Tuen Mun District Council Document 2015 No.12
Discussion on 3 March 2015

Proposed Logistics Development at Tuen Mun West

PURPOSE

This paper briefs members on the findings of the traffic impact assessment study and the suggested traffic improvement schemes for the proposed modern logistics development in Tuen Mun Areas 49 and 38.

LOGISTICS DEVELOPMENT

Economic Contributions

2. Trading and logistics is one of the four economic pillars in Hong Kong, accounting for about 25% of our gross domestic product (GDP). The logistics sector alone contributes to 3.3% of our GDP ($67 billion dollars), and provides 5% of our total employment with about 183,000 jobs.

Development Trend

3. With its excellent geographical location and extensive transport network, Hong Kong has been a premier transportation and logistics hub in Asia. In recent years, the logistics industry has gradually shifted towards the handling of high-value goods and provision of high value-added services to respond to market trends. In particular, with the increasing demand for sensitive and up-market consumer goods in the Mainland and other parts of Asia, it has become more important to grasp changes in tastes and to conduct timely marketing and sale of goods. Many overseas brands have therefore set up regional distribution business in Hong Kong to make use of our established strengths, including our efficient and well-connected external transport network, an international airport with a large handling capacity and comprehensive services, a free port and intellectual property rights protection, etc. These companies engage third party logistics service providers in Hong Kong for carrying out inventory management and other value-added services such as labelling and packaging before the goods are distributed to other countries or regions at the right time and in the right quantity. These services are described as “third party logistics” within the industry. In addition, the increasing

popularity of e-Commerce also increases the demand of door-to-door delivery with a specific quantity and in a designated time frame, opening new opportunities for the industry.

4. At present, there are many third party logistics service providers operating in Hong Kong. They own professional knowledge and resources in supply chain management, and are geared to planning and managing the flow of goods along the supply chain to cater for the requests of individual consignors. Due to the specialisation of logistics services, the industry has a rising demand for modern logistic facilities. Different from the conventional industrial buildings and warehouses, these specialised logistics facilities need to be equipped with ramps access to every floor of the building, with loading area for container vehicles on each floor, and an extended ceiling height, so that advanced technology such as Radio Frequency Identification (RFID) can be applied to facilitate the processing and handling of goods in a more effective manner, and hence stock management efficiency can be enhanced. Besides, these facilities are required to comply with more stringent security standards.

Policy

5. The Government is committed to strengthening Hong Kong's position as a logistic hub. In the 12th Five-Year Plan for the National Economic and Social Development of the People's Republic of China, the Central People's Government has indicated support for Hong Kong's development into a high value goods inventory management and regional distribution centre. To support the industry to provide high value-added services, the Government has been actively identifying and releasing sites dedicated for modern logistics development. From 2010 to 2013, the Government disposed three logistics sites of total 6.9 hectares in Tsing Yi through public tender for building of logistics facilities. Nevertheless, as the logistics industry steadily grows, there is still a strong industry demand for logistics land.[1]

6. The Government has reserved 10 hectares of logistics land in Tuen Mun West, taking into account Tuen Mun's great potential for logistics development given its well-connected transport network with the Hong Kong International Airport, Kwai Tsing Container Terminals, River Trade Terminal, and land crossings such as the Shenzhen Bay Port and Hong Kong-Zhuhai-Macao Bridge which is under construction. In particular, after completion of the Tuen Mun –

[1] According to a survey jointly conducted by the HKU Department of Industrial and Manufacturing Systems Engineering and the Hong Kong Logistics Technology & Systems Limited in 2014, the logistics industry opined that about 70 hectares of logistics land would be required to support the industry's long-term development.

Chap Lap Kok Link (TM-CLKL)[2], the traveling time between Tuen Mun and the Airport will be greatly reduced which will facilitate the handling of the increasing volume of air freight[3], as well as strengthening Hong Kong's position as the preferred logistic hub and regional distribution centre.

PROPOSED LOGISTICS DEVELOPMENT AT TUEN MUN AREAS 49 AND 38

7. The proposed modern logistics development is situated in Tuen Mun Areas 49 and 38. On the Tuen Mun Outline Zoning Plan No. S/TM/33, Tuen Mun Area 49 is largely zoned "OU" annotated "Container Storage and Repair Depot", while Tuen Mun Area 38 is zoned "OU" annotated "Special Industries Area" (see **Figure 1**).

8. Tuen Mun West is an area mostly for special industrial or other related land use[4], along with the cargo handling facilities at the River Trade Terminal. Therefore, logistics development in the Tuen Mun West is compatible with the land use in the surrounding areas. With the closest residential development to Area 49 and 38 in Tuen Mun West being the Melody Garden at 2.5 km away, and most of the work at modern logistics facilities are performed indoor, it is expected that the proposed logistics development will not affect the residents in the area. The proposed development will provide about 5,500 new job opportunities for different levels of residents in Tuen Mun.

