

幸福
Happiness

生命力
Vitality



期盼
Hope

立法會 CB(1)948/2022(01)號文件

LC Paper No. CB(1)948/2022(01)

中部水域人工島研究 *Study on the Artificial Islands in the Central Waters*



香港2030+：跨越2030年的規劃遠景與策略

Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030

- 位處維港都會區延伸部分的交椅洲人工島，可提供約1 000公頃土地，應對香港中長期的部分用地需求

The Kau Yi Chau Artificial Islands (KYCAI) within the expanded Harbour Metropolis can provide about 1 000 ha of land for meeting part of the medium to long-term land requirement of Hong Kong

未來十年可供發展土地供應預測 10-year Supply Forecast of Developable Land

- 交椅洲人工島部分土地(1 000公頃當中約300公頃)納入未來十年全港3 280公頃可供發展土地預測

Part of the land of the KYCAI (about 300 out of the 1 000 ha) is included as one of the supply sources of the 3 280 ha of developable land in the entire territory in the coming 10 years

中部水域人工島研究 Study on the Artificial Islands in the Central Waters

- 研究於2021年6月開展，包括為交椅洲人工島進行規劃及工程研究，以及就連接人工島的策略性道路和鐵路進行技術可行性研究

Study commenced in June 2021 comprises a planning and engineering study on the KYCAI and a technical feasibility study on strategic road and rail connecting the artificial islands



交椅洲人工島的裨益 Benefits of KYCAI

- 提供土地增加房屋供應，發展第三個核心商業區進一步提升香港經濟競爭力
Provide land to increase housing supply. Develop a third Central Business District (CBD3) to further enhance Hong Kong's economic competitiveness
- 為人工島建議的策略性運輸基建設施大幅提升維港都會區與北部都會區的連接，鞏固大嶼山連接世界及大灣區其他城市的「雙門戶」優勢，以及進一步完善香港整體交通網絡
The proposed strategic transport infrastructure for supporting the artificial islands will significantly enhance the connection between the Harbour Metropolis and the Northern Metropolis, reinforce Lantau's edge as “Double Gateway” to the world and other Greater Bay Area (GBA) cities, and further improve Hong Kong's overall transportation network
- 提供調遷空間，支援港島和九龍舊區重建所引起的連鎖流動
Offer decanting spaces to support the chain flows arising from the redevelopment of old urban districts of Hong Kong Island and in Kowloon

規劃目標

Planning Objectives

繁榮多元

Prosperous & Diverse



綠色宜居

Green & Liveable



前瞻創新

Forward-looking & Innovative



六個亮點 6 Highlights



採用「三個島嶼」設計以配合周邊環境

Adopting a "three-island" design to match the surrounding environment



透過智慧、環保及具抗禦力的城市策略，達致碳中和目標

Achieve the target of carbon neutrality through Smart, Green and Resilient (SGR) city strategy



聯通世界及大灣區，開闢關鍵路線，打通香港策略交通網絡

Connect the world and GBA and develop key routes for opening up Hong Kong's strategic transportation network



採用「15分鐘生活圈」概念，創造宜居社區

Adopt a "15-minute neighbourhood" concept for a liveable community



構建一個集工作、居住及休閒娛樂的核心商業區

Create a work-live-play CBD



邀請專業學會組成平台細化人工島設計，體現民間參與規劃
新一代核心區域

Invite professional institutes to set up a platform to develop the detailed design of the artificial islands, realising community participation in planning this core area of the new generation

