#### Proposed Concrete Batching Plant in "Industrial" Zone at Nos.13- 17 Wah Sing Street, Kwai Chung S16 Planning Application

(Planning Application No: A/KC/509)

**Appendix II** 

Revised Traffic Impact Assessment

Traffic Impact Assessment Final Report March 2025

Prepared by: CKM Asia Limited

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#### 1.0 INTRODUCTION

Background

- 1.1 The Subject Site is located at 13 17 Wah Sing Street in Kwai Chung. Figure 1.1 shows the location of the Subject Site.
- 1.2 On 24<sup>th</sup> May 2024, the Town Planning Board ("TPB") approved the S16 Planning Application of Proposed minor relaxation of plot ratio restriction for Permitted Warehouse Use (excluding Dangerous Goods Godown) in "Industrial" Zone at the Subject Site (TPB ref: A/KC/505) ("the Approved Warehouse"). The Owner now intends to redevelop the Subject Site into a Proposed Concrete Batching Plant ("Proposed Concrete Batching Plant").
- 1.3 CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned by the Owner to conduct a traffic impact assessment in support of the Proposed Concrete Batching Plant. This report presents the findings of the Traffic Impact Assessment.

Structure of Report

1.4 The report is structured as follows:

| Chapter One   | - | Gives the background of the project;                       |
|---------------|---|--|
| Chapter Two   | - | Describes the existing situation;                          |
| Chapter Three | - | Explains the Proposed Concrete Batching Plant and presents |
|               |   | the internal transport facilities provided;                |
| Chapter Four  | - | Describes the traffic impact analysis;                     |
| Chapter Five  | - | Gives the overall conclusion.                              |

#### 2.0 EXISTING SITUATION

The Subject Site

2.1 The Subject Site fronts onto Wah Sing Street to the east and Kwai Chung Town Lot 111 RP in DD445 to the west and south.

#### Public Transport Facilities

2.2 The Subject Site is well-served by public transport facilities, and access to these services is convenient. Details of public transport services operating in the vicinity of the Subject Site are given in Table 2.1 and shown in Figure 2.1.

# TABLE 2.1ROAD-BASEDPUBLICTRANSPORTSERVICESOPERATINGNEAR THE SUBJECT SITE

| Route Routing          |   | Frequency       |
|------------------------|---|-----------------|
|                        | Choung Sha Wan Allway Cardons                               |                 |
|                        | Tsuon Wan West Station Shek Loi (Circular)                  | 25 - 30         |
|                        | Olympic Station - Shek Lei (Circular)                       | 10 - 20         |
|                        | Chympic Station – Snek Lei (Tai Loong Street)               | 12 – 25<br>F 1F |
|                        | Shek Lei (Lei Pui Street) – Kwai Fong Station               | 5-15            |
|                        | Shek Let Commercial Complex $\rightarrow$ Kwal Fong Station | AIVI Peak       |
| KIMB 32                | Olympic Station – Snek Wal Kok                              | 20 - 28         |
| KMB 32H                | Cheung Shan – Lai Chi Kok                                   | 30 - 60         |
| KMB 32M                | Kwai Fong Station – Cheung Shan (Circular)                  | 15 – 25         |
| KMB 33A                | Mong Kok (Park Avenue) – Tsuen Wan (Nina Tower)             | 17 – 25         |
| KMB 34                 | Tsuen Wan (Bayview Garden) – Kwai Shing (Central)           | 12 – 20         |
| KMB 35A                | Tsim Sha Tsui East – On Yam Estate                          | 5 – 20          |
| KMB 35X <sup>(2)</sup> | On Yam Estate – Tsim Sha Tsui East                          | AM, PM Peak     |
| KMB 36A                | Cheung Sha Wan (Sham Mong Road) – Lei Muk Shue              | 15 – 30         |
| KMB 36B                | Jordan (West Kowloon Station) – Lei Muk Shue                | 12 – 25         |
| KMB 36M                | Kwai Fong Station – Lei Muk Shue                            | 5 – 12          |
| KMB 36X <sup>(1)</sup> | Lei Muk Shue – Tsim Sha Tsui East (Mody Road)               | AM, PM Peak     |
| KMB 37                 | Kwai Shing (Central) – Olympic Station                      | 12 – 20         |
| KMB 37M                | Kwai Hing Station → Kwai Shing Central (Circular)           | 8 – 20          |
| KMB 38                 | Kwai Shing (East) – Ping Tin                                | 6 – 20          |
| KMB 38A                | Mei Foo – Riviera Gardens                                   | 20 - 30         |
| KMB 38B <sup>(1)</sup> | Riviera Gardens – Shek Mun Estate                           | AM, PM Peak     |
| KMB 38P <sup>(1)</sup> | Kwai Shing (Central) – Ping Tin                             | AM, PM Peak     |
| KMB 40                 | Laguna City – Tsuen Wan (Belvedere Garden)                  | 11 – 25         |
| KMB 40A <sup>(1)</sup> | Ping Tin – Kwai Hing Station                                | AM, PM Peak     |
| KMB 40P                | Tsuen Wan (Nina Tower) – Kwun Tong Ferry                    | 8 – 30          |
| KMB 40E <sup>(1)</sup> | Nai Chung – Kwai Chung (Kwai Fong Estate)                   | AM, PM Peak     |
| KMB 40X                | Wu Kai Sha Station – Kwai Chung Estate                      | 6 – 20          |
| KMB 42C                | Cheung Hang Estate – Lam Tin Station                        | 5 – 15          |
| KMB 43                 | Cheung Hong Estate – Tsuen Wan West Station                 | 12 – 20         |
| KMB 43A                | Cheung Wang Estate – Shek Lei (Tai Loong Street)            | 6 – 20          |
| KMB 43D <sup>(1)</sup> | Cheung Wang Estate → Kwai Shing                             | AM Peak         |
| KMB 43S <sup>(1)</sup> | Shek Yam → Hong Kong Science Park                           | AM Peak         |
| KMB 44M                | Tsing Yi Station – Kwai Chung Estate                        | 11 – 20         |
| KMB 46P <sup>(2)</sup> | Mei Tin – Kwai Fong Station (Circular)                      | 10 – 30         |
| KMB 46X                | Mei Foo – Hin Keng  | 5 – 20          |
| KMB 47A                | Kwai Fong (South) – Shui Chuen O                            | 20 – 30         |
| KMB 47X                | Kwai Shing (East) – Chun Shek                               | 6 – 20          |

Note: KMB – Kowloon Motor Bus LWB – Long Win Bus CTB – Citybus GMB – Green Minibus (1) Monday to Friday. No services on Sundays and Public Holidays

(2) Monday to Saturday. No services on Sundays and Public Holidays

(O) Overnight service

# TABLE 2.1ROAD-BASEDPUBLICTRANSPORTSERVICESOPERATINGNEAR THE SUBJECT SITE (CONT'D)

| Route                   | te Routing  |                     |
|-------------------------|---|---------------------|
| KMB 57M                 | Lai King (North) – Shan King Estate                               | 11 – 30             |
| KMB 58M                 | Kwai Fong Station – Leung King Estate                             | 3 – 15              |
| KMB 59A                 | Kwai Fong (Kwai Tsui Estate) – Tuen Mun Pier Head                 | 6 - 60              |
| KMB 61M                 | l ai King (North) – Yau Oi (South)                                | 8 - 25              |
| KMB 67M                 | Kwai Fong Station – Siu Hong Court                                | 5 - 20              |
| KMB 69M                 | Kwai Fong Station – Tin Shui Wai Town Centre                      | 5 - 30              |
| KMB 69P <sup>(2)</sup>  | Tin Shui Wai Station → Kwai Fong Station                          | AM Peak             |
| KMB 73P <sup>(1)</sup>  | Tai Mei Tuk – Tsuen Wan (Nina Tower)                              | AM Peak             |
| KMB 73P <sup>(1)</sup>  | Tsuen Wan (Nina Tower) → Tai Mei Tuk                              | PM Peak             |
| KMB 235M                | Kwai Fong Station – On Yam Estate                                 | 5 – 15              |
| KMB 237A <sup>(2)</sup> | Kwai Shing (Central) $\rightarrow$ Tsim Sha Tsui Fast (Mody Road) | AM Peak             |
| KMB 240X <sup>(1)</sup> | Wong Nai Tau – Kwai Hing Station                                  | AM, PM Peak         |
| KMB 260C <sup>(1)</sup> | Sam Shing Estate – Kwai Fong Station                              | AM PM Peak          |
| KMB 265M                | Lai Yiu Estate – Tin Heng Estate                                  | 5 - 35              |
| KMB 269A <sup>(2)</sup> | Wetland Park Road → Kwai Chung (Kwai Fong Estate)                 | AM Peak             |
| KMB 269M                | Cho Yiu – Tin Yan Estate  | 12 – 25             |
| KMB 272P <sup>(2)</sup> | Tai Po (Fu Heng) – Kwai Hing Station                              | AM PM Peak          |
| KMB 290                 | Choi Ming – Tsuen Wan West Station                                | 10 - 20             |
| KMB 290A                | Choi Ming – Tsuen Wan West Station                                | 10 - 25             |
| KMB 290B <sup>(1)</sup> | Tsuen Wan West Station – Tseung Kwan O Industrial Estate          | AM PM Peak          |
| KMB 290F <sup>(1)</sup> | Tseung Kwan O Industrial Estate – Tseun Wan West Station          | AM PM Peak          |
| KMB 290X                | Lohas Park Station – Tsuen Wan West Station                       | 15 – 35             |
| KMB 935 <sup>(2)</sup>  | Shek Lei (Tai Loong Street) – Wan Chai (Eleming Road)             | AM PM Peak          |
| KMB 936                 | Shek Wai Kok $\rightarrow$ Causeway Bay (Cotton Path)             | AM Peak             |
| KMB 936                 | Causeway Bay (Cotton Path) $\rightarrow$ Shek Wai Kok             | PM Peak             |
| KMB 9364 <sup>(2)</sup> | Tsuen Wan (Shek Wai Kok) $\rightarrow$ Causeway Bay (Cotton Path) | AM Peak             |
| KMB 936Δ <sup>(1)</sup> | Causeway Bay (Cotton Path) $\rightarrow$ Lei Muk Shue             | PM Peak             |
| KMB N237 <sup>(0)</sup> | Mei Foo – Kwai Shing (Circular)                                   | 30                  |
| KMB N260 <sup>(0)</sup> | Mei Foo – Tuen Mun Pier Head                                      | 20 - 30             |
| KMB N269 <sup>(O)</sup> | Mei Foo – Tin Tsz   | 10 - 25             |
| KMB N290 <sup>(O)</sup> | Tsuen Wan West Station $\rightarrow$ Lohas Park Station           | 2 per dav           |
| KMB X42P <sup>(1)</sup> | Cheung On Estate $\rightarrow$ Lam Tin Station                    | AM Peak             |
|                         | Lei Muk Shue – Airport (Ground Transportation Centre)             | 30 - 60             |
| LWB A32                 | Airport (Ground Transportation Centre) – Kwai Chung Estate        | 30 - 60             |
| LWB F32                 | Asiaworld-Expo – Kwai Fong (South)                                | 11 - 30             |
| LWB E32                 | Tung Chung Development Pier – Kwai Fong (South)                   | 12 - 30             |
| LWB NA32 <sup>(O)</sup> | Hzmb Hong Kong Port – Kwai Chung Estate                           | 2 - 3 per day       |
| CTB 930                 | Tsuen Wan – Exhibition Centre Station                             | 10 - 30             |
| CTB 930B <sup>(1)</sup> | Kwai Shing (East) $\rightarrow$ Causeway Bay (Moreton Terrace)    | AM Peak             |
| CTB N930 <sup>(O)</sup> | Causeway Bay (Moreton Terrace) $\rightarrow$ Tsuen Wan            | 1 per day           |
| CTB N930 <sup>(O)</sup> | Tsuen Wan $\rightarrow$ Causeway Bay (Moreton Terrace)            | 2 per day           |
| GMR 834                 | Tsuen Wan (Chuen Lung Street) – On Vam Estate                     | 2 pci day<br>8 – 30 |
| GMB 86                  | Tsuen Wan West Station - Shek Lei Estate                          | 10 - 20             |
|                         | Tsuen Wan (Chuen Lung Street) - Shek Lei Estate                   | 10 - 20<br>15 - 30  |
| GMB 86M                 | Tsuen Wan (Chuen Lung Street) – Shek Lei Estate                   | 15 - 30             |
|                         | Kwai Eong Station Tsuon Wan Wost Station                          | 6 10                |
| GMB 80A                 | Kwai Hing Station - Tsuen Wan (Ho Dui Stroot)                     | 8 - 19              |
| GMR 80R                 | Tsuan Wan West Station - Kwai Shina East Estato                   | 10 - 10             |
|                         | Kwai Eong Station - Kwai Shing East Estate                        | 5 15                |
|                         | Kwai Fully Station - Kwai Shilly East Estate                      | ບ - ເວ<br>1 ເ       |
| GIVID OYP               | INVVar Churry (Shek Tau Sheet) – Nivar FUlly (Clicular)           | 10                  |

Note: KMB – Kowloon Motor Bus LWB – Long Win Bus CTB – Citybus GMB – Green Minibus (1) Monday to Friday. No services on Sundays and Public Holidays (2) Monday to Saturday. No services on Sundays and Public Holidays

(O) Overnight service

# TABLE 2.1ROAD-BASEDPUBLICTRANSPORTSERVICESOPERATINGNEAR THE SUBJECT SITE (CONT'D)

| Route Routing                                     |   |
|---|---|
| Kwai Fong Station – Kwai Shing Circuit (Circular) | 5 – 15  |
| Shek Wai Kok Estate – Kwai Shing Circuit          | 8 – 15  |
| Lei Muk Shue Estate – Kwai Shing Circuit          | 10 – 15   |
| Hong Kong Garden – Kwai Fong Station              | 5 – 30  |
| Bellagio – Kwai Fong Station                      | AM Peak   |
| Fuk Loi Estate – Princess Margaret Hospital       | 6 – 11  |
| Tsing Yi Ferry Terminus – Shek Yam Estate         | 7 – 10  |
| Shek Lei Estate – Sha Tin Wai (Circular)          | 20  |
| Shek Lei Estate – Shatin Town Centre              | 6 – 20  |
| Tai Wai Station – Shek Lei Estate (Circular)      | 12 – 15   |
| Shek Lei Estate – Kwai Shing Circuit (Circular)   | AM Peak   |
| Cheung Wang Estate – Princess Margaret Hospital   | 4 – 10  |
| Shek Yam Estate – Princess Margaret Hospital      | 15 – 20   |
|   | Routing<br>Kwai Fong Station – Kwai Shing Circuit (Circular)<br>Shek Wai Kok Estate – Kwai Shing Circuit<br>Lei Muk Shue Estate – Kwai Shing Circuit<br>Hong Kong Garden – Kwai Fong Station<br>Bellagio – Kwai Fong Station<br>Fuk Loi Estate – Princess Margaret Hospital<br>Tsing Yi Ferry Terminus – Shek Yam Estate<br>Shek Lei Estate – Sha Tin Wai (Circular)<br>Shek Lei Estate – Shatin Town Centre<br>Tai Wai Station – Shek Lei Estate (Circular)<br>Shek Lei Estate – Kwai Shing Circuit (Circular)<br>Shek Lei Estate – Kwai Shing Circuit (Circular)<br>Cheung Wang Estate – Princess Margaret Hospital<br>Shek Yam Estate – Princess Margaret Hospital |

Note: KMB – Kowloon Motor Bus LWB – Long Win Bus CTB – Citybus GMB – Green Minibus

(1) Monday to Friday. No services on Sundays and Public Holidays

(2) Monday to Saturday. No services on Sundays and Public Holidays

(O) Overnight service

#### Pedestrian Facilities

2.3 In the vicinity of the Subject Site, footpaths are provided alongside roads, and footbridges are provided across Kwai Chung Road.

#### Existing Traffic Flows

- 2.4 To quantify the existing traffic flows in the vicinity of the Subject Site, manual classified counts were conducted on Thursday, 10<sup>th</sup> October 2024 at the following junctions:
  - J01 Junction of Kwai Chung Road / Kwai On Road / Kwai Yik Road;
  - J02 Junction of Tai Lin Pai Road / Kwai On Road;
  - J03 Junction of Tai Lin Pai Road / Kung Yip Street;
  - J04 Junction of Kung Yip Street / Wah Sing Street;
  - J05 Junction of Kwai Chung Road / Tai Lin Pai Road / Kwai Foo Road; and
  - J06 Junction of Tai Lin Pai Road / San Kwai Street.
- 2.5 In view that junction of Kwai Chung Road / Tai Lin Pai Road is not a signal controlled or a priority junction, the junction performance assessment is not conducted.
- 2.6 The existing road network, the locations of these surveyed junctions and the area of influence ("AOI") are shown in Figure 2.2 and the junction layouts are shown in Figures 2.3 2.8.
- 2.7 The traffic counts are classified by vehicle type to enable traffic flows in passenger car units ("pcu") to be calculated. The AM and PM peak hours identified from the surveys are found to be between 0900 1000 hours and 1700 1800 hours respectively. Figure 2.9 presents the 2024 observed AM and PM peak hour traffic flows in pcu/hour.

#### Queueing of Taxis for Refilling Liquefied Petroleum Gas ("LPG") at J02

- 2.8 Since queuing of taxis for refilling liquefied petroleum gas occurs during the PM peak hour along Tai Lin Pai Road northbound near its junction with Kwai On Road, the effect of taxi queueing is only considered for the PM peak hour junction capacity analysis.
- 2.9 In the junction analysis, the queueing of taxis is regarded as "dead vehicles" occupying part of the slow lane of Tai Lin Pai Road northbound. Despite the presence of the "dead vehicles", the remaining lane width could still serve 2 northbound traffic movements.

#### Performance of the Surveyed Junctions

2.10 The existing performance of the surveyed junctions are calculated based on the methods outlined in Volume 2 of the Transport Planning and Design Manual ("TPDM"), which is published by the Transport Department. The results of the performance of junctions are summarised in Table 2.2, and detailed calculations of junction performance are found in Appendix A.

| Ref. | Junction   | Type of        | AM Peak | PIM Peak             |
|------|--|----------------|---------|----------------------|
|      |  | Junction       | Hour    | Hour                 |
|      |  | (Parameter)    |         |                      |
| J01  | Kwai Chung Road / Kwai On Road / Kwai Yik Road     | Signal (RC)    | 36%     | 42%                  |
| J02  | Tai Lin Pai Road / Kwai On Road                    | Priority (RFC) | 0.648   | 0.542 <sup>(1)</sup> |
| J03  | Tai Lin Pai Road / Kung Yip Street                 | Signal (RC)    | 86%     | 92%                  |
| J04  | Kung Yip Street / Wah Sing Street                  | Priority (RFC) | 0.330   | 0.294                |
| J05  | Kwai Chung Road / Tai Lin Pai Road / Kwai Foo Road | Signal (RC)    | 34%     | 50%                  |
| J06  | Tai Lin Pai Road / San Kwai Street                 | Priority (RFC) | 0.197   | 0.148                |
| Noto | DC Posonio Capacity DEC Patio of Flow t            | o Capacity     |         |                      |

#### TABLE 2.2 EXISTING JUNCTION PERFORMANCE

Note: RC – Reserve Capacity RFC – Ratio of Flow to Capacity <sup>(1)</sup> The effect of taxi queueing is considered.