9. To attract professional third party logistics and regional distribution service providers to start their business, we will add special conditions to the land lease, stating that only logistics and freight forwarding-related use will be allowed in the site. Based on current restriction to the plot ratio and building height from the Outline Zoning Plan[5], it is expected that two to three buildings of 3 to 4 storeys can be built on the proposed logistics sites, with floor height at about 6 to 8 metres and a total gross floor area of about 250,000 square metres. Comparing to the modern logistics facilities in Tsing Yi, the development density of this proposed logistics development is lower, which ties in with the

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[2] With the completion of Tuen Mun – Chek Lap Kok Link, the traveling time between Tuen Mun and the Airport can be reduced from 30 minutes to about 15 minutes.

[3] The air freight volume of Hong Kong in 2011, 2012 and 2013 were 3.94 million, 4.03 million and 4.13 million tonnes respectively. Air freight volume in 2014 reached 4.38 million tonnes, with a 6% increase from 2013.

[4] Includes the resource recovery park (Eco Park), aviation fuel farm, Shiu Wing Steel Mill, cement plant and Castle Peak Power Station.

[5] The logistics development sites are subject to a maximum plot ratio of 2.5and a maximum building height restriction of 30mPD.

lower development density in Tuen Mun West and its adjacent areas in the overall planning.

10. The District Council was consulted on the preliminary plan of the proposed logistics development on 5 March 2013. The District Council viewed that logistics development would definitely bring positive effects to Tuen Mun district. However, the concerns on traffic problem could not be ignored. Therefore, in response to the concerns on traffic conditions by the District Council, a comprehensive traffic impact assessment (TIA) was commissioned on the proposed logistics development. **Figure 1** shows the proposed logistics sites and the study area of this TIA. The study area has covered the entire Tuen Mun Town Centre, which exceeded the usual requirement for study on a single development. All developments planned[6] and under planning / study[7] from now to 2026 have been taken into account. Members are invited to comment on the findings and the suggested measures of the TIA.

Findings of the TIA

11. If the proposed logistics development is proceeded for implementation, it is expected that the logistics development site 1 (LD1) and site 2 (LD2) can be completed for operation by 2019 and 2023 respectively. As LD2 is currently occupied by the temporary fill bank until the end of 2018, there will be a difference in the timing of taking forward the two LD sites for implementation (see Paragraph 17). According to the independent comprehensive TIA undertaken by the traffic consultant, the traffic generated by LD1 and LD2 during peak hours (7:00am to 9:00am, and 5:00pm to 7:00pm) are about 100 and 150 vehicles per hour respectively. These additional traffic will mainly travel to Tuen Mun or the urban area via Lung Mun Road, Lung Fu Road, Wong Chu Road, Tuen Mun Road and TM-CLKL. As TM-CLKL can serve as an alternate route for diverting the traffic, it is found that major roads in the study area including Lung Mun Road, Wong Chu Road and Tuen Mun Road will result in a volume-to-capacity ratio (V/C) below 1.2 by year 2026, which is considered to be in a manageable level. If Tuen Mun Western Bypass (TMWB) can be confirmed and constructed by that time, it is expected that the traffic condition of the related road links (including Wong Chu Road) can be further improved.

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[6] Planned developments include the public columbarium, WENT landfill extension, sludge treatment facilities and Construction and Demolition Materials Handling Factilities.

[7] Possible developments under planning / study include potential housing development sites, and the "Planning and Engineering Study for Tuen Mun Areas 40 & 46 and the Adjoining Areas – Feasibility Study".

12. In addition, to improve the local traffic conditions and traffic flow of the related junctions in the area, it is proposed to implement the following traffic management and improvement schemes prior to the completion of the development at LD1 and LD2.

Traffic Management and Improvement Schemes at 4 Key Junctions along Lung Mun Road

13. It is proposed to implement road improvement schemes on 4 key junctions along Lung Mun Road, in order to facilitate the additional traffic arising from the completion of LD1 and LD2. The suggested improvement plan includes modification of the method of control (MOC) of the traffic signals and design of the roundabout on junctions along Lung Mun Road in order to optimise the capacity of these junctions. These junctions include:

LD1

(i) **Junction Improvement Scheme – Lung Mun Road / River Trade Terminal Gate 2 (J6) (Figure 2) –** In order to improve the junction efficiency, the MOC for the traffic signal will be revised and existing pedestrian crossing on the eastern arm of the junction will be removed. Pedestrians can still cross Lung Mun Road via the crossing facilities on the western arm of the junction;

