



中國建築工程(香港)有限公司

CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.

設計及建造將軍澳中醫醫院及政府中藥檢測中心

Design and Construction of Chinese Medicine Hospital and
Government Chinese Medicines Testing Institute in Tseung Kwan O



Green Contractor Award 2022
Smart Green Site

Project Profile

**Design and Construction of Chinese
Medicine Hospital and Government
Chinese Medicines Testing Institute in
Tseung Kwan O**



MiC & MIMEP



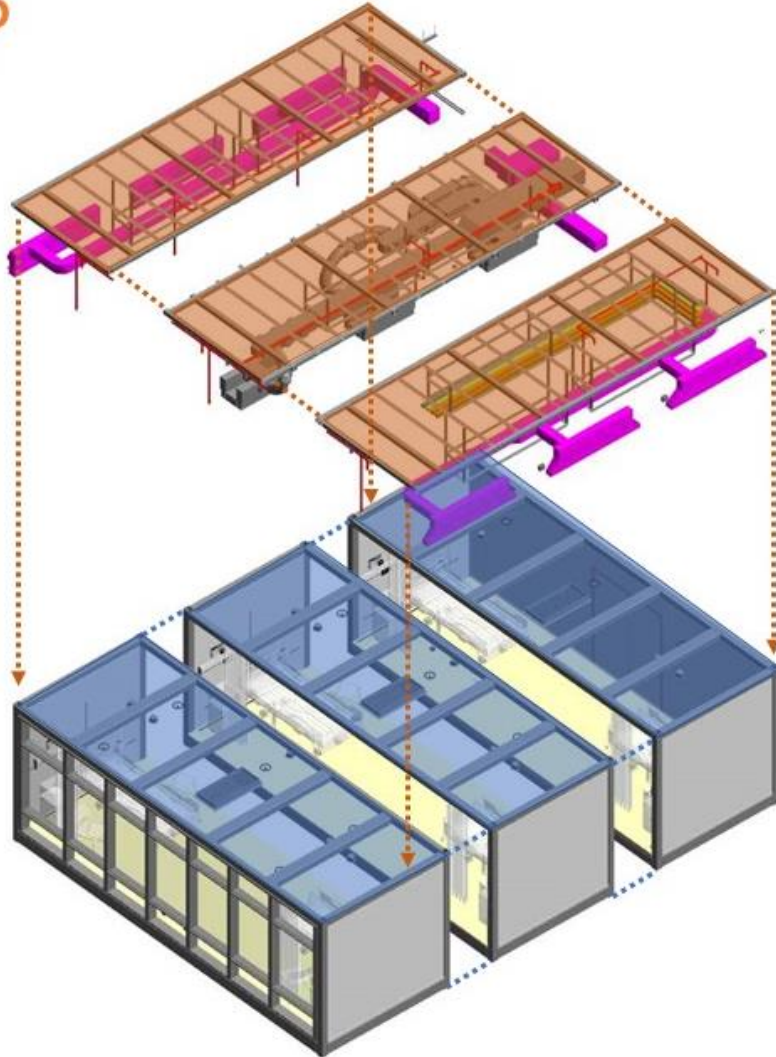
Modular integrated construction (MiC) and Multi-trade Integrated MEP (MIMEP) were applied, which greatly reduced the on-site construction operations, shortened construction time, reduced dust and noise interference, and made the construction site cleaner and more hygienic. At the same time, it also reduces the generation of construction waste, making the project more environmentally friendly.





MiC & MiMEP

MiMEP



MiC

MiC and MiMEP technologies are extensively applied in this Project to overcome the complexity and constraints. Applications include:

- Ward
- Clinic
- Office
- Lounge
- Toilet
- Plant Room





Low-carbon Construction



The Contractor creatively proposed a low-carbon construction plan, including the construction of a zero-carbon command center, and other innovative measures that run through the entire building life cycle, providing a benchmark for the construction industry to promote low-carbon construction.





C-SMART Smart Site



Panoramic monitoring and Augmented Reality (AR) Map are often used by management. Site management team can monitor the environmental status of the site in real-time.



The project uses C-Smart intelligent platform to help executives manage environmental protection. For example, the environment and energy management in C-Smart can monitor surrounding environmental temperature, noise, wind direction and electricity consumption at any time.



Construction information management system (CIMS) cloud system developed by CSHK to help site inspections and rectification. When site management team finds that there is an environmental issue on the site, they can take photos and upload them to the system. Enabling the person in charge to evaluate and rectify the items in a timely manner.

CIMS APP





Happy Workers APP

The project is committed to promoting the concept of environmental protection on the site through technology.