填海範圍 Reclamation Extent

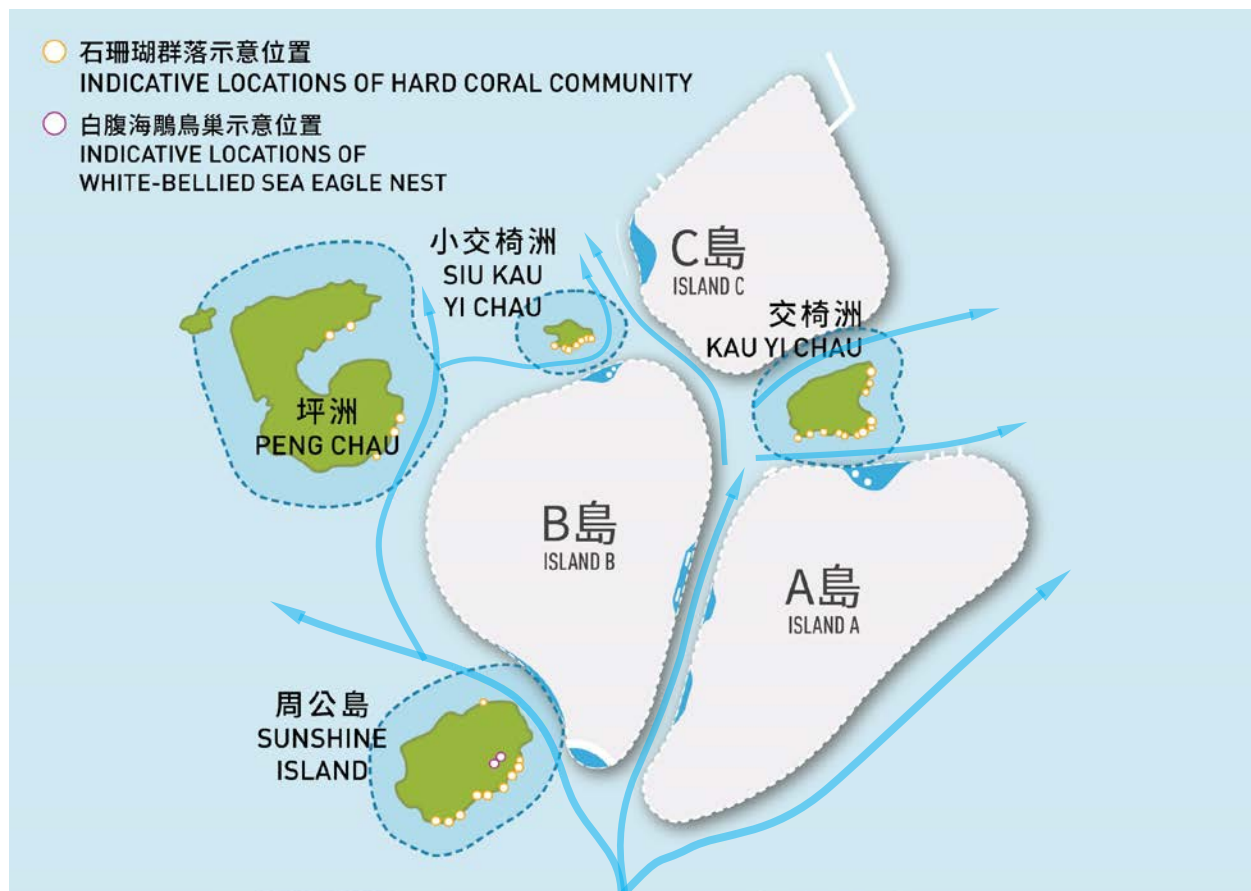


1 000公頃的交椅洲人工島
由三個島嶼組成

1 000 ha KYCAI comprises three islands

填海範圍 - 主要考慮

Reclamation Extent – Key Considerations



水流水質 Water Flow & Water Quality

- 引入「Y形」水道，水道能保持鄰近水域的水流適度流動，有效應對填海對水質和生態造成的影響

Provide Y-shape channel to effectively cope with the impact of reclamation on water quality and ecology by maintaining sufficient water flow velocity in the waters nearby

生態 Ecology

- 避免直接影響鄰近島嶼沿岸的石珊瑚群落及白腹海鷗

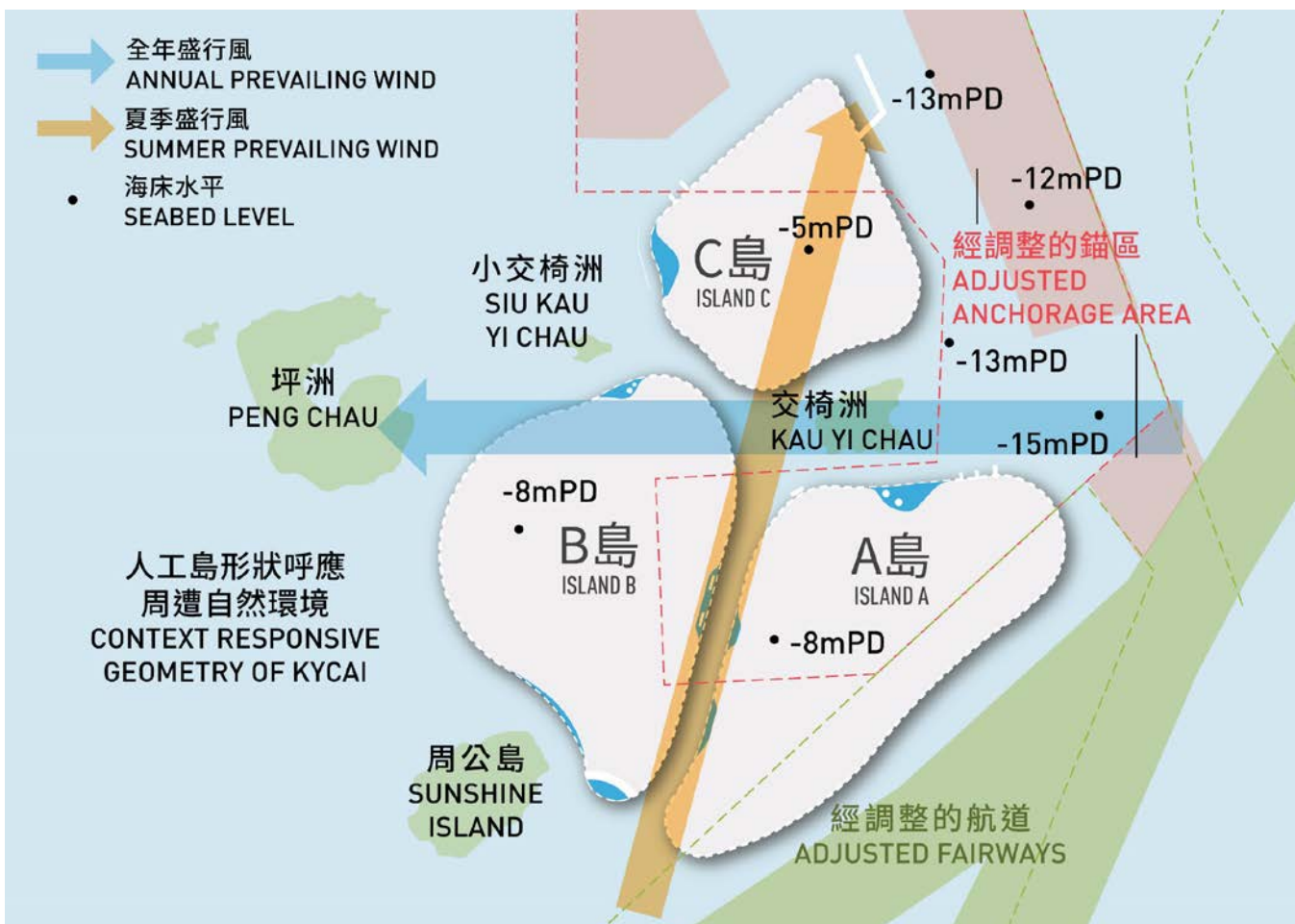
Avoid direct impact on coral communities along the shoreline of nearby islands and White bellied Sea Eagles