(ii) **Junction Improvement Scheme – Lung Mun Road / Mong Tat Street (J7) (Figure 3) –** Minor modification to the design of the roundabout will be made in order to allow for smoother manoeuvre for enhancing the junction capacity. As heavy vehicles such as container trucks frequently use this roundabout, it is proposed to widen and modify the existing road markings to allow for smoother entry to the roundabout by vehicles, in order to improve the capacity of the junction;

(iii) **Junction Improvement Scheme – Lung Mun Road / Ho Suen Street (J9) (Figure 4)** – As the northern arm of the junction is expected to be closed following the completion of the TM-CLKL Project, it is proposed to revise the MOC for the traffic signal in order to improve the capacity of the junction; and

LD2

(iv) **Junction Improvement Scheme – Lung Mun Road / Access to Temporary Construction Waste Sorting Facility (J5) (Figure 5) –** The existing priority junction to be converted to a signal-controlled

junction. It is proposed to convert the existing priority junction (give way) serving the temporary construction waste sorting facility into a signal-controlled junction during the construction of LD2, in order to provide better access to the new development and to improve the junction capacity.

Ingress and Egress Arrangement (Figure 6)

14. In addition to the abovementioned measures, it is also proposed that the ingress and egress points for LD1 to be located at Siu Lang Shui Road, with road widening work to be carried out by the developer to facilitate access by heavy vehicles such as container trucks and medium / heavy goods vehicles while minimising the possible traffic impacts to Lung Mun Road. For LD2, a new access road will be constructed via the junction of current access to the temporary construction waste sorting facility. It is proposed to install traffic signal to this junction in order to improve its capacity.

15. It is also proposed to include requirements in the land lease of the logistics development to reserve adequate loading and unloading area, parking spaces and waiting area to avoid queuing being spilled over to nearby road junctions, affecting the traffic condition of Lung Mun Road.

Public Transportation

16. Additionally, the demand for public transport provision from the proposed modern logistics development has also been assessed, including additional services, bus stops, lay-bys and pedestrian linkages. It is proposed to enlarge the bus lay-bys along both sides of Lung Mun Road in order to meet the possible future demand. At the same time, the logistics developers will also be encouraged to provide shuttle bus service for their development.

WAY FORWARD

17. We intend to seek planning approval from the Town Planning Board for LD1 within this year. Depending on the land disposal arrangement and progress, it is expected that LD1 would be made available the earliest before end of this year the earliest. In addition, as LD2 site in Tuen Mun Area 38 is currently occupied by temporary fill bank until the end of 2018, we will liaise with the Civil Engineering and Development Department to agree on a timetable for releasing LD2.

ADVICE SOUGHT

18. Members are invited to comment on the suggested measures explained above.

Transport Branch
Transport and Housing Bureau
February 2015

ISO A1 594mm x 841mm

Approved:

Checked:

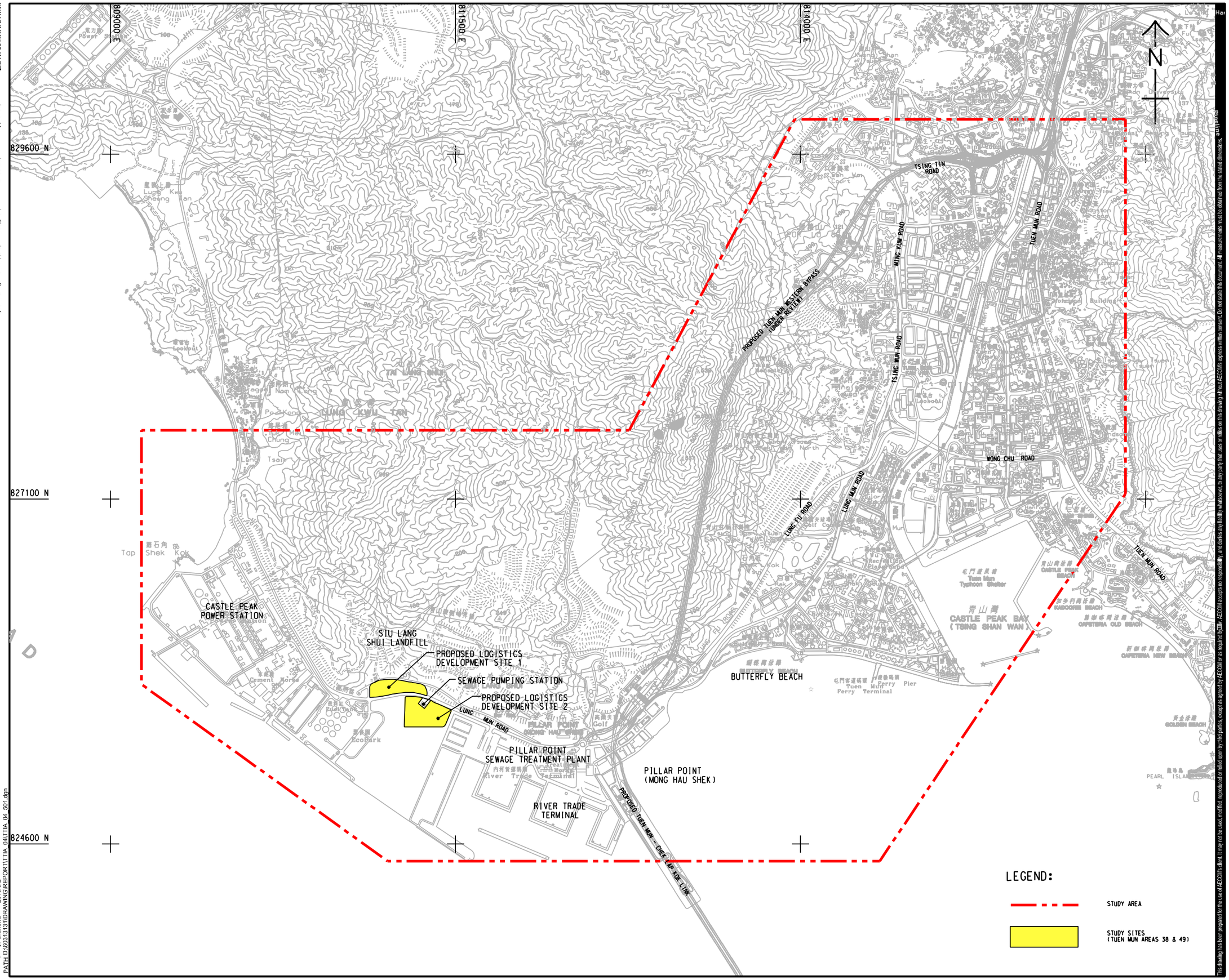
Designer:

Project Management Initials:

AECOM

PROJECT

TRANSPORT AND TRAFFIC IMPACT ASSESSMENT FOR PROPOSED LOGISTICS DEVELOPMENT IN TUEN MUN WEST



LEGEND:

STUDY AREA

STUDY SITES (TUEN MUN AREAS 38 & 49)

SCALE

A1 1 : 12500

DIMENSION UNIT

METRES

SHEET TITLE

LOCATION OF THE PROPOSED LOGISTICS DEVELOPMENT SITES AND STUDY AREA

SHEET NUMBER

FIGURE 1

Plot File by: chancwa 2015/3/2
PATH: D:\60313110\DRAWINGS\REPORT\TTIA_04\TTIA_04_501.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

811700 E

811800 E

811900 E

825500 N

825400 N

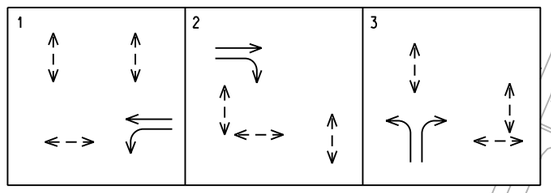
LUNG MUN ROAD

RIVER TRADE TERMINAL GATE 2

TURN POCKET TO BE ADDED FOR RIGHT TURNING VEHICLES

THE METHOD OF CONTROL FOR THE TRAFFIC SIGNAL TO BE REVISED, AND EXISTING PEDEESTRIAN CROSSING ON THE EASTERN ARM OF THE JUNCTION TO BE REMOVED, IN ORDER TO IMPROVE JUNCTION EFFICIENCY. PEDESTRIANS CAN STILL CROSS LUNG MUN ROAD VIA THE CROSSING FACILITIES ON THE WESTERN ARM OF THE JUNCTION.

EXISTING METHOD OF CONTROL FOR TRAFFIC SIGNAL:



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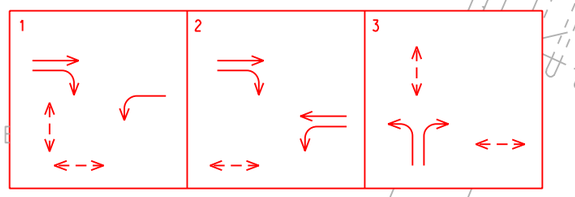