2.11 The results in Table 2.2 show that the junctions analysed operate with capacity.

#### 3.0 THE PROPOSED CONCRETE BATCHING PLANT

#### **Development Schedule**

3.1 The Proposed Concrete Batching Plant has 4 production lines with peak concrete production capacity of 100m<sup>3</sup>/hour/line. Sufficient loading / unloading facilities which meet the operational requirements are provided within the Proposed Concrete Batching Plant.

#### **Vehicular Access Points**

3.2 The vehicular access to the Proposed Concrete Batching Plant is provided at Wah Sing Street.

#### **Operation of Proposed Concrete Batching Plant**

- 3.3 The Proposed Concrete Batching Plant has 2 main activities which generate traffic: (a) delivery of concrete from the Proposed Concrete Batching Plant, and (b) delivery of raw materials, such as aggregate, cementitious materials, etc, to the Proposed Concrete Batching Plant.
- 3.4 Details of vehicle movements related to the concrete production and raw material delivery, are presented in **Table 3.1**.

| TABLE 3.1 | DETAILS OF DELIVERY TO / FROM THE PROPOSED CONCRETE |
|-----------|---|
|           | BATCHING PLANT                                      |

| Type of            | Type of                  | Typical Vehicle                             | Traffic G                                     | Generation (veh                  | /hour)    |
|--------------------|--------------------------|---|---|----------------------------------|-----------|
| Delivery           | Vehicle                  | Dimension (Approx.)                         | Peak<br>Concrete<br>Production <sup>(2)</sup> | Peak Raw<br>Material<br>Delivery | Evening   |
| Concrete mixer     | truck [a]                |   |   |                                  |           |
| Concrete           | Concrete<br>mixer truck  | 10m(L) x 2.5m(W)                            | Max. 40 <sup>(1)</sup>                        | 4                                | 2         |
| Raw material d     | elivery truck [b         | 1   |   |                                  |           |
| Aggregate/<br>sand | Aggregate/<br>sand truck | Heavy Goods<br>Vehicle: 10m(L) x            | 16  | 40                               | 7         |
| Admixture          | Admixture<br>truck       | 2.5m(W)                                     | 0   | 1                                | 0         |
| Waste              | Waste truck              |   | 0   | 0                                | 2         |
| Cement / PFA       | Cement /<br>PFA tanker   | Articulated Vehicle:<br>15.4m(L) x 2.5m( W) | 2   | 6                                | 6         |
|                    |                          | <u> Total [a] + [b]</u>                     | <u>58</u>                                     | <u>51</u>                        | <u>17</u> |

Note: <sup>(1)</sup> Maximum concrete production capacity =  $100m^3 \times 4$  production lines ÷ typical capacity of  $10m^3$  for a concrete mixer truck = 40 nos.

<sup>(2)</sup> The maximum hourly peak traffic generation only occurs during the concrete peak production at around 7am and 3pm.

#### 3.5 **Table 3.1** shows the following:

• During the peak concrete production, a total of 40 concrete mixer trucks and 18 raw material delivery trucks per hour are generated. It should be noted that the peak concrete production does not occur throughout the day. Normally, concrete production peaks at: (i) around 7am, which would allow for the concrete mixer trucks to reach their construction sites at the start of the work day, and (ii) around 3pm, which would allow for concrete mixer trucks to reach their respective construction sites for the final concreting prior to the end of the work day. However, to be conservative, peak concrete production is adopted for both the AM and PM junction assessment.

- During the peak raw material delivery, 4 concrete mixers trucks and 47 raw material delivery trucks are generated. The number of raw material delivery trucks arriving at the Proposed Concrete Batching Plant, depends on the demand for concrete, and is not the same throughout the day.
- In the evening, at most only 1 production line will be operated and this is for special case, eg maintenance of public roads. In addition, only limited number of raw material delivery trucks are generated.

#### Internal Transport Facilities

3.6 The internal transport facilities provided for the Proposed Concrete Batching Plant are presented in **Table 3.2** and the master layout plan is shown in **Figure 3.1**.

| 5.4       | _                              |                              |                |
|-----------|--------------------------------|------------------------------|----------------|
| Ret.      | Гуре                           | Dimension                    | Quantity       |
| LP01-LP02 | Waiting space                  | 11.0m(L) x 3.5m(W) x 4.7m(H) | 2              |
| LP03      | Raw material unloading bay for | 16.0m(L) x 3.5m(W) x 4.7m(H) | 1              |
|           | container                      |                              |                |
| LP04-LP07 | Concrete mixer truck loading   | 11.0m(L) x 3.5m(W) x 4.7m(H) | 4              |
|           | point                          |                              |                |
| LP08-LP10 | Raw material unloading bay for | 11.0m(L) x 3.0m(W) x 4.7m(H) | 3              |
|           | 10m long truck                 |                              |                |
| LP11-LP12 | Motorcycle parking space       | 2.4m(L) x 1.0m(W) x 2.4m(H)  | <mark>2</mark> |
|           |                                | Total                        | 12             |

 TABLE 3.2
 INTERNAL TRANSPORT FACILITIES

#### Swept Path Analysis

3.7 The CAD-based swept path analysis programme, *AUTODESK VEHICLE TRACKING*, was used to ensure that all vehicles could enter and leave their respective space / bays, with ease. The swept path analysis drawings are found in **Appendix B**.

#### Traffic Management Plan

3.8 The operator will have following measures: (i) The control room will monitor the traffic situation within the Proposed Concrete Batching Plant using CCTVs, (ii) GPS tracking units will be installed in the concrete delivery trucks, (iii) The control room will monitor the real-time delivery of all raw materials, and (iv) worker will be deployed at the run-in/out to ensure safe entry and exit of vehicles.

#### 4.0 TRAFFIC IMPACT

#### Design Year

- 4.1 The Proposed Concrete Batching Plant is expected to be completed in 2026, and the assessment year adopted is 2029, i.e. 3 years after the completion. The 2 scenarios for year 2029 assessed are:
  - (i) Year 2029 AM and PM peak hours without the Concrete Batching Plant;
  - (ii) Year 2029 AM and PM peak hours with the Concrete Batching Plant

#### Traffic Forecasting Methodology

- 4.2 Since the completion year of the Proposed Concrete Batching Plant is same as the Approved Warehouse, which is 2026, the same traffic forecasting methodology adopted for the Approved Warehouse is applied for the Proposed Concrete Batching Plant.
- 4.3 The 2029 traffic flows used for the junction analysis are produced with reference to the following:
  - (i) 2026 traffic flows derived based on the NTW2 Base District Traffic Model ("BDTM");
  - (ii) estimated traffic growth from 2026 to 2029 based on the higher of: (a) 2019

     based Territorial Population and Employment Data Matrix ("TPEDM") data produced by Planning Department ("PlanD") for Kwai Chung District, (b) Projections of Population Distribution 2023-2031 by PlanD, or (c) historic Annual Average Daily Traffic ("AADT") produced by Transport Department ("TD");
  - (iii) the other developments in the vicinity of the Proposed Concrete Batching Plant; and
  - (iv) Traffic generated by the Proposed Concrete Batching Plant.
- 4.4 The (ii) estimated traffic growth from 2026 to 2029, (iii) the other development in the vicinity of the Proposed Concrete Batching Plant and (iv) traffic generated by the Proposed Concrete Batching Plant are presented in the paragraphs below.

#### Estimated Growth Rate from 2026 to 2029

4.5 The (a) 2019 – based TPEDM data for Kwai Chung District, and the (b) Projections of Population Distribution 2023-2031, and (c) historic AADT are summarised in Tables 4.1 – 4.3 respectively.

| TABLE 4.1 | 2019-BASED TH | PEDM DATA FOR | KWAI CHUNG DISTRICT |
|-----------|---------------|---------------|---------------------|
|-----------|---------------|---------------|---------------------|

| Item       | TPEDM Estimation / Projection |         |         | An      | nual Growth R | ate     |
|------------|-------------------------------|---------|---------|---------|---------------|---------|
|            | 2019                          | 2026    | 2031    | 2019 to | 2026 to       | 2019 to |
|            |                               |         |         | 2026    | 2031          | 2031    |
| Population | 319,150                       | 315,800 | 319,700 | -0.15%  | <u>0.25%</u>  | 0.01%   |
| Employment | 195,950                       | 192,350 | 183,600 | -0.26%  | -0.93%        | -0.54%  |

#### TABLE 4.2PROJECTIONS OF POPULATION DISTRIBUTION 2023-2031

| District   | Voor 2026 | Voor 2020 | Annual Crowth Data from 2026 to 2020 |
|------------|-----------|-----------|--------------------------------------|
| DISTRICT   | Year 2026 | Year 2029 | Annual Growin Rate from 2026 to 2029 |
| Kwai Tsing | 488,700   | 483,900   | -0.33%                               |

|                   |              |              |              |        |             |              |            | -          |
|-------------------|--------------|--------------|--------------|--------|-------------|--------------|------------|------------|
| Year \<br>Station | 5426         | 5430         | 5608         | 5629   | 5809        | 5828         | 6005       | Overall    |
| 2011              | 15,660       | 13,720       | 29,110       | 14,960 | 51,600      | 10,260       | 70,640     | 205,950    |
| 2012              | 15,560       | 13,620       | 28,620       | 14,860 | 49,900      | 8,740        | 57,400     | 188,700    |
| 2013              | 16,220       | 14,210       | 28,500       | 15,490 | 49,700      | 9,120        | 54,130     | 187,370    |
| 2014              | 15,720       | 13,100       | 30,440       | 15,620 | 53,080      | 9,190        | 57,810     | 194,960    |
| 2015              | 16,500       | 10,540       | 30,090       | 14,710 | 54,590      | 9,370        | 59,460     | 195,260    |
| 2016              | 16,960       | 10,830       | 30,350       | 16,400 | 53,410      | 10,220       | 59,380     | 197,550    |
| 2017              | 17,270       | 11,030       | 30,480       | 16,700 | 52,580      | 10,700       | 60,970     | 199,730    |
| 2018              | 17,520       | 11,200       | 31,330       | 16,950 | 54,030      | 10,860       | 45,480     | 187,370    |
|                   |              |              |              |        | Aver        | rage Annua   | Growth     | -1.34%     |
| Noto: Du          | a ta tha sac | ial avante i | n 2010 and t |        | 10 nandomia | thoroaftor t | ho 2010 to | 2022 4 4 6 |

|  | TABLE 4.3 | AADT OF | THE STATION | IN THE VICINITY | OF | THE SUBJECT SITE |
|--|-----------|---------|-------------|-----------------|----|------------------|
|--|-----------|---------|-------------|-----------------|----|------------------|

Note: Due to the social events in 2019 and the COVID-19 pandemic thereafter, the 2019 to 2023 AADT are not used

5426 – Kwai On Road (From Tai Lin Pai Road to Kwai Chung Road)

5430 – Tai Lin Pai Road (From Kwai Chung Road Southern Junction to Kwai On Road)

5608 – Kwai Chung Road (From Kwai On Road to Kwai Foo Road)

5629 – Tai Lin Pai Road (From Kwai Cheong Road to Kwai On Road)

5809 – Kwai Chung Road (GL) (From Tai Lin Pai Road to Kwai On Road)

5828 – Tai Lin Pai Road (From Kwai Chung Road Southern Junction to Kwai Cheong Road)

6005 – Kwai Chung Road (From Tai Lin Pai Road to Castle Peak Road - Kwai Chung Interchange)

4.6 Table 4.1 shows that the highest annual growth rate for population is +0.25% and for employment is -0.26%. Table 4.2 shows that the annual growth rate from 2026 to 2029 is -0.33%. Table 4.3 shows that in the historic AADT of the stations between 2011 and 2018 in the vicinity has average annual growth rate of -1.34% per annum. To be conservative, the growth rate of +0.5% per annum is adopted for the traffic growth between 2026 and 2029.

Other Developments in the Vicinity of the Proposed Concrete Batching Plant

4.7 The major planned developments in the vicinity of the Proposed Concrete Batching Plant are summarized in Table 4.4.

| Site | Address                               | Use                                  | Development Parameters<br>(Approx.)  |
|------|---------------------------------------|--------------------------------------|--------------------------------------|
| Α    | 132 – 134 Tai Lin Pai Road (A/KC/467) | Industrial                           | around 7,035m <sup>2</sup> GFA       |
| В    | 45 – 51 Tai Lin Pai Road (A/KC/480)   | Data Centre                          | around 24,955m <sup>2</sup> GFA      |
| С    | 10 – 16 Kwai Ting Road (A/KC/483)     | Office and Retail                    | around 19,480m <sup>2</sup> GFA      |
| D    | 11-19 Wing Yip Street (A/KC/488)      | Data Centre                          | around 32,735m <sup>2</sup> GFA      |
| E    | 2 San Kwai Street (A/KC/499)          | Public Housing,<br>Retail and Office | Around 800 flats, 360 m <sup>2</sup> |
|      |                                       |                                      | Office GFA                           |

4.8 The major planned developments listed in Table 4.4 have been included in the traffic forecast.

Traffic Generation of the Proposed Concrete Batching Plant

4.9 With reference to Table 3.1, the estimated traffic generation of the Proposed Concrete Batching Plant is given in Table 4.5. To be conservative, the peak concrete production is assumed to occur during both the AM and PM peak hours.

# TABLE 4.5TRAFFIC GENERATION OF THE PROPOSED CONCRETE<br/>BATCHING PLANT

| Item                             | AM Pea     | k Hour     | PM Peak Hour |            |  |  |  |  |
|----------------------------------|------------|------------|--------------|------------|--|--|--|--|
|                                  | Generation | Attraction | Generation   | Attraction |  |  |  |  |
| Total in veh/hr [From Table 3.1] | 58         | 58         | 58           | 58         |  |  |  |  |
| PCU Factor                       | 2.5        | 2.5        | 2.5          | 2.5        |  |  |  |  |
| Total in PCU/Hour                | 145        | 145        | 145          | 145        |  |  |  |  |
|                                  | 290 (2     | -way)      | 290 (2-way)  |            |  |  |  |  |

4.10 Table 4.5 shows that the Proposed Concrete Batching Plant is expected to generate a total of 116 vehicles (2-way), or equivalent to 290 pcu (2-way) during the AM and PM peak hours.

2029 Traffic Flows

4.11 Year 2029 traffic flows for the following cases are derived:

| 2029 without the Proposed<br>Concrete Batching Plant [A] | <ul> <li>= (i) 2026 traffic flows derived with reference to Base<br/>District Traffic Model + (ii) estimated total growth<br/>from 2026 to 2029, i.e. +0.5% per annum + (iii)<br/>traffic generated by other development in the vicinity<br/>of the Proposed Concrete Batching Plant</li> </ul> |
|--|---|
| 2029 with the Proposed                                   | <ul> <li>[A] + Traffic generated by the Proposed Concrete</li></ul>   |
| Concrete Batching Plant [B]                              | Batching Plant (Table 4.5)  |

4.12 The 2029 peak hour traffic flows for the cases without and with the Proposed Concrete Batching Plant, are shown in Figures 4.1 - 4.2, respectively. The ingress / egress routes for the Proposed Concrete Batching Plant are shown in Figure 4.3.

#### 2029 Junction Capacity Analysis

4.13 The 2029 junction capacity analyses for the cases without and with the Proposed Concrete Batching Plant are summarised in Table 4.6 and the detailed calculations are found in Appendix A.

| Ref.               | Junction  | Type of<br>Junction | Parameter | Withc<br>Concrete<br>Pla | out the<br>Batching<br>ant | With<br>Concrete<br>Pla | n the<br>Batching<br>ant |
|--------------------|---|---------------------|-----------|--------------------------|----------------------------|-------------------------|--------------------------|
|                    |   |                     |           | AM Peak                  | PM Peak                    | AM Peak                 | PM Peak                  |
|                    |   |                     |           | Hour                     | Hour                       | Hour                    | Hour                     |
| J01 <sup>(1)</sup> | Kwai Chung Road / Kwai On<br>Road / Kwai Yik Road     | Signal              | RC        | 39%                      | 53%                        | <mark>34%</mark>        | <mark>43%</mark>         |
| J02 <sup>(1)</sup> | Tai Lin Pai Road / Kwai On<br>Road                    | Signal              | RC        | <mark>11%</mark>         | <mark>52%</mark>           | <mark>0%</mark>         | <mark>33%</mark>         |
| J03                | Tai Lin Pai Road / Kung Yip<br>Street                 | Signal              | RC        | 77%                      | 81%                        | <mark>52%</mark>        | <mark>81%</mark>         |
| J04                | Kung Yip Street / Wah Sing<br>Street                  | Priority            | RFC       | 0.378                    | 0.334                      | <mark>0.677</mark>      | <mark>0.625</mark>       |
| J05                | Kwai Chung Road / Tai Lin<br>Pai Road / Kwai Foo Road | Signal              | RC        | 22%                      | 37%                        | <mark>16%</mark>        | <mark>29%</mark>         |
| J06                | Tai Lin Pai Road / San Kwai<br>Street                 | Priority            | RFC       | 0.341                    | 0.225                      | <mark>0.346</mark>      | <mark>0.228</mark>       |

#### TABLE 4.62029 JUNCTION PERFORMANCE

Note: RC – Reserve Capacity

RFC – Ratio of Flow to Capacity

<sup>(1)</sup> – Junction layout and control is prior to the implementation of the improvement proposed by Kwai On Factory Estate Redevelopment

4.14 Table 4.6 shows that the junctions analysed have capacity to accommodate the expected traffic growth to 2029 and the traffic generated by the Proposed Concrete Batching Plant, except for J02 Tai Lin Pai Road / Kwai On Road.

Junction Improvement Scheme at J02

- 4.15 The junction improvement found in Appendix C is proposed by the Kwai On Factory Estate Redevelopment, and includes conversion of the existing priority junction Tai Li Pai Road / Kwai On Road ("J02") into a signalised junction. It is found that with this junction improvement, the RC in 2029 for the case without the Proposed Concrete Batching Plant will be less than 15%. Hence, further improvement ("Further Improvement") is proposed. The Further Improvement is presented in Figure 4.4.
- 4.16 The capacity analysis is re-conducted with the Further Improvement and the results are presented in Table 4.7, and detailed calculations are found in Pages 20-21 of Appendix A.

| TABLE 4.7 | 2029  | JUNCTION | PERFORMANCE | WITH | FURTHER |
|-----------|-------|----------|-------------|------|---------|
|           | IMPRO | VEMENT   |             |      |         |

| Ref. | Junction                                 | Type of  | Parameter | Without th           | ne Proposed | With the<br>Proposed Concrete |                  |  |  |
|------|--|----------|-----------|----------------------|-------------|-------------------------------|------------------|--|--|
|      |  | Junetion |           | P                    | lant        | Batching Plant                |                  |  |  |
|      |  |          |           | AM Peak              | PM Peak     | AM Peak                       | PM Peak          |  |  |
|      |  |          |           | Hour                 | Hour Hour   |                               | Hour             |  |  |
| J02  | Tai Lin Pai Road / Signa<br>Kwai On Road |          | RC        | 22% <mark>62%</mark> |             | <mark>15%</mark>              | <mark>50%</mark> |  |  |
| NIA  |  | 11       |           |                      | 0 ''        |                               |                  |  |  |

Note: RC – Reserve Capacity

RFC – Ratio of Flow to Capacity

4.17 Table 4.7 shows that J02 with the Further Improvement implemented, could accommodate the expected traffic growth to 2029 and the traffic generated by the Proposed Concrete Batching Plant.

