

項目工程 階段

工程項目以設計、建造及營運合約推展，項目已於2017年底展開。工程分為7個階段：

- 1 填海工程
- 2 地基工程
- 3 焚化爐及煙氣潔淨設施
- 4 建築及綠化工程
- 5 建築設備及屋宇裝備工程
- 6 基礎設施工程
- 7 各項設備的測試和試行

除興建人工島外，島上設施的設計工作亦已開展。其中焚化廠的第一套爐排組件於2019年6月初在波蘭進行了工廠驗收測試 (FAT)，確保各組件均達設計的質量及性能。

爐排組件運到人工島後，亦需進行多項測試，包括工地現場驗收測試 (SAT)，以及啟動測試，確定符合嚴謹要求。

東莞

工程 進度

工程開展至今將近三年，項目已完成環境基線勘察，並開展了多個前期海事工序，包括海堤建造、深層水泥拌合樁、沉箱預製及安裝等。



建造人工島的海堤和防波堤由約74件沉箱組成，沉箱最重約3,800公噸，對應尺寸為高20米，闊25米，長20米。



沉箱運送路線

石鼓洲工地

其他進行中的工程

防波堤沉箱基底部堆石鋪設：
預計2021年第一季完成

大磚海堤(生態海岸線)：
預計2021第三季完成

填海工程預計：
2021第三季完成

環境友善 施工方法

- 在工地東邊的海堤，採用了傳統的疏浚和方塊海堤施工方法。而其他位置的海堤是非浚挖式方法，採用預製混凝土沉箱安裝。
- 沉箱安裝減少建造時產生的水底噪音，以減低對江豚的滋擾，以及對水質的影響。

現階段主要是海事工程。防波堤及海堤水泥拌合樁基礎的建設已經完成。沉箱運送及安裝仍是此階段重點，預計2021年第一季完成。海堤周邊和海堤正積極進行中。

2021年1月工地情況



生態 鄰居

在項目工程展開前，環境小組在附近環境收集基線數據作日後水平參考，以便持續評估施工期間可能產生的影響。

施工期間環境監測工作已於2018年6月開展

- 水質監測
- 江豚監測
- 生態監測
- 聲音量度

白腹海鷗 石鼓洲是白腹海鷗的棲息地。施工期間，會實施緩解措施。例如避免在牠們繁殖季節進行高噪音工作、限制工程船集接近鳥巢、減少目眩干擾等。

江豚 石鼓洲附近海域是江豚的重要生境。為減低工程對江豚的影響，團隊採取了三種特別的監察措施，對工程範圍附近的江豚制定系統化和量化的調查，包括其分佈、棲息地、基線移動及行為模式等。

珊瑚 石鼓洲工地附近共錄得6個珊瑚品種，當中1個為罕見品種。因此工程團隊在建造工序前已進行珊瑚移植及監察工作。

有關環境監測數據會定期上載於官方網站供公眾人士查閱 (<http://iwmfhk.com/>)。

建築及園林 設計特色

綜合廢物管理設施包括：

- 鍋爐燃燒機組
- 煙氣潔淨系統
- 機械分類及回收設施
- 渦輪發電機組
- 公眾環保教育設施
- 行政大樓
- 海水化淡廠
- 污水處理廠
- 煙囪

I·PARK [源·島] 的戶外空間設計靈感來自大自然中「天、海、山」的三大要素，將設施與大自然的融合。

整個設施的設計以綠色、潔淨、精簡為主調，與鄰近的石鼓洲天然風景和諧融合。訪客在享受參觀旅，可充份享受設施與綠化工程相輔相成的和諧美。



煙囪 特色的煙囪外觀參考帆船造型設計，寓意一帆風順。

渦輪發電機組 屋頂安裝了太陽能光伏系統，可將太陽能轉換為電能以供設施使用。

鍋爐燃燒機組及煙氣潔淨系統 建築物廣泛採用了垂直綠化設計。

綠化 大樓外牆上栽種多種植物，充份貫徹綠化形象

機械分類及回收設施 建築物廣泛採用了屋頂綠化和垂直綠化設計。

公眾環保教育設施 設施內設有導賞路線，開放予公眾人士參觀及在近距離體驗設施的主要部分，公眾還可了解香港廢物管理政策及石鼓洲附近地區的生態環境。

太陽能系統融入建築設計 設施考慮到長遠運營的安全性和可行性，計劃把太陽能系統納入設計之中，使用可再生能源有助減少對化石燃料的依賴，也達致可持續發展。

設施設有渡輪服務，接載訪客往返中環及長洲。

I·PARK [源·島] 的建築和園境設計將秉承「綠色，潔淨，精簡」的環保理念，與周邊環境融和，並致力達至綠建環評 (BEAM Plus) 金級或更高水平。

Project Details by Phases

The Project is delivered in form of Design-Build-Operate Contract. The Project commenced in late-2017 with 7 phases:

- 1 Reclamation Works
- 2 Foundation Works
- 3 Incinerator and Flue Gas Treatment Facilities
- 4 Architectural and Landscaping Works
- 5 Equipment and Building Services Installation
- 6 Supporting Facilities and Utilities Construction
- 7 Testing and Commissioning

The construction of artificial island is progressing at full speed and the detailed design of the facilities has also commenced. The first set of combustion grate of the incineration plant has completed Factory Acceptance Test (FAT) in Poland in June 2019 to ensure all components comply with design quality and functionality.

