

770 TH – Tseung Kwan O Development, Phase II, Grade Separated Interchange T1/P1/P2

Introduction

The T1/P1/P2 junction is situated, north of Tseung Kwan O (TKO) Town Centre, at the junction of TKO Tunnel Road (Road T1) / Wan Po Road (Road P1) / Po Shun Road (Road P2) which is considered to be the busiest roundabout in TKO. All traffic travelling to/from Kowloon via the TKO Tunnel must pass through this junction. It is also located at one of the main routes linking the eastern and western part of TKO.

Although being situated in a newly developed new town, space remains a major constraint resulting in the widened carriageways and the associated slip roads very close to the adjacent buildings. As a consequence, traffic noise becomes a major problem that needs to be addressed under the project.

Need for the Project

The existing roundabout junction has served TKO for many years (Plans 1 and 2). In the early stage of development for the new town with low traffic volume, the roundabout provides maximum flexibility to cater for the 12 different traffic movements from four approaches. With the building up of traffic volume towards the mature stage of development of the new town, priority at the roundabout is predominated by the heavy major flow leading to safety problems apart from frequent congestion. Grade separated interchange thus become more appropriate as it could allow free flow for the major flows removing their conflicts with the relatively minor flows.

Layout and Alignment Design Consideration and Constraints

The proposed grade separated interchange comprises mainly three vehicular bridges and widening of an existing bridge to provide an additional lane, together with the associated widening, realignment and extension of subways, as shown in the Plans 3 and 4.

The project is characterized by having congested site, limited access and a very tight programme. The proposed alignments have taken into account the following constraints:

- Areas adjacent to the existing T1/P1/P2 roundabout particularly those residential developments and schools have been developed.
- The existing vehicular bridge running across Wan Lung Road at TKO Tunnel Road and the existing pedestrian/cycle subways running across Wan Po Road and Po Shun Road confine the vertical profile of the proposed interchange.
- The existing western box culvert running underneath Po Shun Road across the roundabout again confines both the vertical and horizontal alignments.
- Interface with the existing underground facilities such as large diameter water mains and gas mains across Wan Po Road and Po Shun Road that serve the entire TKO.
- Finally, there is the MTR TKO Extension tunnel box running in close proximity to the proposed full enclosure at Po Shun Road.

Noise Mitigation Measures

The project is classified as a designated project under Schedule 2 of the Environmental Impact



Assessment (EIA) Ordinance. The EIA report for the project proposed noise enclosure, noise barriers and low noise road surfacing at various locations to mitigate the traffic noise impact of the new roads as defined under the Ordinance. During project gazettal under the Roads (Works, Use & Compensation) Ordinance, there were objections on the ground that the road improvement project would aggravate the existing traffic noise problem at Wan Po Road, which is an existing road as defined under the EIAO. Since the problem was genuine as revealed in a supplementary noise impact assessment, we recommended construction of additional noise barriers at Wan Po Road under this project to mitigate the existing traffic noise problem.

The proposed mitigation measures finally include 120m full enclosure of 10m high along Po Shun Road, 780m cantilever barriers of 5.5m high and 265m vertical barriers of 4m high along various sections of the new and existing roads, and also the low noise road surfacing (Plan 5). These measures can meet the requirements set out in the Technical Memorandum of the EIAO and the EIA report was approved under the Ordinance. The cost of the noise mitigation measures under the project accounts for approximately one-third of the total project cost. Such extensive measures and extra provision along Wan Po Road mentioned above however still could not meet the expectation of the nearby residents, especially during the night time when the background noise level is much lower. Also, unlike schools and offices, the use of indirect mitigation measures in the form of window insulation and air-conditioning to abate traffic noise impact in general is not an acceptable means to the residents.

From the experience of this project, it brings out a point worth noting that the provision and/or retrofitting of direct noise mitigation measures at source may not be a cost effective method to tackle

traffic noise problem, not to mention their visual impacts and financial burdens. Other mitigation measures such as careful planned land uses, siting and screening, setback of buildings and innovative building designs may possibly be a better, more acceptable and less costly means to tackle traffic noise problems.