#### 5.0 SUMMARY

- 5.1 On 24<sup>th</sup> May 2024, the TPB approved the S16 Planning Application of Proposed minor relaxation of plot ratio restriction for Permitted Warehouse Use (excluding Dangerous Goods Godown) in "Industrial" Zone at 13 17 Wah Sing Street in Kwai Chung the Subject Site (TPB ref: A/KC/505). The Owner now intends to redevelop the Subject Site into a Proposed Concrete Batching Plant.
- 5.2 The Proposed Concrete Batching Plant provides sufficient internal transport facilities meet the operational requirements. The vehicular access to the Proposed Concrete Batching Plant is provided at Wah Sing Street.
- 5.3 Manual classified counts were conducted at junctions located in the vicinity of the Proposed Concrete Batching Plant in order to establish the peak hour traffic flows. Currently, the junctions operate with capacities during the AM and PM peak hours.
- 5.4 The Proposed Concrete Batching Plant is expected to be completed by 2026, and the junction capacity analysis is undertaken for year 2029. With the Further Improvement implemented, in addition to the improvement proposed by the Hong Kong Housing Authority, at the junction of Tai Lin Pai Road / Kwai On Road, all junctions analysed are found to have sufficient capacity to accommodate the expected traffic flow in 2029 and the traffic generated by the Proposed Concrete Batching Plant.
- 5.5 It is concluded that the Proposed Concrete Batching Plant will result in <u>no</u> adverse traffic impact to the surrounding road network. From traffic engineering grounds, the Proposed Concrete Batching Plant is acceptable.

# Figures















JOB\J7300-J7349\J7345\2025 03\Fig 2.3-2.8 4.3 RevD.dwg









RevD ന് 03\Fig 349\J7345\2025 300 м О







4.3 RevD 5 03\Fig



Appendix A – Detailed Calculation

| Junction:            | J01 - Kwa            | ai Chung Roac | d / Kwai    | On Roa                     | id / Kwa     | i Yik Ro            | ad                          |                      |               |   |                |            |                       | _         | Job Nu          | mber:    | J7345      |
|----------------------|----------------------|---------------|-------------|----------------------------|--------------|---------------------|-----------------------------|----------------------|---------------|---|----------------|------------|-----------------------|-----------|-----------------|----------|------------|
| Scenario:            | Existing (           | Condition     |             |                            |              |                     |                             |                      |               |   |                |            |                       |           |                 | Page     | 1          |
| Design Year:         | 2024                 | Design        | ed By:      |                            |              |                     | _                           | Checke               | ed By:        | _   | Date: 14 March |            | March 2               | 2025      |                 |          |            |
|                      |                      |               |             |                            |              |                     |                             |                      |               |   |                |            |                       |           |                 |          |            |
|                      | Approach             |               | Phase       | Stage                      | Width (m)    | Radius (m)          | % Up-hill                   | Turning %            | Sat. Flow     | AM Peak<br>Flow   | y value        | Critical y | Turning %             | Sat. Flow | PM Peak<br>Flow | y value  | Critical y |
| Kwai Chung I         | Poad SB              |               | A1          | 1 2                        | 4 00         | 25.0                | Gradlem                     | 100                  | (pcu/m)       | (pcu/iii)<br>275  | 0 145          | '          | 100                   | (pcu/m)   | (pcu/m)         | 0 074    | <u> </u>   |
| Kwai Chung I         | Road SB              | SA            | A2          | 1.2                        | 4.40         | 20.0                | '                           | 100                  | 2195          | 561   | 0.256          | '          | 100                   | 2195      | 432             | 0 197    |            |
| Kwai Chung I         | Road SB              | SA            | A3          | 1.2                        | 4 40         |                     | '                           |                      | 2195          | 560   | 0.255          | '          |                       | 2195      | 431             | 0.196    |            |
| Kwai Chung I         | Road SB              | RT            | A4          | 2                          | 4.40         | 20.0                | '                           | 100                  | 2042          | 246   | 0.120          | 0.120      | 100                   | 2042      | 235             | 0.115    | 0.115      |
| Trivia Griang .      | 1000 02              |               | ···         | -                          |              | 20.0                |                             | 100                  | 2012          | 215   | 0.120          | 0.120      | 100                   | 20.2      | 200             | 0.1.0    | 0.1.2      |
| Kwai Yik Roa         | d EB                 | SA            | B1          | 3                          | 3.80         |                     | '                           |                      | 2135          | 175   | 0.082          | '          |                       | 2135      | 153             | 0.072    |            |
| Kwai Yik Roa         | d EB                 | SA+RT         | B2          | 3                          | 3.80         | 30.0                |                             | 31                   | 2102          | 172   | 0.082          | 0.082      | 45                    | 2088      | 150             | 0.072    | 0.072      |
| Kwai Yik Roa         | d EB                 | RT            | B3          | 3                          | 3.80         | 25.0                |                             | 100                  | 2014          | 164   | 0.081          |            | 100                   | 2014      | 144             | 0.071    |            |
|                      | <u>u</u>             |               |             | Ť                          | 0.01         |                     |                             |                      |               |   | 0.001          |            |                       |           | <u> </u>        | 0.0.     |            |
| Kwai Chung I         | Road NB              | SA            | C1          | 1                          | 3.50         |                     |                             |                      | 2105          | 382   | 0.181          | 0.181      |                       | 2105      | 430             | 0.204    | 0.204      |
| Kwai Chung I         | Road NB              | SA            | C2          | 1                          | 3.50         |                     |                             |                      | 2105          | 382   | 0.181          |            |                       | 2105      | 429             | 0.204    | 0          |
|                      |                      | i             | -           | 1                          |              |                     |                             |                      |               |   |                | 1          |                       | <u> </u>  |                 |          |            |
| Kwai On Roa          | d WB                 | LT            | D1          | 4                          | 3.40         | 25.0                |                             | 100                  | 1844          | 175   | 0.095          |            | 100                   | 1844      | 166             | 0.090    | 1          |
| Kwai On Roa          | d WB                 | SA            | D2          | 4                          | 2.90         |                     | '                           |                      | 2045          | 283   | 0.138          |            |                       | 2045      | 212             | 0.104    | <u> </u>   |
| Kwai On Roa          | d WB                 | SA+RT         | D3          | 4                          | 2.90         | 25.0                | '                           | 79                   | 1952          | 270   | 0.138          | '          | 100                   | 1929      | 210             | 0.109    |            |
| Kwai On Roa          | d WB                 | RT            | D4          | 4                          | 2.90         | 20.0                | '                           | 100                  | 1902          | 264   | 0.139          | 0.139      | 100                   | 1902      | 207             | 0.109    | 0.109      |
|                      | u 112                |               |             |                            | 2.00         | 20.0                |                             | 100                  | 1002          | 20.   | 0.100          | 0.100      | 100                   | 1002      | 20.             | 0.100    | 0.100      |
|                      |                      |               | [           |                            |              |                     |                             |                      |               |   |                |            |                       |           | [               |          |            |
|                      |                      |               | <u> </u>    |                            |              |                     | '                           | '                    | '             | '   |                | '          |                       |           | <u> </u>        |          |            |
|                      |                      |               | <u> </u>    |                            | <u> </u>     | <u> </u>            | <b>├</b> ──'                |                      | <b>├</b> ───' |   |                | '          | '                     |           | <u> </u>        | <u> </u> | <u> </u>   |
|                      |                      |               | ł           |                            | <u> </u>     | <u> </u>            | <u>├</u> ──                 |                      | <u>├</u> ──   |   |                | '          |                       |           | ł               | <u> </u> | <u> </u>   |
| nedestrian nł        | 0000                 |               | P1          | 1.3                        |              | min c               | rossina                     | time =               | 5             | Sec   |                | 7          | sec F                 | GM =      | 12              | Sec      | <u> </u>   |
| pedestilari pr       | 1430                 |               | P2          | 1 2 4                      |              | min c               | rossing                     | time =               | 5             | Sec   | GM +           | 10         | sec F                 | GM =      | 15              | Sec      |            |
|                      |                      |               | P3          | 1 2                        | <u> </u>     | min c               | rossing                     | time =               | 5             | Sec   | <u>GM</u> +    | g          | sec F                 | GM =      | 14              | 900      | <u> </u>   |
|                      |                      |               | P4          | 1 2 3                      |              | min crossing time = |                             |                      | 5             | Sec   | <u>GM</u> +    | 10         | sec F                 | GM =      | 15              | 900      |            |
|                      |                      |               | P5          | 23                         | <u> </u>     | min crossing time   |                             |                      | 6             | Sec   |                | 13         | Sec F                 |           | 19              | 900      | <u> </u>   |
|                      |                      |               | P6          | 234                        |              | min c               | min crossing time =         |                      | 7             | Sec   | <u>GM</u> +    | 14         | sec F                 | GM =      | 21              | 900      |            |
|                      |                      |               | P7          | <u>2, 3, 7</u><br><u>4</u> | <u> </u>     | min c               | rossing                     | time =               | 5             | Sec   | <u>GM</u> +    | 10         | Sec F                 |           | 15              | 900      | <u> </u>   |
|                      |                      |               | P8          | 3, 4                       | <u> </u>     | min c               | rossing                     | time =               | 6             | sec   | GM +           | 12         | sec F                 | -GM =     | 18              | sec      |            |
| AM Traffic Flow (pcu | (hr)                 |               |             | PM Traffic                 | Flow (pcu/hr | *                   | 1000                        |                      |               |   | <u></u>        |            |                       | 0         | Note:           |          |            |
|                      | <sup>(III)</sup>     | ► 07E         | N<br>K      | Piwi richine .             | 00w (pos     | ,<br>               |                             | 1 10                 | N             | S = 1940  | +100(W-3       | .25) S =   | : 2080+10(            | 0(W-3.25) | NUIG.           |          |            |
| 29<br>(East Flaw)    | 0 246 -              | 2/5           | '\          | (E                         | 250          | 235                 | <b>↓</b>                    | 140                  | - '\ '        | $S_{M} = S / (1 + 1.5 \text{ f/r})$ $S_{M} = (S - 230) / (1 + 1.5 \text{ f/r})$ |                |            |                       |           |                 |          |            |
| (Free Flow)          | _i                   | 1121          |             | (Free F                    | low)i        | - 005               | 863                         |                      | I             |   | AM             | Peak       | PM                    | Peak      |                 |          |            |
|                      | → 293                | 476           |             |                            |              | 235                 |                             | 447                  | I             |   | 1+2+3+4        | 1,2+3+4    | 1+2+3+4               | 1,2+3+4   | l               |          |            |
| 21                   | 8                    | 470           |             |                            | 212          |                     |                             | 417                  | ł             | Sum y   | 0.523          | 0.476      | 0.500                 | 0.378     | 1               |          |            |
| 01                   | 764                  | 341           |             |                            | 202          | 859                 | 212                         | $\leftarrow$         | ł             | L (s)   | 25             | 18         | 25                    | 18        | 1               |          |            |
| ∠1                   | <sup>.2</sup> .      | 175           |             |                            | ₹02          | ד †                 |                             | 166                  | I             | C (s)   | 120            | 120        | 120                   | 120       | 1               |          |            |
|                      | i                    |               |             |                            |              |                     |                             |                      | I             | practical y   | 0.713          | 0.765      | 0.713                 | 0.765     | 1               |          |            |
| (Free                | Flow)                |               |             |                            | (Free F      | low)                |                             |                      |               | R.C. (%)  | 36%            | 61%        | 42%                   | 103%      |                 |          |            |
| 1                    | A3 A2 A              | 1 2           | DE          | A4 A3 A2                   | A1           | 3                   | D5                          | P8                   |               | 4   |                | P8         |                       | [         |                 |          |            |
| <b>▲</b><br>         | │ │ <mark>≜</mark> └ |               |             | <u>ال</u>                  | B1 <u></u> → | → →                 | <b>∢&gt;</b>                | <b>≰</b> ′           | ▲<br> _P2     |   | <b>∢&gt;</b>   | ≰′         |                       |           |                 |          |            |
| ↓                    | ↓↓ <sub>₽</sub> ₽    |               | <b>↓</b> ↓↓ | P3                         | B3           |                     |                             | <sup>₽2</sup><br>★ • |               |   | Ł              | C4         |                       |           |                 |          |            |
| ₽1 ♠ ♠               | <b>≜</b><br>P        |               | 1           | D3                         | P1           | *                   |                             |                      |               |   | +<br>+         | ▲C3        |                       |           |                 |          |            |
|                      |                      |               |             | ÷                          | F5<br>▼      | •                   | ★<br><b>★</b> - <u>P6</u> ► |                      |               |   |                | . P7▶      | C1                    |           |                 |          |            |
| <br>C1 C2            |                      | P4            |             |                            | P4           |                     |                             |                      | P4            |   |                |            | I                     |           |                 |          |            |
| ам G                 | _                    | I/G = 5       | G =         |                            | I/G =        | 5                   | G =                         |                      | I/G =         | 11  | G =            |            | I/G =                 | 8         | G =             |          |            |
| -                    | -                    | 00-0          | -           |                            |              | 0                   | -                           |                      |               |   | -              |            |                       | 0         | -               |          |            |
| G                    | =                    | I/G =         | G =         |                            | I/G =        | 5                   | G =                         |                      | I/G =         | 11  | G =            |            | I/G =                 | 5         | G =             |          |            |
| G<br>PMG             | <u> </u>             | I/G =         | <u> </u>    |                            | I/G =        | 5                   | <u> </u>                    |                      | I/G =         | <u>11</u><br>11   | <u> </u>       |            | <u>I/G =</u><br>I/G = | 8         | <u> </u>        |          |            |