- 中部水域並非海洋哺乳動物的重要生境

Central Waters is not an important habitat for marine mammals

填海範圍 - 其他考慮

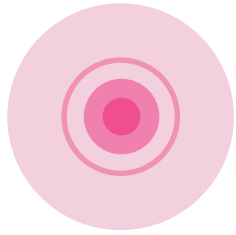
Reclamation Extent – Other Considerations



- 在較淺水的水域進行填海
Reclamation in shallower waters
- 減低對現時航道及錨區的影響
Minimise impacts on the existing fairways and anchorage areas
- 水道的設計配合盛行風向，減低城市熱島效應
Design of water channels aligned with the prevailing wind direction to reduce the urban heat island effect

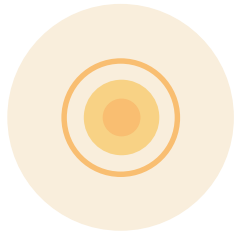
概括土地用途概念

Broad Land Use Concepts



第三個核心商業區

CBD3



七個生活社區

7 Living Communities



旅遊、康樂、
休閒及商業用途
Tourism, Recreation,
Leisure, and Commercial Uses

公用設施
Utility Infrastructure



概括土地用途概念 Broad Land Use Concepts

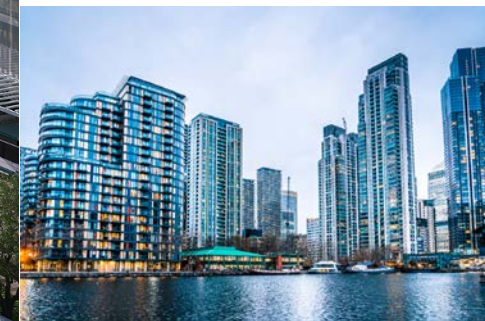
集工作、居住及休閒娛樂的第三個核心商業區 Work-live-play CBD3



將提供約400萬平方米商業樓面，主要供金融、貿易及專業服務產業使用

To provide about 4 million m² commercial floor space for use mainly by financial, trading and professional service sectors

住宅發展 Residential Development



© iStock

休閒康樂設施及海濱長廊 Leisure and Recreation Facilities with Waterfront Promenade



© iStock

文化娛樂設施 Cultural and Entertainment Facilities



© iStock

概括土地用途概念 Broad Land Use Concepts

七個以15分鐘生活圈概念進行規劃的宜居生活社區

7 liveable living communities planned with 15-minute neighbourhood concept



- 每個社區約 80-100 公頃
Each community is about 80-100 ha
- 15分鐘內能到取各種生活基本設施
Basic daily needs can be met within 15 minutes
- 共提供約100萬平方米商業樓面
To provide about 1 million m² commercial floor space



概括土地用途概念 Broad Land Use Concepts

一個藍綠網絡，推廣健康生活和生物多樣性 A blue-green network to promote healthy living and biodiversity



區域公園及水上活動設施 Regional park and water sports facilities



住宅社區之間的藍綠走廊 Blue-green corridor between residential neighbourhoods



區域公園 Regional Park



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平台花園 Podium Garden



© GTLMS, Devv

天台綠化 Green Roof



© iStock

藍綠建設 Blue-green Infrastructure



© iStock

林蔭行人專用街道
Pedestrianised Boulevard



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概括土地用途概念 Broad Land Use Concepts