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AECOM

PROJECT

TRANSPORT AND TRAFFIC IMPACT ASSESSMENT FOR PROPOSED LOGISTICS DEVELOPMENT IN TUEN MUN WEST

SCALE 比例: A1 1 : 500

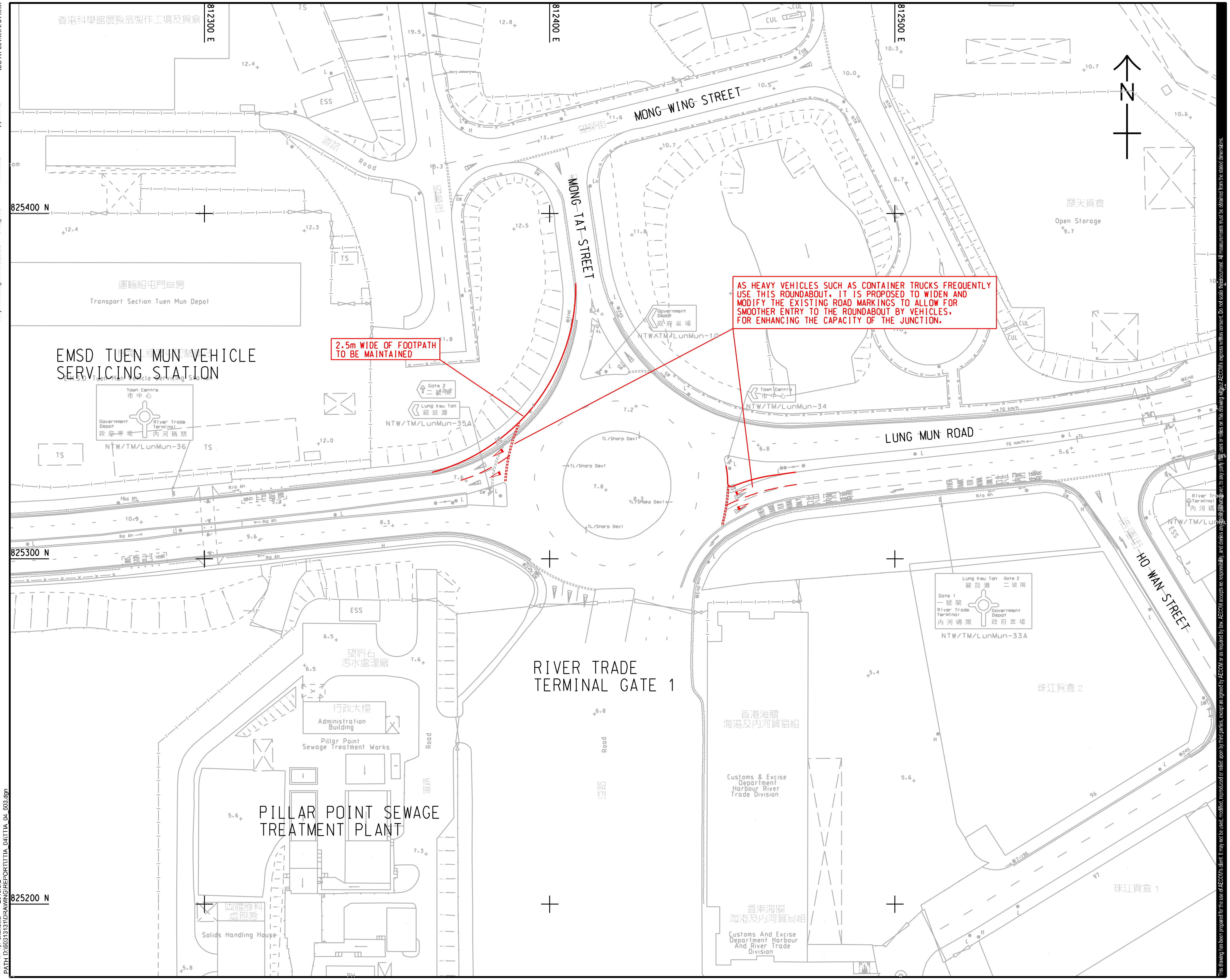
DIMENSION UNIT 尺寸單位: METRES

SHEET TITLE

PROPOSED JUNCTION IMPROVEMENT SCHEME - LUNG MUN ROAD / RIVER TRADE TERMINAL GATE 2 (J6)

SHEET NUMBER

FIGURE 2



MONG WING STREET
MONG TAT STREET
LUNG MUN ROAD
HO WAN STREET
EMSD TUEN MUN VEHICLE SERVICING STATION
RIVER TRADE TERMINAL GATE 1
PILLAR POINT SEWAGE TREATMENT PLANT
2.5m WIDE OF FOOTPATH TO BE MAINTAINED
AS HEAVY VEHICLES SUCH AS CONTAINER TRUCKS FREQUENTLY USE THIS ROUNDABOUT, IT IS PROPOSED TO WIDEN AND MODIFY THE EXISTING ROAD MARKINGS TO ALLOW FOR SMOOTHER ENTRY TO THE ROUNDABOUT BY VEHICLES, FOR ENHANCING THE CAPACITY OF THE JUNCTION.
Transport Section Tuen Mun Depot
Customs & Excise Department Harbour River Trade Division
Administration Building
Open Storage
825400 N
825300 N
825200 N
812300 E
812400 E
812500 E
N

