香港會議展覽中心旁之擬建政府直升機坪
Proposed Government Helipad at the HK Convention and Exhibition Centre

技術可行性研究結果簡報
Briefing on Findings of the Technical Feasibility Study

25.2.2008

背景 Background

- 2004年1月，原設於龍滙道的中環直升機坪因中環填海計劃第三期施工而遷離
  Original Central Helipad at Lung Wui Road was closed in January 2004 for implementation of Central Reclamation Phase III (CRIII)
- 經詳細選址後，選定在香港會議展覽中心的東北面用地爲最理想的永久政府直升機坪選址
  After site search, the north-eastern corner of the HKCEC is considered the most suitable site for a permanent Government Helipad
- 政府在考慮過立法會的動議， 以及業界的意見後， 同意讓該永久政府直升機坪作政府及商業直升機服務共用
  Taking into account the LegCo motion and the views of the industry, the Administration agreed to allow the permanent Government helipad to accommodate both Government and commercial uses
- 進行了技術可行性研究，以確立共用建議之方案
  A technical feasibility study was therefore conducted to take forward the shared-use proposal

技術可行性研究範圍
Scope of Technical Feasibility Study

A) 噪音影響評估

Noise Impact Assessment

B) 氣流下洗效應評估

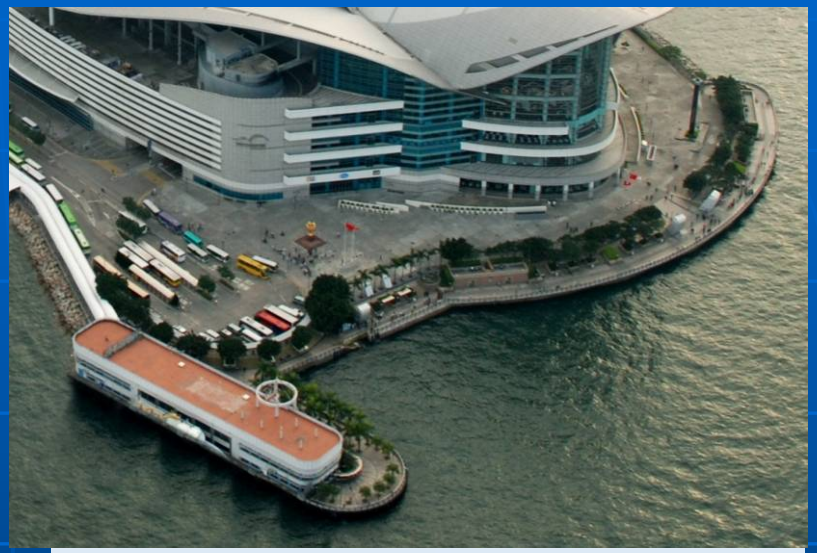
Downwash Impact Assessment

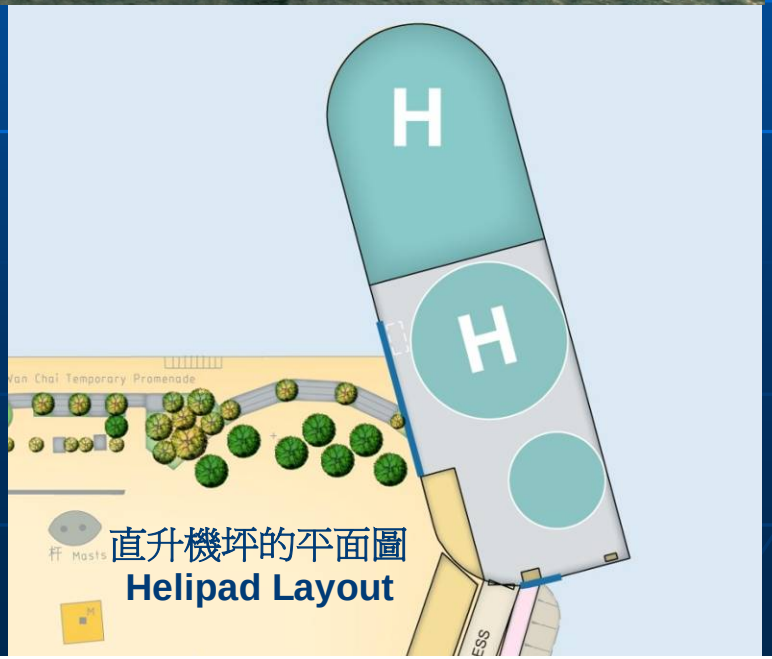
C) 地下加油設施的風險評估

Hazard Assessment for Underground Refueling Facilities

D) 直升機坪整體布局

Helipad Layout





直升機坪的平面圖
Helipad Layout

主要結果 Key Findings

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噪音
Noise

- 擬建直升機坪位於現有或計劃的住宅發展 300 米以外，因此，不會受到《環境影響評估條例》的約束

  Proposed helipad is more than 300m from any existing or planned residential development, therefore **NOT** subject to EIAO control