碳中和的城市典範 - 智慧、環保及具抗禦力的城市策略

Carbon-neutral exemplar - Smart, Green and Resilient City Strategy

a. 可持續規劃及城市設計

Sustainable Planning and Urban Design

1

規劃便捷及具抗禦力的用途布局

Plan convenient and resilient land use layout

2

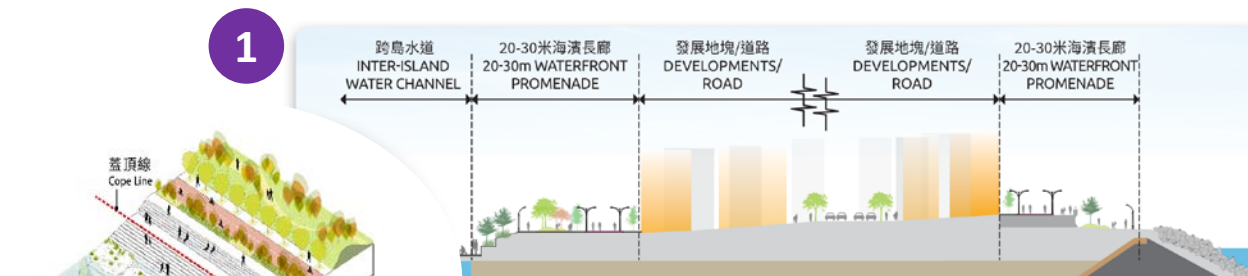
提升建築的環境表現及鼓勵綠色建築

Enhance environmental performance of buildings and encourage green buildings

3

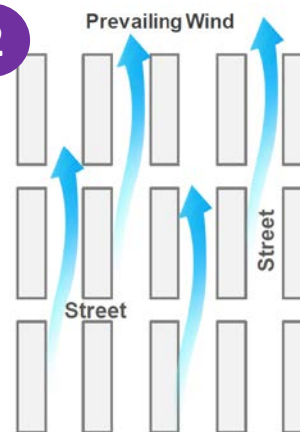
推動城市林務

Promote urban forestry



具抗禦力的海岸線設計 Resilient Coastline Design

2



考慮盛行風向及樓宇坐向，減低能源消耗

Consider prevailing wind directions and building orientations to reduce energy consumption

