + ((E-V)/(1+2S))	4.59	8.66	4.86	6.75
M	=	EXP((D-60)/10)	54.60	54.60	54.60	54.60
F	=	303*X2	1390	2625	1473	2045
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	=	0.21*Td(1+0.2*X2)	0.41	0.58	0.42	0.50
Qe	=	K(F-Fc*Qc)	1122	2756	724	1281
DFC	=	Design flow/Capacity = Q/Qe	0.09	0.71	0.14	0.56

Total In Sum = 2871 PCU

DFC of Critical Approach = 0.71

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J4_PM	PROJECT NO: 278463
J4 - Junction of Road P1 and Road D7	Year 2031 Reference Case (PM Peak)	DATE: 2-Jul-26	FILENAME:



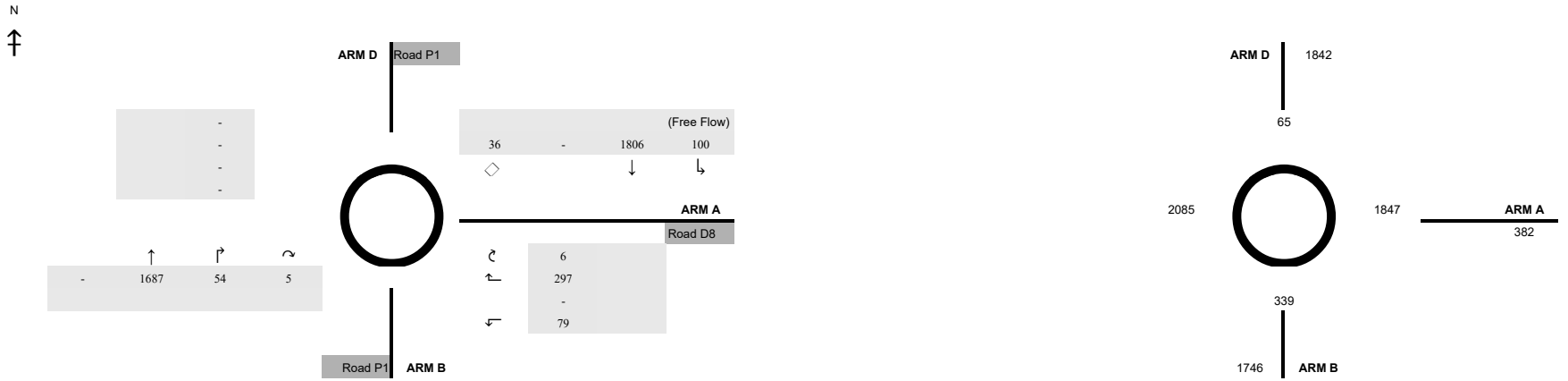


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	3.65	7.30	3.65	6.75
E	=	Entry width (m)	6.00	10.00	6.00	6.75
L	=	Effective length of flare (m)	5	8.8	8	1
R	=	Entry radius (m)	20	40	20	20
D	=	Inscribed circle diameter (m)	100	100	100	100
A	=	Entry angle (degree)	15	15	15	25
Q	=	Entry flow (pcu/h)	48	1714	173	626
Qc	=	Circulating flow across entry (pcu/h)	594	67	1669	1414
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.75	0.49	0.47	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.08	1.05	1.02
X2	=	V + ((E-V)/(1+2S))	4.59	8.66	4.86	6.75
M	=	EXP((D-60)/10)	54.60	54.60	54.60	54.60
F	=	303*X2	1390	2625	1473	2045
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	=	0.21*Td(1+0.2*X2)	0.41	0.58	0.42	0.50
Qe	=	K(F-Fc*Qc)	1209	2784	816	1364
DFC	=	Design flow/Capacity = Q/Qe	0.04	0.62	0.21	0.46

Total In Sum = 2561 PCU

DFC of Critical Approach = 0.62

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J5_AM	PROJECT NO: 278463
J5 - Junction of Road P1 and Road D8	Year 2031 Reference Case (AM Peak)	DATE: 2-Jul-26	FILENAME:

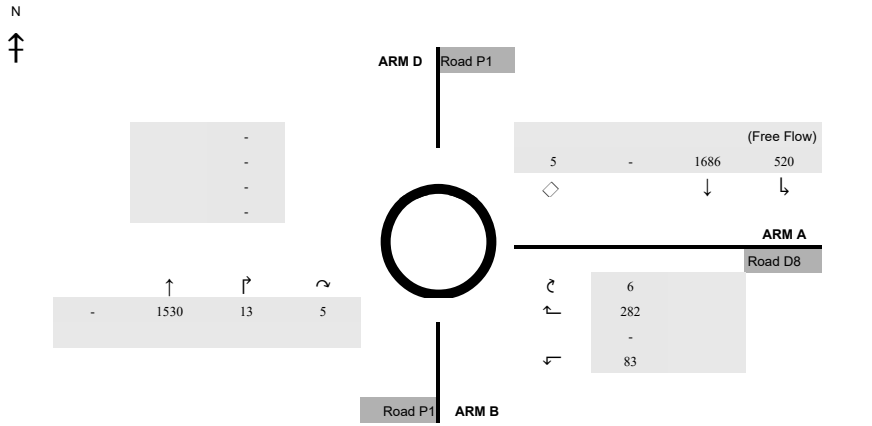


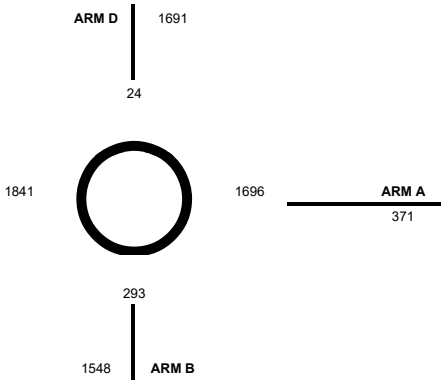
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		9.2
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	382	1746		1842
Qc	=	Circulating flow across entry (pcu/h)	1847	339		65
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.59
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		8.86
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2684
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1347	2609		2627
DFC	=	Design flow/Capacity = Q/Qe	0.28	0.67		0.70

Total In Sum = 3970 PCU

DFC of Critical Approach = 0.70

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J5_PM	PROJECT NO: 278463
J5 - Junction of Road P1 and Road D8	Year 2031 Reference Case (PM Peak)	DATE: 2-Jul-26	FILENAME:





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		9.2
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	371	1548		1691
Qc	=	Circulating flow across entry (pcu/h)	1696	293		24
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.59
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		8.86
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2684
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1449	2642		2655
DFC	=	Design flow/Capacity = Q/Qe	0.26	0.59		0.64