- 參考《香港規劃標準與準則》和《環境影響評估程序的技術備忘錄》所訂明的直升機噪音準則

  Helicopter Noise Criteria in HKPSG and EIAO-TM are considered

  噪音準則：適用於辦公室爲最高聲級 90 分貝(A)， 而適用於住宅則爲最高聲級 85 分貝(A)。上述準則適用於必須打開窗戶通氣的樓宇

  Criteria: 90dB(A) Lmax for offices and 85dB(A) Lmax for domestic premises, relying on opened windows for ventilation

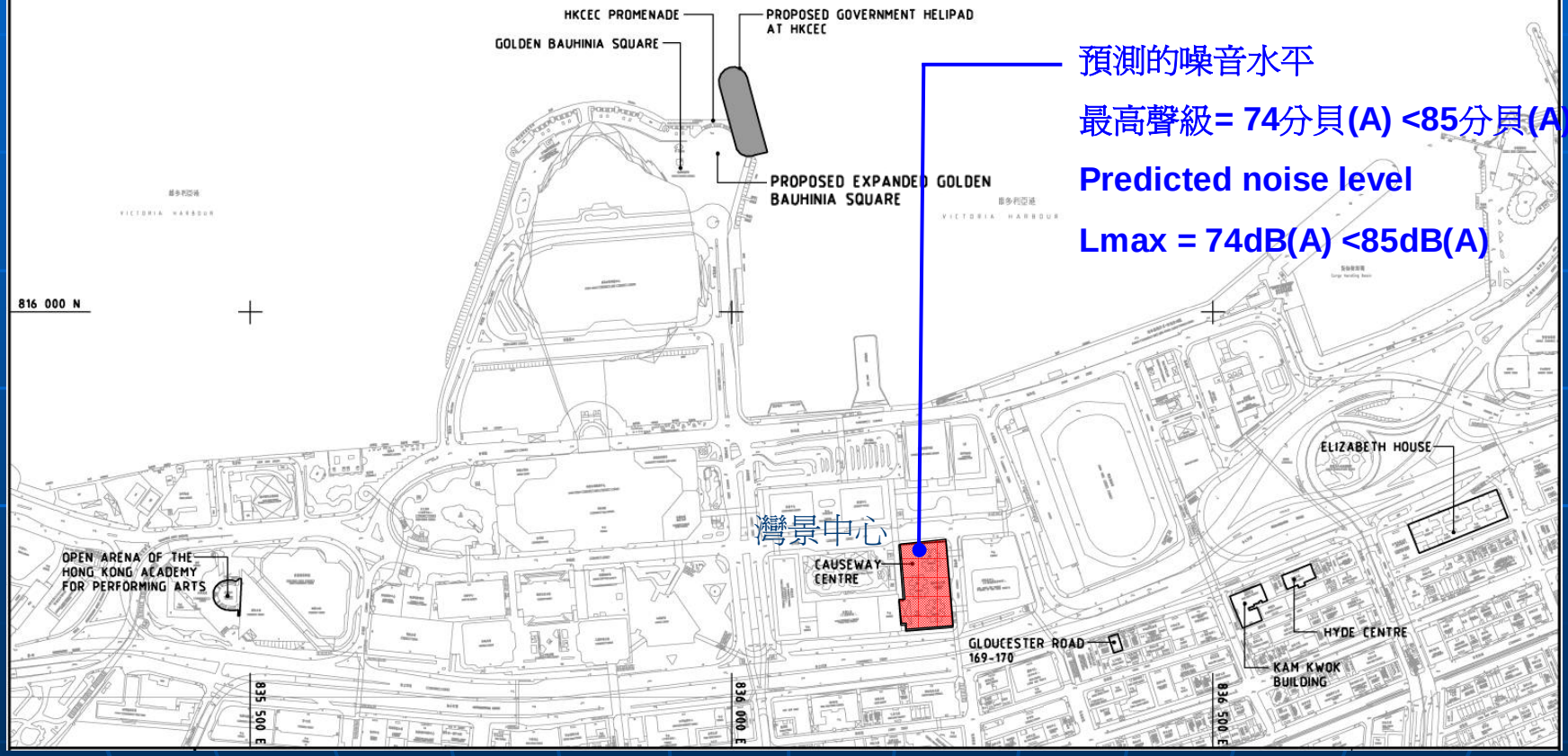
註釋：最高聲級是在指定時段或某次噪音事件中的最高噪音聲級

Note: Lmax is the maximum noise level during a designated time interval or a noise event