| Junction: J01 - Kwai Chung Road / Kwai On Road / Kwai Yik Road |                         |                 |                         |            |  |              |                       |                  |           |                             |               |                     | -             | Job Nu       | mber:            | J7345     |            |
|--|-------------------------|-----------------|-------------------------|------------|--|--------------|-----------------------|------------------|-----------|-----------------------------|---------------|---------------------|---------------|--------------|------------------|-----------|------------|
| Scenario:  | Without P               | roposed Con     | Concrete Batching Plant |            |  |              |                       |                  |           |                             |               |                     |               | Page         | 2                |           |            |
| Design Year:   | 2029                    | Designe         | ed By:                  |            |  |              | -                     | Checke           | ed By:    |                             |               | Date:               | 14            | .025         |                  |           |            |
|  |                         |                 | <del></del>             |            |  |              |                       |                  |           | AM Book                     |               |                     |               |              | DM Rook          |           |            |
|  | Approach                | ļ               | Phase                   | Stage      | Width (m)  | Radius (m)   | % Up-hill<br>Gradient | Turning %        | Sat. Flow | Flow<br>(pcu/hr)            | y value       | Critical y          | Turning %     | Sat. Flow    | Flow<br>(ncu/hr) | y value   | Critical y |
| Kwai Chung R   | oad SB                  | LT              | A1                      | 1, 2       | 4.00   | 25.0         | Glauen                | 100              | 1901      | 306                         | 0.161         | <u> </u>            | 100           | 1901         | 154              | 0.081     |            |
| Kwai Chung R   | oad SB                  | SA              | A2                      | 1, 2       | 4.40   |              |                       |                  | 2195      | 641                         | 0.292         |                     |               | 2195         | 494              | 0.225     |            |
| Kwai Chung R   | oad SB                  | SA              | A3                      | 1, 2       | 4.40   |              |                       |                  | 2195      | 640                         | 0.292         |                     |               | 2195         | 494              | 0.225     |            |
| Kwai Chung R   | oad SB                  | RT              | A4                      | 2          | 4.40   | 20.0         |                       | 100              | 2042      | 281                         | 0.138         | 0.138               | 100           | 2042         | 257              | 0.126     | 0.126      |
|  |                         |                 |                         |            |  |              |                       |                  |           |                             |               |                     |               |              |                  |           |            |
| Kwai Yik Road  | IEB                     | SA              | B1                      | 3          | 3.80   |              |                       |                  | 2135      | 191                         | 0.089         | 0.089               |               | 2135         | 167              | 0.078     | 0.078      |
| Kwai Yik Road  | EB                      | SA+RT           | B2                      | 3          | 3.80   | 30.0         |                       | 24               | 2110      | 188                         | 0.089         |                     | 38            | 2095         | 164              | 0.078     |            |
| Kwai Yik Road  | IEB                     | RT              | B3                      | 3          | 3.80   | 25.0         |                       | 100              | 2014      | 180                         | 0.089         |                     | 100           | 2014         | 157              | 0.078     |            |
|  |                         |                 | <u> </u>                |            |  |              |                       |                  |           |                             |               |                     |               |              |                  |           |            |
| Kwai Chung R   | oad NB                  | SA*             | C1                      | 1          | 3.50   |              |                       |                  | 2105      | 272                         | 0.129         | 0.130               |               | 2105         | 303              | 0.144     | 0.144      |
| Kwai Chung R   | oad NB                  | SA              | C2                      | 1          | 3.50   |              |                       |                  | 2105      | 272                         | 0.129         |                     | <b></b> '     | 2105         | 303              | 0.144     |            |
| Kwai Chung R   | oad NB                  | SA              | C3                      | 1          | 3.50   |              |                       |                  | 2105      | 273                         | 0.130         |                     |               | 2105         | 303              | 0.144     |            |
|  |                         |                 | <u> </u>                |            |  |              |                       |                  |           |                             |               |                     |               |              |                  |           |            |
| Kwai On Road   | WB                      | LT              | D1                      | 4          | 3.40   | 25.0         |                       | 100              | 1844      | 190                         | 0.103         |                     | 100           | 1844         | 181              | 0.098     |            |
| Kwai On Road   | WB                      | SA              | D2                      | 4          | 2.90   | ļ'           | <u> </u>              |                  | 2045      | 316                         | 0.155         | 0.155               | <b> </b> '    | 2045         | 240              | 0.117     | ļ          |
| Kwai On Road   | WB                      | SA+RT           | D3                      | 4          | 2.90   | 25.0         |                       | 76               | 1956      | 302                         | 0.154         |                     | 100           | 1929         | 228              | 0.118     | 0.118      |
| Kwai On Road   | WB                      | RT              | D4                      | 4          | 2.90   | 20.0         | <u> </u>              | 100              | 1902      | 294                         | 0.155         | ļ                   | 100           | 1902         | 224              | 0.118     | ļ          |
|  |                         |                 | <b> </b>                | <u> </u>   |  | ļ'           | <u> </u>              |                  |           |                             |               | ļ                   | <b> </b> '    |              | <u> </u>         | $\vdash$  | ļ          |
|  |                         |                 | <b> </b>                | <u> </u>   |  | '            | <u> </u>              |                  |           |                             |               |                     | <b> </b> '    |              | <u> </u>         | $\vdash$  | ļ'         |
|  |                         |                 | <b> </b>                | <u> </u>   |  | ļ'           | <u> </u>              |                  |           |                             |               |                     | <b> </b> '    |              | <u> </u>         | $\vdash$  | $\square$  |
|  |                         |                 | <u> </u>                |            |  |              |                       |                  |           |                             |               |                     |               |              |                  | <u> </u>  | <u> </u>   |
| pedestrian pha   | ise                     |                 | P1                      | 1, 3       | <u> </u>   | min c        | rossing               | time =           | 5         | sec                         | GM +          | 7                   | sec F         | GM =         | 12               | sec       | <u> </u>   |
| <u> </u>   |                         |                 | P2                      | 1, 2, 4    | <u> </u>   | min c        | rossing               | time =           | 5         | sec                         | GM +          | 10                  | sec F         | GM =         | 15               | sec       | <u> </u>   |
| ļ  |                         | ]               | P3                      | 1, 2       | <b></b>  | min c        | rossing               | time =           | 5         | sec                         | GM +          | 9                   | sec F         | GM =         | 14               | sec       | <b></b>    |
| <u> </u>   |                         |                 | P4                      | 1, 2, 3    | I, 2, 3 min crossing time = 5 sec GM + 10 sec FG |              |                       |                  |           | GM =                        | 15            | sec                 | <u> </u>      |              |                  |           |            |
| ļ  |                         | ]               | P5                      | 2, 3       | <b></b>  | min c        | min crossing time =   |                  | 6         | sec                         | GM +          | 13                  | sec F         | GM =         | 19               | sec       | <b></b>    |
| ļ  |                         | ]               | P6                      | 2, 3, 4    | <b></b>  | min c        | crossing time =       |                  | 7         | sec                         | GM +          | 14                  | sec F         | GM =         | 21               | sec       | <b></b>    |
|  |                         |                 | P7                      | 4          | <b> </b>   | min c        | rossing               | time =           | 5         | sec                         | GM +          | 10                  | sec F         | GM =         | 15               | sec       |            |
|  |                         |                 | P8                      | 3, 4       |  | min c        | rossing               | time =           | 6         | sec                         | GM +          | 12                  | sec F         | GM =         | 18               | sec       |            |
| AM Traffic Flow (pcu/h   | ır)                     | Τ               | N                       | PM Traffic | Flow (pcu/hr                                     | )            |                       |                  | N         | S = 1940                    | +100(W-3      | .25) S=             | = 2080+10     | 0(W-3.25)    | Note:            |           |            |
| 315  | 281 🛨                   | → 306           | ~                       |            | 270  | 257          | $\leftrightarrow$     | <sup>-</sup> 154 | 7         | ⊂<br>S <sub>M</sub> = S / ( | 1 + 1.5 f/r)  | S <sub>M</sub> = (S | 3 - 230) / (* | 1 + 1.5 f/r) | *Junction        | 1 Improve | ment       |
| (Free Flow)  | <b>j</b> 1              | 1281            | `                       | (Free F    | low)   |              | 988                   |                  | `         |                             | АМ            | Peak                | PM            | Peak         | Scheme           | Dy Other  | Piojeci    |
|  | ▶ 334                   |                 |                         |            | <b>—</b>   | <b>*</b> 268 |                       |                  |           |                             | 1+2+3+4       | 1,2+3+4             | 1+2+3+4       | 1,2+3+4      |                  |           |            |
| 225  | 5                       | 524             |                         |            | 220  |              |                       | 452              |           | Sum y                       | 0.511         | 0.536               | 0.466         | 0.422        |                  |           |            |
|  | 817                     | 388 +           |                         |            |  | 909          | 240                   |                  |           | L (s)                       | 25            | 18                  | 25            | 18           |                  |           |            |
| 228  | <u>-</u> †              | <b>↓</b><br>190 |                         |            | 213  | - 1          |                       | ↓<br>181         |           | C (s)                       | 120           | 120                 | 120           | 120          |                  |           |            |
|  |                         |                 |                         |            |  |              |                       |                  |           | practical y                 | 0.713         | 0.765               | 0.713         | 0.765        |                  |           |            |
| (Free F  | i  <br>(Free Flow) (Fre |                 |                         |            |  | low)         |                       |                  |           | R.C. (%)                    | 39%           | 43%                 | 53%           | 81%          |                  |           |            |
| 1  | A3 A2 A1                | 2               |                         | A4 A3 A2   | A1   | 3            |                       |                  |           | 4                           |               |                     |               |              |                  |           |            |
|  |                         |                 |                         |            |  | B1 <u></u>   | P5<br>→               | <b>∢</b> •       | ****      | <b>A</b>                    |               | <b>4</b> ►          | *-*           |              |                  |           |            |
|  |                         |                 |                         |            |  |              |                       |                  |           |                             |               | I                   |               |              |                  |           |            |
|  |                         |                 |                         |            | ,  | D3 ▲         | ↓<br>↓                |                  |           |                             |               | •                   | ▲ C4<br>C3    | s            |                  |           |            |
|  |                         |                 |                         |            | P3   | <b>∛</b>     | P6                    |                  | ×         | •                           | _ <u>P6</u> 4 | →<br>               | C2<br>C1      |              |                  |           |            |
|  | P4                      |                 |                         |            |  |              |                       |                  | P4        |                             |               | · •                 | I             |              |                  |           |            |
| C1 C2 C3   | 3                       |                 |                         |            |  | -            |                       |                  |           |                             |               |                     |               |              |                  |           |            |
| AM G=  | -                       | I/G = 5         | G =                     |            | I/G =  | 5            | 6 =                   |                  | 1/G =     | 11                          | 6 =           |                     | I/G =         | 5            | G =              |           |            |
| PM G =   |                         | I/G = 5         | G =                     |            | I/G =  | 5            | G =                   |                  | I/G =     | 11                          | G =           |                     | I/G =         | 8            | G =              |           |            |
| G =  |                         | I/G =           | G =                     |            | I/G =  | 5            | G =                   |                  | I/G =     | 11                          | G =           |                     | I/G =         | 5            | G =              |           |            |

| Junction:              | Junction: J01 - Kwai Chung Road / Kwai On Road / Kwai Yik Road   |              |          |                         |              |                    |                       |               |           |                        |              |                     |               | _            | Job Nu           | mber:    | J7345      |
|------------------------|--|--------------|----------|-------------------------|--------------|--------------------|-----------------------|---------------|-----------|------------------------|--------------|---------------------|---------------|--------------|------------------|----------|------------|
| Scenario:              | With Prope   | sed Concret  | e Batch  | ing Plar                | nt           |                    |                       |               |           |                        |              |                     |               |              |                  |          | 3          |
| Design Year:           | 2029   | Designe      | ed By:   |                         |              |                    | Checked By: Date:     |               |           |                        |              |                     |               | Date:        | 14               | 2025     |            |
|                        |  |              |          |                         |              |                    |                       |               |           | AM Deale               |              |                     |               |              | DM Daak          |          |            |
|                        | Approach   |              | Phase    | Stage                   | Width (m)    | Radius (m)         | % Up-hill<br>Gradient | Turning %     | Sat. Flow | Flow<br>(pcu/br)       | y value      | Critical y          | Turning %     | Sat. Flow    | Flow<br>(pcu/br) | y value  | Critical y |
| Kwai Chung R           | oad SB   | LT           | A1       | 1, 2                    | 4.00         | 25.0               | Gradion               | 100           | 1901      | 306                    | 0.161        |                     | 100           | 1901         | 154              | 0.081    |            |
| Kwai Chung R           | oad SB   | SA           | A2       | 1, 2                    | 4.40         |                    |                       |               | 2195      | 641                    | 0.292        |                     |               | 2195         | 494              | 0.225    |            |
| Kwai Chung R           | oad SB   | SA           | A3       | 1, 2                    | 4.40         |                    |                       |               | 2195      | 640                    | 0.292        |                     |               | 2195         | 494              | 0.225    |            |
| Kwai Chung R           | oad SB   | RT           | A4       | 2                       | 4.40         | 20.0               |                       | 100           | 2042      | 281                    | 0.138        | 0.138               | 100           | 2042         | 257              | 0.126    | 0.126      |
|                        |  |              | <u> </u> |                         |              |                    |                       |               |           |                        |              |                     |               |              |                  |          |            |
| Kwai Yik Road          | I EB   | SA           | B1       | 3                       | 3.80         |                    |                       |               | 2135      | 191                    | 0.089        | 0.089               | <b></b>       | 2135         | 167              | 0.078    | 0.078      |
| Kwai Yik Road          | I EB   | SA+RT        | B2       | 3                       | 3.80         | 30.0               | <u> </u>              | 24            | 2110      | 188                    | 0.089        | ļ                   | 38            | 2095         | 164              | 0.078    |            |
| Kwai Yik Road          | I EB   | RT           | B3       | 3                       | 3.80         | 25.0               | <u> </u>              | 100           | 2014      | 180                    | 0.089        | <u> </u>            | 100           | 2014         | 157              | 0.078    |            |
|                        |  |              |          |                         |              |                    |                       |               |           |                        |              |                     |               | <u> </u>     |                  | -        |            |
| Kwai Chung R           | oad NB   | SA*          | C1       | 1                       | 3.50         | <b></b>            |                       |               | 2105      | 287                    | 0.136        | 0.137               | ┣───          | 2105         | 323              | 0.153    | 0.153      |
| Kwai Chung R           | oad NB   | SA           | C2       | 1                       | 3.50         |                    |                       |               | 2105      | 287                    | 0.136        |                     |               | 2105         | 323              | 0.153    |            |
| Kwai Chung R           | oad NB   | SA           | C3       | 1                       | 3.50         |                    |                       |               | 2105      | 288                    | 0.137        | ļ                   | <b> </b>      | 2105         | 323              | 0.153    |            |
|                        |  |              |          |                         | <u> </u>     |                    |                       | <u> </u>      | <u></u>   |                        |              | <u></u>             | <u> </u>      | <u> </u>     | <u> </u>         |          | -          |
| Kwai On Road           | WB   | LT           | D1       | 4                       | 3.40         | 25.0               |                       | 100           | 1844      | 255                    | 0.138        |                     | 100           | 1844         | 261              | 0.142    | 0.142      |
| Kwai On Road           | WB   | SA           | D2       | 4                       | 2.90         |                    | -                     |               | 2045      | 344                    | 0.168        | 0.168               | ┣───          | 2045         | 263              | 0.129    |            |
| Kwai On Road           | WB   | SA+RT        | D3       | 4                       | 2.90         | 25.0               | -                     | 76            | 1956      | 329                    | 0.168        |                     | 95            | 1935         | 249              | 0.129    |            |
| Kwai On Road           | WB   | RT           | D4       | 4                       | 2.90         | 20.0               |                       | 100           | 1902      | 319                    | 0.168        |                     | 100           | 1902         | 245              | 0.129    |            |
|                        |  |              |          |                         |              |                    |                       |               |           |                        |              |                     |               | <u> </u>     |                  | -        | -          |
|                        |  |              |          |                         |              |                    |                       |               |           |                        |              |                     |               |              |                  |          |            |
|                        |  |              |          |                         |              |                    |                       |               |           |                        |              |                     |               |              |                  |          |            |
|                        |  |              |          | <u> </u>                | ┝───         | <del> </del>       | <u> </u>              | <u> </u>      | <u> </u>  |                        |              | <u> </u>            | <u> </u>      |              |                  |          |            |
| pedestrian phase P1    |  |              |          | 1, 3                    |              | min c              | rossing               | <u>time =</u> | 5         | sec                    | <u>GM +</u>  | 7                   | sec F         | <u>GM =</u>  | 12               | sec      | -          |
|                        |  |              | P2       | 1, 2, 4                 |              | min c              | rossing               | time =        | 5         | sec                    | GM +         | 10                  | Sec F         | GM =         | 15               | sec      |            |
|                        |  |              | P3       | 1, 2                    |              | min c              | rossing               | time =        | 5         | sec                    | GM +         | 9                   | sec F         | <u>GM =</u>  | 14               | sec      |            |
|                        |  |              | P4       | 1, 2, 3                 | -            | min c              | rossing               | time =        | 5         | sec                    |              | 10                  | Sec F         |              | 15               | sec      | -          |
|                        |  |              | P0<br>DC | 2, 3                    |              | min c              | rossing               | time =        | 7         | sec                    |              | 14                  | Sec F         |              | 19               | sec      |            |
|                        |  |              | P0       | 2, 3, 4                 |              | min c              | rossing               | time =        | 5         | sec                    |              | 14                  | Sec F         |              | 15               | sec      |            |
|                        |  |              |          | 3 /                     |              | min c              | rossing               | time -        | 6         | Sec                    |              | 10                  | Sec F         |              | 18               | Sec      |            |
| AM Troffic Flow (pou/b |  | l            | 10       | D, T                    | Elow (nou/bi |                    |                       | une –         | 0         | 360                    |              | 12                  | 3601          |              | Noto:            | 360      |            |
| ANI TRAILE Flow (pcu/i | - 004 4  | <b>N</b> 000 | N        | PINI Hamen              |              | ,                  |                       | 454           | N         | S = 1940               | +100(W-3     | .25) S =            | 2080+10       | 0(W-3.25)    | * lunatio        |          |            |
| 315<br>(Erec Elew)     | 281  | 306          | '\       | ( <b>F</b> *** <b>F</b> | 270          | 257                |                       | 154           | '\        | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S <sub>M</sub> = (S | 5 - 230) / (1 | 1 + 1.5 f/r) | Scheme           | by Other | Project    |
| (Free Flow)            | j 12<br>►004   | 281          |          | (Free F                 | 10W)         |                    | 988                   |               |           |                        | AM           | Peak                | PM            | Peak         |                  |          |            |
|                        | - 334  | 500          |          |                         | ļ            | 268                |                       | 400           |           |                        | 1+2+3+4      | 1,2+3+4             | 1+2+3+4       | 1,2+3+4      |                  |          |            |
| 225                    | 5  | 569          |          |                         | 220          |                    |                       | 482           |           | Sum y                  | 0.532        | 0.550               | 0.499         | 0.445        |                  |          |            |
| 226                    | 862  | 423          |          |                         | 212          | 969                | 275                   | $\leftarrow$  |           | L (s)                  | 25           | 18                  | 25            | 18           |                  |          |            |
| ₹<br>-                 | <u>'</u>   | 255          |          |                         | ₹-           | ז ר                |                       | 261           |           | C (s)                  | 120          | 120                 | 120           | 120          |                  |          |            |
|                        | i  |              |          |                         |              | i                  |                       |               |           | practical y            | 0.713        | 0.765               | 0.713         | 0.765        |                  |          |            |
| (Free F                | (Free Flow) (Free  |              |          | (Free F                 | low)         |                    |                       |               | R.C. (%)  | 34%                    | 39%          | 43%                 | 72%           |              |                  |          |            |
| 1                      | A3 A2 A1   | 2            | P5       | A4 A3 A2                | A1           | 3                  | P5                    | P8            |           | 4                      |              | P8                  |               |              |                  |          |            |
| ▲<br>P2                | $\begin{array}{c c} \bullet \\ \bullet $ |              |          |                         |              | B1 — • •<br>B2 — — |                       | <b>∢</b>      | -         | A<br>P2                |              | <b>∢</b> ►          | -             |              |                  |          |            |
| ÷ .                    | $\begin{array}{c c} F^2 & & \downarrow \downarrow \downarrow P3 \\ & & & \downarrow \downarrow \downarrow P3 \\ \end{array}$     |              |          |                         | P3           | B3                 | <b>,</b>              |               |           | ¥                      |              | Ł                   | C4            |              |                  |          |            |
|                        |  |              |          |                         | P3           | P1                 | •                     |               |           |                        |              | +<br>+              | ₫C3<br>C2     |              |                  |          |            |
|                        | P3 P3 P3   |              |          | *.                      | •            | _P6                |                       | *             | +         | <u>P6</u> ► ◄          |              | C1                  |               |              |                  |          |            |
| C1 C2 C3               | F<br>3   | P4           |          |                         | P4           |                    |                       |               | P4        |                        |              |                     |               |              |                  |          |            |
| AM G =                 |  | I/G = 5      | G =      |                         | I/G =        | 5                  | G =                   |               | I/G =     | 11                     | G =          |                     | I/G =         | 8            | G =              |          |            |
| G =                    | ,  | I/G =        | G =      |                         | I/G =        | 5                  | G =                   |               | I/G =     | 11                     | G =          |                     | I/G =         | 5            | G =              |          |            |
| PM G =                 |  | I/G = 5      | G =      |                         | I/G =        | 5                  | G =                   |               | I/G =     | 11                     | G =          |                     | I/G =         | 8            | G =              |          |            |
| G =                    | :  | I/G =        | G =      |                         | I/G =        | 5                  | G =                   |               | I/G =     | 11                     | G =          |                     | I/G =         | 5            | G =              |          |            |