Total In Sum = 3610 PCU

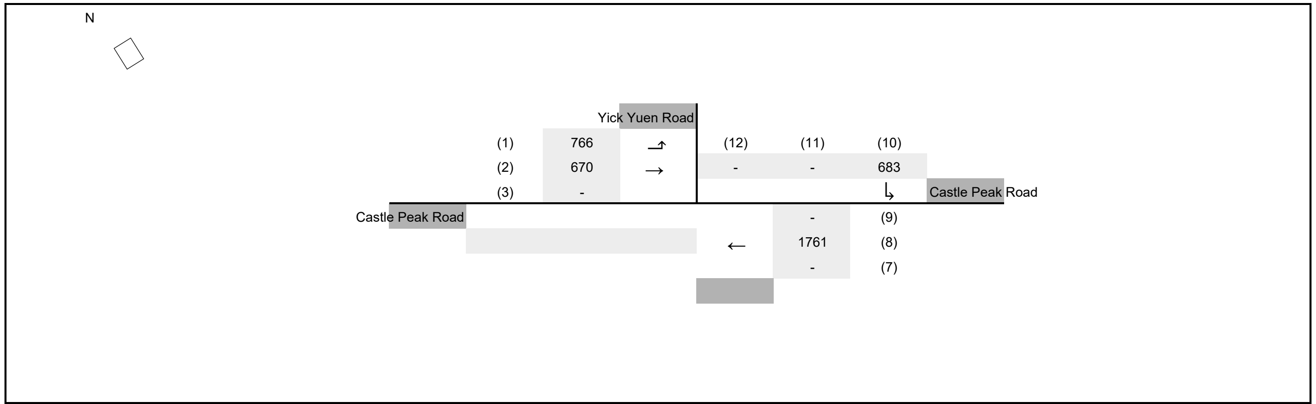
DFC of Critical Approach = 0.64

2031 Design Case

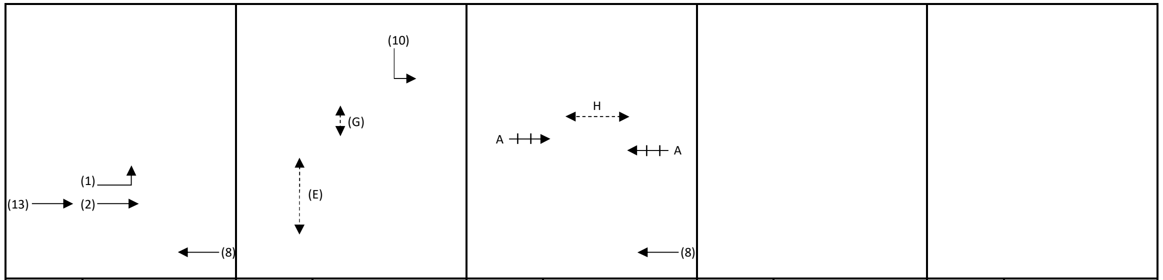
OVE ARUP & PARTNERS | **TRAFFIC SIGNAL CALCULATION**

Hung Shui Kiu Phase 2 D&C | SHEET: J1_AM | PROJECT NO: 278463

J1 - Junction of Castle Peak Road and Yick Yuen Road | Year 2031 Design Case (AM Peak) | DATE: 06-Jul-26 | FILENAME:



No. of Stages per Cycle		N=	3
No. of Stage Using for Calculation		N=	2
Cycle Time		C=	108 sec
Sum(y)		Y=	0.617
Loss Time		L=	20 sec
Total Flow		=	5316 pcu
Co	=(1.5*L+5)/(1-Y)	=	91 sec
Cm	=L/(1-Y)	=	52 sec
Yult		=	0.750
R.C.ult	=(Yult-Y)/Y*100%	=	21.5 %
Cp	=0.9*L/(0.9-Y)	=	63.7 sec
Ymax	=1-L/C	=	0.815
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	18.8 %

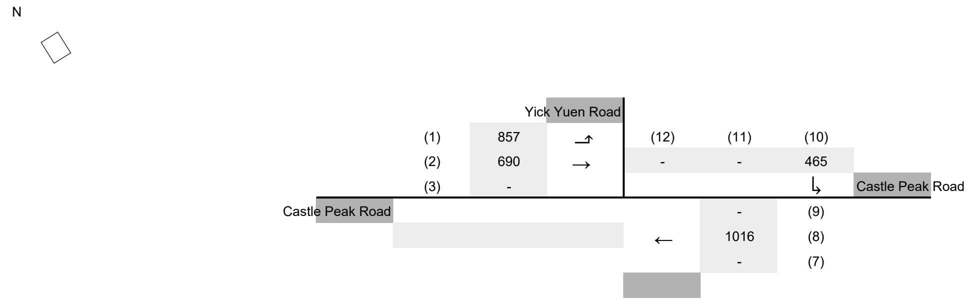


Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

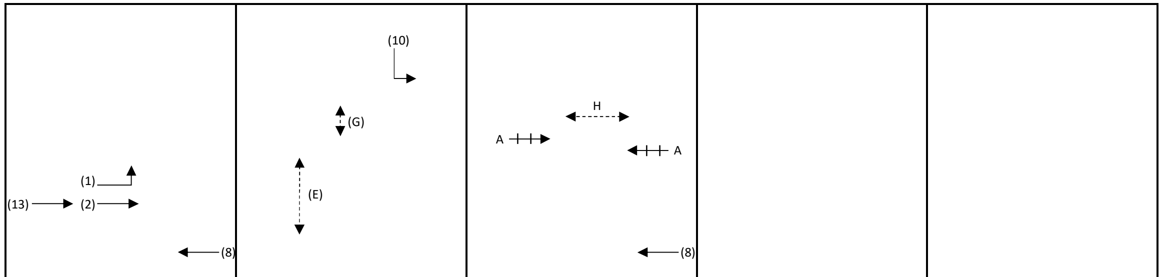
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	10	5	9	17	5	9	OK
2	G	10.00	5	5	8	18	5	8	OK
3	H	18.00	8	5	15	8	5	15	OK
3	A (LRT)		7	7	8	13	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.50	A	1	15		N	1965	438			438	1.00	1786		-	1786	0.245			35	42	0.635	40
1,2	1	3.50	A	1	15			2105	328	155		483	0.68	1971		-	1971	0.245			35	42	0.635	44
2	1	3.50	A	1				2105		515		515	0.00	2105		-	2105	0.245			35	42	0.634	47
13	1	3.50	D	3			N	6175		1436		1436	0.00	6175		-	6175	0.233			33	34	0.746	16
10	2	3.50	B	2	15		N	4070	683			683	1.00	3700		-	3700	0.185	0.185	0	26	26	0.758	20
8	3,1	3.50	C	2			N	4070		1761		1761	0.00	4070		-	4070	0.433	0.433	10	62	72	0.652	22
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J1_PM	PROJECT NO: 278463
J1 - Junction of Castle Peak Road and Yick Yuen Road	Year 2031 Design Case (PM Peak)	DATE: 06-Jul-26	FILENAME:



No. of Stages per Cycle		N=	3
No. of Stage Using for Calculation		N=	2
Cycle Time		C=	108 sec
Sum(y)		Y=	0.390
Loss Time		L=	46 sec
Total Flow		=	4575 pcu
Co	=(1.5*L+5)/(1-Y)	=	121 sec
Cm	=L/(1-Y)	=	75 sec
Yult		=	0.555
R.C.ult	=(Yult-Y)/Y*100%	=	42.1 %
Cp	=0.9*L/(0.9-Y)	=	81.2 sec
Ymax	=1-L/C	=	0.574
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	32.3 %