AECOM

PROJECT

TRANSPORT AND TRAFFIC IMPACT ASSESSMENT FOR PROPOSED LOGISTICS DEVELOPMENT IN TUEN MUN WEST

SCALE: A1 1:500

DIMENSION UNIT: METRES

SHEET TITLE

PROPOSED JUNCTION IMPROVEMENT SCHEME - LUNG MUN ROAD / MONG TAT STREET (J7)

SHEET NUMBER

FIGURE 3

812700 E
812800 E
812900 E
825600 N
825500 N
825400 N

(ELEVATED) TUEN MUN - CHEK LAP KOK LINK TOLL PLAZA

AS THE NORTHERN ARM OF THE JUNCTION IS EXPECTED TO BE CLOSED BY THE COMPLETION OF TM-CLKL PROJECT. IT IS PROPOSED TO REVISE THE METHOD OF CONTROL FOR THE TRAFFIC SIGNAL IN ORDER TO IMPROVE THE CAPACITY OF THE JUNCTION.

蝴蝶灘洗衣場
Butterfly Beach Laundry

Town Centre 市中心
NTW/TM/TUNMUN-06

高球港
River Trade Golf

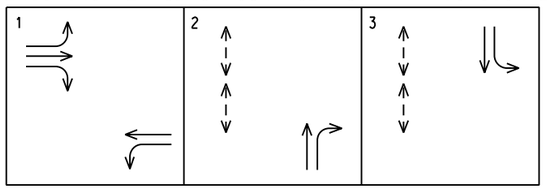
露天貨倉
Open Storage

LUNG MUN ROAD
HO SUEN STREET
HO YEUNG STREET
HO FUK STREET

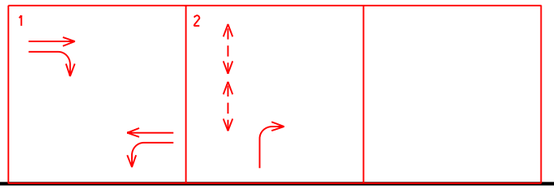
(ELEVATED) TUEN MUN - CHEK LAP KOK LINK

2-HOUR METERS (CARD-OPERATED)
二小時停車錶(只收錢值卡)

EXISTING METHOD OF CONTROL FOR TRAFFIC SIGNAL:



PROPOSED METHOD OF CONTROL FOR TRAFFIC SIGNAL:



AECOM

PROJECT
項目

TRANSPORT AND TRAFFIC IMPACT ASSESSMENT FOR PROPOSED LOGISTICS DEVELOPMENT IN TUEN MUN WEST

SCALE 比例
A1 1 : 500

DIMENSION UNIT 尺寸單位
METRES

SHEET TITLE 圖紙名稱

PROPOSED JUNCTION IMPROVEMENT SCHEME - LUNG MUN ROAD / HO SUEN STREET (J9)