| Junction:              | <u>J02 - Tai Li</u> | n Pai Road | / Kwai C | On Road    |              |            |                       |           |                       |                  |              |            |             |                       | Job Nu           | mber:               | J7345      |
|------------------------|---------------------|------------|----------|------------|--------------|------------|-----------------------|-----------|-----------------------|------------------|--------------|------------|-------------|-----------------------|------------------|---------------------|------------|
| Scenario:              | Without Pro         | posed Con  | crete Ba | tching F   | Plant        |            |                       |           |                       |                  |              |            |             |                       |                  | Page                | 6          |
| Design Year:           | 2029                | Designe    | ed By:   |            |              |            | -                     | Checke    | ed By:                |                  |              |            |             | Date:                 | 14               | March 2             | 025        |
|                        |                     |            |          |            |              | <u> </u>   |                       |           |                       | AM Peak          |              |            |             |                       | PM Peak          |                     |            |
|                        | Approach            |            | Phase    | Stage      | Width (m)    | Radius (m) | % Up-hill<br>Gradient | Turning % | Sat. Flow<br>(pcu/hr) | Flow<br>(pcu/hr) | y value      | Critical y | Turning %   | Sat. Flow<br>(pcu/hr) | Flow<br>(pcu/hr) | y value             | Critical y |
| Tai Lin Pai Ro         | ad SB               | SA         | A1       | 1          | 3.35         |            |                       |           | 1950                  | 379              | 0.194        |            |             | 1950                  | 380              | 0.195               |            |
| Tai Lin Pai Ro         | ad SB               | RT         | A2       | 1          | 3.35         | 18.0       |                       | 100       | 1929                  | 644              | 0.334        | 0.334      | 100         | 1929                  | 498              | 0.258               | 0.258      |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| Kwai On Road           | EB                  | LT         | B1       | 2          | 3.35         | 13.0       |                       | 100       | 1748                  | 408              | 0.233        | 0.233      | 100         | 1748                  | 225              | 0.129               | 0.129      |
| Kwai On Road           | EB                  | RT         | B2       | 2          | 3.35         | 17.0       |                       | 100       | 1921                  | 232              | 0.121        |            | 100         | 1921                  | 197              | 0.103               |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| Tai Lin Pai Ro         | ad NB               | LT         | C1       | 3          | 3.50         | 7.0        |                       | 100       | 1618                  | 255              | 0.158        |            | 100         | 1618                  | 227              | 0.140               | 0.140      |
| Tai Lin Pai Ro         | ad NB               | LT         | C2       | 3          | 3.50         | 10.0       |                       | 100       | 1830                  | 289              | 0.158        | 0.158      | 100         | 1830                  | 257              | 0.140               |            |
| Tai Lin Pai Ro         | ad NB               | SA         | C3       | 3          | 3.50         |            |                       |           | 2105                  | 281              | 0.133        |            |             | 2105                  | 251              | 0.119               |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| nedestrian nha         | 190                 |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| pedestilari pria       | 130                 |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| AM Traffic Flow (pcu/h | r)                  |            |          | PM Traffic | Flow (pcu/hr | )          |                       |           |                       |                  |              |            |             |                       | Note:            |                     |            |
|                        |                     |            | N<br>A   |            |              |            |                       |           | N<br>A                | S = 1940         | +100(W-3     | .25) S =   | 2080+100    | )(W-3.25)             | Junctio          | n Improv            | vement     |
| 400                    | 644 🔶               |            |          |            | 005          | 498 ◄      |                       |           |                       | SM = S7 (        | 1 + 1.5 1/1) | 3⊪ = (3    | - 230) / (1 | 1 + 1.5 1/1)          | Schem            | e propos            | sed by     |
| 408<br>↑               | 3                   | ,<br>79    | ١        |            | 225<br>1     |            | 380                   |           | ١                     |                  | AM           | Peak       | PM          | Peak                  | Redeve           | n Factoi<br>elopmen | ry<br>t    |
|                        |                     |            |          |            | _            |            |                       |           |                       |                  | 0 725        |            | 0.527       |                       |                  |                     |            |
| *<br>232               | 281                 |            |          |            | ▼<br>197     | 251        |                       |           |                       | Sum y            | 14           |            | 14          |                       |                  |                     |            |
| 54/                    |                     |            |          |            | 181          |            |                       |           |                       | L (S)            | 130          |            | 130         |                       |                  |                     |            |
| 0                      |                     |            |          |            | -0-          |            |                       |           |                       | C (S)            | 0.803        |            | 0.803       |                       |                  |                     |            |
|                        | I                   |            |          |            |              | '          |                       |           |                       | R.C. (%)         | 11%          |            | 52%         |                       |                  |                     |            |
| 1                      |                     | 2          |          |            |              | 3          |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| '                      | A2 A1               | -          |          |            |              | 5          |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     | B1         | 1        |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        | ŧ                   | B2         |          |            |              |            | <b>←</b> †            |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            | •        |            |              | •          | <u>  </u>             |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            | C1 C2 C3              |           |                       |                  |              |            |             |                       |                  |                     |            |
|                        |                     |            |          |            |              |            |                       |           |                       |                  |              |            |             |                       |                  |                     |            |
| AM G =                 |                     | I/G = 5    | G =      |            | I/G =        | 6          | G =                   |           | I/G =                 | 6                | G =          |            | I/G =       |                       | G =              |                     |            |
| G = 1/G = G =          |                     |            | G =      |            | I/G =        |            | G =                   |           | I/G =                 |                  | G =          |            | I/G =       |                       | G =              |                     |            |
| PM G=                  |                     | I/G = 5    | G =      |            | I/G =        | б          | G =                   |           | I/G =                 | ю́               | G =          |            | I/G =       |                       | G =              |                     |            |
| G =                    |                     | 1/6 =      | G =      |            | I/G =        |            | G =                   |           | I/G =                 |                  | G =          |            | I/G =       |                       | G =              |                     |            |

| Junction:                       | J02 - Tai L | in Pai Road   | / Kwai C | n Road     |                |            |                 |           |                |                                    |              |                                 |                |              | Job Nu          | mber:    | J7345      |
|---------------------------------|-------------|---------------|----------|------------|----------------|------------|-----------------|-----------|----------------|------------------------------------|--------------|---------------------------------|----------------|--------------|-----------------|----------|------------|
| Scenario:                       | With Propo  | osed Concret  | te Batch | ing Plar   | nt             |            |                 |           |                |                                    |              |                                 |                |              |                 | Page     | 7          |
| Design Year:                    | 2029        | Designe       | ed By:   |            |                |            | _               | Checke    | ed By:         |                                    |              |                                 |                | Date:        | 14              | March 2  | 025        |
|                                 |             |               | •        |            |                | 1          |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 | Approach    |               | Phase    | Stage      | Width (m)      | Radius (m) | % Up-hill       | Turning % | Sat. Flow      | AM Peak<br>Flow                    | y value      | Critical y                      | Turning %      | Sat. Flow    | PM Peak<br>Flow | y value  | Critical y |
| Tai Lin Pai Pa                  | od SB       | 54            | ۸1       | 1          | 3 35           |            | Gradient        |           | (pcu/hr)       | (pcu/hr)                           | 0 104        |                                 |                | (pcu/hr)     | (pcu/hr)        | 0 105    |            |
| Tai Lin Pai Ros                 |             | RT            | Δ2       | 1          | 3 35           | 18.0       |                 | 100       | 1020           | 789                                | 0.104        | 0 4 0 9                         | 100            | 1020         | 643             | 0.133    | 0 333      |
| Tai Liif Pai Nuo                | au 3D       |               | 72       |            | 5.55           | 10.0       |                 | 100       | 1929           | 109                                | 0.409        | 0.409                           | 100            | 1929         | 043             | 0.333    | 0.555      |
| Kwai On Road                    | FB          | IΤ            | B1       | 2          | 3 35           | 13.0       |                 | 100       | 1748           | 408                                | 0 233        | 0 233                           | 100            | 1748         | 225             | 0 129    | 0 129      |
| Kwai On Road                    | FB          | RT            | B2       | 2          | 3.35           | 17.0       |                 | 100       | 1921           | 232                                | 0.121        | 0.200                           | 100            | 1921         | 197             | 0.123    | 0.120      |
|                                 | 20          |               | DL       |            | 0.00           | 11.0       |                 | 100       | 1021           | LOL                                | 0.121        |                                 | 100            | 1021         | 101             | 0.100    |            |
| Tai Lin Pai Roa                 | ad NB       | LT            | C1       | 3          | 3.50           | 7.0        |                 | 100       | 1618           | 255                                | 0.158        |                                 | 100            | 1618         | 227             | 0.140    | 0.141      |
| Tai Lin Pai Roa                 | ad NB       | LT            | C2       | 3          | 3.50           | 10.0       |                 | 100       | 1830           | 289                                | 0.158        | 0.158                           | 100            | 1830         | 257             | 0.140    |            |
| Tai Lin Pai Roa                 | ad NB       | SA            | C3       | 3          | 3.50           |            |                 |           | 2105           | 326                                | 0.155        |                                 |                | 2105         | 296             | 0.141    |            |
|                                 |             | 0,1           |          |            | 0.00           |            |                 |           | 2.00           | 020                                | 0.100        |                                 |                | 2.00         | 200             | 0        |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
| pedestrian pha                  | se          |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                |                                    |              |                                 |                |              |                 |          |            |
| AM Traffic Flow (pcu/h          | r)          |               | N        | PM Traffic | Flow (pcu/hr   | )          |                 |           | N              | S 1040                             | 100/04/2     | 25) 8                           | 2080.100       | )/// 2 2E)   | Note:           |          |            |
|                                 |             |               | 7        |            |                |            |                 |           | 7              | S = 1940<br>S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | .23) 3 =<br>S <sub>M</sub> = (S | 2000+100       | l + 1.5 f/r) | Junctio         | n Improv | /ement     |
| 408                             | 789 ←       |               |          |            | 225            | 643 <      | -               |           |                |                                    |              | De els                          |                | Deals        | Schem           | e propos | sed by     |
| 406<br>1                        | 3           | 79            | ١        |            | 225<br>1       |            | <b>4</b><br>380 |           | ١              |                                    | AM           | Peak                            | PM             | Peak         | Redeve          | elopmen  | y<br>t     |
|                                 |             |               |          |            |                |            |                 |           |                |                                    | 0.000        |                                 | 0.602          |              |                 |          |            |
| *<br>232                        | 326         |               |          |            | +<br>197       | 296        |                 |           |                | Sum y                              | 0.800        |                                 | 0.603          |              |                 |          |            |
| 202                             | 1<br>1      |               |          |            | 137            | 230<br>†   |                 |           |                | L (s)                              | 14           |                                 | 14             |              |                 |          |            |
| 544                             | •           |               |          |            | 484            | ←          |                 |           |                | C (s)                              | 130          |                                 | 130            |              |                 |          |            |
|                                 | I           |               |          |            |                | I          |                 |           |                | practical y                        | 0.803        |                                 | 0.803          |              |                 |          |            |
|                                 |             |               |          |            |                |            |                 |           |                | R.C. (%)                           | 0%           |                                 | 33%            |              |                 |          |            |
|                                 | A2 A1       | 2<br>B1<br>B2 |          |            |                | J          | €               |           |                |                                    |              |                                 |                |              |                 |          |            |
|                                 |             |               |          |            |                |            | C1 C2 C3        |           |                |                                    |              |                                 |                |              |                 |          |            |
| AM G = I/G = 5 G<br>G = I/G = G |             |               |          |            | I/G =<br>I/G = | 6          | G =<br>G =      |           | I/G =<br>I/G = | 6                                  | G =<br>G =   |                                 | I/G =<br>I/G = |              | G =<br>G =      |          |            |
| G= //G= G=<br>PM G= //G= 5 G=   |             |               |          | I/G =      | 6              | G =        |                 | I/G =     | 6              | G =                                |              | I/G =                           |                | G =          |                 |          |            |
| PM G = 1/G = 5 G<br>G = 1/G = G |             |               | G =      |            | I/G =          |            | G =             |           | I/G =          |                                    | G =          |                                 | I/G =          |              | G =             |          |            |

| Junction:              | J03 - Tai       | Lin Pai Road    | / Kung \ | /ip Stree  | et           |            |                 |           |           |                        |              |                     |               | -            | Job Nu          | mber:   | J7345      |
|------------------------|-----------------|-----------------|----------|------------|--------------|------------|-----------------|-----------|-----------|------------------------|--------------|---------------------|---------------|--------------|-----------------|---------|------------|
| Scenario:              | Existing        | Condition       |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 | Page    | 8          |
| Design Year:           | 2024            | Design          | ed By:   |            |              |            | _               | Checke    | ed By:    |                        |              |                     |               | Date:        | 14              | March 2 | 025        |
| _                      |                 | -               |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        | Approach        |                 | Phase    | Stage      | Width (m)    | Radius (m) | % Up-hill       | Turning % | Sat. Flow | AM Peak<br>Flow        | y value      | Critical y          | Turning %     | Sat. Flow    | PM Peak<br>Flow | y value | Critical y |
|                        |                 |                 |          | _          |              |            | Gradient        | -         | (pcu/hr)  | (pcu/hr)               | -            | -                   |               | (pcu/hr)     | (pcu/hr)        | -       | -          |
| Tai Lin Pai Ro         | ad SB           | LT              | A1       | 1          | 5.20         | 8.0        |                 | 100       | 1798      | 411                    | 0.229        |                     | 100           | 1798         | 315             | 0.175   |            |
| Tai Lin Pai Ro         | ad SB           | SA              | A2       | 1          | 5.20         |            |                 |           | 2135      | 574                    | 0.269        | 0.269               |               | 2135         | 557             | 0.261   | 0.261      |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
| Kung Yip Stree         | et WB           | LT              | B1       | 1          | 4.30         | 8.0        |                 | 100       | 1722      | 312                    | 0.181        |                     | 100           | 1722         | 292             | 0.170   |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
| podostrian phr         | odostrian phase |                 |          | 2          |              | min.c      | rossing         | timo –    | 6         | 600                    | GM +         | 12                  | soc F         | GM -         | 10              | 600     |            |
| pedesthan pha          | 456             |                 | FI       | 2          |              |            | IUSSING         | ume =     | 0         | Sec                    |              | 13                  | SEC F         |              | 19              | 560     |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              | -          |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
| AM Traffic Flow (pcu/h | nr)             |                 | N        | PM Traffic | Flow (pcu/hr | )          |                 |           | N         | S = 1940               | + 100 (W     | -3.2516 = 2         | 080 + 100     | (W-3.25)     | Note:           |         |            |
|                        |                 |                 | 1        |            |              |            | 1               |           | 1         | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S <sub>M</sub> = (S | 5 - 230) / (1 | 1 + 1.5 f/r) |                 |         |            |
|                        |                 | → 411           |          |            |              |            |                 | 315       |           |                        | ΔM           | Peak                | PM            | Peak         |                 |         |            |
|                        |                 | <b>↓</b><br>574 | Ň        |            |              |            | <b>♦</b><br>557 |           | `         |                        | 1            | I Cak               | 1             | Call         |                 |         |            |
|                        |                 | 014             |          |            |              |            | 007             |           |           | 0                      | 0.260        |                     | 0.261         |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           | Sum y                  | 40           |                     | 40            |              |                 |         |            |
|                        |                 | *<br>312        |          |            |              |            |                 | *<br>292  |           | L (S)                  | 40           |                     | 40            |              |                 |         |            |
|                        |                 | 0.2             |          |            |              |            |                 |           |           | C (s)                  | 90           |                     | 90            |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           | practical y            | 0.500        |                     | 0.500         |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           | R.C. (%)               | 00%          |                     | 92%           |              |                 |         |            |
| 1                      | A2 A1           | 2               |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        | ţ               | **              | P1       |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 |                 |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        |                 | — B1            |          |            |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
|                        | *               |                 |          | ***        |              |            |                 |           |           |                        |              |                     |               |              |                 |         |            |
| AM C-                  | _               | I/G = 7         | G        | 32         | I/G          | 2          | G -             |           | I/G       | ı                      | G -          |                     | I/C           |              | 6-              |         |            |
|                        | -               | //G = 7         | G =      | 52         | "G =         | -          | 6=              |           | "G =      |                        | 6=           |                     | "G =          |              | G =             |         |            |
| G =                    | -               | I/C = 7         | G =      | 22         | //G =        | 2          | G =             |           | 1/G =     |                        | G =          |                     | 1/G =         |              | G =             |         |            |
| rwi G=                 | -               | 1/G = 7         | G =      | 32         | I/G =        | 2          | G =             |           | I/G =     |                        | G =          |                     | I/G =         |              | G =             |         |            |
| G =                    | -               | I/G =           | G =      |            | I/G =        |            | G =             |           | I/G =     |                        | G =          |                     | I/G =         |              | G =             |         |            |

| Junction:                   | J03 - Tai       | Lin Pai Road | / Kung \ | /ip Stree  | et           |            |           |           |           |                        |              |                      |                     |              | Job Nu          | mber:   | J7345      |
|-----------------------------|-----------------|--------------|----------|------------|--------------|------------|-----------|-----------|-----------|------------------------|--------------|----------------------|---------------------|--------------|-----------------|---------|------------|
| Scenario:                   | Without F       | Proposed Con | crete Ba | tching F   | Plant        |            |           |           |           |                        |              |                      |                     |              |                 | Page    | 9          |
| Design Year:                | 2029            | Design       | ed By:   |            |              |            | _         | Checke    | ed By:    |                        |              |                      |                     | Date:        | 14              | March 2 | 025        |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             | Approach        |              | Phase    | Stage      | Width (m)    | Radius (m) | % Up-hill | Turning % | Sat. Flow | AM Peak<br>Flow        | y value      | Critical y           | Turning %           | Sat. Flow    | PM Peak<br>Flow | y value | Critical y |
| <b>.</b>                    | 1.05            |              |          |            | 5.00         |            | Gradient  | 400       | (pcu/hr)  | (pcu/hr)               | 0.040        |                      | 400                 | (pcu/hr)     | (pcu/hr)        | 0.400   |            |
| Tai Lin Pai Ro              | ad SB           | LI           | A1       | 1          | 5.20         | 8.0        |           | 100       | 1798      | 448                    | 0.249        |                      | 100                 | 1798         | 346             | 0.192   |            |
| Tai Lin Pai Ro              | ad SB           | SA           | A2       | 1          | 5.20         |            |           |           | 2135      | 604                    | 0.283        | 0.283                |                     | 2135         | 589             | 0.276   | 0.276      |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
| Kung Yip Stree              | et WB           | LT           | B1       | 1          | 4.30         | 8.0        |           | 100       | 1722      | 343                    | 0.199        |                      | 100                 | 1722         | 319             | 0.185   |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
| pedestrian pha              | edestrian nhase |              |          | 2          |              | min c      | rossina   | time =    | 6         | sec                    | GM +         | 13                   | sec F               | GM =         | 19              | sec     |            |
| poucoulairplic              |                 |              |          |            |              |            | locoling  |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
| AM Traffic Flow (pcu/h      | r)              |              | N        | PM Traffic | Flow (pcu/hr | )          |           |           | N         | S = 1940               | + 100 (W     | -3.25 <b>)</b> 5 = 2 | 080 + 100           | (W-3.25)     | Note:           |         |            |
|                             |                 |              | ſ        |            |              |            |           |           | ſ         | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S₁ = (S              | <b>- 230) / (</b> 1 | l + 1.5 f/r) |                 |         |            |
|                             |                 | 448          |          |            |              |            | _         | • 346     |           |                        | AM           | Peak                 | PM                  | Peak         |                 |         |            |
|                             |                 | 604          |          |            |              |            | 589       |           |           |                        | 1            |                      | 1                   |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           | Sum y                  | 0.283        |                      | 0.276               |              |                 |         |            |
|                             |                 | <b>↓</b>     |          |            |              |            |           | Ļ         |           | L (s)                  | 40           |                      | 40                  |              |                 |         |            |
|                             |                 | 343          |          |            |              |            |           | 319       |           | C (s)                  | 90           |                      | 90                  |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           | practical y            | 0.500        |                      | 0.500               |              |                 |         |            |
|                             |                 |              |          |            |              |            |           |           |           | R.C. (%)               | 77%          |                      | 81%                 |              |                 |         |            |
| 1                           | A2 A1           | 2            |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 | -            |          | .▼ ▲       |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             | <b>↓</b>        |              |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             | •               |              | P1       |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 | ▼.,          |          |            |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             | Ļ               | B1           |          | <b>.</b>   |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
|                             |                 |              |          | *          |              |            |           |           |           |                        |              |                      |                     |              |                 |         |            |
| AM G =                      |                 | I/G = 7      | G =      | 32         | I/G =        | 2          | G =       |           | I/G =     |                        | G =          |                      | I/G =               |              | G =             |         |            |
| G =                         |                 | I/G =        | G =      |            | I/G =        |            | G =       |           | I/G =     |                        | G =          |                      | I/G =               |              | G =             |         |            |
| PM G =                      |                 | I/G = 7      | G =      | 32         | I/G =        | 2          | G =       |           | I/G =     |                        | G =          |                      | I/G =               |              | G =             |         |            |
| PM G = 1/G = 7<br>G = 1/G = |                 |              | G =      |            | I/G =        |            | G =       |           | I/G =     |                        | G =          |                      | I/G =               |              | G =             |         |            |