Stage 1	Int = 8	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	10	5	9	11	5	9	OK
2	G	10.00	5	5	8	12	5	8	OK
3	H	18.00	8	5	15	8	5	15	OK
3	A (LRT)		7	7	8	13	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Left pcu/h	Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				12				
																			S3	28				
1	1	3.50	A	1	15		N	1965	473			473	1.00	1786		-	1786	0.265	0.265	6	42	48	0.595	39
1,2	1	3.50	A	1	15			2105	384	134		518	0.74	1960		-	1960	0.264			42	48	0.594	43
2	1	3.50	A	1				2105		556		556	0.00	2105		-	2105	0.264			42	48	0.594	46
13	1	3.50	D	3			N	6175		1547		1547	0.00	6175		-	6175	0.251			40	40	0.676	16
10	2	3.50	B	2	15		N	4070	465			465	1.00	3700		-	3700	0.126	0.126	0	20	20	0.680	14
8	3,1	3.50	C	2			N	4070		1016		1016	0.00	4070		-	4070	0.250			40	78	0.345	11
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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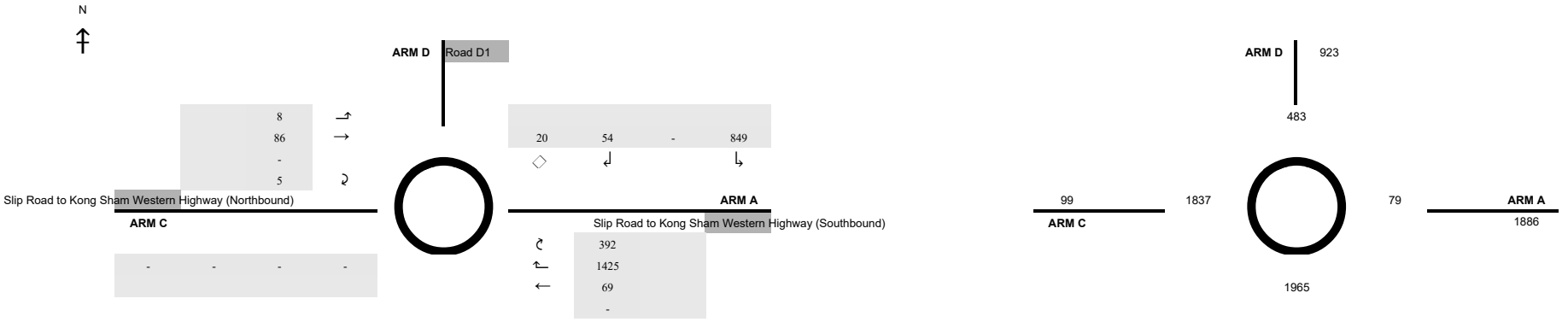
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J2_AM	PROJECT NO: 278463
J2 - Kong Sham Western Highway Roundabout	Year 2031 Design Case (AM Peak)	DATE: 6-Jul-26	FILENAME:

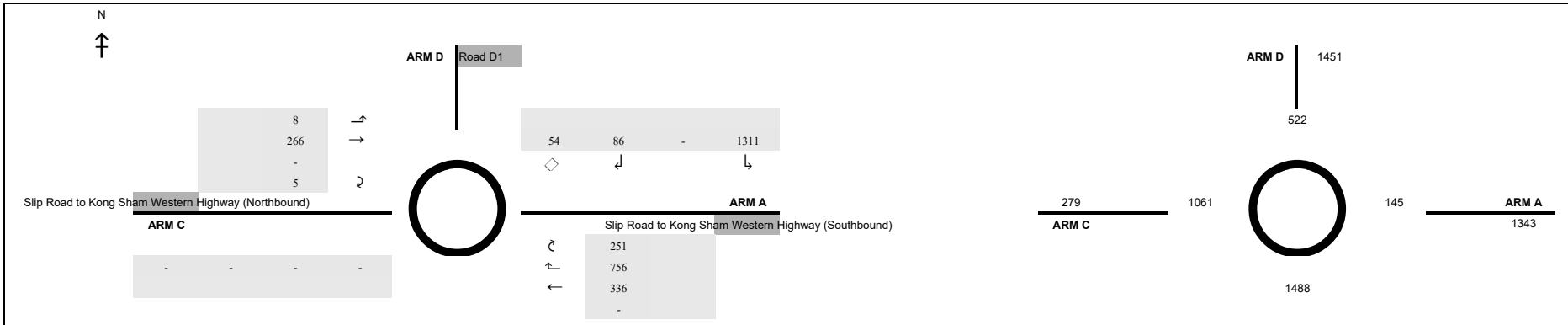


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30		7.30	7.30
E	=	Entry width (m)	9.60		8.00	7.30
L	=	Effective length of flare (m)	30		15	1
R	=	Entry radius (m)	100		40	60
D	=	Inscribed circle diameter (m)	68		68	68
A	=	Entry angle (degree)	40		25	30
Q	=	Entry flow (pcu/h)	1886		99	923
Qc	=	Circulating flow across entry (pcu/h)	79		1837	483
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.12		0.07	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.00		1.04	1.03
X2	=	V + ((E-V)/(1+2S))	9.15		7.91	7.30
M	=	EXP((D-60)/10)	2.23		2.23	2.23
F	=	303*X2	2772		2396	2212
Td	=	1+(0.5/(1+M))	1.16		1.16	1.16
Fc	=	0.21*Td(1+0.2*X2)	0.69		0.63	0.60
Qe	=	K(F-Fc*Qc)	2729		1298	1986
DFC	=	Design flow/Capacity = Q/Qe	0.69		0.08	0.46

Total In Sum = 2908 PCU

DFC of Critical Approach = 0.69

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J2_PM	PROJECT NO: 278463
J2 - Kong Sham Western Highway Roundabout	Year 2031 Design Case (PM Peak)	DATE: 6-Jul-26	FILENAME:

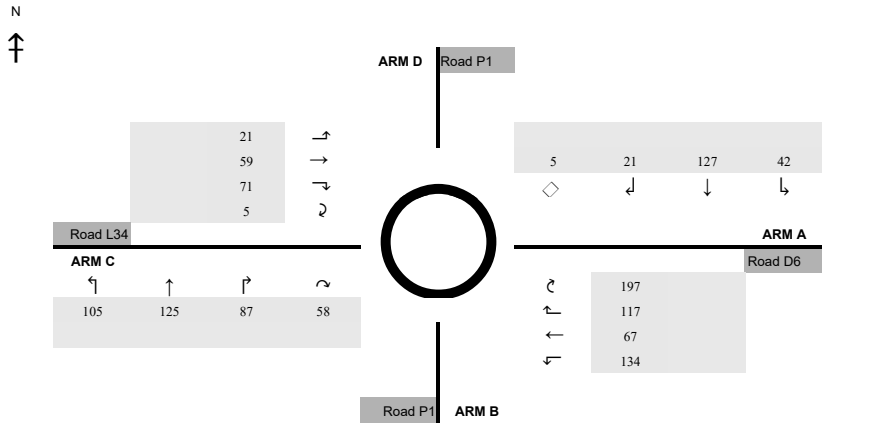


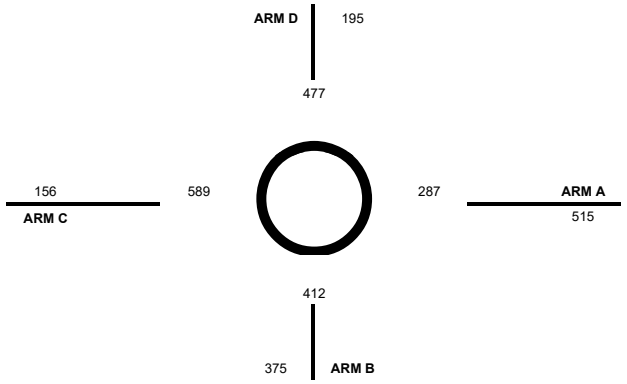
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30		7.30	7.30
E	=	Entry width (m)	9.60		8.00	7.30
L	=	Effective length of flare (m)	30		15	1
R	=	Entry radius (m)	100		40	60
D	=	Inscribed circle diameter (m)	68		68	68
A	=	Entry angle (degree)	40		25	30
Q	=	Entry flow (pcu/h)	1343		279	1451
Qc	=	Circulating flow across entry (pcu/h)	145		1061	522
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.12		0.07	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.00		1.04	1.03
X2	=	V + ((E-V)/(1+2S))	9.15		7.91	7.30
M	=	EXP((D-60)/10)	2.23		2.23	2.23
F	=	303*X2	2772		2396	2212
Td	=	1+(0.5/(1+M))	1.16		1.16	1.16
Fc	=	0.21*Td(1+0.2*X2)	0.69		0.63	0.60
Qe	=	K(F-Fc*Qc)	2684		1804	1962
DFC	=	Design flow/Capacity = Q/Qe	0.50		0.15	0.74

Total In Sum = 3073 PCU

DFC of Critical Approach = 0.74

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J3_AM	PROJECT NO: 278463
J3 - Junction of Road P1 and Road D6	Year 2031 Design Case (AM Peak)	DATE: 6-Jul-26	FILENAME:



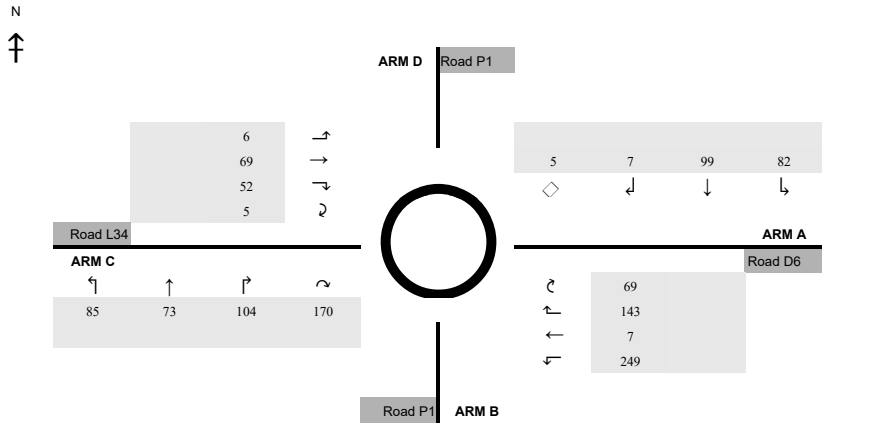


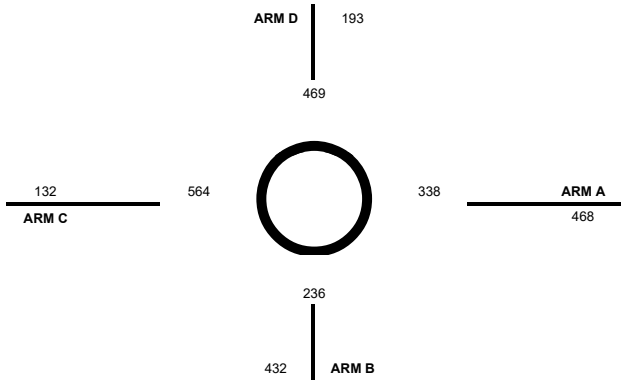
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	6.75	3.65	7.30
E	=	Entry width (m)	7.30	6.75	5.75	7.30
L	=	Effective length of flare (m)	1	1	22	1
R	=	Entry radius (m)	20	15	40	30
D	=	Inscribed circle diameter (m)	74	74	74	74
A	=	Entry angle (degree)	40	42	25	27
Q	=	Entry flow (pcu/h)	515	375	156	195
Qc	=	Circulating flow across entry (pcu/h)	287	412	589	477
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	0.00	0.15	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.94	1.04	1.03
X2	=	V + ((E-V)/(1+2S))	7.30	6.75	5.26	7.30
M	=	EXP((D-60)/10)	4.06	4.06	4.06	4.06
F	=	303*X2	2212	2045	1593	2212
Td	=	1+(0.5/(1+M))	1.10	1.10	1.10	1.10
Fc	=	0.21*Td(1+0.2*X2)	0.57	0.54	0.47	0.57
Qe	=	K(F-Fc*Qc)	1978	1716	1369	1993
DFC	=	Design flow/Capacity = Q/Qe	0.26	0.22	0.11	0.10

Total In Sum = 1241 PCU

DFC of Critical Approach = 0.26

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J3_PM	PROJECT NO: 278463
J3 - Junction of Road P1 and Road D6	Year 2031 Design Case (PM Peak)	DATE: 6-Jul-26	FILENAME:



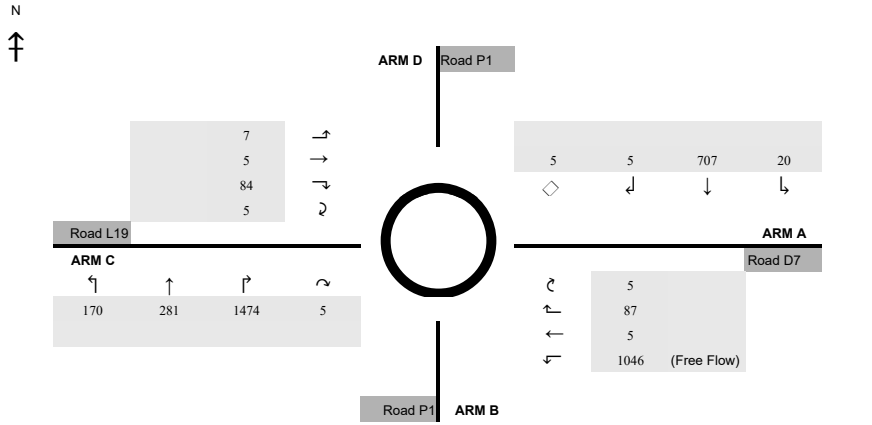


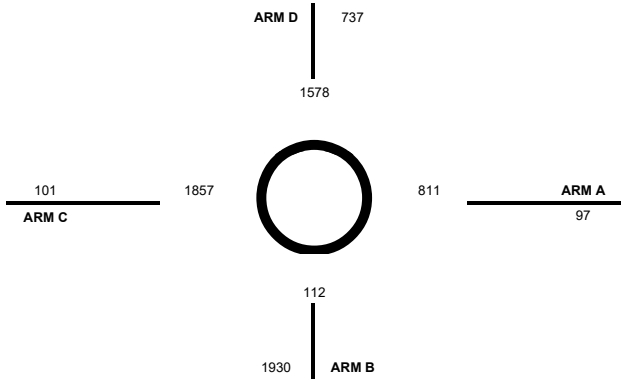
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	6.75	3.65	7.30
E	=	Entry width (m)	7.30	6.75	5.75	7.30
L	=	Effective length of flare (m)	1	1	22	1
R	=	Entry radius (m)	20	15	40	30
D	=	Inscribed circle diameter (m)	74	74	74	74
A	=	Entry angle (degree)	40	42	25	27
Q	=	Entry flow (pcu/h)	468	432	132	193
Qc	=	Circulating flow across entry (pcu/h)	338	236	564	469
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.00	0.00	0.15	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.94	1.04	1.03
X2	=	V + ((E-V)/(1+2S))	7.30	6.75	5.26	7.30
M	=	EXP((D-60)/10)	4.06	4.06	4.06	4.06
F	=	303*X2	2212	2045	1593	2212
Td	=	1+(0.5/(1+M))	1.10	1.10	1.10	1.10
Fc	=	0.21*Td(1+0.2*X2)	0.57	0.54	0.47	0.57
Qe	=	K(F-Fc*Qc)	1950	1806	1382	1998
DFC	=	Design flow/Capacity = Q/Qe	0.24	0.24	0.10	0.10

Total In Sum = 1225 PCU

DFC of Critical Approach = 0.24

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J5_AM	PROJECT NO: 278463
J4 - Junction of Road P1 and Road D7	Year 2031 Design Case (AM Peak)	DATE: 6-Jul-26	FILENAME:



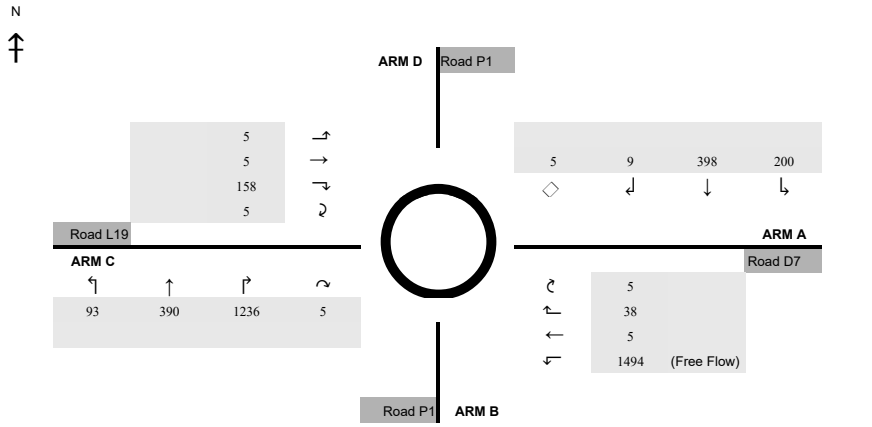


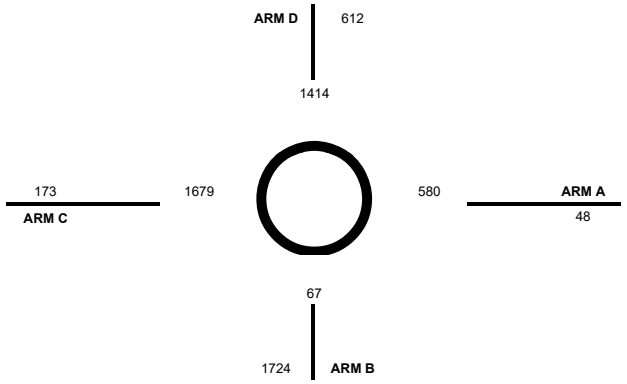
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	3.65	7.30	3.65	6.75
E	=	Entry width (m)	6.00	10.00	6.00	6.75
L	=	Effective length of flare (m)	5	8.8	8	1
R	=	Entry radius (m)	20	40	20	20
D	=	Inscribed circle diameter (m)	100	100	100	100
A	=	Entry angle (degree)	15	15	15	25
Q	=	Entry flow (pcu/h)	97	1930	101	737
Qc	=	Circulating flow across entry (pcu/h)	811	112	1857	1578
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.75	0.49	0.47	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.08	1.05	1.02
X2	=	V + ((E-V)/(1+2S))	4.59	8.66	4.86	6.75
M	=	EXP((D-60)/10)	54.60	54.60	54.60	54.60
F	=	303*X2	1390	2625	1473	2045
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	=	0.21*Td(1+0.2*X2)	0.41	0.58	0.42	0.50
Qe	=	K(F-Fc*Qc)	1116	2756	733	1281
DFC	=	Design flow/Capacity = Q/Qe	0.09	0.70	0.14	0.58

Total In Sum = 2865 PCU

DFC of Critical Approach = 0.70

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J5_PM	PROJECT NO: 278463
J4 - Junction of Road P1 and Road D7	Year 2031 Design Case (PM Peak)	DATE: 6-Jul-26	FILENAME:



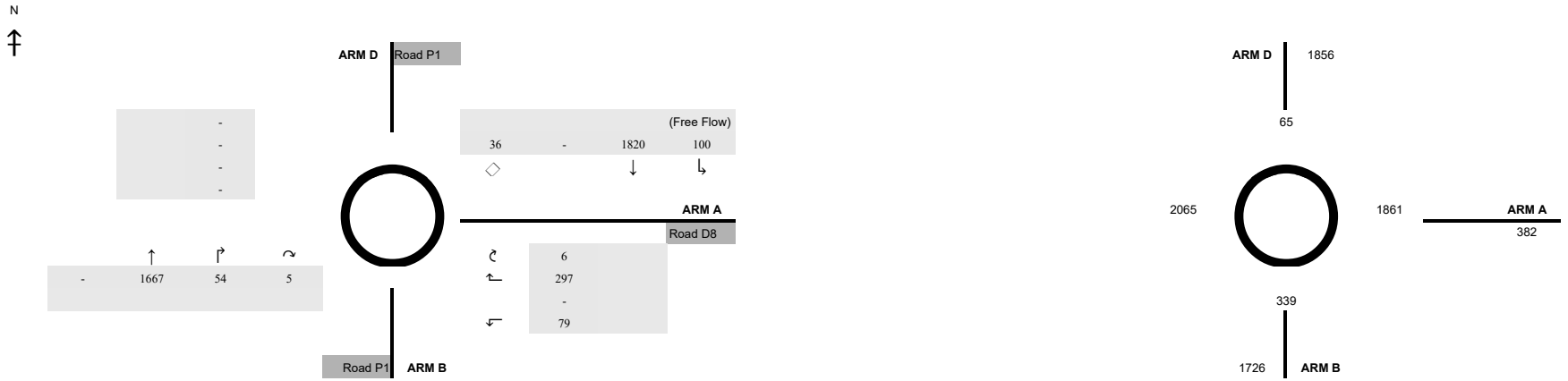


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	3.65	7.30	3.65	6.75
E	=	Entry width (m)	6.00	10.00	6.00	6.75
L	=	Effective length of flare (m)	5	8.8	8	1
R	=	Entry radius (m)	20	40	20	20
D	=	Inscribed circle diameter (m)	100	100	100	100
A	=	Entry angle (degree)	15	15	15	25
Q	=	Entry flow (pcu/h)	48	1724	173	612
Qc	=	Circulating flow across entry (pcu/h)	580	67	1679	1414
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.75	0.49	0.47	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.08	1.05	1.02
X2	=	V + ((E-V)/(1+2S))	4.59	8.66	4.86	6.75
M	=	EXP((D-60)/10)	54.60	54.60	54.60	54.60
F	=	303*X2	1390	2625	1473	2045
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	=	0.21*Td(1+0.2*X2)	0.41	0.58	0.42	0.50
Qe	=	K(F-Fc*Qc)	1215	2784	811	1364
DFC	=	Design flow/Capacity = Q/Qe	0.04	0.62	0.21	0.45

Total In Sum = 2557 PCU

DFC of Critical Approach = 0.62

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J5_AM	PROJECT NO: 278463
J5 - Junction of Road P1 and Road D8	Year 2031 Design Case (AM Peak)	DATE: 6-Jul-26	FILENAME:

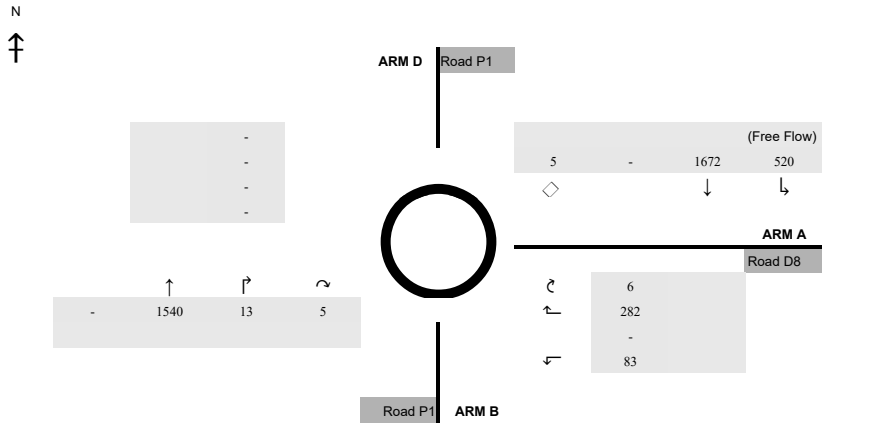


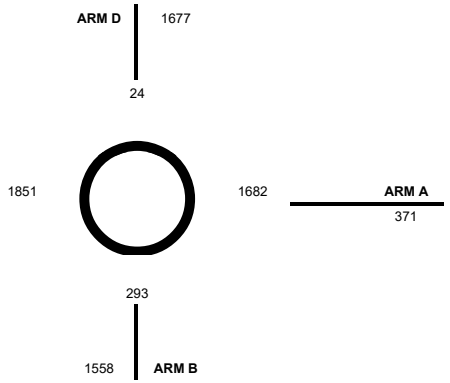
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		9.2
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	382	1726		1856
Qc	=	Circulating flow across entry (pcu/h)	1861	339		65
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.59
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		8.86
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2684
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1338	2609		2627
DFC	=	Design flow/Capacity = Q/Qe	0.29	0.66		0.71

