# **TOWN PLANNING BOARD**

TPB Paper No. 9334 For Consideration by the Town Planning Board on 26.4.2013

ENHANCING LAND SUPPLY STRATEGY: RECLAMATION OUTSIDE VICTORIA HARBOUR AND ROCK CAVERN DEVELOPMENT-<u>STAGE 2 PUBLIC ENGAGEMENT</u>

ા અને આપ અન્ય મેન્સ્ટર નોય જાણવાલી તેને છે.

TPB Paper No. 9334 for Consideration by the Town Planning Board on 26.4.2013

#### Enhancing Land Supply Strategy: Reclamation outside Victoria Harbour and Rock Cavern Development-<u>Stage 2 Public Engagement</u>

#### 1. <u>Purpose</u>

1.1 This paper briefs Members on the stage 2 public engagement (PE) on Enhancing Land Supply Strategy: Reclamation outside Victoria Harbour and Rock cavern development (the Study) and the way forward, and seek Members' views on the proposed land reserve and the ensuing studies.

#### 2. <u>Background</u>

- 2.1 On 15.7.2011, we briefed Members on the Administration's plan to launch a two-stage PE on enhancing land supply strategy, conduct technical studies to explore the option of reclamation on an appropriate scale outside Victoria Harbour and the use of rock caverns to reprovision existing public facilities and release such sites for housing and other uses (TPB Paper No. 8867 refers). Members generally supported the Study and the 'land bank' concept.
- 2.2 Between November 2011 and March 2012, we launched the stage 1 PE to gauge public opinion on key issues including the proposed six-pronged approach<sup>1</sup> of increasing land supply, and the initial site selection criteria<sup>2</sup> for reclamation outside Victoria Harbour and rock cavern development.
- 2.3 The results of the public engagement revealed that the majority of the public generally agreed on a six-pronged land supply strategy, including reclamation outside Victoria Harbour and rock cavern development. Most of the public also agreed that more land supply would be required for Hong Kong and a land reserve should be built up for meeting unexpected demands. On reclamation outside the Victoria Harbour, the public opinions were mixed with supporting and objecting

<sup>&</sup>lt;sup>1</sup> The six-pronged approach includes re-zoning, resumption, redevelopment, reclamation, rock cavern development and re-use of ex-quarry sites.

<sup>&</sup>lt;sup>2</sup> The site selection criteria for reclamation are the impact on the local community, site location and accessibility, meeting local needs, environmental impacts, environmental benefits, planning flexibility, engineering feasibility and cost effectiveness whilst the site selection criteria for rock cavern development are social impact at the cavern development site, environmental impacts at the cavern development site, social benefits at the releasing site, environmental benefit of relocating existing facilities, cost effectiveness, specific requirements of facility, suitability of relocation based on existing facility status and engineering feasibility.

views. Most of the objecting views came from signature campaigns organised in the local communities and focused on several illustrative reclamation sites<sup>3</sup> that might cause greater impacts on the environment and the community. Separately, members of the public generally agreed on the eight site selection criteria with guiding principles in accordance with the social, environmental and economic benefits, and with particular emphasis on the criteria relating to the environmental, marine ecological and social impacts.

- 2.4 In his 2013 Policy Address (PA) announced on 16.1.2013, the Chief Executive mapped out the land supply initiatives in short, medium and long term including reclamation on an appropriate scale outside Victoria Harbour, rock cavern and underground space development. The Chief Executive also announced in the 2013 PA that to respond more flexibly to society's needs for land, the Administration is determined to develop new land extensively and build up an abundant "land reserve" that can more than meet the short-term demand. That way, the reserve can be used to meet future demand in a timely manner. To build up the land reserve, we will press ahead with reclamation outside Victoria Harbour, while endeavouring to keep the impact on the environment and marine ecology to a minimum.
- 2.5 Subsequent to the PA, we outlined the results of the stage 1 PE, uploaded the results to the PE website, and proposed five near shore reclamation sites with a total area of about 600 hectares (ha) comprising Lung Kwu Tan, Siu Ho Wan and Sunny Bay at Lantau North, Tsing Yi Southwest and Ma Liu Shui, together with the proposed studies of constructing artificial islands in the central waters between Lantau and Hong Kong Island. The total reclamation area including the artificial islands is about 2 000 to 3 000 ha. On rock cavern development, we proposed three existing public facilities as pilot scheme of relocation to caverns, including Diamond Hill Fresh Water and Salt Water Service Reservoirs, Sai Kung Sewage Treatment Works and Sham Tseng Sewage Treatment Works, which release a total of about 6 ha of land for housing and other uses. For underground space in built up areas including developments connecting existing or future buildings / facilities.
- 2.6 On 21.3.2013, we launched at a press conference the stage 2 PE on the five proposed near shore reclamation sites, the proposed studies of constructing the artificial islands and the three proposed rock cavern development sites. The stage 2 PE will last for 3 months.

<sup>&</sup>lt;sup>3</sup> In January 2012 when the stage 1 public engagement was half-way conducted, in response to stakeholder suggestions, the government announced 25 illustrative possible reclamation sites outside Victoria Harbour which were divided into four categories comprising artificial islands, reclamation to connect islands, reclamation upon artificial or disturbed shoreline and reclamation on sites close to natural but not protected shoreline. When publicizing these sites, the government had emphasized that they did not constitute a list of selected sites confirmed for implementation but were specific examples to facilitate the public to consider the eight initial site selection criteria for reclamation.

#### 3. <u>Selection of Potential Reclamation and Rock Cavern Development Sites</u>

3.1 The selection of potential reclamation and rock cavern development sites encompasses a broad technical assessment, public consultation on the site selection criteria and an evaluation process. In the broad technical assessment, we carried out a comprehensive site search, reviewed the previous studies, assessed broadly the impact on the existing environment, exterior and local transport and the community as well as broad engineering feasibility, etc. In the stage 1 PE, we consulted the public on the initial site selection criteria for reclamation and cavern development sites. The results of stage 1 PE showed that the respondents generally agreed on the initial site selection criteria with the impact on the local community and the environment being the most important ones. For cavern development, the criterion of engineering feasibility is also considered important.

#### **Potential Reclamation Sites**

- 3.2 Reclamation sites that might have significant impact on the local community and the environment / marine ecology were not considered. Other sites were evaluated with reference to the site selection criteria. A few sites with relatively higher potential were selected for further assessment. Preliminary mitigation measures have been explored for potential sites identified. However, further studies are necessary to confirm the engineering feasibility of the shortlisted sites and to address the relevant technical issues.
- 3.3 We have selected 5 near shore reclamation sites comprising Lung Kwu Tan, Siu Ho Wan and Sunny Bay, Tsing Yi Southwest and Ma Liu Shui for further consideration, and suggested further studies of possible artificial islands in the central waters. Major considerations in selecting reclamation sites include:
  - Priority is given to near shore reclamation since it can easily be connected to existing road networks and developed areas;
  - Man-made shorelines distant from the existing community are selected as far as possible; and
  - Avoid encroaching on natural shorelines and environmentally sensitive areas as far as possible.
- 3.4 As three of the five near shore reclamation sites, viz. Lung Kwu Tan, Siu Ho Wan and Sunny Bay, are located at the western waters, we plan to conduct a cumulative environmental impact assessment for these three sites together with existing and planned projects in the vicinity. While every effort has been made to avoid encroachment upon Chinese White Dolphin hotspots as far as possible, we will appoint experts to conduct ecological surveys including shore-based theodolite tracking and passive acoustic monitoring on Chinese White Dolphins at these sites to ascertain the potential impact and formulate mitigation measures if needed.
- 3.5 As regards the option of artificial islands, we have reviewed the eastern waters,

the central waters and the western waters of Hong Kong. The eastern waters are commonly characterized by abundance of mangroves with rich diversity and fauna species, seagrass areas and key coral areas. In addition, the eastern waters are more exposed to severe offshore wave conditions which would involve high construction cost. On the other hand, the western waters are already heavily constrained by a number of major infrastructure projects under planning or construction. The central waters have good opportunity for artificial island development as there are few major infrastructure projects under planning in the area and the challenge to conserve the marine ecology would not be so great.