| Junction:              | J03 - Tai    | Lin Pai Road  | / Kung ` | rip Stre   | et           |              |               |             |           |                 |            |              |            | _          | Job Nu          | mber:    | J7345      |
|------------------------|--------------|---------------|----------|------------|--------------|--------------|---------------|-------------|-----------|-----------------|------------|--------------|------------|------------|-----------------|----------|------------|
| Scenario:              | With Prop    | posed Concret | te Batch | ing Plar   | nt           |              |               |             |           |                 |            |              |            |            |                 | Page     | 10         |
| Design Year:           | 2029         | Design        | ed By:   |            |              |              | _             | Checke      | ed By:    |                 |            |              | _          | Date:      | 14              | March 2  | 2025       |
|                        |              |               |          |            |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        | Approach     | I             | Phase    | Stage      | Width (m)    | Radius (m)   | / % Up-hill   | Turning %   | Sat. Flow | AM Peak<br>Flow | y value    | Critical y   | Turning %  | Sat. Flow  | PM Peak<br>Flow | y value  | Critical y |
|                        |              |               |          |            | E 20         |              | Gradient      | 100         | (pcu/hr)  | (pcu/hr)        | 0.220      | 0.020        | 100        | (pcu/hr)   | (pcu/hr)        | 0.072    |            |
| Tai Lin Pai Ku         | ad SB        | LI            | A1<br>40 |            | 5.20         | 8.0          | ──′           | 100         | 1/98      | 593             | 0.330      | 0.330        | 100        | 1/98       | 491             | 0.273    | 0.070      |
| Tai Lin Pai Ko         | ad SB        | 54            | Aż       | 1          | 5.20         | ┼───         | ──′           | <b> </b>    | 2135      | 604             | 0.283      | +            | ┣───       | 2135       | 589             | 0.276    | 0.276      |
| 1                      |              |               |          | $\vdash$   | +            |              | ──′           | 100         | 1700      | 400             | 0.000      | +            | 100        | 1700       |                 |          | +          |
| Kung Yip Stree         | et WB        | LI            | BI       | 1          | 4.30         | 8.0          | ──′           | 100         | 1/22      | 488             | 0.283      | +            | 100        | 1/22       | 464             | 0.269    | +          |
|                        |              |               | ┣───     | ├───       | ┼───         | ┼───         | ──′           | <b> </b>    |           |                 |            | +            | ┣───       |            |                 | ├──      | +          |
|                        |              |               | ├──      |            |              |              |               |             |           |                 |            | $\vdash$     | ┣───       |            |                 | ├──      |            |
|                        |              |               | ├──      |            |              |              |               |             |           |                 |            | $\vdash$     | ┣───       |            |                 | ├──      |            |
|                        |              |               | <u> </u> |            |              |              |               | <b> </b>    |           |                 |            |              | ┣───       |            |                 | <u> </u> |            |
|                        |              |               | <u> </u> |            |              |              |               | <b> </b>    |           |                 |            |              | ┣───       |            |                 | <u> </u> |            |
|                        |              |               | ├        |            | <del> </del> | <del> </del> | <b>├</b> ───′ | <b> </b>    |           |                 |            |              | ┨────      |            |                 | ├        | +          |
|                        |              |               | ├        |            | <del> </del> | <del> </del> | <b>├</b> ───′ | <b> </b>    | <u> </u>  |                 |            |              | ┟───       |            |                 | ├───     | +          |
|                        |              |               | <u> </u> |            | <del> </del> | <del> </del> | <b>├</b> ───′ | <b> </b>    |           |                 |            |              | ┨────      |            |                 | ├        | +          |
|                        |              |               | <u> </u> |            |              |              | <b>├</b> ───┘ | <b> </b>    | <u> </u>  |                 |            |              | ┨────      |            |                 | ├        |            |
|                        |              |               | <u> </u> |            | <del> </del> | <del> </del> | <b>├</b> ───′ | <b> </b>    |           |                 |            |              | ┨────      |            |                 | ├        | +          |
|                        |              |               | <u> </u> |            |              |              | <b>├</b> ───′ |             | <u> </u>  |                 |            | <u>├</u> ─── | ┨────      |            |                 | ├        |            |
|                        |              |               | <u> </u> |            |              |              | <b>├</b> ───′ |             | <u> </u>  |                 |            | <u>├</u> ─── | ┨────      |            |                 | ├        |            |
|                        |              |               | <u> </u> |            | <u> </u>     | <u> </u>     | <b>├</b> ───′ |             |           |                 |            |              | <b> </b>   |            |                 | ├───     | +          |
|                        |              |               | ├        |            | <del> </del> | <del> </del> | <b>├</b> ───′ | <b> </b>    | <u> </u>  |                 |            |              | ┟───       |            |                 | ├───     | +          |
|                        |              |               | <u> </u> |            | +            | +            | <b>├</b> ───′ |             |           |                 |            |              | ├──        |            |                 | ├──      |            |
|                        |              |               |          |            | +            |              |               |             |           |                 |            |              | ├──        |            |                 |          |            |
| nedestrian ph:         | 260          |               | P1       | 2          | +            | min c        | rossing       | time =      | 6         | sec             |            | 13           | sec F      | EGM =      | 19              | 990      | +          |
| pedeotriari p          | 196          |               |          |            | <u> </u>     | limite       | 1033119       |             |           | 300             | Givi i     | 10           |            | 0101       | 10              | 300      | <u> </u>   |
|                        |              |               | <u> </u> |            |              |              |               |             | <u> </u>  |                 |            | <u> </u>     |            |            | 1               |          | <u> </u>   |
|                        |              |               |          |            |              |              |               |             |           |                 |            | <u> </u>     |            |            | 1               |          | 1          |
|                        |              |               |          |            |              |              |               |             |           |                 |            |              |            |            | 1               |          | 1          |
|                        |              |               |          |            |              |              |               |             |           |                 |            |              |            |            | 1               |          | 1          |
|                        |              |               |          |            |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        |              |               | <b></b>  |            |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
| AM Traffic Flow (pcu/h | ır)          |               |          | PM Traffic | Flow (pcu/h  | r)           |               |             |           |                 |            |              |            |            | Note:           |          |            |
|                        |              | I             | N<br>M   |            |              |              | I.            |             | N<br>M    | S = 1940        | + 100 (W   | -3.25)6 = 2  | 080 + 100  | ) (W-3.25) |                 |          |            |
|                        |              | →593          |          |            |              |              | L             | <b>4</b> 91 |           | SM = 07 (       | 1 + 1.5 m/ | 01 - 10      | - 230) / ( | 1+1.3 //1  | 1               |          |            |
|                        |              | ÷ • • • • •   | ١        |            |              |              | +<br>580      |             | 1         |                 | AM<br>1    | Peak         | 1 PM       | Peak       | 1               |          |            |
|                        |              | 604           |          |            |              |              | 203           |             |           | 2               | 0.330      |              | 0.276      |            | 1               |          |            |
|                        |              |               | _        |            |              |              |               |             | _         | Sum y           | 40         |              | 40         |            | 1               |          |            |
|                        |              | 488           |          |            |              |              |               | ▼<br>464    |           | C (s)           | 90         |              | 90         |            | 1               |          |            |
|                        |              |               |          |            |              |              |               |             |           | practical v     | 0.500      |              | 0.500      |            | 1               |          |            |
|                        |              |               |          |            |              |              |               |             |           | R.C. (%)        | 52%        |              | 81%        |            | 1               |          |            |
| 1                      | A2 A1        | 2             |          | <u> </u>   |              |              |               |             |           | T               |            |              |            |            |                 |          |            |
|                        |              | -             |          | .*         |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        | ↓ <b>└</b> ► | *             |          |            |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        | •            |               | P1       |            |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        |              |               |          |            |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        | Ŧ            | 51            |          | ···*       |              |              |               |             |           |                 |            |              |            |            |                 |          |            |
|                        |              |               |          |            |              | <u> </u>     |               |             |           | <u> </u>        |            |              |            | <u> </u>   |                 |          |            |
| AM G=                  | -            | 1/G = 7       | G =      | 32         | I/G =        | 2            | G =           |             | ⊮G =      |                 | G =        |              | I/G =      |            | G =             |          |            |
| PM G =                 |              | I/G = 7       | G =      | 32         | I/G =        | 2            | G =           |             | I/G =     |                 | G =        |              | I/G =      |            | G =             |          |            |
| G =                    | -            | I/G =         | G =      |            | I/G =        |              | G =           |             | I/G =     |                 | G =        |              | I/G =      |            | G =             |          |            |

| Junction:             | 104 - Kuna         | Yin Stre  | et / Wah            | Sing Stree  | t          |               |          |           |               |
|-----------------------|--------------------|-----------|---------------------|-------------|------------|---------------|----------|-----------|---------------|
| Design Year:          | 2024 Rung          |           | Job Numb            |             | 7345       | Da            | to.      | 14        | March 2025    |
| Scenario:             | <u>Evisting</u> Co | ndition   |                     | <u>.</u>    | 1040       | Da            |          | 141       | D 11          |
|                       |                    | nultion   |                     |             |            |               |          |           | 1.11          |
| Kung Yip              | Street (Arm        | n C)      |                     |             |            |               | Kuna Y   | in Street | (Arm A)       |
| 140                   | 143                | 10)       |                     |             |            |               | ittang i |           | () (((() ) )) |
| <u>-140</u><br>6      | 0 -                |           | <b></b>             |             |            |               |          |           |               |
| <u> </u>              | 0                  |           |                     |             |            |               | г        | 170       | 1/3           |
|                       |                    |           | ←                   |             |            |               | _        | 232       | 172           |
|                       |                    |           |                     |             |            | . ↓ ┏━        |          | 202       | 172           |
|                       | $\backslash$       | ŀ         | 2                   | 160         |            | ·             | Г        | A N A     | DM            |
|                       |                    | ŀ         | 5                   | 109         |            |               |          | Alvi      |               |
|                       |                    | L         | <u>J</u><br>Web Sin | <u>152</u>  | rm D)      | I             |          |           |               |
|                       | INC                | JIII      | wan Sin             | y Sileei (A | шь)        |               |          |           |               |
| <b>T</b> 1            |                    |           |                     |             |            |               |          |           |               |
| The predictive equa   | ations of ca       | pacity o  | t moveme            | ent are:    | 0.000      | 0.0.0.50      |          |           |               |
| Q-BA = D[627 + 0.000] | 1400-CR - Y        | (0.3640   | 1 - AC + 0.7        | 144q-AB +   | 0.229q-    | CA + 0.52q-   | CB)]     |           |               |
| Q-BC = E[745 - Y]     | (0.364q-AC         | + 0.14 ز  | 4q-AB)]             |             |            |               |          |           |               |
| Q-CB = F[745 - 0]     | 0.364Y(q-AC        | ; + q-AE  | 3)]                 | _           |            |               |          |           |               |
| The geometric para    | ameters rep        | resente   | d by D, E           | , F are:    |            |               |          |           |               |
| D = [1 + 0.09]        | 4(w-BA - 3.        | 65)][1 +  | 0.0009(\            | /-rBA - 120 | )][1 + 0.  | 0006(V-IBA    | - 150)]  |           |               |
| E = [1 + 0.09]        | 4(w-BC - 3.        | 65)][1 +  | 0.0009(\            | /-rBC - 120 | ))]        |               |          |           |               |
| F = [1 + 0.09]        | 4(w-CB - 3.        | 65)][1 +  | 0.0009(\            | /-rCB - 120 | ))]        |               |          |           |               |
| where $Y = 1 - 0.0$   | 0345W              |           |                     |             |            |               |          |           |               |
| q-AB, etc             | = the desig        | n flow o  | of moveme           | ent AB, etc | ;          |               |          |           |               |
| W = majo              | or road width      | ו         |                     |             |            |               |          |           |               |
| W-CR = c              | central rese       | rve widt  | h                   |             |            |               |          |           |               |
| w-BA, etc             | = lane widt        | to veh    | nicle               |             |            |               |          |           |               |
| v-rBA, etc            | c = visibility     | to the ri | ght for wa          | iting vehic | les in str | eam BA, etc   | ;        |           |               |
| v-IBA, etc            | = visibility       | to the le | ft for wait         | ing vehicle | s in stre  | am BA, etc    |          |           |               |
|                       |                    |           |                     |             |            |               |          |           |               |
| Geometry :            |                    | Inp       | ut                  | Inpu        | t          | Input         |          | Calcul    | ated          |
| -                     |                    | W         | 10.90               | V-rBA       | 40         | w-BA          | 4.70     | D         | 0.9523        |
|                       | V                  | V-CR      | 0.00                | V-IBA       | 40         | w-BC          | 4.70     | Е         | 1.0196        |
|                       |                    |           |                     | V-rBC       | 40         | w-CB          | 2.50     | F         | 0.8237        |
|                       |                    |           |                     | V-rCB       | 35         |               |          | Y         | 0.6240        |
| Analysis :            |                    |           |                     |             |            |               |          |           |               |
| Traffic Flows p       | cu/hr              | AM        | PM                  |             | Can        | acity, pcu/hr |          | AM        | PM            |
| n-CA                  | - *** • • •        | 143       | 140                 |             | Cup        | Q-BA          |          | 519       | 531           |
| g-CB                  |                    | 0         | 6                   |             |            | Q-BC          |          | 697       | 711           |
| η-ΔR                  |                    | 222       | 172                 |             |            | Q-CB          |          | 527       | 555           |
| 4-∩D<br>α_ΛC          |                    | 170       | 1/2                 |             |            |               |          | 501       | 535           |
|                       |                    | 160       | 143                 |             |            |               |          | JZT       | 555           |
| ч-DA<br>~ PC          |                    | 201       |                     |             |            |               |          |           |               |
| q-вс<br>,             |                    | 3         | C 000               |             |            |               |          |           |               |
| Ť                     |                    | 0.017     | 0.032               |             |            |               |          |           |               |
|                       | -                  |           | 4 · · ·             |             |            |               |          |           |               |
|                       | F                  | ≺atio-of- | -TIOW to C          | apacity     | AM         | PM            |          |           |               |
|                       |                    |           | B-A                 |             | 0.326      | 0.286         |          |           |               |
|                       |                    | I         | B-C                 |             | 0.004      | 0.007         |          |           |               |
|                       |                    | (         | C-B                 |             | 0.000      | 0.011         |          | –         |               |
|                       |                    |           | B-AC                |             | 0.330      | 0.294 (fo     | r shared | lane BA   | , BC)         |
|                       |                    |           |                     |             |            |               |          |           |               |