Total In Sum = 3964 PCU

DFC of Critical Approach = 0.71

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Hung Shui Kiu Phase 2 D&C		SHEET: J5_PM	PROJECT NO: 278463
J5 - Junction of Road P1 and Road D8	Year 2031 Design Case (PM Peak)	DATE: 6-Jul-26	FILENAME:





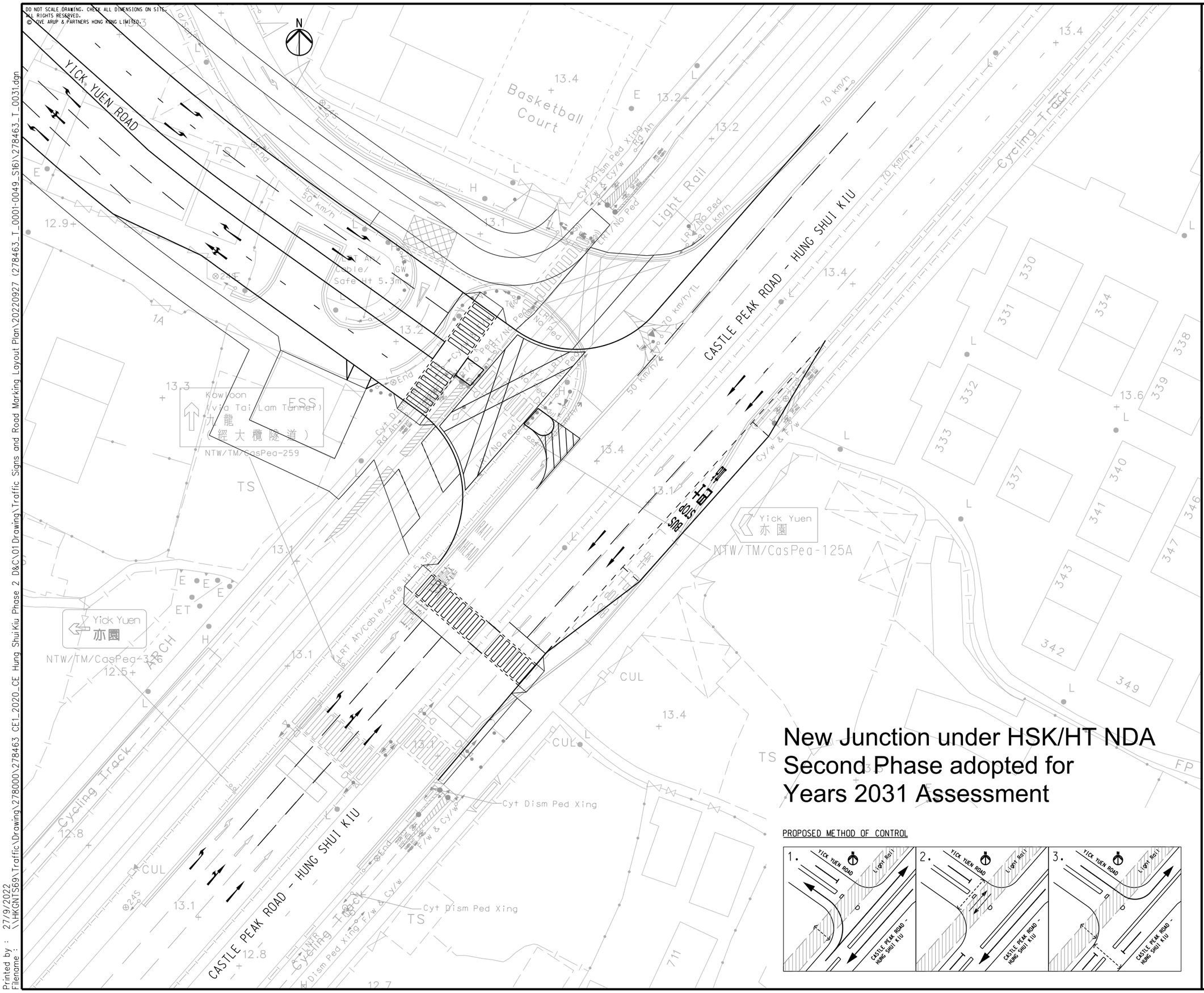
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		9.2
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	371	1558		1677
Qc	=	Circulating flow across entry (pcu/h)	1682	293		24
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.59
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		8.86
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2684
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1458	2642		2655
DFC	=	Design flow/Capacity = Q/Qe	0.25	0.59		0.63

Total In Sum = 3606 PCU

DFC of Critical Approach = 0.63

Appendix D

Future Junction Layouts



NOTES:

1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

New Junction under HSK/HT NDA Second Phase adopted for Years 2031 Assessment

PROPOSED METHOD OF CONTROL

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

JUNCTION LAYOUT PLAN - J1
CASTLE PEAK ROAD / YICK YUEN ROAD

Drawing no.			Rev.
			–
Drawn	Date	Checked	Approved
WKKL	04/21	CFEI	DL
Scale	1:250 @ A1	Status	PRELIMINARY

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

Printed by : 27/9/2022
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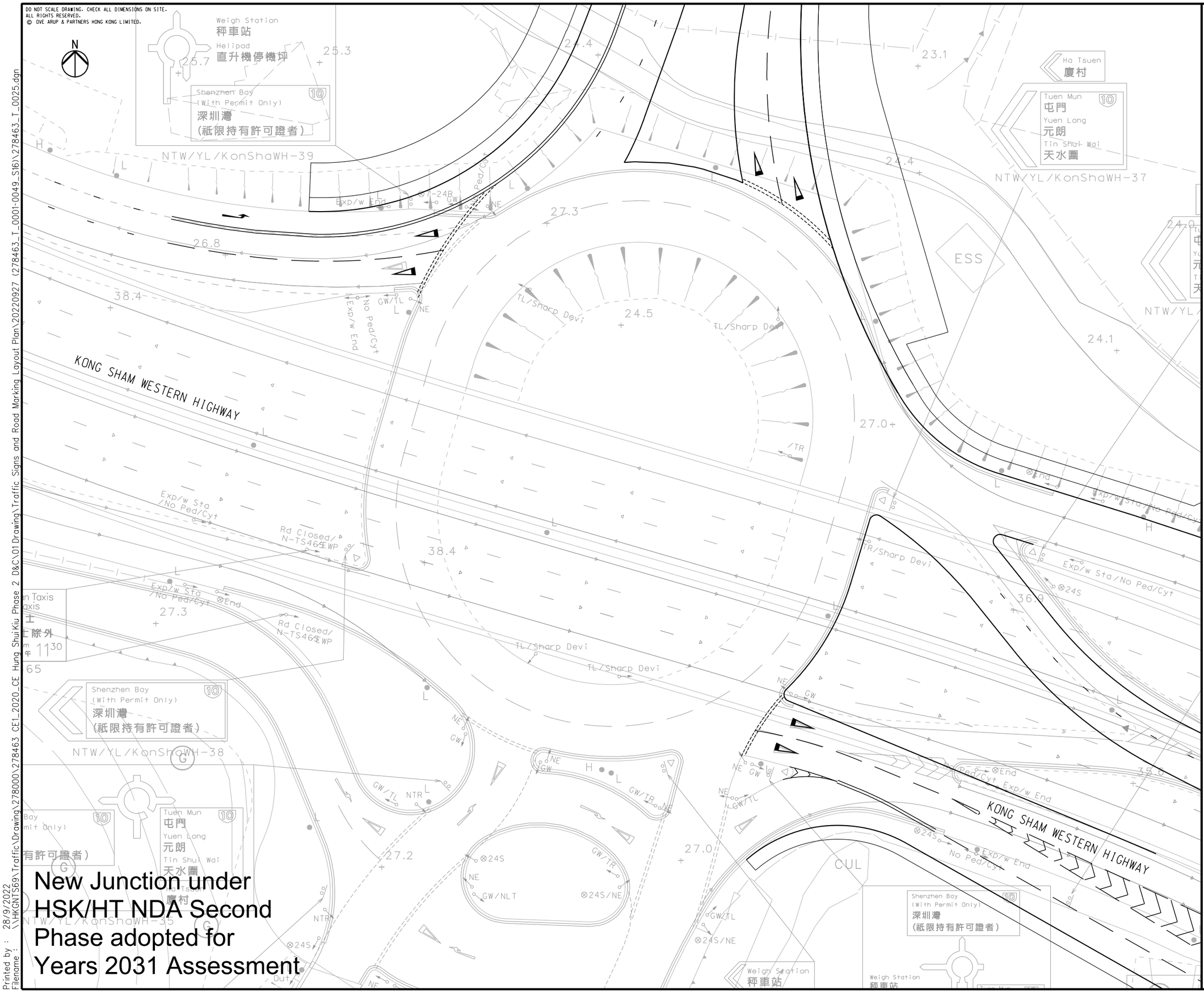