#### Potential Rock Cavern Development Sites

- 3.6 Under a study <sup>4</sup> completed in March 2011, the Civil Engineering and Development Department (CEDD) identified a long list of over 400 existing government facilities that have the potential for relocation to rock caverns in line with the potential land uses listed in the Hong Kong Planning Standards and Guidelines. After the stage 1 PE, CEDD condensed the long list to a short list of 21 facilities having regard to area of the site upon relocation of the facilities, access and location of the facilities, proximity to geological features highly suitable for cavern development, and suitability of the facilities for relocation to caverns at the time for a variety of reasons including state of conditions of the facilities.
- 3.7 From the 21 facilities in the short list, CEDD identified three facilities, namely Diamond Hill Fresh Water and Salt Water Service Reservoir, Sai Kung Sewage Treatment Works and Sham Tseng Sewage Treatment Works, as the batch of schemes having regard to the site selection criteria. Major considerations in selecting only these three sites include:
  - Priority is given to relocation of those Not-in-my-backyard (NIMBY) facilities near urban or developed areas, thus creating synergy with the surrounding areas;
  - Avoid selecting those facilities already with recreational or leisure uses as far as possible; and
  - Owing to technical constraints or unavailability of suitable cavern sites, the feasibility of relocating some large facilities such as water treatment works should be subject to further studies.
- 3.8 The location plan of the proposed reclamation and rock cavern development sites is at **Enclosure 1**. Project information including site details, opportunities and challenges of the proposed sites are presented in a booklet entitled "Stage 2 Public Engagement Digest (PED)", a copy of which is at **Enclosure 2**.

<sup>&</sup>lt;sup>4</sup> Feasibility study on the enhanced use of underground space in Hong Kong conducted by the Civil Engineering and Development Department

- 4.1 From the results of stage 1 PE, the majority of responses either supported or indicated no objection to enhancing land supply using a six-pronged approach including rezoning, redevelopment, resumption, reclamation outside Victoria Harbour, rock cavern development and reuse of ex-quarry site. Different supply options involve different challenges and limitations, and they are complementary to each other to ensure a stable and adequate supply. Reclamation can provide new land as decanting sites to accommodate residents, facilities and economic activities affected by other land supply options such as redevelopment and resumption. It also allows relocation of unpleasant or special industrial facilities in the urban areas to reduce impact on local community and to release valuable land in the urban areas for other uses. Public fill generated by other supply options can also be handled by reclamation. Reclamation or any other options should not be ruled out as an option, nor be regarded as the last resort. Experience from the last decade fully demonstrates the need for the multi-pronged approach. Since 2003, creation of new development land by reclamation has been virtually dormant, and coupled with the challenges on other supply options, the problem of inadequate land supply has been intensifying. We need all six options in play to form a flexible and resilient land supply package to meet our short, medium and long term needs.
- 4.2 Because of its nature, reclamation is considered most suitable to be used as land reserve. It will not affect existing land uses and can generate a large piece of new land to cater for unexpected demand timely. Compared with other options of land supply, reclamation can offer greater flexibility for comprehensive planning for building a balanced and sustainable community. In fact, Hong Kong already has a number of successful examples. Reclamations for new towns like Shatin, Ma On Shan and Tai Po have provided land to support various housing and community developments, and are now home to hundreds of thousands of people.
- 4.3 We propose to enhance the land development process by introducing three kinds of land reserve by reclamation. Firstly, land is formed and reserved for possible use in short term. The land can be allocated for temporary use before a permanent land use is effected. Secondly, a reclamation site can be earmarked as land reserve with detailed studies and designs completed. Reclamation works can start at appropriate time when needs arise. As all the advance work has been substantially completed, reclaimed land can be formed for possible use in the medium term. The merits of this kind of land reserve are that we can take stock of the latest situations such as land demand and population growth before actual construction. Thirdly, a reclamation site can be earmarked as a long term land reserve with preliminary feasibility studies conducted. Detailed studies and reclamation work can be initiated when needs arise. We believe the three kinds of land reserve can shorten the response time for short, medium and long term needs and propose to conduct studies for the near shore reclamation sites and artificial islands in due course after the stage 2 PE.

- 4.4 About 6 to 7 million tonnes of surplus construction and demolition materials are generated in Hong Kong annually. Reusing surplus materials for reclamation is environmentally friendly, less costly and helps avoid occupying valuable land. Reclamation can also handle the contaminated mud generated from routine dredging of navigation channels.
- 4.5 In response to the aspirations of enhancing the environment when implementing reclamation projects, we will explore the feasibility of building eco-shorelines at the future reclamation sites with mangrove planting and mudflats at the inter-tidal zones. We will also avoid encroachment upon natural shorelines as far as possible by creating a tidal channel between the shorelines and the future reclamation limit.

#### 5. <u>Vision of Rock Cavern Development</u>

- 5.1 A holistic approach is required in the planning and execution of the rock cavern development initiative so that it will become a sustainable means of increasing land supply. Furthermore, private sector participation should be an important part of the initiative because many private facilities, such as storage facilities, can benefit from a stable and secure environment offered by rock caverns.
- 5.2 In view of the above, apart from the feasibility study of relocating Sha Tin Sewage Treatment Works to caverns commenced in May 2012, the Administration is also conducting a study on the long term strategy for cavern development with a view to preparing rock cavern master plans and formulating policy guidelines for relocating more facilities systematically to rock caverns. Moreover, we will further explore the potential of developing underground spaces in the built up areas by studying the feasibility of linking up the underground spaces of existing or planned structures in the built up areas.

#### 6. <u>Stage 2 Public Engagement</u>

- 6.1 As mentioned in paragraph 2.6 above, we held a press conference and launched the stage 2 PE on 21.3.2013. We have scheduled a series of PE activities including briefings to the LegCo Panel on Development, relevant district councils, statutory bodies, local communities and stakeholders; conducting public forums and roving exhibitions with face to face interviews. We have set up a PE website (address: www.landsupply.hk) since commencement of the stage 1 PE and will continue update the information in the website such as the schedule of roving exhibitions. Members of the public are welcomed to participate in the PE activities or express their views.
- 6.2 The stage 2 PE is to introduce the potential reclamation sites and the proposed schemes of rock cavern development, their opportunities and challenges. We will take the opportunity to collect the views of the public on what particular aspects on individual sites that the Administration should pay attention to when carrying out further studies, including views on potential future land uses of the selected sites.

6.3 To facilitate informed discussions, the PED will be widely disseminated to the public at various outlets including District Offices, roving exhibition counters, public forums and briefing meetings, and uploaded to the PE website. Members of the public are welcomed to give their views to us by email, fax or post on or before 21.6.2013.