主要結果 Key Findings

必須打開窗戶通氣的樓宇

Buildings relying on opened windows for ventilation



- 沒有超出《香港規劃標準與準則》和《環境影響評估程序的技術備忘錄》所訂明的噪音水平

  No exceedance based on HKPSG and EIAO-TM

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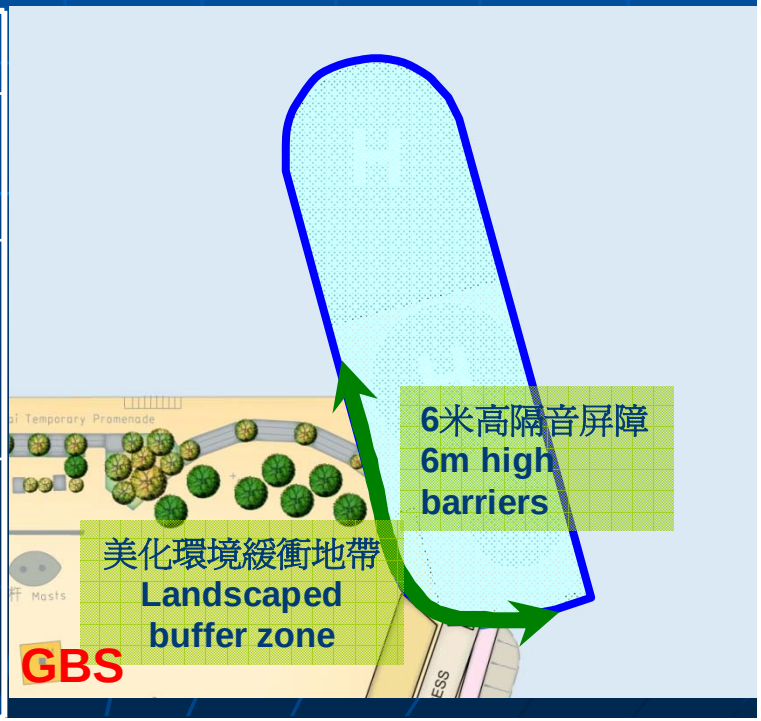
主要結果 Key Findings

噪音 Noise

- 對於海旁遊人，參考地下鐵路車站月台的噪音水平 100分貝(A)
  For Waterfront users, similar noise level at U/G station (100 dB(A)) is considered
- 建議沿直升機坪連接金紫荊廣場的邊界設置6米高隔音屏障
  Noise barrier(6m high) are recommended along landward side of helipad boundary
- 建議在會展海濱長廊的受影響地方設置美化環境緩衝地帶
  Landscaped buffer zone is recommended at HKCEC Promenade

噪音模型的結果 Noise modelling results (L_{max})

	在外坪操作的直升機 Helicopters at Outer Pad	在內坪操作的直升機 Helicopters at Inner Pad
在金紫荊廣場的遊人 Pedestrians at GBS	96 dB(A)	92 dB(A) ↓減少至 **Reduced to < 70 dB(A)**
在會展海濱長廊的遊人 Pedestrians at HKCEC Promenade	106 dB(A) **美化環境緩衝地帶 Landscaped buffer zone**	104 dB(A) ↓減少至 **Reduced to < 80 dB(A)**



主要結果 Key Findings

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下洗氣流

Downwash

- 基於動量守恆定律，直升機須把空氣往下壓 (形成下洗氣流)，以承托其重量

  By conservation of momentum, helicopters need to push air downwards (downwash) to support their weight

- 當接近地面時，下向氣流會改變方向，成爲約1米厚的水平氣層

  In close proximity to the ground, downward flow is redirected into a horizontal sheet of around 1m thick