Implementation Programme

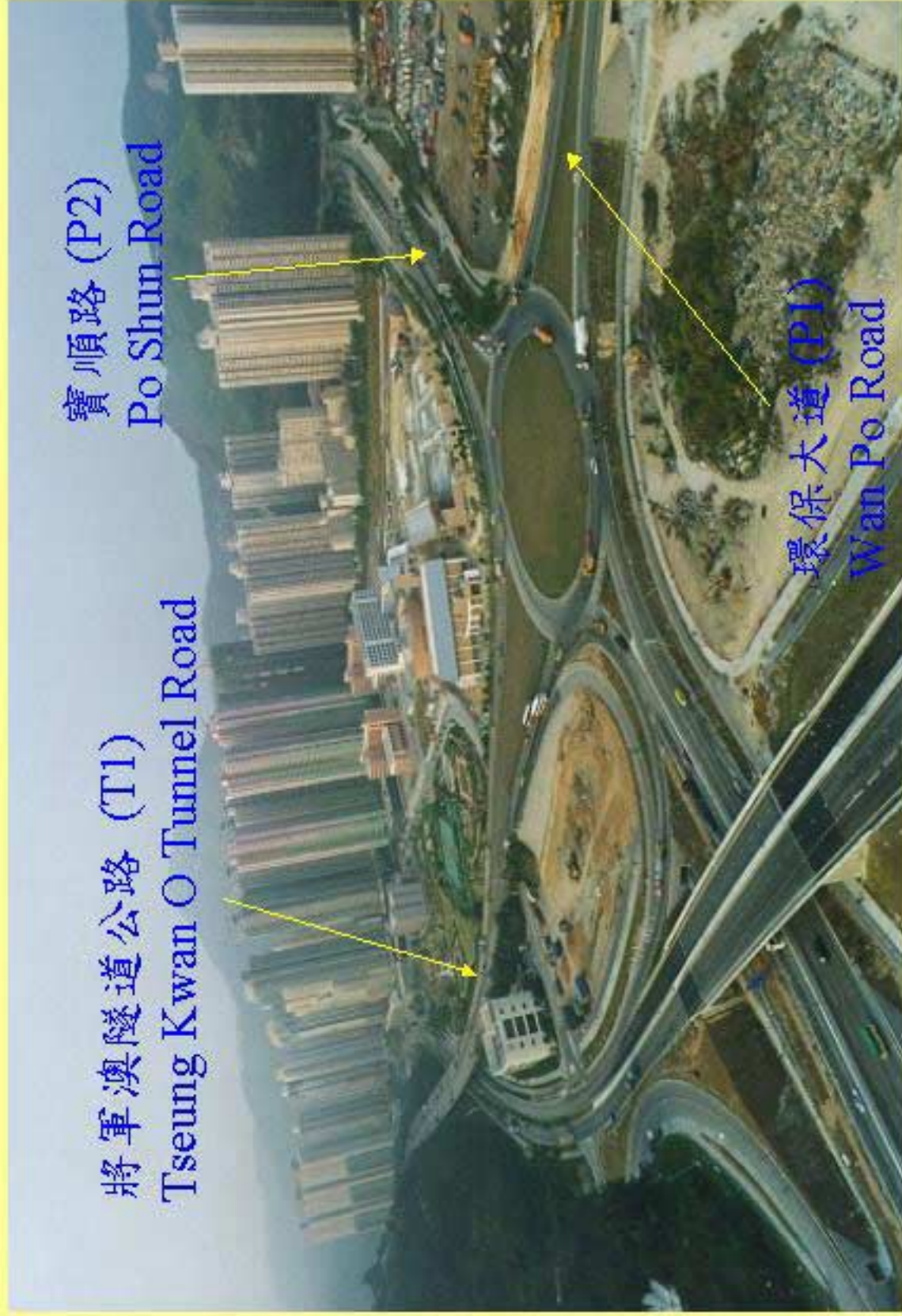
The estimated cost of the project is \$435 million in September 2001 prices. It will be implemented through one single contract, which is scheduled to commence in April/ May 2002 for completion in mid 2005. One of the vehicular bridges and some noise mitigation measures are scheduled for earlier completion to meet the traffic demand and earlier protection to the nearby residents respectively.