#### 7. <u>Way Forward</u>

- 7.1 On reclamation outside Victoria Harbour, we plan to embark on the following studies subject to funding approval :
  - (a) cumulative environmental impact assessment study on the three proposed near shore reclamation sites at the western waters including Lung Kwu Tan, Siu Ho Wan and Sunny Bay;
  - (b) detailed feasibility studies for the five near shore reclamation sites including Lung Kwu Tan, Siu Ho Wan, Sunny Bay, Tsing Yi Southwest and Ma Liu Shui;
  - (c) strategic studies to identify potential sites for artificial islands in the central waters including assessment of the impact on marine traffic safety, port operations, water quality and marine ecology, and examine the engineering feasibility, external transport links and possible land uses.
- 7.2 On rock cavern development, we will formulate cavern master plan and systematic relocation of facilities to caverns under the study on the long term strategy for cavern development mentioned in paragraph 5.2. We plan to embark on the following studies subject to funding approval :
  - (a) detailed feasibility studies for the relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs, Sai Kung Sewage Treatment Works, and Sham Tseng Treatment Works to caverns;
  - (b) study on exploring the potential of developing underground spaces in the built up areas.

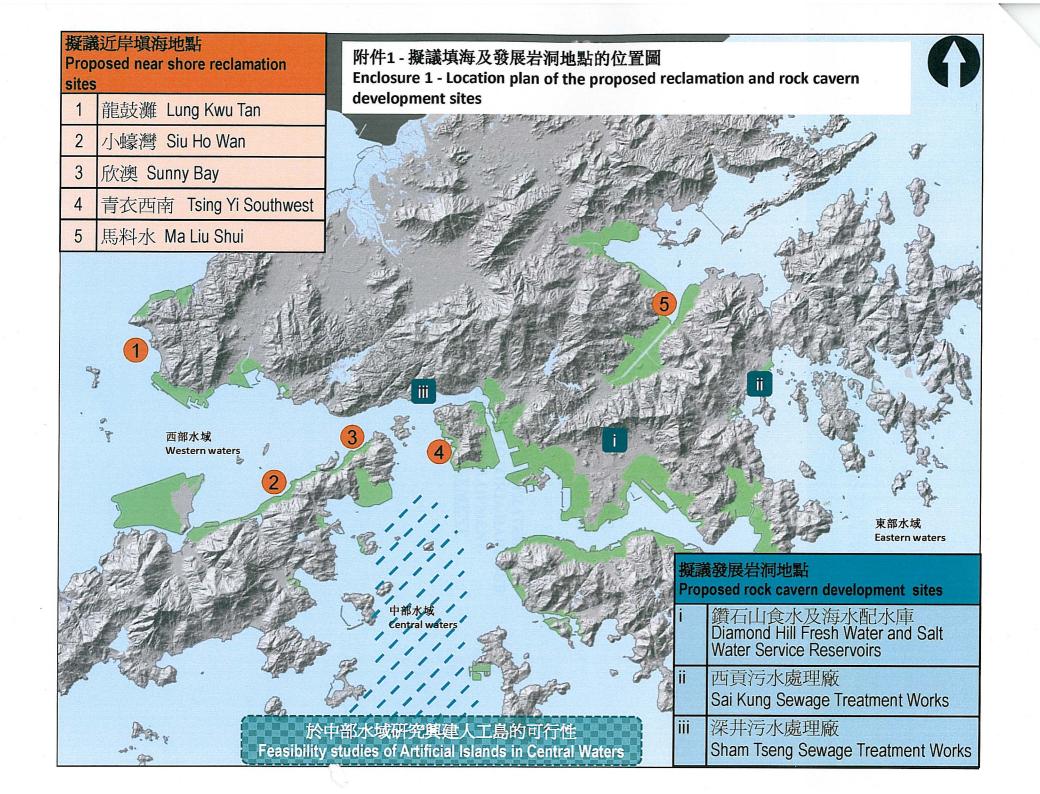
#### 8. <u>Advice Sought</u>

8.1 Members are invited to note the stage 2 PE on Enhancing Land Supply Strategy: Reclamation and Rock Cavern Development, and provide views on the proposed land reserve and the issues to be addressed in the ensuing studies for the proposed reclamation and rock cavern development sites.

#### 9. <u>Attachments</u>

Enclosure 1	Location Plan of the proposed reclamation and rock cavern development sites
Enclosure 2	Stage 2 Public Engagement Digest

Development Bureau Civil Engineering and Development Department Planning Department April 2013





第2階段公衆参與摘要 Stage 2 Public Engagement Digest

# 優化土地供應策略 維港以外填海及 發展岩洞

Enhancing Land Supply Strategy **RECLAMATION OUTSIDE VICTORIA HARBOUR** and **ROCK CAVERN DEVELOPMENT** 

二零一三年三月 March 2013





# 引言 Introduction

土地是我們生活和經濟活動的基礎,政府多年來採取具 彈性、 六管齊下的土地供應組合, 透過更改土地用途、 重建、收地、填海、發展岩洞及重用前石礦場,以支持 香港的經濟和社會發展。

土地需求持續增加,香港需要有充足及穩定的土地供 應。我們於2011年11月至2012年3月期間就「優化土 地供應策略 – 維港以外塡海及發展岩洞 」進行第一 階段公衆參與。我們根據所收到的公衆意見,確立了 選址準則,並甄選數個具潛力的近岸塡海及發展岩洞地 點,於是次第二階段公衆參與活動諮詢公衆意見。

Land is the basis for our living and economic activities. For years, the Government has adopted a six-pronged and flexible approach in land supply through rezoning land, redevelopment, land resumption, reclamation, rock cavern development and reuse of ex-quarry sites to support the economic and social development of Hong Kong.

Needs for land are ever increasing, it is thus essential to have an adequate and stable supply of land. We conducted the Stage 1 Public Engagement on Enhancing Land Supply Strategy by Reclamation outside Victoria Harbour and Rock Cavern Development from November 2011 to March 2012. Based on the public views received, we have confirmed the site selection criteria and selected a few potential near shore reclamation and rock cavern development sites for public consultation in this Stage 2 Public Engagement exercise.



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# 優化土地供應策略 Enhancing Land Supply Strategy

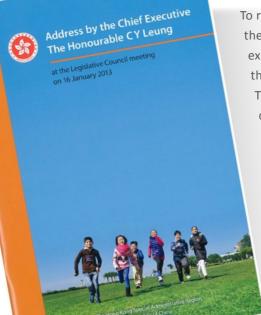


# RECLAMATION OUTSIDE VICTORIA HARBOUR AND 个 階 段 公 衆 参 與 摘 要

# 行政長官於二零一三年施政報告提出: The Chief Executive proposed in 2013 Policy Address:

要更靈活回應社會對土地 需求的變化,本屆政府決心 大規模開發新地,建立充裕 的「土地儲備」,儲備量要 超出短期的土地需要,以便 曰後及時提取,回應需求。

我們會在盡量減少對環境和海 洋生態影響的大前提下,積極於 維港以外填海,納入土地儲備。 除填海外,發展岩洞也是土地供 應的可行來源。



To respond more flexibly to society's needs for land, the Government is determined to develop new land extensively and build up an abundant "land reserve" that can more than meet the short-term demand. That way, the reserve can be used to meet future demand in a timely manner.