| Junction:                             | J05 - Kwai Chung Road / Tai Lin Pai Road / Kwai Foo Road   |              |             |            |              |            |                       |              |                       |                        |              | -            | Job Nu       | mber:                 | J7345            |         |            |
|---------------------------------------|--|--------------|-------------|------------|--------------|------------|-----------------------|--------------|-----------------------|------------------------|--------------|--------------|--------------|-----------------------|------------------|---------|------------|
| Scenario:                             | Existing   | g Condition  |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  | Page    | 14         |
| Design Year:                          | 2024   | Design       | ed By:      |            |              |            | -                     | Checke       | ed By:                |                        |              |              | -            | Date:                 | 14               | March 2 | 2025       |
|                                       |  |              |             | <u> </u>   |              |            |                       | <u> </u>     |                       | AM Peak                |              |              | <u> </u>     |                       | PM Peak          |         |            |
|                                       | Approach   |              | Phase       | Stage      | Width (m)    | Radius (m) | % Up-hill<br>Gradient | Turning %    | Sat. Flow<br>(pcu/hr) | Flow<br>(pcu/hr)       | y value      | Critical y   | Turning %    | Sat. Flow<br>(pcu/hr) | Flow<br>(pcu/hr) | y value | Critical y |
| Kwai Foo Roa                          | d EB   | LT           | A1          | 1          | 4.10         | 25.0       |                       | 100          | 2042                  | 253                    | 0.124        |              | 100          | 2042                  | 260              | 0.127   |            |
| Kwai Foo Roa                          | d EB   | LT           | A2          | 1          | 4.10         | 29.0       |                       | 100          | 2059                  | 255                    | 0.124        |              | 100          | 2059                  | 262              | 0.127   |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
| Kwai Chung R                          | oad NB   | LT+SA*       | B1          | 2          | 4.00         | 22.0       |                       | 98           | 1919                  | 414                    | 0.216        |              | 100          | 1916                  | 528              | 0.276   |            |
| Kwai Chung R                          | oad NB   | SA           | B2          | 2          | 4.00         |            |                       |              | 2155                  | 464                    | 0.215        |              |              | 2155                  | 539              | 0.250   |            |
| Kwai Chung R                          | oad NB   | RT           | B3          | 2          | 4.00         | 20.0       |                       | 100          | 2005                  | 655                    | 0.327        | 0.327        | 100          | 2005                  | 607              | 0.303   | 0.303      |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
| Tai Lin Pai Ro                        | ad WB  | LT           | C1          | 2          | 3.80         | 22.0       |                       | 100          | 1868                  | 266                    | 0.142        |              | 100          | 1868                  | 282              | 0.151   |            |
| Tai Lin Pai Ro                        | ad WB  | LT           | C2          | 2          | 3.80         | 26.0       |                       | 100          | 2019                  | 287                    | 0.142        |              | 100          | 2019                  | 305              | 0.151   |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
| Kwai Chung R                          | oad SB   | LT+SA*       | D1          | 1          | 4.30         | 27.0       |                       | 20           | 2053                  | 524                    | 0.255        | 0.255        | 27           | 2045                  | 441              | 0.216   | 0.216      |
| Kwai Chung R                          | oad SB   | SA+RT        | D2          | 1          | 4.30         |            |                       |              | 2185                  | 558                    | 0.255        |              |              | 2185                  | 471              | 0.216   |            |
| Kwai Chung R                          | oad SB   | RT           | D3          | 1          | 4.20         | 18.0       |                       | 100          | 2008                  | 513                    | 0.255        |              | 100          | 2008                  | 432              | 0.215   |            |
| · · · · · · · · · · · · · · · · · · · |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
| nedestrian nha                        | 200  |              | D1          | 1          |              | min c      | rossina               | timo –       | 6                     | 500                    | GM +         | 12           | soc F        | GM -                  | 18               | 500     |            |
| pedestilari priz                      | 130  |              | P2          | 1          |              | min c      | rossing               | timo –       | 5                     | 500                    |              | 5            | SOC F        | GM -                  | 10               | 500     |            |
|                                       |  |              | D3          | 1          |              | min c      | rossing               | timo –       | 5                     | 500                    |              | 5            | Sec F        | GM -                  | 10               | 500     |            |
|                                       |  |              | Т <u>Ј</u>  | 1          |              | min c      | rossing               | timo -       | 5                     | 500                    |              | 7            | SOC F        |                       | 12               | 500     |            |
|                                       |  |              | D5          | 2          |              | min c      | rossing               | timo -       | 5                     | 500                    |              | 7            | Sec I        |                       | 12               | 500     |            |
|                                       |  |              | P6          | 2          |              | min c      | rossing               | timo -       | 5                     | 500                    |              | 7            | SOC F        |                       | 12               | 500     |            |
|                                       |  |              |             | 2          |              | min c      | rossing               | timo -       | 7                     | 500                    |              | 12           | Sec I        |                       | 20               | 500     |            |
|                                       |  |              |             | 2          |              | min c      | rossing               | timo -       | 5                     | 500                    |              | 6            | Sec I        |                       | 11               | 500     |            |
|                                       |  |              | FO          | 2          |              | minc       | lossing               | ume =        | 5                     | Sec                    |              | 0            | Secr         |                       |                  | SEC     |            |
| AM Traffic Flow (pcu/h                | r)   |              | Ν           | PM Traffic | Flow (pcu/hr | )          |                       |              | Ν                     | S = 1940               | + 100 (W     | -3.25)\$ = 2 | 080 + 100    | ) (W-3.25)            | Note:            |         |            |
|                                       | 741  | ← 105 K      |             |            |              | 606        | $ \rightarrow $       | 120 🕅        |                       | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S™ = (S      | 6 - 230) / ( | 1 + 1.5 f/r)          | *A flared        | approac | h          |
| 508<br>∳                              |  | 749          | $\setminus$ |            | 522<br>†     |            | 618                   |              | $\mathbf{i}$          |                        | AM           | Peak         | PM           | Peak                  |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       |                        | 1+2          |              | 1+2          |                       |                  |         |            |
|                                       |  |              | _           |            |              |            |                       |              | _                     | Sum y                  | 0.582        |              | 0.518        |                       |                  |         |            |
|                                       | 473  | <b>*</b> 553 |             |            |              | 539        |                       | <b>*</b> 587 |                       | L (s)                  | 16           |              | 16           |                       |                  |         |            |
| 405                                   | i ₊∔→  | 655          |             |            | 528          | <b>↓</b>   | 607                   |              |                       | C (s)                  | 120          |              | 120          |                       |                  |         |            |
|                                       |  |              |             |            |              |            |                       |              |                       | practical y            | 0.780        |              | 0.780        |                       |                  |         |            |
|                                       |  |              |             |            |              | •          |                       |              |                       | R.C. (%)               | 34%          |              | 50%          |                       |                  |         |            |
| 1                                     | D3 D2  |              |             | -          |              |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
| A1                                    | $\begin{array}{c} A_1 \\ A_2 \\ P_1 \\ P_2 \\ P_1 \\ P_2 \\ P_1 \\ P_1 \\ P_2 \\ P_2 \\ P_1 \\ P_2 \\ P_1 \\ P_2 \\ P_2 \\ P_2 \\ P_1 \\ P_2 \\ P_2 \\ P_2 \\ P_1 \\ P_2 \\ P_2 \\ P_2 \\ P_1 \\ P_2 \\$ |              |             |            | P8.*         |            |                       |              |                       |                        |              |              |              |                       |                  |         |            |
| AM G =                                | B1 E   |              |             |            | I/G =        | 9          | G =                   |              | I/G =                 |                        | G =          |              | I/G =        |                       | G =              |         |            |
| G =                                   | G = 1/G =  |              |             |            | I/G =        |            | G =                   |              | I/G =                 |                        | G =          |              | I/G =        |                       | G =              |         |            |
| PM G =                                | PM G = 1/G = 9   |              |             |            | I/G =        | 9          | G =                   |              | I/G =                 |                        | G =          |              | I/G =        |                       | G =              |         |            |
| G =                                   | I/G =  | G =          |             | I/G =      |              | G =        |                       | I/G =        |                       | G =                    |              | I/G =        |              | G =                   |                  |         |            |

| Junction:              | J05 - Kwai   | Chung Road | d / Tai L    | in Pai R   | oad / Kv     | vai Foo    | Road            |           |              |                        |              |                     |                           | -            | Job Nu     | imber:   | J7345      |
|------------------------|--------------|------------|--------------|------------|--------------|------------|-----------------|-----------|--------------|------------------------|--------------|---------------------|---------------------------|--------------|------------|----------|------------|
| Scenario:              | Without Pr   | oposed Con | crete Ba     | tching F   | Plant        |            |                 |           |              |                        |              |                     |                           |              |            | Page     | 15         |
| Design Year:           | 2029         | Design     | ed By:       |            |              |            | -               | Checke    | ed By:       |                        |              |                     |                           | Date:        | 14         | March 2  | 025        |
|                        |              |            |              |            |              | 1          | 1               |           |              | AM Pook                |              |                     |                           |              | DM Dook    |          |            |
|                        | Approach     |            | Phase        | Stage      | Width (m)    | Radius (m) | % Up-hill       | Turning % | Sat. Flow    | Flow                   | y value      | Critical y          | Turning %                 | Sat. Flow    | Flow       | y value  | Critical y |
| Kwai Eoo Roa           | d EB         | IТ         | Δ1           | 1          | 4 10         | 25.0       | Gradieni        | 100       | (pcu/iii)    | 268                    | 0 131        |                     | 100                       | (pcu/iii)    | (pcu/iii)  | 0 138    |            |
| Kwai Faa Baa           |              | <br>  T    | A1           | 1          | 4.10         | 20.0       |                 | 100       | 2050         | 200                    | 0.131        |                     | 100                       | 2042         | 201        | 0.130    |            |
| RWAI FOU ROA           | UED          | LI         | AZ           | 1          | 4.10         | 29.0       |                 | 100       | 2009         | 2/1                    | 0.132        |                     | 100                       | 2059         | 204        | 0.130    |            |
| Kwai Chung D           |              | 17.04*     | D4           | 2          | 4.00         | 22.0       |                 | 00        | 1010         | 440                    | 0.000        |                     | 100                       | 1016         | 560        | 0 202    |            |
|                        |              | LI+SA"     |              | 2          | 4.00         | 22.0       |                 | 90        | 1919         | 442                    | 0.230        |                     | 100                       | 1910         | 560        | 0.292    |            |
| Kwai Chung R           |              | SA         | B2           | 2          | 4.00         |            |                 | 400       | 2155         | 497                    | 0.231        | 0.054               | 400                       | 2155         | 557        | 0.258    |            |
| Kwai Chung R           | oad NB       | RI         | B3           | 2          | 4.00         | 20.0       |                 | 100       | 2005         | 710                    | 0.354        | 0.354               | 100                       | 2005         | 660        | 0.329    | 0.329      |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
| Tai Lin Pai Ro         | ad WB        | LT         | C1           | 2          | 3.80         | 22.0       |                 | 100       | 1868         | 295                    | 0.158        |                     | 100                       | 1868         | 308        | 0.165    |            |
| Tai Lin Pai Ro         | ad WB        | LT         | C2           | 2          | 3.80         | 26.0       |                 | 100       | 2019         | 318                    | 0.158        |                     | 100                       | 2019         | 333        | 0.165    |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
| Kwai Chung R           | oad SB       | LT+SA*     | D1           | 1          | 4.30         | 27.0       |                 | 21        | 2051         | 585                    | 0.285        | 0.286               | 28                        | 2044         | 491        | 0.240    | 0.240      |
| Kwai Chung R           | oad SB       | SA+RT      | D2           | 1          | 4.30         |            |                 |           | 2185         | 624                    | 0.286        |                     |                           | 2185         | 525        | 0.240    |            |
| Kwai Chung R           | oad SB       | RT         | D3           | 1          | 4.20         | 18.0       |                 | 100       | 2008         | 573                    | 0.285        |                     | 100                       | 2008         | 482        | 0.240    |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
| pedestrian pha         | ase          |            | P1           | 1          |              | min c      | rossing         | time =    | 6            | sec                    | GM +         | 12                  | sec F                     | GM =         | 18         | sec      |            |
|                        |              |            | P2           | 1          |              | min c      | rossing         | time =    | 5            | sec                    | GM +         | 5                   | sec F                     | GM =         | 10         | sec      |            |
|                        |              |            | P3           | 1          |              | min c      | rossing         | time =    | 5            | sec                    | GM +         | 5                   | sec F                     | GM =         | 10         | sec      |            |
|                        |              |            | P4           | 1          |              | min c      | rossing         | time =    | 5            | sec                    | GM +         | 7                   | sec F                     | GM =         | 12         | sec      |            |
|                        |              |            | P5           | 2          |              | min c      | rossing         | time =    | 5            | sec                    | GM +         | 7                   | sec F                     | GM =         | 12         | sec      |            |
|                        |              |            | P6           | 2          |              | min c      | rossing         | time =    | 5            | sec                    | GM +         | 7                   | sec F                     | GM =         | 12         | sec      |            |
|                        |              |            | P7           | 2          |              | min c      | rossing         | time =    | 7            | sec                    | GM +         | 13                  | sec F                     | GM =         | 20         | sec      |            |
|                        |              |            | P8           | 2          |              | min c      | rossing         | time =    | 5            | sec                    | GM +         | 6                   | sec F                     | GM =         | 11         | sec      |            |
| AM Traffic Flow (pcu/h | r)           | 1          |              | PM Traffic | Flow (pcu/hi | )          |                 |           |              |                        |              |                     |                           |              | Note:      |          |            |
|                        | 862 🗲        | → 125 K    | N            |            |              | 702        | $ \rightarrow $ | 137       | N            | S = 1940               | + 100 (W     | -3.25)\$ = 2        | 080 + 100                 | ) (W-3.25)   | *A flarec  | approact | n          |
| 530                    | 002          | 120        | $\backslash$ |            | 565          | 102        | Ļ               | 107       | $\backslash$ | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S <sub>M</sub> = (S | 5 - 230) / ( <sup>·</sup> | 1 + 1.5 f/r) |            |          | -          |
| 1<br>1                 | 7            | '95        | `            |            | 1            |            | 659             |           | `            |                        | AM           | Peak                | PM                        | Peak         |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              |                        | 1+2          |                     | 1+2                       |              |            |          |            |
|                        |              | ſ          | _            |            |              |            |                 | [         | _            | Sum y                  | 0.640        |                     | 0.569                     |              |            |          |            |
|                        | 506          | 613        |              |            |              | 557        |                 | 641       |              | L (s)                  | 16           |                     | 16                        |              |            |          |            |
| 433                    | 3 ← → 71     | 0          |              |            | 560          | +→         | 660             |           |              | C (s)                  | 120          |                     | 120                       |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              | practical y            | 0.780        |                     | 0.780                     |              |            |          |            |
|                        |              |            |              |            |              |            |                 |           |              | R.C. (%)               | 22%          |                     | 37%                       |              |            |          |            |
| 1<br>A1 <b>↑</b>       | D3 D2 D1     | 2<br>• P6  |              | 4          | P8 .*        |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
| A2<br>P1               | ╻┥┝╸<br>╸┙╸╸ | P3 P5      |              | P7         |              |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
|                        | •            | 1          | 1            | P7*        | •<br>C2      |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
| P2 P1 P4 B1 B2 B3      |              |            |              | _ ↑        | C1           |            |                 |           |              |                        |              |                     |                           |              |            |          |            |
| AM G =                 |              | I/G = 9    | G =          | _          | I/G =        | 9          | G =             | _         | I/G =        | _                      | G =          |                     | I/G =                     | _            | G =        |          | _          |
| G =                    | 1            | I/G =      | G =          |            | I/G =        | 0          | G =             |           | I/G =        |                        | G =          |                     | I/G =                     |              | G =        |          |            |
| РМ G =<br>G =          |              | I/G = 9    | G =<br>G =   |            | I/G =        | 9          | G =<br>G =      |           | I/G =        |                        | G =<br>G =   |                     | I/G =                     |              | G =<br>G = |          |            |

| Junction:                       | J05 - Kv     | vai Chung Road | d / Tai L    | in Pai R   | oad / Kv    | vai Foo                                     | Road      |           |              |                        |              |                     |                           | _            | Job Nu          | imber:  | J7345      |
|---------------------------------|--------------|----------------|--------------|------------|-------------|---|-----------|-----------|--------------|------------------------|--------------|---------------------|---------------------------|--------------|-----------------|---------|------------|
| Scenario:                       | With Pro     | oposed Concre  | te Batch     | ing Pla    | nt          |   |           |           |              |                        |              |                     |                           |              |                 | Page    | 16         |
| Design Year:                    | 2029         | Design         | ed By:       |            |             |   | _         | Checke    | ed By:       |                        |              |                     | _                         | Date:        | 14              | March 2 | 2025       |
| -                               |              |                |              |            |             |   |           | 1         |              |                        |              |                     |                           |              |                 |         |            |
|                                 | Approach     |                | Phase        | Stage      | Width (m)   | Radius (m)                                  | % Up-hill | Turning % | Sat. Flow    | AM Peak<br>Flow        | y value      | Critical y          | Turning %                 | Sat. Flow    | PM Peak<br>Flow | y value | Critical y |
| Kwai Foo Roa                    | d EB         | ΙT             | Δ1           | 1          | 4 10        | 25.0  | Gradient  | 100       | (pcu/nr)     | (pcu/nr)               | 0 131        |                     | 100                       | (pcu/nr)     | (pcu/nr)        | 0 138   | 1          |
| Kwai Foo Roa                    |              | <br>I T        | Δ2           | 1          | 4 10        | 29.0  |           | 100       | 2059         | 271                    | 0.132        |                     | 100                       | 2059         | 284             | 0.138   |            |
| Itwain oo itoa                  |              | L1             | 72           |            | 4.10        | 23.0  |           | 100       | 2000         | 2/1                    | 0.132        |                     | 100                       | 2000         | 204             | 0.130   |            |
| Kwai Chung R                    | oad NB       | LT+SA*         | B1           | 2          | 4.00        | 22.0  |           | 93        | 1925         | 464                    | 0.241        |                     | 100                       | 1916         | 560             | 0.292   |            |
| Kwai Chung R                    | oad NB       | SA             | B2           | 2          | 4.00        |   |           |           | 2155         | 520                    | 0.241        |                     |                           | 2155         | 617             | 0.286   |            |
| Kwai Chung R                    | oad NB       | RT             | B3           | 2          | 4.00        | 20.0  |           | 100       | 2005         | 755                    | 0.377        | 0.377               | 100                       | 2005         | 705             | 0.352   | 0.352      |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| Tai Lin Pai Ro                  | ad WB        | LT             | C1           | 2          | 3.80        | 22.0  |           | 100       | 1868         | 295                    | 0.158        |                     | 100                       | 1868         | 308             | 0.165   |            |
| Tai Lin Pai Ro                  | ad WB        | LT             | C2           | 2          | 3.80        | 26.0  |           | 100       | 2019         | 318                    | 0.158        |                     | 100                       | 2019         | 333             | 0.165   |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| Kwai Chung R                    | oad SB       | LT+SA*         | D1           | 1          | 4.30        | 27.0  |           | 21        | 2051         | 607                    | 0.296        |                     | 26                        | 2046         | 517             | 0.253   | 0.253      |
| Kwai Chung R                    | oad SB       | SA+RT          | D2           | 1          | 4.30        |   |           |           | 2185         | 646                    | 0.296        |                     |                           | 2185         | 553             | 0.253   |            |
| Kwai Chung R                    | oad SB       | RT             | D3           | 1          | 4.20        | 18.0  |           | 100       | 2008         | 594                    | 0.296        | 0.296               | 100                       | 2008         | 508             | 0.253   |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
|                                 |              |                | 54           |            |             |   |           |           |              |                        |              | 40                  | _                         |              | 10              |         |            |
| pedestrian pha                  | ase          |                | P1           | 1          |             | min c                                       | rossing   | time =    | 6            | sec                    | GM +         | 12                  | sec F                     | -GM =        | 18              | sec     |            |
|                                 |              |                | P2           | 1          |             | min c                                       | rossing   | time =    | 5            | sec                    |              | 5                   | Sec F                     |              | 10              | sec     |            |
|                                 |              |                | P3           | 1          |             | min c                                       | rossing   | time =    | 5            | sec                    |              | 5                   | Sec F                     |              | 10              | sec     |            |
|                                 |              |                | P4           | 1          |             | min c                                       | rossing   | time =    | 5            | sec                    |              | 7                   | Sec F                     |              | 12              | sec     |            |
|                                 |              |                | P6           | 2          |             | min c                                       | rossing   | timo -    | 5            | 500                    |              | 7                   | Sec I                     |              | 12              | 500     |            |
|                                 |              |                | P7           | 2          |             | min c                                       | rossing   | time –    | 7            | Sec                    | GM +         | 13                  | Sec F                     | GM -         | 20              | Sec     |            |
|                                 |              |                | P8           | 2          |             | min c                                       | rossing   | time =    | 5            | sec                    | GM +         | 6                   | sec F                     | GM =         | 11              | sec     |            |
| AM Traffic Flow (pcu/h          | r)           |                | . 0          | PM Traffic | Flow (pcu/h | )   |           |           | Ŭ            |                        |              | Ŭ                   |                           | 0            | Note:           |         |            |
| an name new (peak               | .,<br>872 •  | 125 N          | N            |            | rion (pourn | ,<br>717                                    |           | 137 6     | N            | S = 1940               | + 100 (W     | -3.25)5 = 2         | 2080 + 100                | ) (W-3.25)   | *A flarec       | annroac | h          |
| 530                             | 012          | + 125 h        | $\backslash$ |            | 565         | / 1/  | Ì         | 137       | $\backslash$ | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S <sub>M</sub> = (S | S - 230) / ( <sup>·</sup> | 1 + 1.5 f/r) | Anarco          |         |            |
| 1<br>1                          |              | 850            | `            |            | 1           |   | 724       |           |              |                        | AM           | Peak                | PM                        | Peak         |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              |                        | 1+2          |                     | 1+2                       |              |                 |         |            |
|                                 |              | ↓              | _            |            |             | - · -                                       |           | ↓<br>↓    | _            | Sum y                  | 0.673        |                     | 0.605                     |              |                 |         |            |
| 100                             | 551<br>1     | 613            |              |            | 500         | 617<br>†                                    | 705       | 641       |              | L (s)                  | 16           |                     | 16                        |              |                 |         |            |
| 433                             | ° ← <b>→</b> | / 55           |              |            | 560         | $\leftarrow$                                | 705       |           |              | C (s)                  | 0.790        |                     | 0.790                     |              |                 |         |            |
|                                 |              |                |              |            |             |   |           |           |              | practical y            | 1.6%         |                     | 20%                       |              |                 |         |            |
|                                 |              | D1 0           |              |            |             |   |           |           |              | R.C. (%)               | 1076         |                     | 2370                      |              |                 |         |            |
| 1<br>A1Î♠                       |              | D1 2           |              | 4          | P8.▼        |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| A2                              |              |                |              | P7         | -           |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| P1                              |              | P3 P5          |              |            |             |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| * *                             | -+           |                |              | P7'        | <b>-</b> C2 |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| ⊯ <sup>′ P2</sup> <sup>P1</sup> |              | × F4           |              | Ļ          | C1          |   |           |           |              |                        |              |                     |                           |              |                 |         |            |
| AM C                            |              | B1             | B2 B3        |            | 1/2         | <u>ــــــــــــــــــــــــــــــــــــ</u> | ~         |           | 1/2          |                        | ~            |                     | 1/2                       | 1            |                 |         |            |
| AM G=                           |              | I/G = 9        | G =          |            | I/G =       | э   | G =       |           | I/G =        |                        | G =          |                     | I/G =                     |              | G =             |         |            |
| PM G-                           |              | I/G = 9        | G =          |            | I/G =       | 9   | G =       |           | I/G =        |                        | G =          |                     | I/G =                     |              | G =             |         |            |
| G =                             |              | I/G =          | G =          |            | I/G =       | -   | G =       |           | I/G =        |                        | G =          |                     | I/G =                     |              | G =             |         |            |