3



推動城市林務 Promote urban forestry

2



採用「組裝合建築」方法，減低碳排放
Use MiC method to reduce carbon emissions

概括土地用途概念 Broad Land Use Concepts

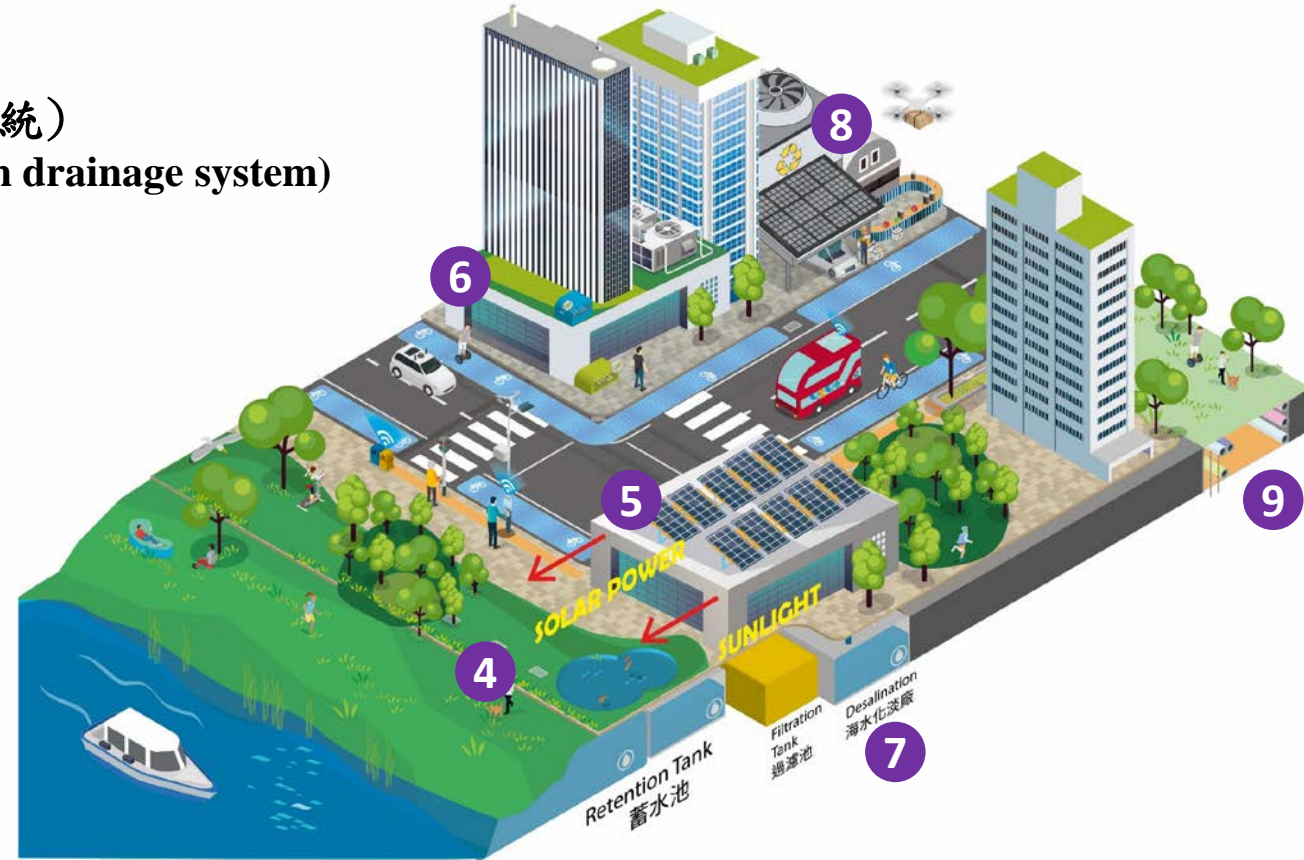
碳中和的城市典範 - 智慧、環保及具抗禦力的城市策略

Carbon-neutral exemplar - Smart, Green and Resilient City Strategy

b. 綜合智慧、環保及具抗禦力基建系統

Integrated SGR Infrastructure System

- 4 採用「海綿城市」設計(包括可持續的城市排水系統)
Adopt “Sponge City” design (including sustainable urban drainage system)
- 5 使用再生能源
Use renewable energy
- 6 採用區域供冷系統
Adopt district cooling systems
- 7 興建海水化淡廠
Construct desalination plant
- 8 設置廚餘與污泥共厭氧消化設施
Construct food waste/sewage sludge anaerobic co-digestion facilities
- 9 鋪設公用設施共同溝
Construct common utility tunnel



概括土地用途概念 Broad Land Use Concepts

碳中和的城市典範 - 智慧、環保及具抗禦力的城市策略

Carbon-neutral exemplar - Smart, Green and Resilient City Strategy



c. 智慧出行 Smart Mobility

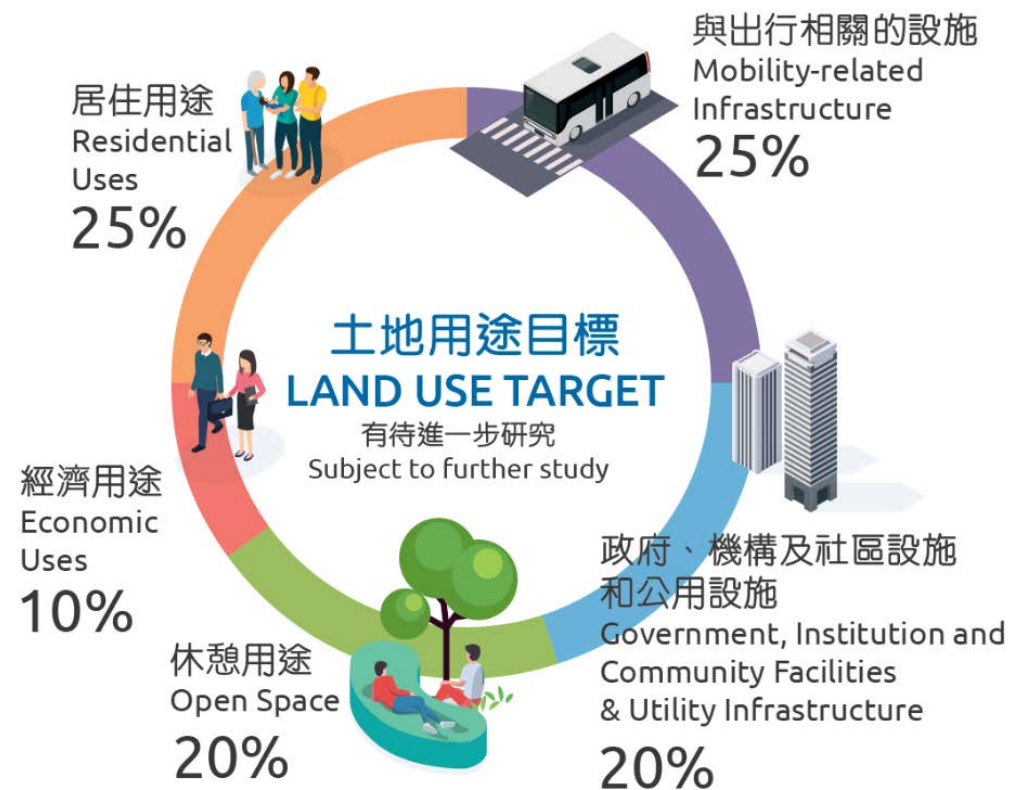
- 10 規劃整全的行人及單車徑網絡
Plan comprehensive pedestrian and cycle network
- 11 提供電動車及其他新能源汽車的支援設施
Provide supporting facilities for electric and other new energy vehicles


完成後的主要發展參數

Major Development Parameters upon full development

人口及就業職位 Population and Employment	500 000 – 550 000 (人口 population) 270 000 (就業職位 employment) 200 000個就業職位將位於 CBD3 200 000 employment will be in CBD3
住宅單位 No. of Residential Flats	190 000 - 210 000 採用《香港2030+》提升居住空間10%-20%的建議 Adopt the 10-20% home space enhancement recommended under Hong Kong 2030+
公私營房屋比例 Public and Private Housing Ratio	70:30
最高住用地積比率 Max Domestic Plot Ratio	6.5 (生活社區 living communities) 7.5 (核心商業區 CBD)
最高非住用地積比率 Max Non-domestic Plot Ratio	15
休憩設施及社區設施土地與人口比例 Ratios of land for open space and land for GIC facilities	每人不少於3.5平方米 No less than 3.5 m ² per person 《香港2030+》的建議 Recommendation of Hong Kong 2030+