To build up the land reserve, we will actively press ahead with reclamation outside Victoria Harbour, while endeavouring to keep the impact on the environment and marine ecology to a minimum. Reclamation aside, rock cavern development is a viable source of land supply.

# 以不同步伐建立土地儲備 Building up land reserve in different paces





化土地供應策略 維港以外塡海及發展岩洞





第一階段公衆參與概覽 **Overview of Stage 1 Public Engagement** 

第一階段公衆參與於2011年11月至 2012年3月期間進行,收集了市民對優 化土地供應策略的意見。

> Major Views on Enhancing Land Supply

Strategy

塡海的重要

Site location is important when considering reclamation

因素

Stage 1 Public Engagement was carried out from November 2011 to March 2012 to collect public views on enhancing land supply strategy.

## 普遍支持建 立土地儲備

Broad support for establishment of land reserve

#### 皆遍贊同要有更多 土地以滿足房屋、 改善生活環境及發展 的需要

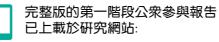
#### 最重要的選址準 則是對環境和周 邊社區的影響

# 對發展岩洞的 主要意見

Major Views on Rock Cavern Development

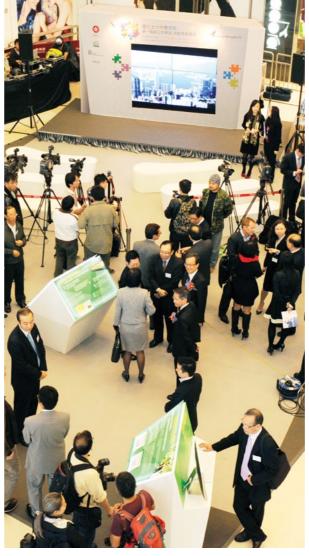
普遍支持 Broad support

• 部分人士關注工程的可行性及岩 洞的用途 Some concerns on engineering feasibility and use of caverns



For the full Stage 1 Public Engagement report, please refer to the study website:

### http://www.landsupply.hk







#### 回應公衆的意見,行政長官於施政報 告表示,政府會繼續以多管齊下的方 式增加短、中和長期的土地供應

In response to the public opinion, the Chief Executive set out in the Policy Address that the Government will continue to adopt a multi-pronged approach to increase the supply of land in the short, medium and long terms

# 普遍支持以六管 齊下方式增加 土地供應 塡海地點是考慮

Broad support for a six-pronged approach for enhancing land supply

# 對塡海的主要意見

Major Views on Reclamation

# • 意見不一致 Diverse views

- 對個別塡海選址的反對聲音強烈 Strong opposition to reclamation at one specific sites
- 反對塡海人士主要關注塡海對環境和 周邊社區的影響 Major concerns of those against reclamation are related to impacts on environment and local communities

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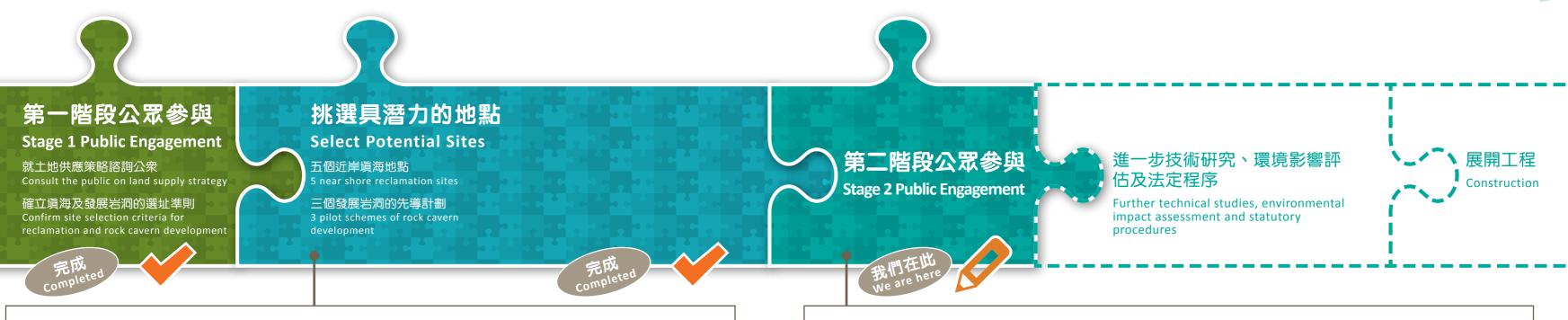






挑選具潛力的塡海及發展岩洞地點 Selection of Potential Reclamation and Rock Cavern Development Sites







第一階段公衆參與結果顯示公衆認爲最重要的 選址準則是對周邊社區及環境的影響,因此我 們在挑選具潛力的填海和發展岩洞的地點時, 特別著重考慮這兩項因素。

**填海**方面,根據第一階段公衆參與結果及概 括性技術評估,一些會對社區及環境/生態造 成顯著影響的選址已不獲考慮;餘下的選址, 我們根據選址準則再作評估,然後選出數個較 具潛力的地點作較深入研究,同時亦探討了-些初步的工程緩解措施。 然而, 這些選址必 須經過進一步研究才能確立工程的可行性和處 理相關的技術問題。

發展岩洞方面,我們亦依循類似的選址過 程,但公衆認為發展岩洞的工程可行性亦是重 要的考慮因素,因此在過程中我們亦特別考慮 了這方面的意見。

The results of the Stage 1 Public Engagement indicated that impacts on local communities and the environment

were considered the most important among all the site selection criteria. Hence, we have attached particular importance to these criteria in identifying potential reclamation and rock cavern development sites.

For **reclamation**, based on the Stage 1 Public Engagement results and broad technical assessments, sites that might have significant impacts on local communities and environment / ecology were not considered. Other sites were evaluated with reference to the site selection criteria. A few sites with relatively higher potential were selected for further assessment. Preliminary mitigation measures have been explored for potential sites identified. However,



further studies are necessary to confirm the engineering feasibility of the shortlisted sites and to address the relevant technical issues.

A similar selection process was applied to **rock cavern development**. Yet, the public considered engineering feasibility of rock cavern development is also important. This factor has also been taken into consideration.

# 第二階段公衆參與 Stage 2 Public Engagement:

#### 介紹具潛力的塡海及發展岩洞地點, 其機遇及挑戰

To introduce potential reclamation and rock cavern development sites, their opportunities and challenges

#### 諮詢公眾對個別塡海及發展岩洞地 點的關注事項,以期納入技術研究, 確立工程可行性

To consult the public on the issues to be covered in the coming technical studies of each potential reclamation site and rock cavern development site in order to confirm the engineering feasibility

**七土地供應策略** 維港以外塡海及發展岩洞









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根據第一階段公衆參與所確立的選址準則,我們選出具潛力發展的填海地點,分別是五個 近岸填海地點和中部水域人工島。填海地點的主要考慮因素包括:

- 優先考慮近岸塡海,因較易與現有道路網絡和已發展地區連繫
- 盡量選擇遠離現有社區的人工海岸線
- 避冤觸及天然海岸線或環境敏感地帶
- 就人工島方案,我們曾檢視過香港東部、中部及西部水域。東部水域的海岸線生態價值頗高 西部水域則受多項大型基建工程所局限,而中部水域則可避免觸及現有具生態價值的 海岸線。

五個近岸塡海地點的總面積約為六百公頃,連同人工島,總面積約為二至 三千公頃,可以在未來用作土地儲備及其他用途。

Based on the site selection criteria confirmed in the Stage 1 Public Engagement, we have selected 5 near shore reclamation sites and possible **artificial islands** in the central waters. Major considerations of reclamation sites include:

- Priority is given to near shore reclamation since it can easily be connected to existing road networks and developed areas
- Man-made shorelines distant from the existing community are selected as far as possible
- · Avoid encroaching on natural shorelines and environmentally sensitive areas
- As regards the option of artificial islands, we have reviewed the eastern waters, the central waters and the western waters of Hong Kong. The eastern waters are bound by shorelines of high ecological value whilst the western waters are already heavily constrained by a number of major infrastructure projects. The central waters however can generally avoid shorelines of high ecological value.