- 下洗氣流的可接受風速上限是每秒10米

  Wind speed of 10m/s is considered as limit for the acceptable downwash effects

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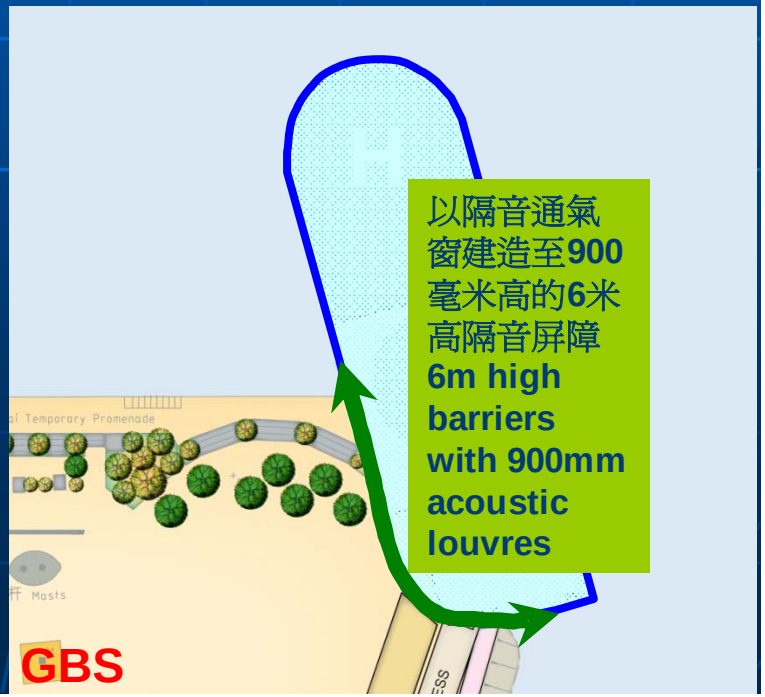
主要結果 Key Findings

下洗氣流 Downwash

- 模擬實地測量的結果指出直升機坪邊界外的地方當直升機在內坪操作時的最高風速將超過每秒10米
  Field measurement results indicate maximum wind speeds would exceed 10m/s at boundary of helipad site due helicopter operations at inner pad
- 建議採用屏障以隔音通氣窗建造至900毫米高的設計，可改善氣流回轉
  Barriers with 900mm high acoustic louvres are recommended, improve recirculation

對於直升機在內坪操作時，模擬實地測量的結果（最高風速）Field measurement results (max wind speed) for Helicopters at Inner pad	
在金紫荊廣場的遊人 (內坪外85米) Pedestrians at GBS (85m from inner pad)	5.4 m/s ↓減少至Reduced to 5.1 m/s
在會展海濱長廊的遊人 (內坪外20米) Pedestrians at HKCEC Promenade (20m from inner pad)	13.1 m/s ↓減少至Reduced to 5.7 m/s



主要結果 Key Findings

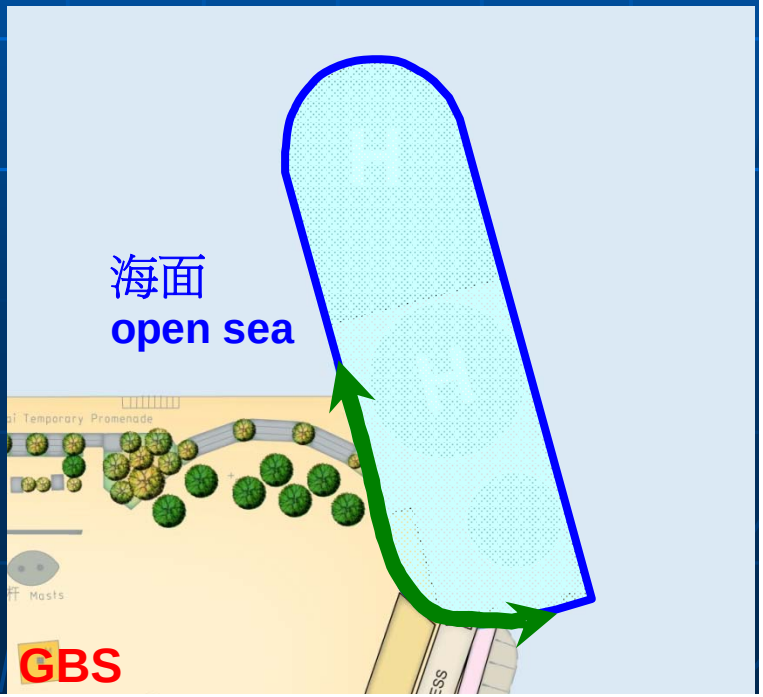
下洗氣流

Downwash

- 直升機在外坪操作時，下洗氣流的風速會在海面上減低並消散
  For helicopters operating at outer pad, downwash will be damped down and dissipated over the open sea area