土地用途目標 Land Use Target





邀請專業學會組成平台細化人工島設計，
體現民間參與規劃新一代核心區域

To invite professional institutes to set up a platform to develop the detailed design of artificial islands,
realising community participation in planning this core area of the new generation



策略性運輸基建 – 港島西至大嶼山東北連接路

Strategic Transport Infrastructure – Hong Kong Island West – Northeast Lantau Link (HKIW – NEL Link)



- 全長約13公里
About 13 km long
- 無需經九龍來往香港島和新界西北
Road connecting Hong Kong Island and the Northwest New Territories without passing Kowloon
- 第四條過海隧道
The fourth road harbour crossing
- 往西連通香港國際機場、珠海和澳門，往北連通北部都會區、前海和深圳，往東連通九龍西，往南連通港島西和中環
Linking Hong Kong International Airport, Zhuhai and Macau to the west, Qianhai, Shenzhen and Northern Metropolis to the north, West Kowloon to the east and Hong Kong Island West and Central to the south

策略性運輸基建 – 港島西至大嶼山東北連接路

Strategic Transport Infrastructure – Hong Kong Island West – Northeast Lantau Link (HKIW – NEL Link)

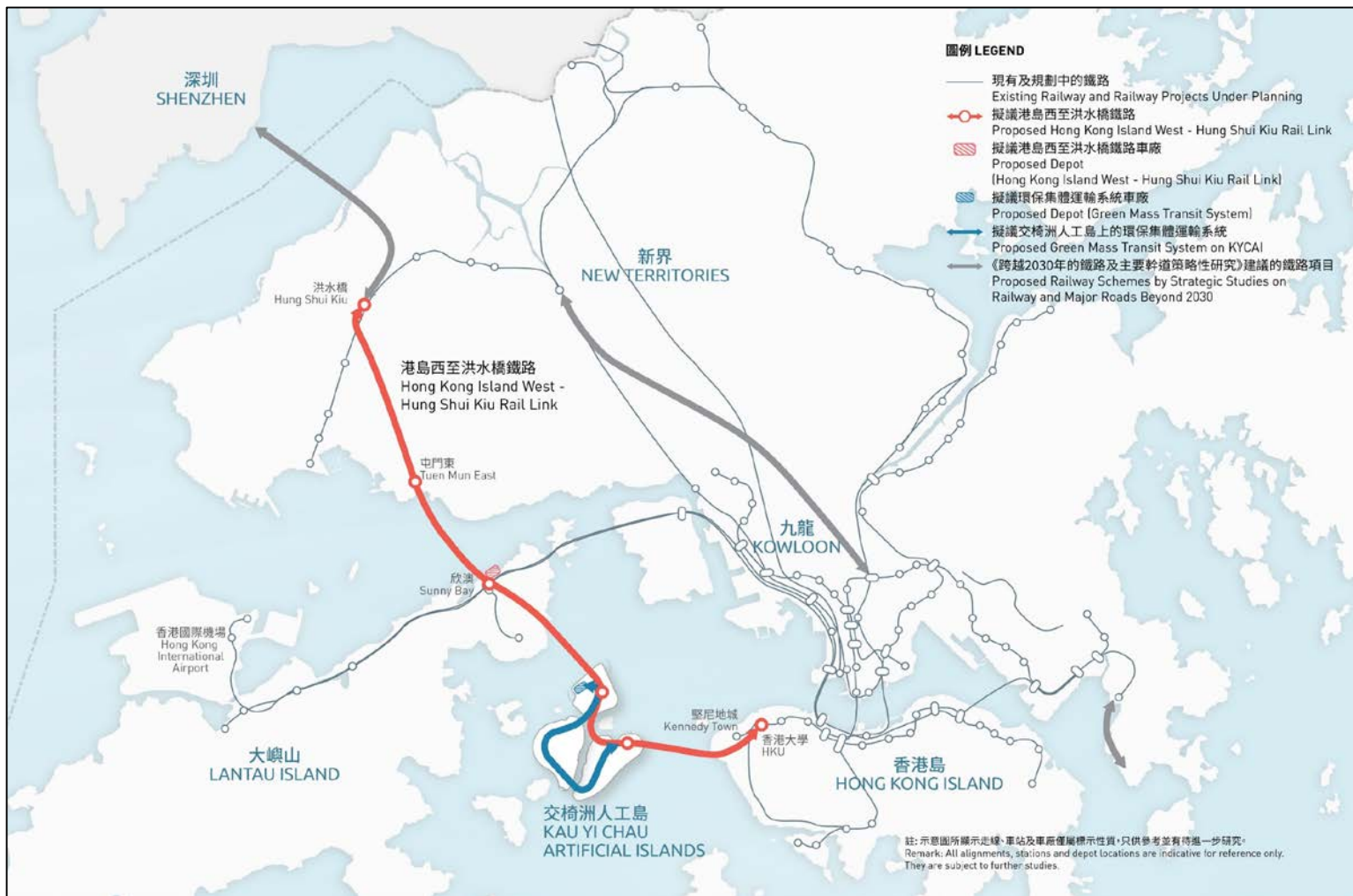
來往規劃中的十一號幹線
及青衣至大嶼山連接路
Connect planned Route 11
and Tsing Yi – Lantau Link