The total area of the five near shore reclamation sites is about 600 hectares. Together with the artificial islands, the total area of these sites is about 2,000 to 3,000 hectares which could be used for land reserve and other uses in future.

## 五個具潛力的近岸塡海地 點可考慮作進一步研究

#### **Five Potential Near Shore Reclamation Sites are** considered for further studies -

- 1 龍鼓灘 Lung Kwu Tan
- 2 小蠔灣 Siu Ho Wan
- 3 欣澳 Sunny Bay
- 4 青衣西南 Tsing Yi Southwest
- 5 馬料水 Ma Liu Shui

# 於中部水域研究興建人工 島的可行性

Feasibility studies of Artificial Islands in Central Waters

另外,東涌新市鎭擴展研究正 在進行,當中亦有塡海建議。

The study on the Tung Chung New Town Extension with some reclamation is in progress separately.

工程的可行性 ngineering feasibilit

規劃的靈活性 lanning flexibility

**七土地供應策略** 維港以外塡海及發展岩洞 Enhancing Land Supply Strategy RECLAMATION OUTSIDE VICTORIA HARBOUR AND

對當地社區 的影響 Impact on local community

對環境(海洋生 態)的影響 **Environmental impacts** (particularly on marine ecology)

Site Selection Criteria confirmed after consultation

也點及交通便捷 程度 Site location &

否滿足當地居民 需要 leeting local need

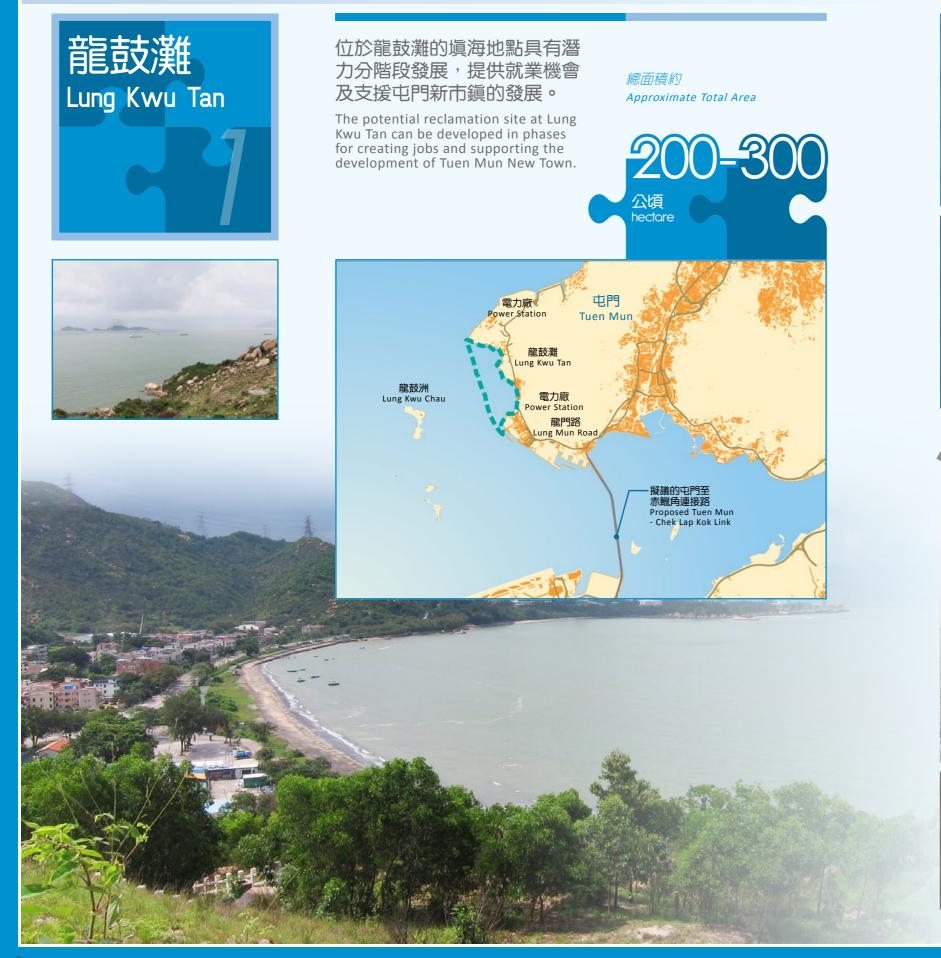
成本效益 Cost effectiveness

> 對環境的好處 vironmental benefit

註:以上八個塡海的選址準則,當中以對環境的影響及對當地社區的影響最受重視。

Note: The above are eight site selection criteria with particular emphasis on the environmental impacts and impact on local community.

# 具潛力的塡海地點 **Potential Reclamation Sites**





連接主要基建,包括經擬議的屯門西繞 道及屯門至赤鱲角連接路通往大嶼山, 亦可經屯門公路通往九龍,及經九號幹 線通往新界北部

Connect to major infrastructure including proposed Tuen Mun Western Bypass and Tuen Mun-Chek Lap Kok Link to Lantau, Tuen Mun Road to Kowloon and Route 9 to North New Territories

#### 面積較大,適合作土地儲備,有利全面 規劃,能提供調遷地點,處理剩餘塡料 及污染海泥

The relatively large area is suitable for land reserve, can facilitate comprehensive planning, provide decanting site and handle surplus fill materials and contaminated mud

# ▲ 挑戰與初步回應 Challenges and Initial Responses



### 選址內有天然海岸線及海灘。建議的塡海工程會 避開天然海岸線及可引入有利生態的設計

There are natural shorelines and a beach. The proposed reclamation will avoid natural shorelines and take the opportunity to introduce eco-friendly features

## 提供土地興建 設施以滿足當 區需求

Provide land for facilities to meet community needs





提供就業機會 惠及香港及屯 門新市鎭

Provide job opportunities benefiting Hong Kong and Tuen Mun New Town

#### 附近有中華白海豚出 沒,塡海範圍要避免 觸及中華白海豚活躍的 地點

Chinese White Dolphins are active in nearby waters. The proposed site will be refined to avoid encroachment on Chinese White Dolphin active spot

#### 將來規劃需要考慮附 近電力廠及厭惡性設 施帶來的發展限制

The future planning should take into account potential development constraint due to the power station and not-in-my-backyard (NIMBY) facilities nearby



# 具潛力的塡海地點 **Potential Reclamation Sites**





#### 連接主要基建及設施包括機場、 港珠澳大橋、屯門至赤鱲角連接 路及北大嶼山公路

Connect to major infrastructure and facilities including the airport, Hong Kong - Zhuhai -Macau Bridge, Tuen Mun - Chek Lap Kok Link and North Lantau Highway

#### 根據2007年經修訂的 大嶼山發展概念計劃, 選址有潛力發展成物流園

According to the 2007 Revised Concept Plan for Lantau, the site has potential to be developed into a logistics park