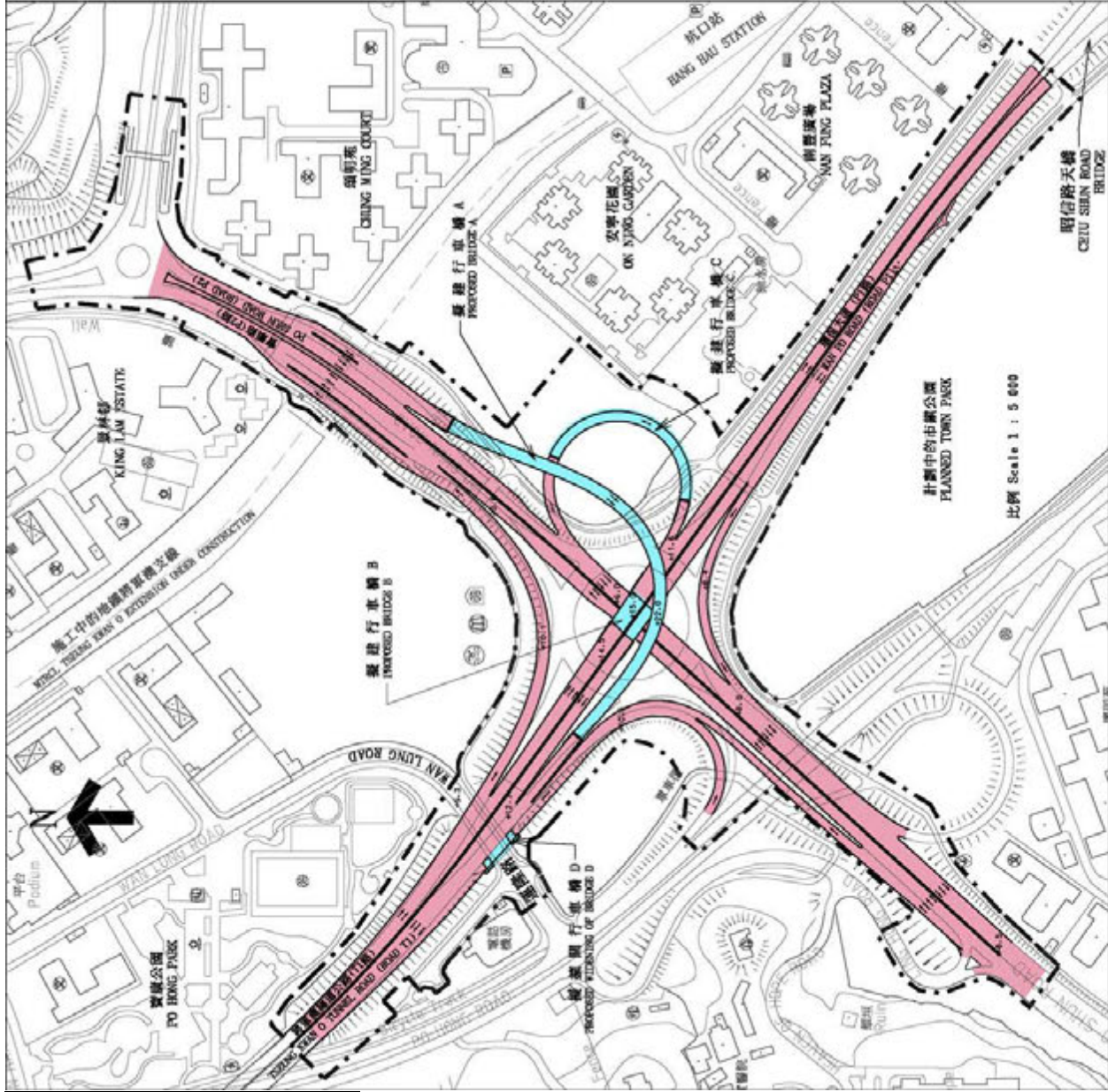
現時迴旋處 Existing Roundabout

圖一 Plan 1



現時迴旋處 Existing Roundabout

圖二 Plan 2



圖例 LEGEND :

- [- - -] 施工範圍 LIMIT OF WORKS AREA
- [Blue Box] 擬建架空道路 PROPOSED ELEVATED CARRIAGEWAY
- [Pink Box] 擬建地面道路 PROPOSED AT-GRADE CARRIAGEWAY
- [Pink Box] 主水平基準以上的路面水平 ROAD LEVEL IN mPD
- [+11.0] +11.0
- [Arrow] 行車線及交通方向 TRAFFIC LANE AND TRAFFIC DIRECTION
- [School Icon] 學校 SCHOOL
- [Bus Icon] 巴士總站 BUS TERMINUS
- [P Icon] 停車場 CAR PARK
- [Market Icon] 街市 MARKET
- [Sport Icon] 運動場 SPORT GROUND
- [Electric Icon] 電力站 ELECTRIC SUB-STATION
- [Bus Stop Icon] 小巴站 MINIBUS TERMINUS
- [Park Icon] 公園 PARK
- [Church Icon] 教堂 CHURCH
- [Swim Icon] 游泳池 SWIMMING POOL
- [Library Icon] 圖書館 LIBRARY
- [Stadium Icon] 室內體育館 INDOOR STADIUM

圖名 Drawing title
將軍澳T1/P1/P2分層道路交匯處
工地平面圖
GRADE-SEPARATED INTERCHANGE T1/P1/P2, TSEUNG KWAN O
SITE PLAN