- 於近竹篙灣的位置連接北大嶼山公路
Connect North Lantau Highway near Penny's Bay
- 於C島設置人工島的登陸點
Land KYCAI on Island C
- 於港島西接駁四號幹線
Connect Route 4 at Hong Kong Island West

策略性運輸基建 – 港島西至洪水橋鐵路

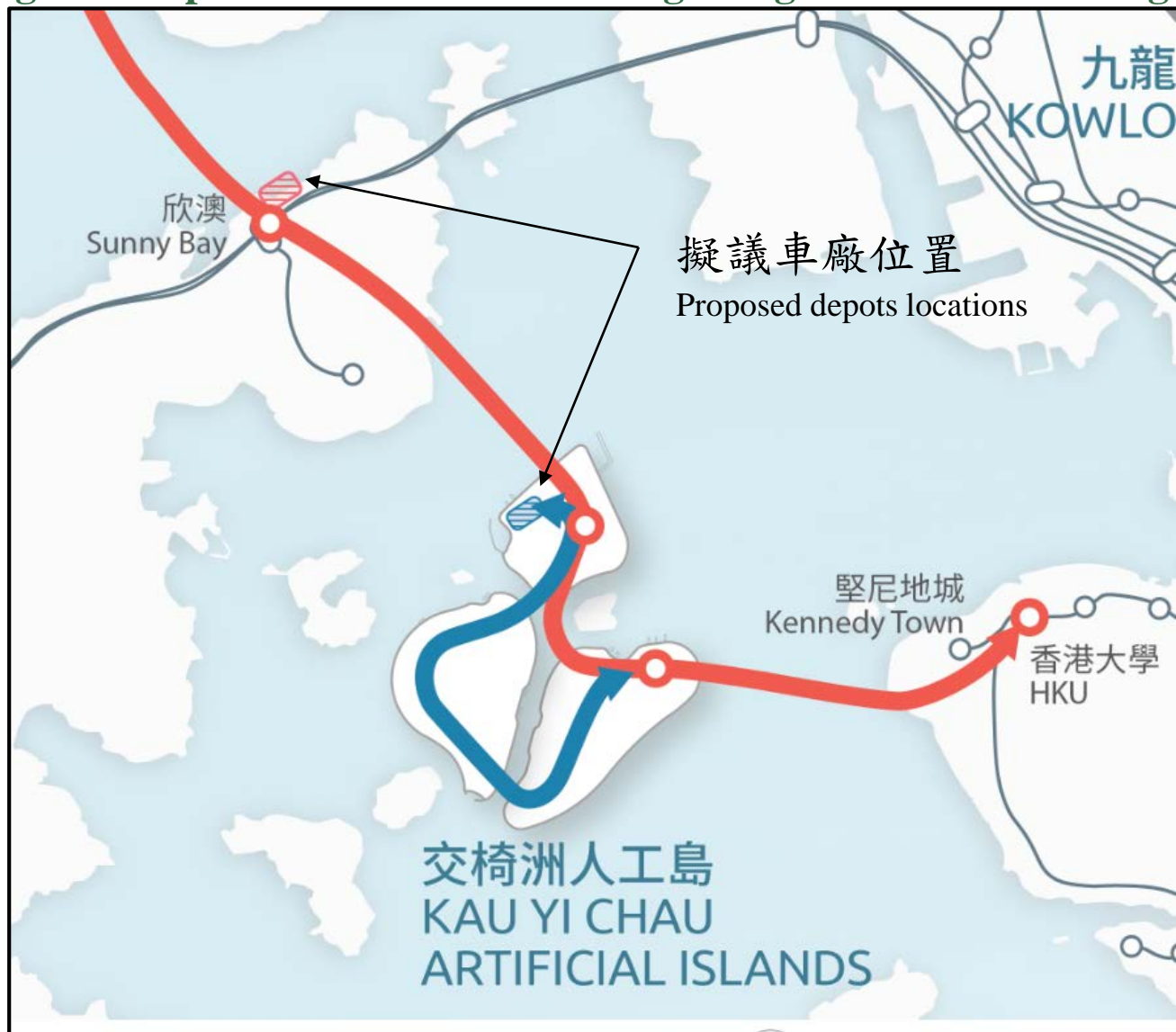
Strategic Transport Infrastructure – Hong Kong Island West – Hung Shui Kiu Rail Link (HKIW – HSK Rail Link)



- 接駁至規劃中的港深西部鐵路（洪水橋至前海）通往深圳
Connect with the planned Hong Kong – Shenzhen Western Rail Link (Hung Shui Kiu - Qianhai) to Shenzhen
- 全長約30公里
About 30 km long
- 接駁三條現有鐵路線，包括港島線、東涌線以及屯馬線
To interchange with three existing railways including Island Line, Tung Chung Line and Tuen Ma Line
- 環保集體運輸系統連接三個人工島
Green Mass Transit System link up the three artificial islands