Upon delivery of the equipment to the island, further tests such as Site Acceptance Test (SAT) and commissioning test are performed to ensure all stringent requirements are met.

Dongguan

Project Progress

The construction has started for three years. The environmental baseline survey has finished and works have begun on some early-stage marine works including building of seawall, deep cement mixing foundation, caisson fabrication and installation etc.



The seawall and breakwater of the artificial island comprised of 74 units of caissons. The heaviest unit weighed about 3,800 tonnes, with approximately 20 meters in height, 25 meters in width and 20 meters in depth.



Caissons delivery route

Shek Kwu Chau construction site

Other construction in progress

Concrete caissons for building the foundation base of breakwater
Estimate to finish by 1st Quarter, 2021

Seawall (ecoshoreline)
Estimate to finish by 3rd Quarter, 2021

Reclamation works:
Estimate to finish by 3rd Quarter, 2021

Environmental-friendly Operations

- The seawall on the eastern side of the construction site used traditional dredging and block seawall construction methods. Other areas used non-dredged method by installing precast concrete caisson.
- Installation of precast concrete caisson will minimize underwater acoustic and thus reduce disturbance to finless porpoise and the impact on water quality.

Currently the main construction is on marine works. Fabrication of precast concrete caissons for building seawall and breakwater have finished. Delivery and installation of precast concrete caisson is estimated to be finished by 1st Quarter in 2021. The construction of the seawall and its surrounding area is in progress now.

Construction site in January 2021



Ecology Neighbour

Prior to the commencement of the project, the environmental team had collected baseline data for future reference and comparison. There will be continuous monitoring and assessment during the construction period on potential impacts on the environment.

Environmental monitoring has been in progress since construction commenced in June 2018.



White-bellied Sea Eagle

Shek Kwu Chau is a natural habitat of white-bellied sea eagles. During the construction period, there is a series of mitigation measures, e.g. avoid high level noise works during their breeding season, restrict construction vessels to be near their nests and minimize glare disturbance.

Finless Porpoise

The water around Shek Kwu Chau is a key ecosystem for finless porpoise. In order to minimize the impact during the construction period, the team has set-up three types of special monitors by conducting systematic and quantitative research on the finless porpoise, including distribution, habitats, baseline movement and behavioural model etc.

Coral

Six species of coral could be observed in the proximity of the Shek Kwu Chau construction site and one of the species is a rare one. The construction team has carried out translocation for the movable coral and set up regular post-translocation monitoring work.

Monitoring reports are uploaded regularly in the official website for the public to review (<https://www.mhk.com/>)

Architecture and Landscaping

Design Features

The design of I-PARK adopts a “green, clean and lean” theme for blending with its pristine neighbour, Shek Kwu Chau. Visitors can enjoy the facility that blends harmoniously with the landscape during their tours.

The landscaping of I-PARK is inspired by the three elements of the nature: sky, sea and mountain, blending the facilities with nature.

Integrated Waste Management facilities include:

- Boiler
- Flue Gas Treatment System
- Mechanical Sorting And Recycling Facilities
- Turbine Generators
- Environmental Education Facilities
- Administration Building
- Desalination Plant
- Wastewater Treatment Plant
- Chimney

Environmental Education Facilities

The public can join guided tours for an up-close experience of main components of the I-PARK. Visitors can also have a better understanding of Hong Kong's waste management policy and the ecological environment of Shek Kwu Chau.

Integrate Solar Panel System Into Architectural Design

Solar panel system is integrated into the design for long-term operations and safety. The use of renewal energy will reduce dependency on fossil fuel and able to achieve sustainable development.

Mechanical Sorting And Recycling Facilities

Green roof and vertical green design are widely adopted for the building.

Greenery

A variety of greenery will be planted on the vertical wall of the building to carry through the design theme.

Chimney

The exterior design of the chimney resembles the sail of a sailing boat, symbolizing smooth sailing.

Turbine Generators

Solar panel system is installed on the roof of the building, transforming solar energy to electricity for use in the facility.

Boiler & Flue Gas Treatment System

Vertical green design is widely adopted for the building.

Ferry service is available for visitors to travel from Central and Cheung Chau.

The architectural and landscaping design strive to acquire the green building rating accreditation of BEAM Plus Gold or a higher rating for the project.