- 另外，擬建直升機坪用地通常吹東風和西風，直升機的下洗氣流會向東面和西面消散
  In addition, the two most probable wind conditions are easterly wind and westerly wind. Downwash under these wind conditions will dissipate towards the east and the west

- 因此，在會展海濱長廊沿岸面向外坪的遊人，應該不會感受到不良的下洗氣流影響
  Therefore, pedestrians along the HKCEC Promenade facing the outer pad are unlikely to perceive an adverse downwash effect



主要結果 Key Findings

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風險評估
Hazard Assessment

- 直升機加油設施包括一個30,000公升的飛機專用地下油庫

  Refueling facilities consist of a 30,000-litre underground aviation refueling tank

- 擬設的直升機坪加油設施的風險水平普遍偏低

  Risk levels of the proposed helicopter refueling facilities are found to be low

- 設置飛機加油設施屬可行

  Provision of aviation refueling facilities is feasible

主要結果 Key Findings

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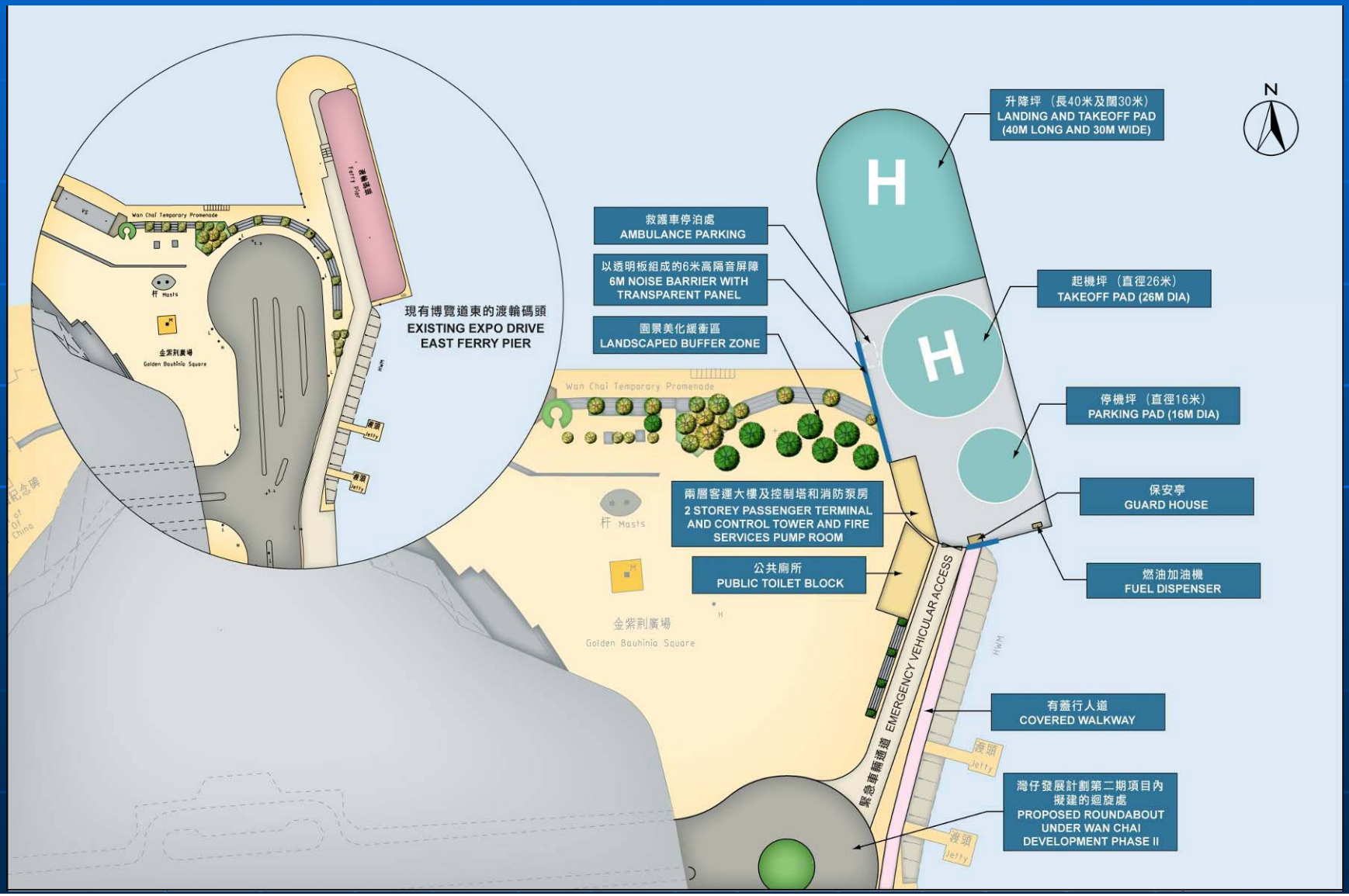
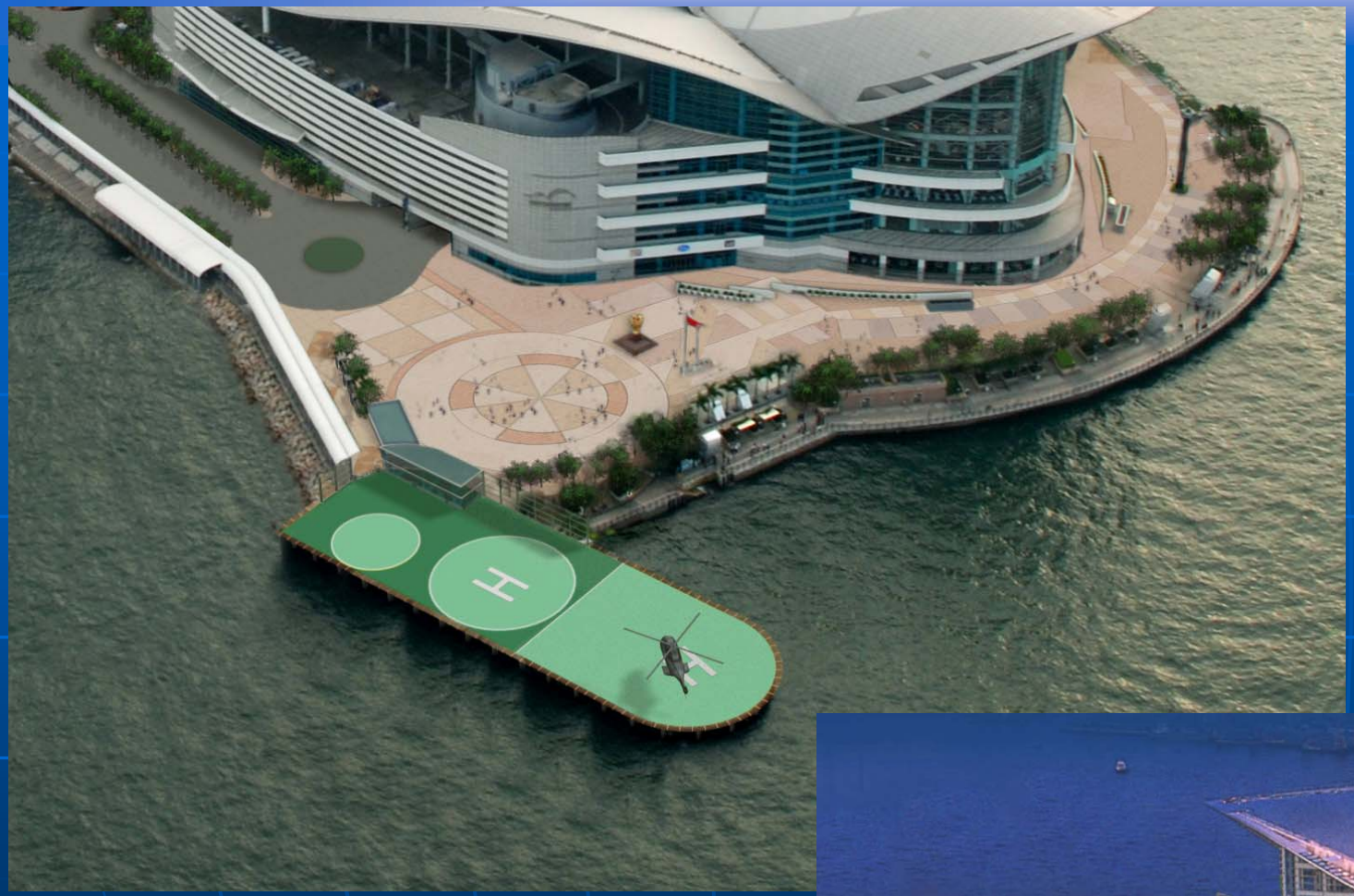
建議直升機坪的平面圖 Recommended Helipad Layout





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Thank You