# ♣挑戰與初步回應 Challenges and Initial Responses

#### 將來規劃需要考慮飛機噪音可能會帶來的發展 限制

The future planning should take into account the potential development constraint due to the noise induced by aircraft

#### 將來塡海範圍會 避開鄰近的大蠔 保育區

The boundary of reclamation will avoid encroachment on the Tai Ho Conservation Area nearby





#### 提供就業機會,惠及 香港及東涌新市鎭

Provide job opportunities benefiting Hong Kong and Tung Chung New Town

#### 附近有中華白海豚出沒,眞海範圍要避免觸及中華 白海豚活躍的地點

Chinese White Dolphins are active in nearby waters. The proposed site will be refined to avoid encroachment on Chinese White Dolphin active spot



# 具潛力的填海地點 Potential Reclamation Sites

欣澳

Sunny Bay



#### 與大嶼山其他旅遊 景點產生協同效應

Create synergy with other tourist attractions on Lantau





#### 創造商業及就業 機會,惠及香港 及東涌新市鎭

Create business and job opportunities which will also benefit Hong Kong and Tung Chung New Town



# 挑戰與初步回應 Challenges and Initial Responses

#### 選址西面附近發現具有生態價值的棲息地, 附近水域有中華白海豚出沒記錄。建議的 塡海工程不會觸及這些範圍,當局會研究 恢復欣澳附近人工海岸線的天然生態

Habitats of ecological importance are found to the west of the proposed reclamation site, and there are records of Chinese White Dolphins in nearby waters. The proposed site will not encroach on these areas. Rejuvenation of natural habitats along the artificial shoreline near Sunny Bay can be explored

#### 欣澳有潛力透過塡海發展成 為區域娛樂及商業樞紐,促 進大嶼山以至香港的可持續 經濟發展。

The potential reclamation site at Sunny Bay can be developed as an entertainment and business node of regional significance, which will foster the sustainable economic development of Lantau and Hong Kong. 總面積約 Approximate Total Area





15 · 優 化 土 地 供 應 策 略 維 港 以 外 塡 海 及 發 展 岩 洞



根據法定的分區計劃大綱 圖,欣澳塡海區可在將來規 劃作爲配合旅遊及康樂活動 的用途

According to the statutory Outline Zoning Plan, the reclamation area in Sunny Bay can be planned for uses compatible with tourism and recreation in future

#### 強化香港作為亞洲地區旅遊 樞紐和盛事之都的地位,提 供遊艇碼頭及水上活動中心

Reinforce Hong Kong's position as a regional tourism hub and events capital in Asia, provide a marina and water sports centre





利用其鄰近機場的策略 性位置優勢,打造商業 園以推廣綜合商業發展

Benefitted from its strategic location near the airport, create a business park and promote integrated business and commercial development



將來規劃需要考慮飛機噪音可能會帶來 的發展限制

The future planning should take into account the potential development constraint due to the noise induced by the aircraft

#### 鄰近養魚區, 需要考慮對漁 業的影響

Close to fish culture zone. Impact on fisheries should be considered

# 具潛力的塡海地點 **Potential Reclamation Sites**





#### 青衣西南的地點具備接駁現 有交通樞紐的優勢。現正就 興建十號貨櫃碼頭的建議探 討技術可行性。

The potential reclamation site at Tsing Yi Southwest has the benefit of being connected to existing transportation nodes. The Government is studying the technical feasibility of the development of Container Terminal 10.

總面積約 Approximate Total Area







# ♣ 機遇 **Opportunities**

#### 提供鄰近市區的土地, 方便接駁至現時靑衣的 交通樞紐,前往新界和 九龍

Provide land in urban area with easy access to the New Territories and Kowloon via connection to existing transportation nodes in Tsing Yi

### 擴充附近的港口 設施,打造區域 物流樞紐

Extend the port facilities in nearby container terminal to create a regional logistics node



# ♣挑戰與初步回應 **Challenges and Initial Responses**







提供就業機會, 惠及香港及葵青 區居民

Provide job opportunities benefiting Hong Kong and the Kwai Tsing community

#### 將來規劃需考慮 現有工業設施可 能帶來的發展 限制

The future planning should take into account the potential development constraint due to existing industrial facilities



# 具潛力的塡海地點 **Potential Reclamation Sites**





位於馬料水的地點可提供鄰近 沙田市中心的珍貴市區土地, 其位置可以方便接駁至現有 鐵路網絡,是發展住宅的理 想地點。

The potential reclamation site at Ma Liu Shui can provide valuable land close to Sha Tin town centre. The site can easily be connected to existing railway system, making it ideal for residential development.

總面積約 Approximate Total Area





大老山公路 te's Cairn Highway



#### **爲沙田新市鎭提供新的住宅用地**, 並享有未來沙中線所帶來的好處

Provide land suitable for residential development in Sha Tin New Town which can benefit from the upcoming Shatin to Central Link .

#### 滿足區內對社區設施的需求

Meet the needs of community facilities in the district









#### 與沙田污水處理廠遷 入岩洞後釋放出來的 土地產生協同效應

Create synergy with the land released by relocating Sha Tin Sewage Treatment Works to rock cavern

#### 需要一個周詳的城市設 計令將來發展能融入現 有社區

A comprehensive urban design is needed to integrate the new development into the existing community

# 中部7K域 Artificial Islands in Central Waters

#### 香港的中部水域 (大嶼山及香港島之間的水域) 有條件可以 興建人工島。人工島在規劃上較具彈性,可避冤觸及具重 要生態價值的天然海岸線,配以方便和具成本效益的交通 網絡,長遠能夠成為新發展區。

The central waters of Hong Kong (waters between Lantau and Hong Kong Island) has been identified as having good opportunity for artificial islands. Artificial islands have greater flexibility in planning and can avoid encroaching on natural shoreline of high ecological value. They can be developed as new development areas in the long term if supported by convenient and cost-effective transportation network.







荷蘭的人工島 Artificial Island in the Netherlands





政府將會進行策略性研究, 探討工程對海上交通安全、 港口運作、水質及海洋生態的影響, 以及工程的可行性、對外交通連接、 可能的土地用途等。

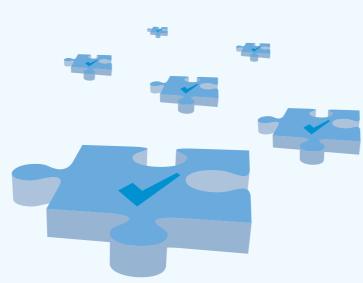
Strategic studies will be conducted to assess the impact on marine traffic safety, port operations, water quality and marine ecology, and examine the engineering feasibility, external transport links, possible land uses, etc.



#### 最適合用作土地儲備 Most suitable as land reserve

#### **塡海不會影響現有土地用途**,同時能夠平整出相對大面積 的土地以應付不時之需,因此最適合用作土地儲備。

Reclamation will not affect existing land uses and can generate a large piece of new land to cater for unexpected demand timely. Hence, it is most suitable to be used as land reserve.





## 有利全面規劃 Allow comprehensive planning

#### 相對其他土地供應方法,塡海較具彈性作全面規 劃以建立一個平衡和可持續發展的社區。

Compared with other approaches of land supply, reclamation can provide greater flexibility for comprehensive planning for building a balanced and sustainable community.