SHEET NUMBER 圖紙編號

FIGURE 4

Plot File by: chancwa 2015/3/2
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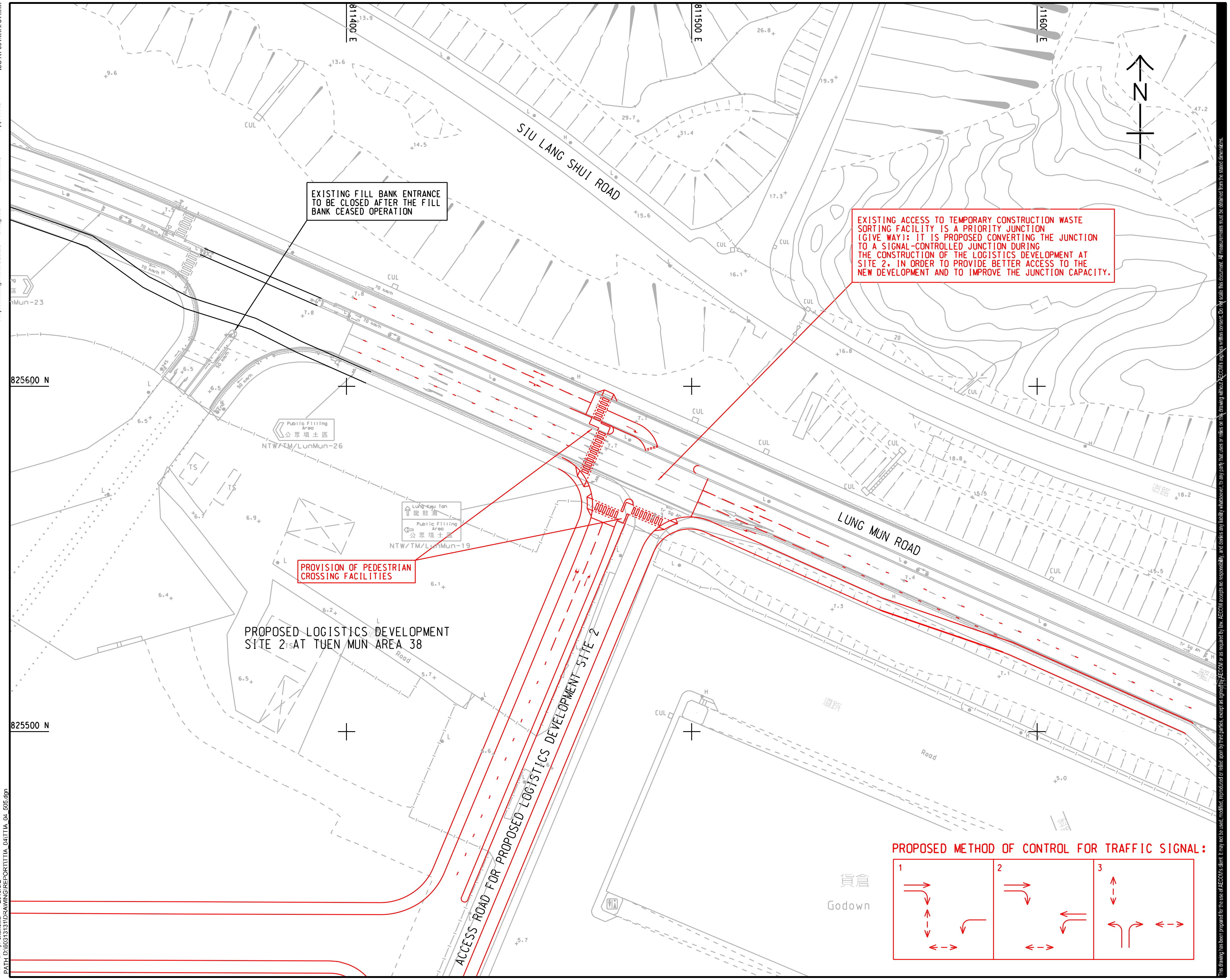
SIU LANG SHUI ROAD
LUNG MUN ROAD
EXISTING FILL BANK ENTRANCE TO BE CLOSED AFTER THE FILL BANK CEASED OPERATION
EXISTING ACCESS TO TEMPORARY CONSTRUCTION WASTE SORTING FACILITY IS A PRIORITY JUNCTION (GIVE WAY); IT IS PROPOSED CONVERTING THE JUNCTION TO A SIGNAL-CONTROLLED JUNCTION DURING THE CONSTRUCTION OF THE LOGISTICS DEVELOPMENT AT SITE 2, IN ORDER TO PROVIDE BETTER ACCESS TO THE NEW DEVELOPMENT AND TO IMPROVE THE JUNCTION CAPACITY.
PROVISION OF PEDESTRIAN CROSSING FACILITIES
PROPOSED LOGISTICS DEVELOPMENT SITE 2 AT TUEN MUN AREA 38
ACCESS ROAD FOR PROPOSED LOGISTICS DEVELOPMENT SITE 2
825600 N
825500 N
811400 E
811500 E
811600 E
N
Public Filling Area
公眾填土區
NTW/TM/LunMun-26
NTW/TM/LunMun-19
Lung Kwu Tan
龍鼓灘
貨倉
Godown
Road
PROPOSED METHOD OF CONTROL FOR TRAFFIC SIGNAL:
1
2
3

AECOM

PROJECT

TRANSPORT AND TRAFFIC IMPACT ASSESSMENT FOR PROPOSED LOGISTICS DEVELOPMENT IN TUEN MUN WEST

SCALE

A1 1 : 500

DIMENSION UNIT

METRES

SHEET TITLE

PROPOSED JUNCTION IMPROVEMENT SCHEME - LUNG MUN ROAD / ACCESS TO TEMPORARY CONSTRUCTION WASTE SORTING FACILITY (J5)