| lunction:           | IO6 - Tai           | Lin Pai R           | oad / San             | Kwai Stre               | ot               |               |          |          |            |
|---------------------|---------------------|---------------------|-----------------------|-------------------------|------------------|---------------|----------|----------|------------|
| Design Year         | 2024                |                     |                       |                         | 7345             | Da            | te:      | 14       | March 2025 |
| Scenario            | Existing            | Condition           |                       | <u> </u>                | 1040             | Du            |          | 171      | P 17       |
| econtario.          | Exioting            | oonalion            |                       |                         |                  |               |          |          |            |
| Tai Li              | n Pai Road (        | Arm C)              |                       |                         |                  | г             | ai Lin F | Pai Road | (Arm A)    |
| 650                 | 683                 |                     | _                     |                         |                  |               |          |          | (*******)  |
| 77                  | 77                  |                     |                       |                         |                  |               |          |          |            |
|                     |                     | I                   | *                     |                         |                  | •             | T        | 506      | 540        |
|                     |                     |                     | <b>4</b> -1           | ×                       |                  |               | F        | 20       | 6          |
|                     |                     | North               |                       | Í                       |                  |               |          |          | <u> </u>   |
|                     |                     |                     | 47                    | 44                      |                  |               | Г        | AM       | PM         |
|                     |                     | $\backslash$        | 47                    | 26                      |                  |               |          | 7        | <u></u>    |
|                     |                     |                     | San Kwa               | ai Street (A            | (rm B)           | I             |          |          |            |
|                     |                     | Υ.                  | Carritin              |                         |                  |               |          |          |            |
| The predictive      | equations of        | canacity o          | of movem              | ont are.                |                  |               |          |          |            |
| $\Omega$ -BA - DI62 | $7 \pm 14W-CR$      | - Y(0 364           | n-AC + 0              | 144a-AR +               | 0 229a-          | CA + 0.52a-   | CB)]     |          |            |
| Q B R = B[02]       | 5 <b>-</b> V(0 364a | $\Delta C \pm 0.14$ | 47.0 F 0.<br>ΙΔα-ΔΒ)] |                         | 0.2209           | 0/( 1 0.029   | 00)]     |          |            |
| Q DO = E[74]        | 5 - 0 364Y(a-       | $AC + \alpha - AF$  |                       |                         |                  |               |          |          |            |
| The geometric       | narameters i        | enresente           | od by D F             | F are <sup>.</sup>      |                  |               |          |          |            |
| $D = [1 \pm ($      | 1004(w-BA)          | 3 65)1[1 +          | . 0 0000, L           | , ι αις.<br>/_rBΔ _ 120 | ))][1 ⊥ 0        | 0006(\/_IBA   | - 150)]  |          |            |
| D = [1 + 0]         | 0.094(W-DA -        | 2 65)][1 +          |                       | / rDA = 120             | )][1 + 0.<br>))] |               | - 130)]  |          |            |
| E = [1 + 0]         | 0.094(w-BC -        | 2 65)][1 +          |                       | / rCP 120               | /)]<br>))]       |               |          |          |            |
| F = [I + 0]         | 0.094(W-CB -        | · 3.05)][1 +        | - 0.0009(1            | -100 - 120              | )]               |               |          |          |            |
|                     | - 0.0345VV          | olan flow           | of moviem             | ont AD ata              |                  |               |          |          |            |
| q-АВ,               | elc = lne de        | SIGN HOW C          | or movem              | eni ad, eic             | ;                |               |          |          |            |
| VV = f              | najor road wi       |                     | L.                    |                         |                  |               |          |          |            |
| VV-CF               | k = central re      | serve widt          | n.                    |                         |                  |               |          |          |            |
| W-BA                | , etc = lane w      | lath to ver         | nicie                 |                         |                  |               |          |          |            |
| v-rBA               | , etc = visibil     | ity to the ri       | ight for wa           | aiting vehic            | les in str       | eam BA, etc   | ;        |          |            |
| v-IBA               | , etc = visibili    | ty to the le        | eft for wait          | ing vehicle             | es in stre       | am BA, etc    |          |          |            |
|                     |                     |                     |                       |                         |                  |               |          |          |            |
| Geometry :          |                     | Inp                 | out                   | Inpu                    | it oo            | Input         |          | Calcul   | ated       |
|                     |                     | W                   | 10.60                 | V-rBA                   | 30               | w-BA          | 4.70     | D        | 0.9340     |
|                     |                     | W-CR                | 0.00                  | V-IBA                   | 25               | w-BC          | 4.70     | E        | 1.0097     |
|                     |                     |                     |                       | V-rBC                   | 30               | w-CB          | 4.40     | F        | 1.0416     |
|                     |                     |                     |                       | V-rCB                   | 90               |               |          | Y        | 0.6343     |
| Analysis :          |                     |                     |                       |                         |                  |               |          |          |            |
| Traffic Flow        | /s, pcu/hr          | AM                  | PM                    |                         | Cap              | acity, pcu/hr |          | AM       | PM         |
| q-CA                |                     | 683                 | 650                   |                         |                  | Q-BA          |          | 358      | 357        |
| q-CB                |                     | 77                  | 77                    |                         |                  | Q-BC          |          | 632      | 626        |
| q-AB                |                     | 20                  | 6                     |                         |                  | Q-CB          |          | 649      | 645        |
| q-AC                |                     | 506                 | 540                   |                         |                  | Q-BAC         |          | 462      | 493        |
| q-BA                |                     | 44                  | 26                    |                         |                  |               |          |          |            |
| q-BC                |                     | 47                  | 47                    |                         |                  |               |          |          |            |
| f                   |                     | 0.516               | 0.644                 |                         |                  |               |          |          |            |
|                     |                     |                     |                       |                         |                  |               |          |          |            |
|                     |                     | Ratio-of            | -flow to C            | apacity                 | AM               | PM            |          |          |            |
|                     |                     |                     | B-A                   |                         | 0.123            | 0.073         |          |          |            |
|                     |                     |                     | B-C                   |                         | 0.074            | 0.075         |          |          |            |
|                     |                     |                     | C-B                   |                         | 0.119            | 0.119         |          |          |            |
|                     |                     |                     | B-AC                  |                         | 0.197            | 0,148 (for    | r shared | lane BA  | (BC)       |
|                     |                     |                     |                       |                         | -                |               |          | -        | . ,        |





| Junction:              | J02 - Tai  | Lin Pai Road | / Kwai C | n Road     |                 |            |                       |           |           |                        |              |            |             |              | Job Nu           | mber:               | J7345      |
|------------------------|------------|--------------|----------|------------|-----------------|------------|-----------------------|-----------|-----------|------------------------|--------------|------------|-------------|--------------|------------------|---------------------|------------|
| Scenario:              | Without F  | Proposed Con | crete Ba | tching F   | Plant           |            |                       |           |           |                        |              |            |             |              |                  | Page                | 20         |
| Design Year:           | 2029       | Design       | ed By:   |            |                 |            | -                     | Checke    | ed By:    |                        |              |            |             | Date:        | 14               | March 2             | 025        |
| -                      |            |              | 1        | 1          |                 | 1          | 1                     |           |           |                        |              |            |             |              |                  |                     |            |
|                        | Approach   |              | Phase    | Stage      | Width (m)       | Radius (m) | % Up-hill<br>Gradient | Turning % | Sat. Flow | AM Peak<br>Flow        | y value      | Critical y | Turning %   | Sat. Flow    | PM Peak<br>Flow  | y value             | Critical y |
| Tai Lin Pai Roa        | ad SB      | SA+RT        | A1       | 1          | 3.35            | 21.0       | Gradient              | 26        | 1914      | 510                    | 0.266        | 0.266      | 13          | 1932         | 439              | 0.227               | 0.228      |
| Tai Lin Pai Roa        | ad SB      | RT           | A2       | 1          | 3.35            | 18.0       |                       | 100       | 1929      | 513                    | 0.266        |            | 100         | 1929         | 439              | 0.228               |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
| Kwai On Road           | EB         | LT           | B1       | 2          | 3.35            | 13.0       |                       | 100       | 1748      | 408                    | 0.233        | 0.233      | 100         | 1748         | 225              | 0.129               | 0.129      |
| Kwai On Road           | EB         | RT           | B2       | 2          | 3.35            | 17.0       |                       | 100       | 1921      | 232                    | 0.121        |            | 100         | 1921         | 197              | 0.103               |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
| Tai Lin Pai Roa        | ad NB      | LT           | C1       | 3          | 3.50            | 7.0        |                       | 100       | 1618      | 255                    | 0.158        |            | 100         | 1618         | 227              | 0.140               | 0.140      |
| Tai Lin Pai Roa        | ad NB      | LT           | C2       | 3          | 3.50            | 10.0       |                       | 100       | 1830      | 289                    | 0.158        | 0.158      | 100         | 1830         | 257              | 0.140               |            |
| Tai Lin Pai Roa        | ad NB      | SA           | C3       | 3          | 3.50            |            |                       |           | 2105      | 281                    | 0.133        |            |             | 2105         | 251              | 0.119               |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
| nedestrian pha         | 20         |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
| pedestriari pria       | 30         |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
| AM Traffic Flow (pcu/h | r)         |              |          | PM Traffic | Flow (pcu/hr    | )          |                       |           |           |                        |              |            |             |              | Note:            |                     |            |
|                        |            |              | N<br>A   |            |                 |            |                       |           | N<br>A    | S = 1940               | +100(W-3     | .25) S =   | 2080+100    | D(W-3.25)    | Further          | improve             | ement      |
|                        | 644 🗲      | _            |          |            |                 | 498 •      | <b></b>               |           |           | S <sub>M</sub> = S / ( | 1 + 1.5 f/f) | Sn = (S    | - 230) / (1 | 1 + 1.5 t/r) | on Sch           | eme pro             | posed      |
| 408<br>↑               | • • •      | ↓<br>379     | ١        |            | 225<br>†        |            | <b>3</b> 80           |           | ١         |                        | AM           | Peak       | PM          | Peak         | by Kwa<br>Redeve | i On Fac<br>elopmen | ctory<br>t |
|                        |            |              |          |            |                 |            |                       |           |           |                        | 1+2+3        |            | 1+2+3       |              |                  | ·                   |            |
| *<br>232               | 281        |              |          |            | <b>*</b><br>197 | 251        |                       |           |           | Sum y                  | 0.658        |            | 0.497       |              |                  |                     |            |
| 544                    | . 1        |              |          |            | 101             | . 1        |                       |           |           | L (s)                  | 14           |            | 120         |              |                  |                     |            |
| 344                    |            |              |          |            | 404             |            |                       |           |           | C (s)                  | 0.803        |            | 0.803       |              |                  |                     |            |
|                        | I          |              |          |            |                 | 1          |                       |           |           | P C (%)                | 22%          |            | 62%         |              |                  |                     |            |
| 1                      |            | 2            |          |            |                 | 3          |                       |           |           | 11.0. (70)             | 2270         | I          | 0270        |              |                  |                     |            |
| 1                      | A2 A1      | 2            |          |            |                 | 3          |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        | <u>ا</u> ل | B1           | 1        |            |                 |            |                       |           |           |                        |              |            |             |              |                  |                     |            |
|                        | •7         | B2           | $\neg$   |            |                 |            | - +                   |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              | •        |            |                 | •          | ήΠ                    |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            |              |          |            |                 |            | C1 C2 C3              |           |           |                        |              |            |             |              |                  |                     |            |
|                        |            | I            |          |            |                 |            | -                     |           |           |                        |              |            |             |              |                  |                     |            |
| AM G =                 |            | I/G = 5      | G =      |            | I/G =           | 6          | G =                   |           | I/G =     | 6                      | G =          |            | I/G =       |              | G =              |                     |            |
| G =                    |            | I/G =        | G =      |            | I/G =           |            | G =                   |           | I/G =     |                        | G =          |            | I/G =       |              | G =              |                     |            |
| PM G =                 |            | I/G = 5      | G =      |            | I/G =           | 6          | G =                   |           | I/G =     | 6                      | G =          |            | I/G =       |              | G =              |                     |            |
| G =                    |            | I/G =        | G =      |            | I/G =           |            | G =                   |           | I/G =     |                        | G =          |            | I/G =       |              | G =              |                     |            |

| Junction:              | J02 - Tai   | Lin Pai Road | / Kwai C | n Road     |              |            |           |           |           |                        |              |                     |             | -            | Job Nu          | mber:    | J7345      |
|------------------------|-------------|--------------|----------|------------|--------------|------------|-----------|-----------|-----------|------------------------|--------------|---------------------|-------------|--------------|-----------------|----------|------------|
| Scenario:              | With Pro    | posed Concre | te Batch | ing Plar   | nt           |            |           |           |           |                        |              |                     |             |              |                 | Page     | 21         |
| Design Year:           | 2029        | Design       | ed By:   |            |              |            | _         | Checke    | ed By:    |                        |              |                     |             | Date:        | 14              | March 2  | 025        |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        | Approach    |              | Phase    | Stage      | Width (m)    | Radius (m) | % Up-hill | Turning % | Sat. Flow | AM Peak<br>Flow        | y value      | Critical y          | Turning %   | Sat. Flow    | PM Peak<br>Flow | y value  | Critical y |
|                        |             |              |          |            |              |            | Gradient  |           | (pcu/hr)  | (pcu/hr)               |              |                     |             | (pcu/hr)     | (pcu/hr)        |          |            |
| Tai Lin Pai Roa        | ad SB       | SA+R1        | A1       | 1          | 3.35         | 21.0       |           | 35        | 1902      | 580                    | 0.305        | 0.305               | 25          | 1916         | 510             | 0.266    |            |
| Tai Lin Pai Roa        | ad SB       | RT           | A2       | 1          | 3.35         | 18.0       |           | 100       | 1929      | 588                    | 0.305        |                     | 100         | 1929         | 513             | 0.266    | 0.266      |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
| Kwai On Road           | EB          | LT           | B1       | 2          | 3.35         | 13.0       |           | 100       | 1748      | 408                    | 0.233        | 0.233               | 100         | 1748         | 225             | 0.129    | 0.129      |
| Kwai On Road           | EB          | RT           | B2       | 2          | 3.35         | 17.0       |           | 100       | 1921      | 232                    | 0.121        |                     | 100         | 1921         | 197             | 0.103    |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
| Tai Lin Pai Roa        | ad NB       | LT           | C1       | 3          | 3.50         | 7.0        |           | 100       | 1618      | 255                    | 0.158        |                     | 100         | 1618         | 227             | 0.140    | 0.141      |
| Tai Lin Pai Roa        | ad NB       | LT           | C2       | 3          | 3.50         | 10.0       |           | 100       | 1830      | 289                    | 0.158        | 0.158               | 100         | 1830         | 257             | 0.140    |            |
| Tai Lin Pai Roa        | ad NB       | SA           | C3       | 3          | 3.50         |            |           |           | 2105      | 326                    | 0.155        |                     |             | 2105         | 296             | 0.141    |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
| pedestrian pha         | ise         |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
|                        |             |              |          | D117 (2)   |              |            |           |           |           |                        |              |                     |             |              |                 |          |            |
| AM Traffic Flow (pcu/h | r)          | 1            | Ν        | PM Traffic | Flow (pcu/hr | )          | I         |           | N         | S = 1940               | +100(W-3     | .25) S =            | 2080+100    | D(W-3.25)    | Note:           |          |            |
|                        |             |              | 1        |            |              |            |           |           | 1         | S <sub>M</sub> = S / ( | 1 + 1.5 f/r) | S <sub>M</sub> = (S | - 230) / (1 | 1 + 1.5 f/r) | Further         | improve  | ement      |
| 408                    | 789 🗲       | -            |          |            | 225          | 643 •      | Ч.        |           |           |                        | AM           | Peak                | PM          | Peak         | by Kwa          | i On Fac | ctory      |
| 1                      |             | 379          |          |            | 1            |            | 380       |           |           |                        | 1+2+3        |                     | 1+2+3       |              | Redeve          | elopmen  | t          |
|                        |             |              |          |            | Ţ            |            |           |           |           | Sum v                  | 0.696        |                     | 0.536       |              |                 |          |            |
| 232                    | 326         |              |          |            | 197          | 296        |           |           |           | L (s)                  | 14           |                     | 14          |              |                 |          |            |
| 544                    | <b></b> 1   |              |          |            | 484          |            |           |           |           | C (c)                  | 130          |                     | 130         |              |                 |          |            |
| 544                    |             |              |          |            | -0-          | `          |           |           |           | C (S)                  | 0.000        |                     | 0.000       |              |                 |          |            |
|                        | I           |              |          |            |              | I          |           |           |           | practical y            | 0.803        |                     | 0.803       |              |                 |          |            |
|                        |             |              |          |            |              |            |           |           |           | R.C. (%)               | 15%          |                     | 50%         |              |                 |          |            |
| 1                      |             |              |          |            |              | 3          | C1 C2 C3  |           |           |                        |              |                     |             |              |                 |          |            |
| AM G =                 |             | I/G = 5      | G =      |            | I/G =        | 6          | G =       |           | I/G =     | 6                      | G =          |                     | I/G =       | 1            | G =             |          |            |
| G =                    |             | I/G =        | G =      |            | I/G =        |            | G =       |           | I/G =     |                        | G =          |                     | I/G =       |              | G =             |          |            |
| PM G =                 |             | I/G = 5      | G =      |            | I/G =        | 6          | G =       |           | I/G =     | 6                      | G =          |                     | I/G =       |              | G =             |          |            |
| G =                    | G = 1/G = 0 |              |          |            | I/G =        |            | G =       |           | I/G =     |                        | G =          |                     | I/G =       |              | G =             |          |            |

Appendix B – Swept Path Analysis





03/Fig SP101-SP105 RevD.dwg 49\J7345\2025 L







JOB\J7300-J7349\J7345\2025 03\Fig SP101-SP105 RevD.dwg

Appendix C – Junction Improvement Scheme proposed by Kwai On Factory Redevelopment



|  | Legend   |   |                |
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