塡海之土地 Reclaimed land



**化土地供應策略** 維港以外塡海及發展岩洞 Enhancing Land Supply Strategy RECLAMATION OUTSIDE VICTORIA HARBOUR AND 🤿 階 段 公 衆 參 與 摘 要

## 是供調遷地點 Provide decanting sites

爲受其他土地供應方法影響居民及設施提 供土地作為調遷地點,並可搬遷市區內的 **厭惡性或特別工業設施,減低設施對社區** 的影響,亦可釋放市區土地作其他發展。

Provide new land as decanting sites to accommodate residents and facilities affected by other land supply options. It also allows relocation of unpleasant or special industrial facilities in the urban areas to reduce impact on local community and to release valuable land in the urban areas for other uses.



Enhance the marine environment of existing man-made shorelines by creation of eco-shoreline, and allow for public enjoyment.

# 處理剩餘塡料及污染海泥 Handle surplus fill materials and contaminated mud

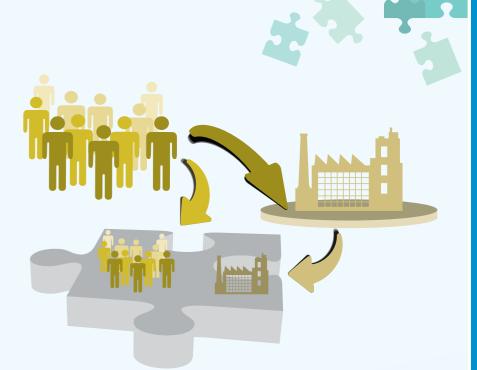
香港每年產生六至七百萬噸剩餘的拆建物料。用拆建物料作塡海,能夠 以較環保及較低成本的方式處理剩餘塡料,亦避免塡料佔用珍貴土地。 填海亦可處理日常從港口航道疏浚所產生的污染海泥。

Hong Kong generates about 6 to 7 million tonnes of surplus construction and demolition materials annually. Reusing surplus materials for reclamation is environmentally

friendly, less costly and helps avoid occupying valuable land. Reclamation can also handle the contaminated mud generated from routine dredging of navigation channels.



construction and demolition materials



# Enhance environment

#### **塡海時可以建造生態海岸線,優化現有人工海岸線的海洋環境,給市民享用。**





# 發展岩洞的先導計劃 **Pilot Schemes of Rock Cavern Development**



Enhancing Land Supply Strategy RECLAMATION OUTSIDE VICTORIA HARBOUR AND 1 < <p>1 < <p>1 < <p>1 < <p>1 < <p>1 < <p>1 < <p>2 < <p>3 < <p>4 < <p>3 < <p>4 < <p>3 < <p>4 < <

根據第一階段公衆參與所確立的選扯準則,我們選出三個地點作發展岩洞的先導計劃。發展岩洞的主 要考慮因素包括:

- 優先考慮遷移具厭惡性而又近市區或已發展地區的設施,使能與周邊地方產生協同效應。
- 盡量避兒選擇現址已有康樂或休憩用途的設施。
- 部分大型設施如濾水廠因受到技術限制或附近沒有合適的岩洞地點,其可行性仍 有待進—步研究。

政府正進行長遠策略研究,將更多設施有系統地遷移至岩洞內。

Based on the site selection criteria confirmed from the Stage 1 Public Engagement, we have selected 3 sites as pilot schemes of Rock Cavern Development. Major considerations of rock cavern development include:

- Priority is given to relocation of those NIMBY facilities near urban or developed areas, thus creating synergy with the surrounding areas.
- Avoid selecting those facilities already with recreational or leisure uses as far as possible.
- Owing to technical constraints or unavailability of suitable cavern sites, the feasibility of relocating some large facilities such as water treatment works should be subject to further studies.

The Government is conducting a study on long-term strategy for relocating more facilities systematically into rock caverns.

#### 鑽石山食水及海水配水庫

- Diamond Hill Fresh Water and Salt Water Service Reservoirs
- 西貢污水處理廠 Sai Kung Sewage Treatment Works
- 深井污水處理廠 8 Sham Tseng Sewage Treatment Works

#### 沙田污水處理廠

(可行性研究進行中) Sha Tin Sewage Treatment Works (Feasibility study in progress)

工程的可行性 **Engineering feasibility** 

現有設施狀況 是否適合搬遷 ocation based or existing facility

> 设施的具體要求 of facility

engineering feasibility.

化土地供應策略 維港以外塡海及發展岩洞

發展岩洞地點 對社區的影響 **Social impact** at the cavern development site

> 發展岩洞地點 對環境的影響 **Environmental impacts** at the cavern development site

Site Selection Criteria confirmed after consultation

墨走設施對社 區的效益

**墨走設施對附**近 環境的好處

成本效益 Cost effectiveness

註: 以上八個發展岩洞的選址準則,當中以對環境的影響、對社區的影響及工程的可行性最受重視。 Note: The above are eight site selection criteria with particular emphasis on the environmental impacts, social impact and



# 發展岩洞的先導計劃 Pilot Schemes of Rock Cavern Development

## 鑽石山食水及 可發展範圍 Developable Area 海水配水庫 Tsz Wan Shan Road Diamond Hill Fresh 鑽石山食水配水庫 慈興山道 mond Hill Fresh Water and Salt Water Service 擬議的重置選址 Reservoir Water Service Proposed Relocation Site Reservoirs 鑽石山海水配水庫 總面積約 Diamond Hill Salt Water Service Reservoir Approximate Total Area 竹園北邨 Chuk Yuen North Estate 黃大仙醫院 Wong Tai Sin Hospital 機遇 **Opportunities** 於市區提供土地作住宅發展或 興建政府、機構或社區設施 Provide land in urban area for residential development or Government, Institution or Community facilities 挑戰 Challenges 需要重置受影響設施 Reprovisioning of affected facilities

西首污水 處理廠 Sai Kung Sewage Treatment Works



# 機遇 **Opportunities**

重置厭惡性設施於岩洞內, 可爲附近居民帶來社區效益 和改善環境。

Relocate NIMBY facility into cavern to bring social and environmental benefits to the local community

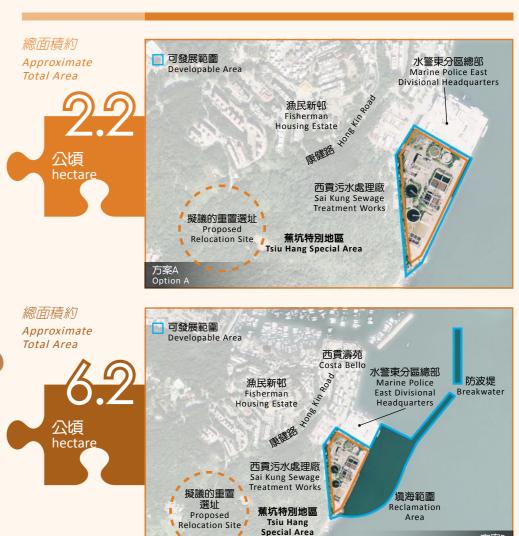
#### 可延長海濱長廊

Extend the waterfront promenade

挑戰 Challenges

需要重置受影響設施包括水警東分區總部及 直升機坪

Reprovisioning of affected facilities including the Marine Police East Divisional Headquarters and the helipad







## 方案B的目的是透過少量填海以提供土地作發展用途, 重置受影響設施,同時滿足當區對擴大船隻碇泊區的需

An option for an integrated development

求,以及提供海濱長廊供市民享用。

綜合發展的方案

Option B takes the opportunity of carrying out minor reclamation for development, reprovisioning of affected facilities while at the same time satisfying the local demand for more boat anchorage spaces. A waterfront promenade is proposed for public enjoyment.