SHEET NUMBER

FIGURE 5

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

Plot File by: chanowa 2015/3/2

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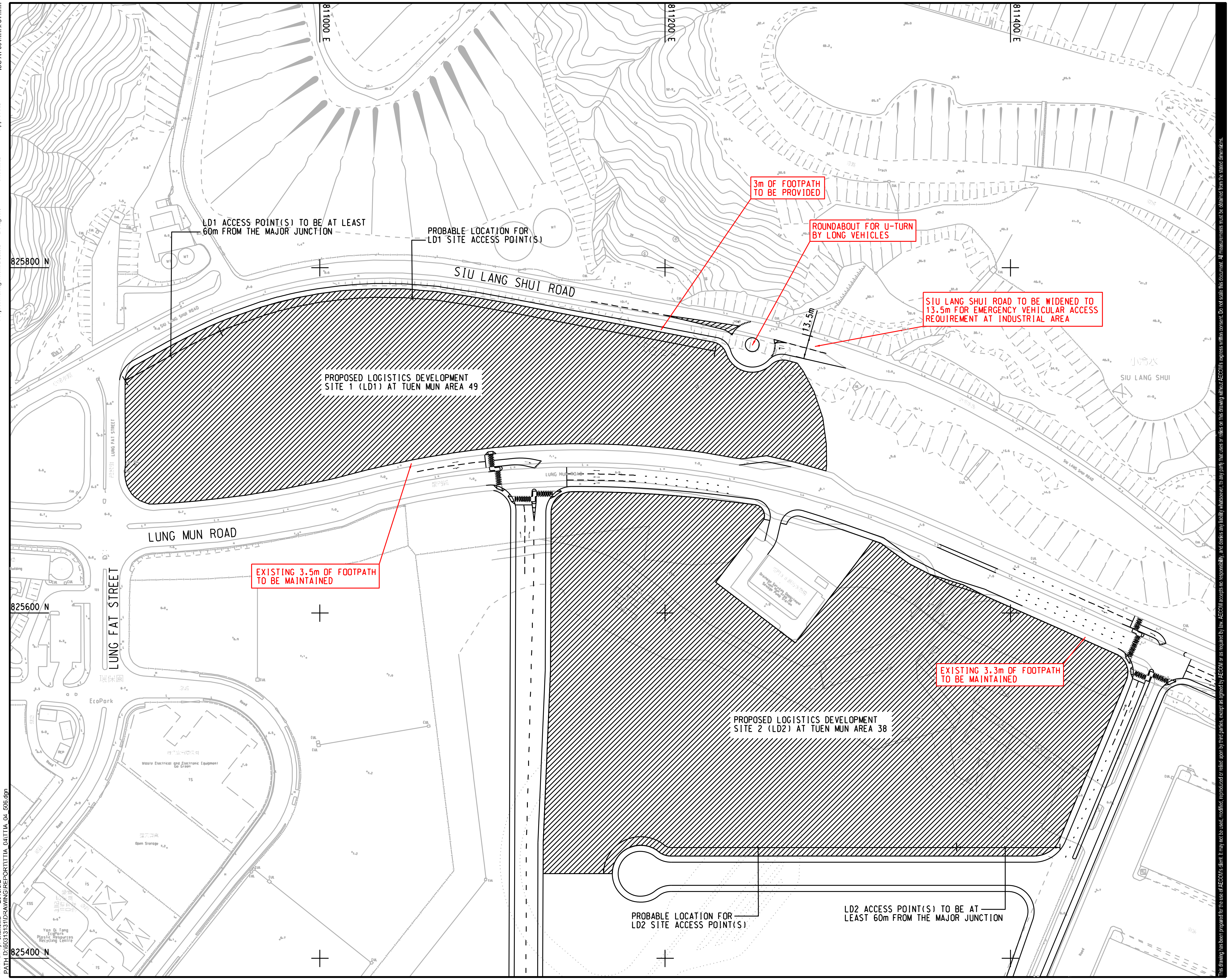

811000 E
811200 E
811400 E
825800 N
825600 N
825400 N
SIU LANG SHUI ROAD
LUNG MUN ROAD
LUNG FAT STREET
LD1 ACCESS POINT(S) TO BE AT LEAST
60m FROM THE MAJOR JUNCTION
PROBABLE LOCATION FOR
LD1 SITE ACCESS POINT(S)
3m OF FOOTPATH
TO BE PROVIDED
ROUNDABOUT FOR U-TURN
BY LONG VEHICLES
SIU LANG SHUI ROAD TO BE WIDENED TO
13.5m FOR EMERGENCY VEHICULAR ACCESS
REQUIREMENT AT INDUSTRIAL AREA
13.5m
PROPOSED LOGISTICS DEVELOPMENT
SITE 1 (LD1) AT TUEN MUN AREA 49
EXISTING 3.5m OF FOOTPATH
TO BE MAINTAINED
EXISTING 3.3m OF FOOTPATH
TO BE MAINTAINED
PROPOSED LOGISTICS DEVELOPMENT
SITE 2 (LD2) AT TUEN MUN AREA 38
PROBABLE LOCATION FOR
LD2 SITE ACCESS POINT(S)
LD2 ACCESS POINT(S) TO BE AT
LEAST 60m FROM THE MAJOR JUNCTION
SIU LANG SHUI
EcoPark

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

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AECOM

PROJECT

TRANSPORT AND TRAFFIC IMPACT ASSESSMENT FOR PROPOSED LOGISTICS DEVELOPMENT IN TUEN MUN WEST

SCALE	DIMENSION UNIT
A1 1 : 1000	METRES

SHEET TITLE

PROPOSED ROAD ACCESS AND ANCILLARY FACILITIES

SHEET NUMBER

FIGURE 6