圖三 Plan 3

比例 scale
As shown
繪圖編號 drawing no.
TKZ0295



圖例 LEGEND :

- 施工範圍
LIMIT OF WORKS AREA
- 擬建單車徑
PROPOSED CYCLE TRACK
- 擬建行人/單車隧道
PROPOSED PEDESTRIAN/CYCLE SUBWAY
- 擬建行人路
PROPOSED FOOTPATH
- 擬建綠化地帶
PROPOSED LANDSCAPE AREA
- 現有/擬建斜坡
EXISTING/PROPOSED SLOPE

- 學校
SCHOOL
- 巴士總站
BUS TERMINUS
- 停車場
CAR PARK
- 街市
MARKET
- 運動場
SPORT GROUND
- 電力站
ELECTRIC SUB-STATION
- 小巴站
MINIBUS TERMINUS
- 公園
PARK
- 教堂
CHURCH
- 游泳池
SWIMMING POOL
- 圖書館
LIBRARY
- 室內體育館
INDOOR STADIUM

圖則名稱 Drawing title

**將軍澳T1/P1/P2分層道路交匯處
擬建附屬工程**
GRADE-SEPARATED INTERCHANGE T1/P1/P2, TSEUNG KWAN O
PROPOSED ANCILLARY WORKS

圖四 Plan 4

比例 scale

1 : 5 000

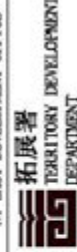
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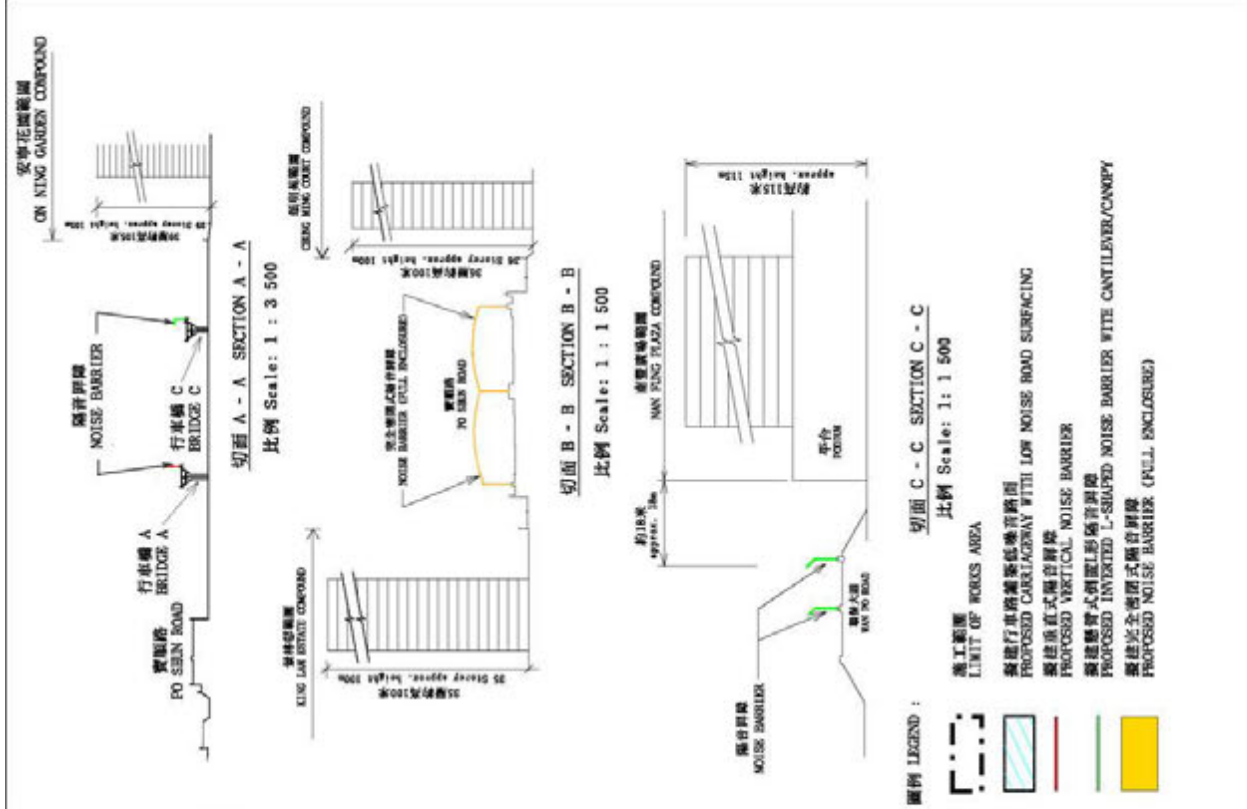
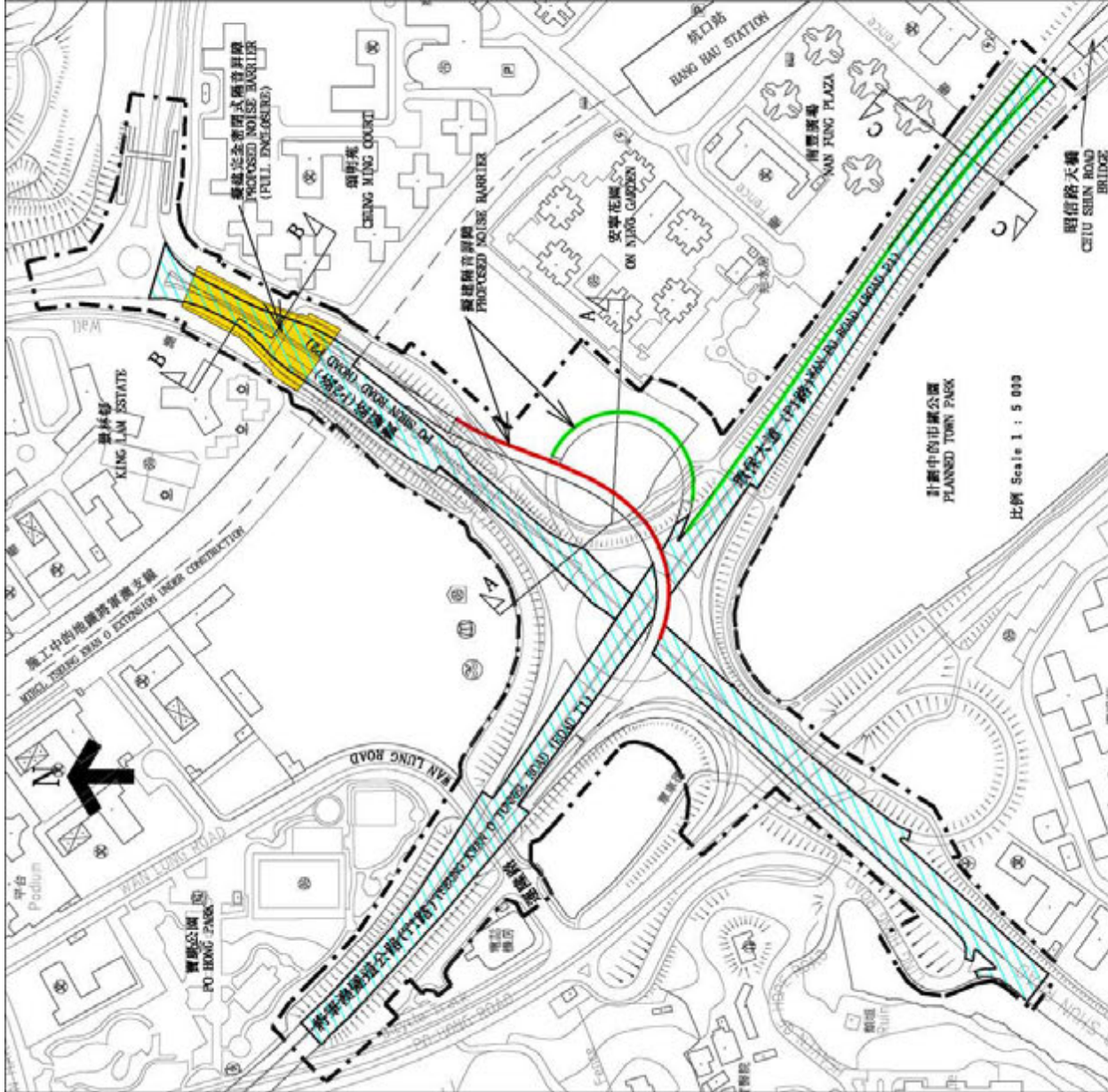
TKZ0297

項目編號 ITEM No. 277CL

辦事處 office

新界東拓展處
NT EAST DEVELOPMENT OFFICE





將軍澳T1/P1/P2分層道路交匯處
 擬建消減噪音措施
 GRADE-SEPARATED INTERCHANGE T1/P1/P2, TSEUNG KWAN O
 PROPOSED NOISE MITIGATION MEASURES

圖五 Plan 5

比例 As shown
 繪圖編號 TKZ0296

項目編號 ITEM No. 277CL
 辦事處 office
 新界東拓展處
 NT EAST DEVELOPMENT OFFICE
 拓展署
 TERRITORY DEVELOPMENT DEPARTMENT