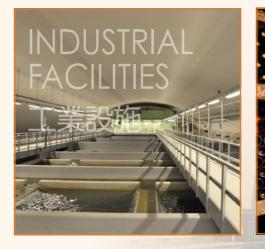
方案B Option B





發展岩洞需要整體性的規劃和實施策 略,才能使發展岩洞成為可持續增加 土地供應的方法。此外,私營機構的 参與亦是發展岩洞策略的重要一環,因 爲很多私營設施,如貯存設施,倉庫和 數據中心,可受惠於岩洞的穩定和安全 的環境。

因此,政府正進行發展岩洞的長遠策 略研究,以擬備岩洞總綱圖及制訂政 策指引,並會進一步探討香港發展城 市地下空間的潛力,包括研究發展在 市區內連接現有或將興建構築物的地 下空間。





# Way Forward for Rock Cavern Development

A holistic approach is required in the planning and execution of the rock cavern development initiative so that it will become a sustainable means of increasing land supply. Furthermore, private sector participation should be an important part of the initiative because many private facilities, such as storage facilities, warehouses and data centres, can benefit from a stable and secure setting offered by rock caverns.

Hence, the Government is conducting a study on the longterm strategy for rock cavern development with a view to preparing rock cavern master plans and formulating policy guidelines. Moreover, we will further explore the potential of developing underground spaces in the urban areas. This includes studying the possibility of linking up the underground spaces of existing or planned structures in the urban areas.

發展岩洞適合性 Cavern Development Suitability

- □ 高至中・佔面積64% High to Medium (64% of land area)
- 低至極低,佔面積30% Low to Very Low (30% of land area)
- □ 不合適,佔面積6% Not Suitable (6% of land area)
- 策略性發展岩洞區域 Strategic Cavern Development Area





您的意見對於我們計劃下一步的工作和研究十分重要,在第二 階段公衆參與中<sup>,</sup>我們特別想知道您對下列事項的意見: Your views will be vital in the planning of future tasks and studies. In the Stage 2 Public Engagement, we are particularly interested in knowing your views on the following:

## 建議的塡海和發展岩洞地點,您期望可作哪些用途?

What land uses do you wish to include in the proposed reclamation and rock cavern development sites?

# 在進一步研究個別塡海和發展岩洞地點時政府 須特別注意哪些事項?

What particular aspects on individual reclamation and rock cavern development sites should the Government pay attention to when carrying out further studies?

## 在中部水域建人工島,您期望可作哪些用途?

What land uses do you wish to include on the artificial islands in the central waters?

# 我們誠意邀請您參與第二階段公衆參與活動。 We cordially invite you to participate in the Stage 2 Public Engagement activities.

公衆論壇	Public Fo	rums
Jan 12日期 Date	了時間 Time	♥ 批
11/5/2013	2:30pm-5:30pm	靑衣靑 靑衣邨
25/5/2013	2:30pm-5:30pm	深水埗 大坑東

# 巡迴展覽 Roving Exhibitions

12日期 Date	♥ 地點 Location	
5-11/4/2013	尖沙咀九龍公園拱廊	The Arcade, Kowloon Park, Tsim Sha Tsui
11-14/4/2013	荃灣大會堂展覽館	Exhibition Gallery, Tsuen Wan Town Hall
18-21/4/2013	慈雲山中心5樓	5th Floor, Tsz Wan Shan Shopping Centre
25-28/4/2013	東涌富東廣場1樓	1st Floor, Fu Tung Plaza, Tung Chung
25-30/4/2013	粉嶺聯和墟社區會堂大堂	Lobby, Luen Wo Hui Community Hall, Fanling
2-5/5/2013	屯門山景商場地下	Lower Ground Floor, Shan King Shopping Centre, Tuen Mun
9-15/5/2013	西貢賽馬會大會堂大堂	Lobby, The Sai Kung Jockey Club Town Hall
16-19/5/2013	南丫島榕樹灣渡輪碼頭等候區	Waiting Area, Yung Shue Wan Ferry Pier, Lamma Island
16-19/5/2013	長洲渡輪碼頭等候區	Waiting Area, Cheung Chau Ferry Pier, Cheung Chau
23-26/5/2013	大埔超級城地下	Level 1, Tai Po Mega Mall
30/5-5/6/2013	葵靑劇院廣場	Plaza, Kwai Tsing Theatre
6-12/6/2013	馬鞍山恆安社區中心大堂	Lobby, Heng On Estate Community Centre, Ma On Shan
10-16/6/2013	中環街市「城市緑洲畫廊」	Central Oasis Gallery, Central Market, Central
17-21/6/2013	灣仔稅務大樓地下大堂	Ground Floor Lobby, Revenue Tower, Wan Chai

開放時間以網頁公布為準 Please visit our website for opening hours



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青衣邨第二期 B社區會堂 步大坑東棠蔭街17號 東社區中心

Tsing Yi Estate Community Hall, Tsing Yi Estate Phase II, Tsing Yi

Tai Hang Tung Community Centre, 17 Tong Yam Street, Tai Hang Tung, Sham Shui Po

#### 公眾論壇報名 / 查詢: **Registration / enquiries for** public forum:

網上登記: 可登入www.landsupply.hk Online registration: www.landsupply.hk

#### 電話留座: 於星期一至五上午十時至下午

六時致電 (852)2114 4999 / (852)2114 4971

Reservation by phone: (852)2114 4999/ (852)2114 4971 Monday to Friday from 10am to 6pm

#### 電話查詢:

#### 於星期一至五上午十時至下午六時 致電 (852)2114 4974 Enquiry by phone:

(852)2114 4974 Monday to Friday, from 10am to 6pm

#### 活動日期/地點或會有所變動, 詳情以網頁 www.landsupply.hk 上的公布為準

Date/venue of the event is subject to changes, please refer to the dedicated website www.landsupply.hk

# 歡迎您於2013年6月21日或 之前,透過電郵、傳員或 郵寄向我們表達意見。

You are welcome to give your views and suggestions to us by email, fax or post on or before 21 June 2013.



於第二階段公衆參與後,我們計劃就近岸塡海 和發展岩洞的地點進行詳細技術研究。

一些有急切需要的填海項目,我們會研究如何 提早進行部分發展程序,以加快項目推展過程。

就於中部水域興建人工島的建議,我們會進行 策略性研究,以確定具潛力的地點作進一步考 慮及公衆諮詢。

可行性研究完成後,我們將進行設計及相關法定程序,以盡快展開填海工程,建立土地儲備。



After the Stage 2 Public Engagement, we plan to conduct detailed technical studies on the near shore reclamation and rock cavern development sites.

For some reclamation projects with urgent need, we shall explore ways to advance some of the development tasks with a view to fast-tracking the project delivery process.

For the proposed artificial islands in the central waters, we shall carry out strategic studies to identify potential sites for further consideration and public consultation.

Following the completion of the studies to establish the feasibility, we shall carry out design and relevant statutory procedures with a view to commencing reclamation as soon as possible to build up a land reserve.







Sec. 1

土木工程拓展署
Civil Engineering and
Development Department



規劃署 PLANNING DEPARTMENT



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