NOTES:

1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

New Junction under HSK/HT NDA Second Phase adopted for Years 2031 Assessment

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

JUNCTION LAYOUT PLAN - J2
KONG SHAM WESTERN HIGHWAY
ROUNDABOUT

Drawing no.			Rev.
			-
Drawn	Date	Checked	Approved
WKKL	04/21	CFEI	DL
Scale		Status	
1:250 @ A1		PRELIMINARY	

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

Printed by : 28/9/2022
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New Junction under HSK/HT NDA Second Phase adopted for Years 2031 Assessment

N

Open Storage

KONG SHAM WESTERN HIGHWAY

ROAD P1

ROAD D7

KLUO

Pass P1

Hd Sh

80 Km/h

27.3

34.7

33.7

22.7

23.5

25.1

27.3

33.5

26.6

Ah 3603

NOTES:

1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

JUNCTION LAYOUT PLAN - J3
ROAD P1 / ROAD D7

Drawing no.	Rev.
	–

Drawn	Date	Checked	Approved
WKKL	04/21	CFEI	DL

Scale 1:250 @ A1

Status PRELIMINARY

土木工程拓展署
Civil Engineering and Development Department

Printed by : 27/9/2022
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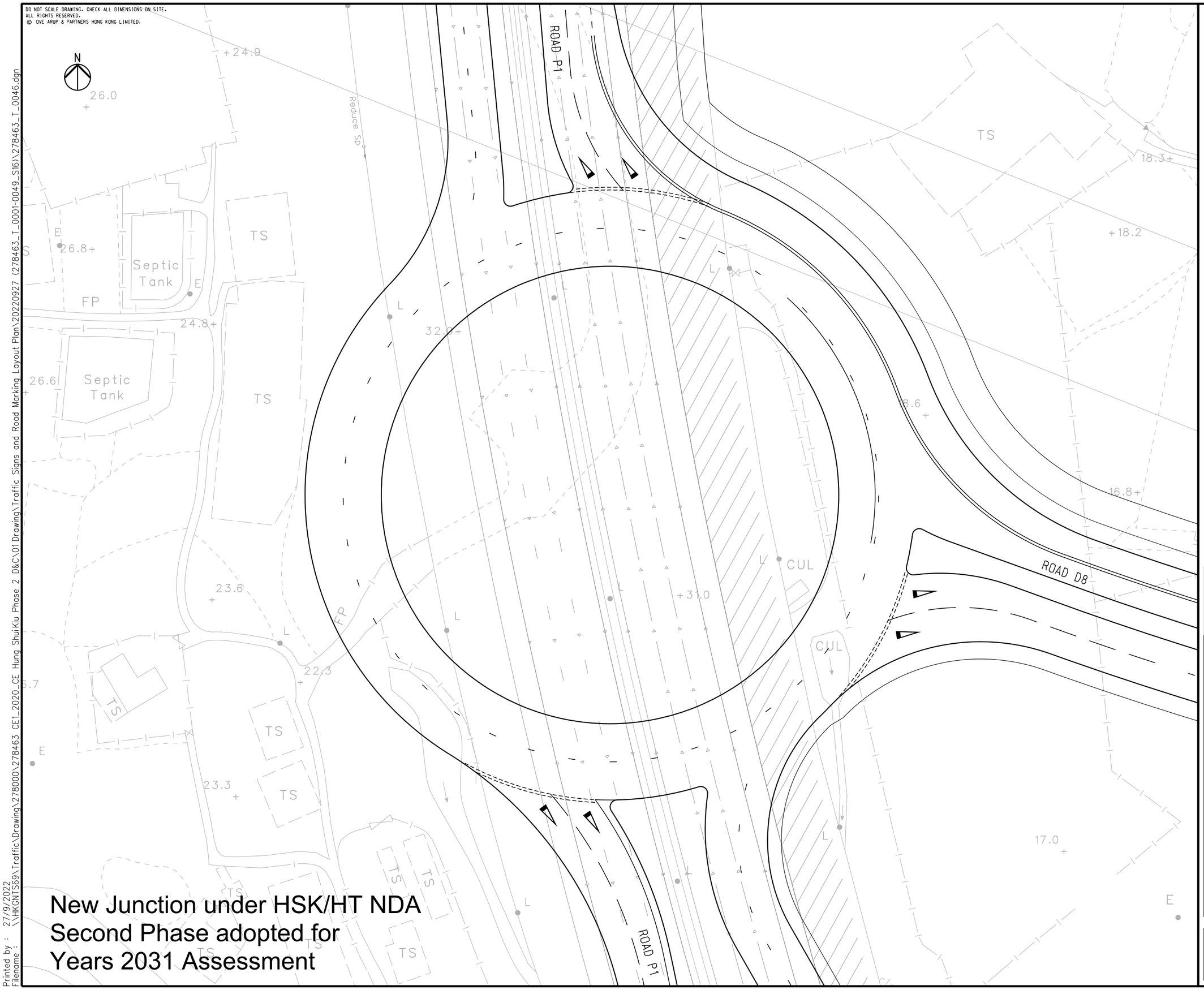


NOTES:

1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

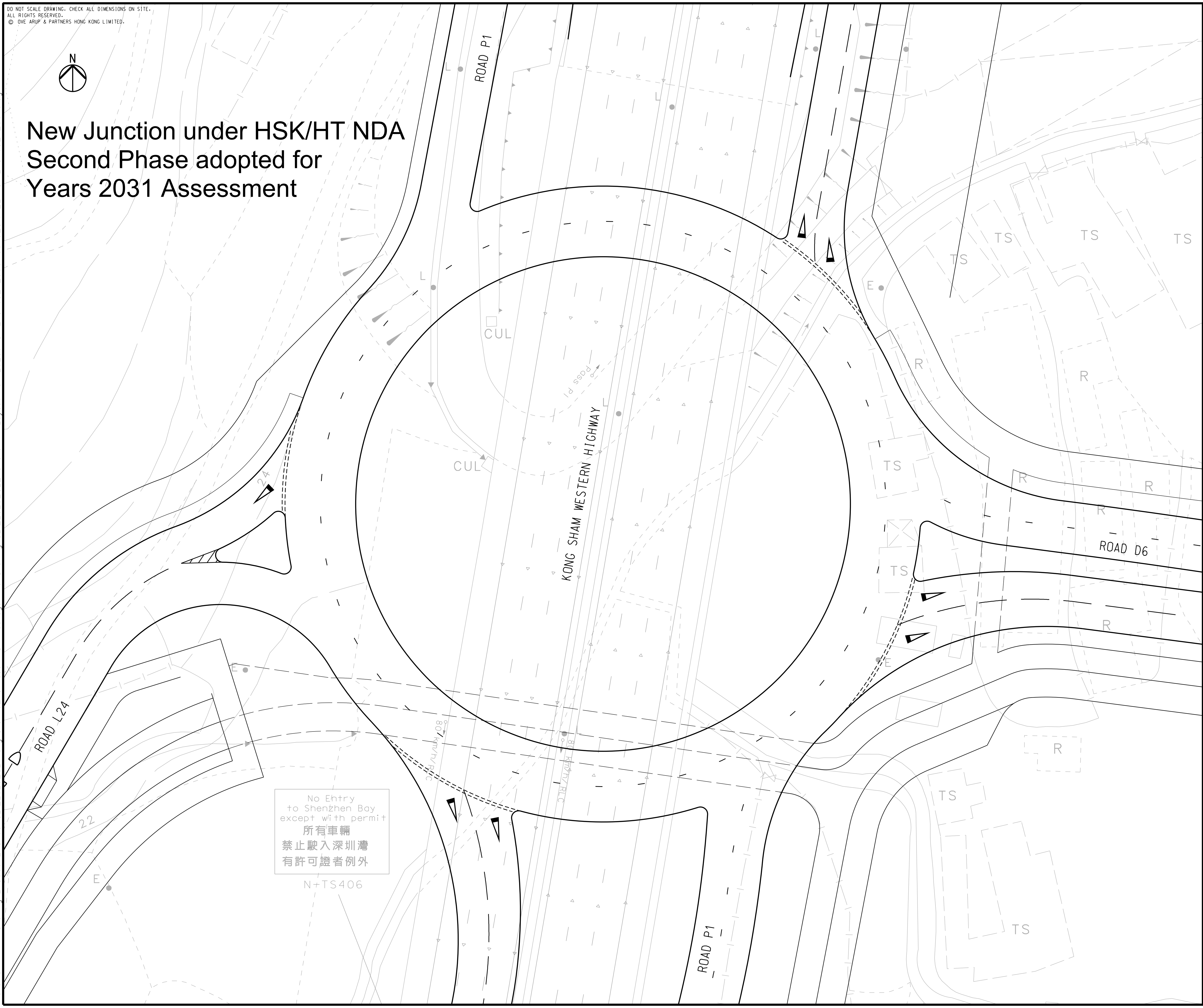
JUNCTION LAYOUT PLAN - J4
ROAD P1 / ROAD D8

Drawing no.			Rev.
			–
Drawn	Date	Checked	Approved
WKKL	04/21	CFEI	DL
Scale	1:250 @ A1	Status	PRELIMINARY

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

Printed by : 27/9/2022
Filename : \\HKGNTS69\Traffic\Drawing\278000\278463_CE1_2020_CE_Hung_Shui_Kiu_Phase_2_D&C\01_Drawing\Traffic_Signs_and_Road_Marking_Layout_Plan\20220927 (278463_T_0001-0049_S16)\278463_T_0046.dgn

New Junction under HSK/HT NDA Second Phase adopted for Years 2031 Assessment



NOTES:
1. FOR NOTES AND LEGEND, REFER TO DWG.NO. 278463/T/0001.

Rev	Description	By	Date

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

JUNCTION LAYOUT PLAN - J5
ROAD P1/ROAD D6

Drawing no.	Rev.
	-

Drawn	Date	Checked	Approved
WKKL	04/21	CFEI	DL
Scale: 1:250 @ A1		Status: PRELIMINARY	

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Civil Engineering and Development Department

Printed by : 18/1/2023
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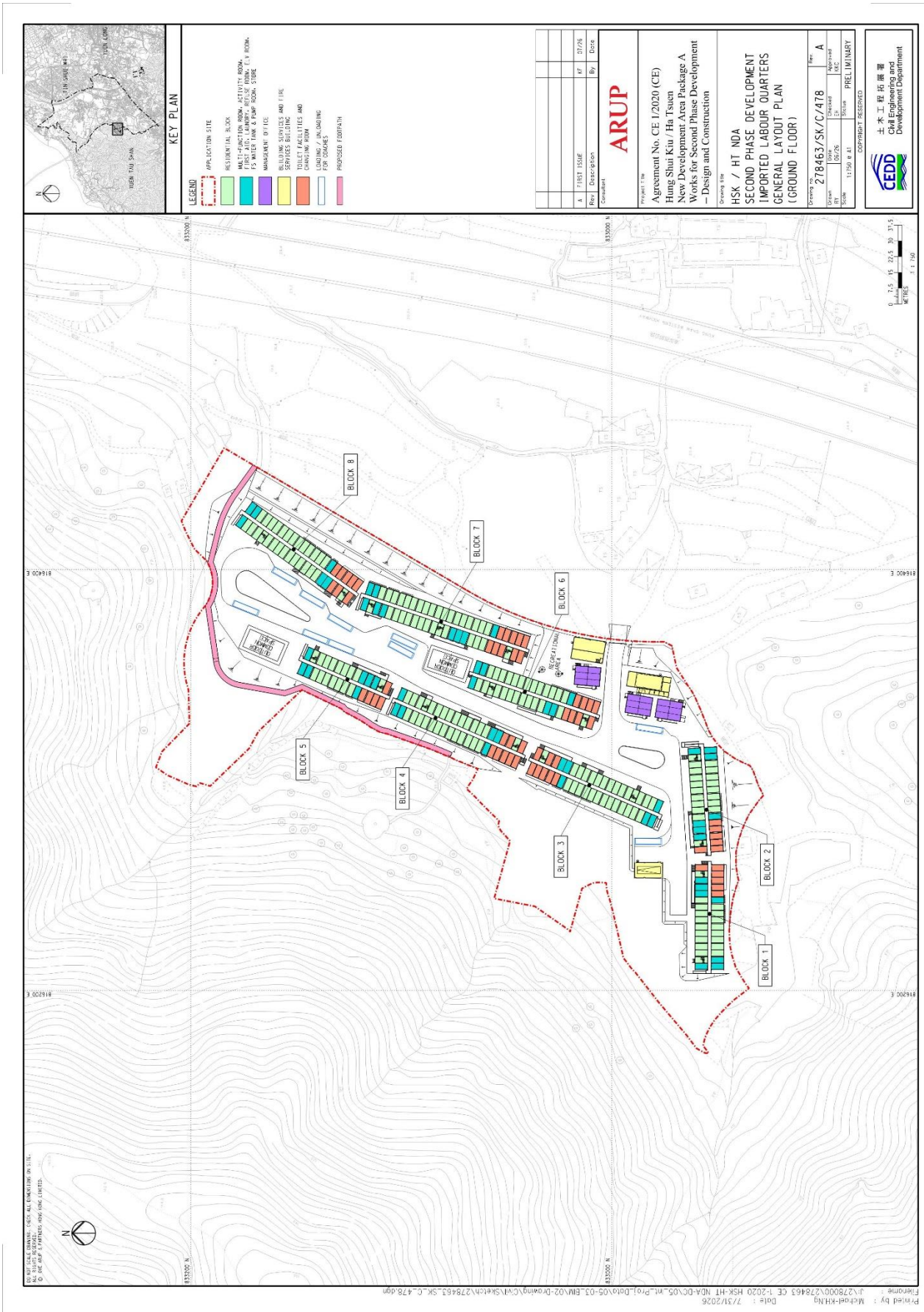
Appendix E

General Layout Plan (Contractor Design)


KEY PLAN
LEGEND
APPLICATION SITE
RESIDENTIAL BLOCK
MANAGEMENT OFFICE
TOILET FACILITIES AND CHANGING ROOM
LOADING / UNLOADING FOR COACHES
PROPOSED FOOTPATH
ARUP
Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction
HSK / HT NDA
SECOND PHASE DEVELOPMENT
IMPORTED LABOUR QUARTERS
GENERAL LAYOUT PLAN
(GROUND FLOOR)
278463/SK/C/478
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土木工程拓展署
Civil Engineering and
Development Department
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 4
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8