策略性運輸基建 – 港島西至洪水橋鐵路

Strategic Transport Infrastructure – Hong Kong Island West – Hung Shui Kiu Rail Link (HKIW – HSK Rail Link)



- 欣澳填海區及C島將設置車廠
Depots will be provided at the Sunny Bay reclamation area and Island C

2019粗略價格計算

Indicative Figures Released in 2019

交椅洲人工島填海和基建連同策略性運輸基建參照同類工程的造價，粗略推算為5,000億元(按2018年9月價格計算)

By making reference to construction cost of similar works, the ballpark construction cost estimate of the KYCAI reclamation and the associated infrastructure works together with the preliminary proposal of strategic transportation infrastructure is in the order of \$500B (in September 2018 price)

按香港測量師學會2019年2月的估算，賣地收入約為9,740至11,430億元

The land sales revenue is about \$974 billion to \$1,143 billion according to the estimate of the Hong Kong Institute of Surveyors in February 2019

土地收益高於建造成本

The land sale revenue is higher than the construction cost.

土地收益

Land sale revenue

約 7,500億元 (參考了至2022年11月的土地和物業成交價格，再引入較保守的市況假設)

About \$750 billion (based on the transaction price of land and properties up to November 2022 and then introduce more conservative assumptions)

建造成本

Construction cost

約 5,800 億元 (按2022年第二季的項目總工程造價粗略推算) (按2018年9月價格推算的5,000億元，純以土木工程相關指數調整)

About \$580 billion (Rough estimate of the total construction cost of the project in the second quarter of 2022)

(Based on \$500 billion previously calculated on the September 2018 price and adjusted solely based on civil engineering related indexes)

相關經濟活動帶來的增加值

Value added generate from the associated economic activities

每年約 2,000億元
(佔本地生產總值約7%)

Around \$200 billion each year
(amounting to about 7% of the Gross Domestic Product)

財務分析 Financial Analysis

- 交椅洲人工島項目的工程將由2025年年底起跨越20年，粗略而言，假設工程量平均分佈，項目的每年平均開支約300億元。

The KYCAI development will span 20 years from end 2025. Roughly speaking, the ballpark estimate on the average annual expenditure will be about \$30 billion assuming the construction volume is evenly spread over the years.

- 政府早前已表示基本工程開支的中期預測每年超過1,000億元，此等數額的開支(再加入此項目的現金流)約佔本地生產總值的4%。作為參考，90年代的香港機場核心計劃高峰時期政府基本工程開支約佔本地生產總值的6%。

The Government has stated earlier that the medium-term forecast of capital works expenditure will exceed 100 billion per year. This expenditure (plus the cash flow of this project) amounts to about 4% of GDP. For reference, at the peak of the Hong Kong Airport Core Program in the 1990s, government spending on capital works accounted for about 6% of GDP.

財務分析 Financial Analysis

- 既然整項發展屬於有經濟效益的長遠投資，我們認為無須純倚賴公共開支推展項目。除了以基本工程儲備基金支付外，我們也可考慮加入一個或多個融資方法，以便適度運用市場力量。

Since the entire development is a long-term investment with economic benefits, we consider that it is not necessary to rely solely on public expenditure to take forward the project. Apart from funding using Capital Works Reserve Fund, we have considered introducing one or more of the financing options to make appropriate use of market forces

- 現時工程項目仍在前期規劃階段，正進行生態環境調研、地質勘測等工作，我們要在具體設計工作完成後，才有基礎按更詳細的工程設計提出如何分階段推展及作出造價預算。我們亦會在本研究進一步分析這些融資選項的可行性。

The project is still at the preliminary planning stage by which the EIA, ground investigation etc. are in progress. Not until the overall design work is completed, we will have the basis to develop the phased implementation of works and provide a cost estimate with reference to a more detailed engineering design. We will further investigate the feasibility of these financing options in the Study

未來路向 Way Forward

- 我們在聽取委員的意見後，會進一步深化有關的初步建議，並稍後開展公眾參與活動收集市民的意見。

After listening to the Members' comments, we will further develop the preliminary proposals. We will also undertake public engagement to collect public views

- 我們的目標是在2023年開展環境影響評估的法定程序，並在2024年年初展開詳細工程設計及土地勘測申請撥款。

We aim to commence the statutory process for environmental impact assessment in 2023 and apply for funding for detailed design and ground investigation in early 2024

- 待2024年下半年完成《前濱及海床(填海工程)條例》的法定程序以及在2025年年中前完成詳細設計後，我們的目標在2025年下半年為填海工程申請撥款，並在同年底啟動填海工程。如一切順利，首批建成的住宅發展最早可於2033年供居民入伙。

After the completion of the statutory procedures under the Foreshore and Sea-bed (Reclamations) Ordinance in the second half of 2024 and the completion of the detailed design before mid-2025, we target to apply for funding for the reclamation works in the second half of 2025 and commence reclamation works at the end of the same year. Barring unforeseen circumstances, the first batch of residential development for population intake will be in 2033 at the earliest

完
End