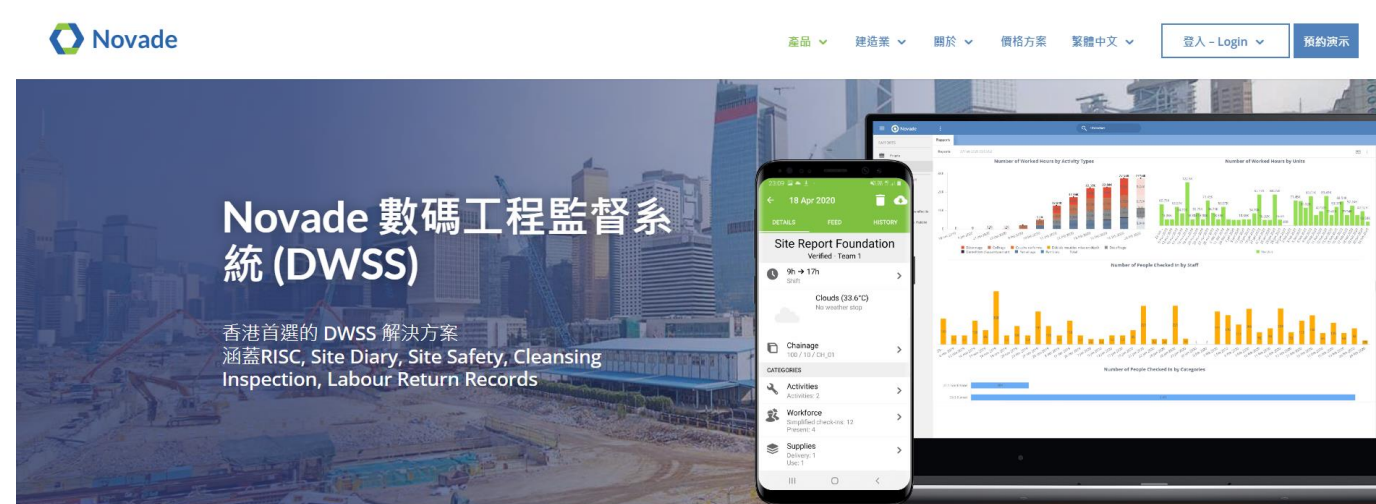
Through the Happy Workers APP developed by CSCEC Hong Kong, management can issue reward stamps to workers with good environmental protection performance. After collecting a certain number of stamps, they can be exchanged for gifts.

We can encourage all workers to do a good job in site environmental protection through utilizing technology.





Digital Works Supervision System DWSS



Novade 數碼工程監督系統 (DWSS)

香港首選的 DWSS 解決方案
涵蓋RISC, Site Diary, Site Safety, Cleansing Inspection, Labour Return Records

Novade DWSS 如何運作？

收集工地信息



使用移動設備管理網站上的工作流程

自動同步



所有用戶和設備都連接在一個易於使用平台上

發送及時的報告



準確，可靠和實時分析

[觀看視頻](#)

No-paper office





Green Technology



Energy Storage System — Ampd Enertainer

No direct “tailpipe” emissions. None of the harmful CO, CO₂, NO_x, SO₂ or PM.
Nearly 32 times quieter than a diesel generator.



Use electric forklifts instead of traditional diesel forklifts to reduce harmful emissions.



The rooftop surface of the MiC zero-carbon command center adopts nano heat-insulating coating, which effectively inhibits heat transfer.



Green Technology

Food waste is collected for composting by the Decomposer into organic fertilizer which is then used for planting on site.





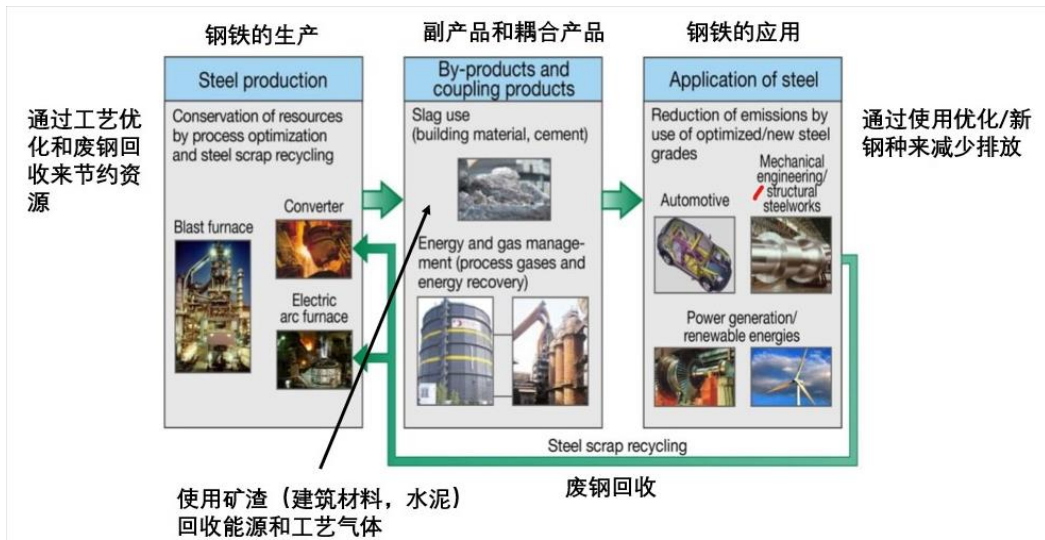
Green Technology

Extensive application of solar energy equipment

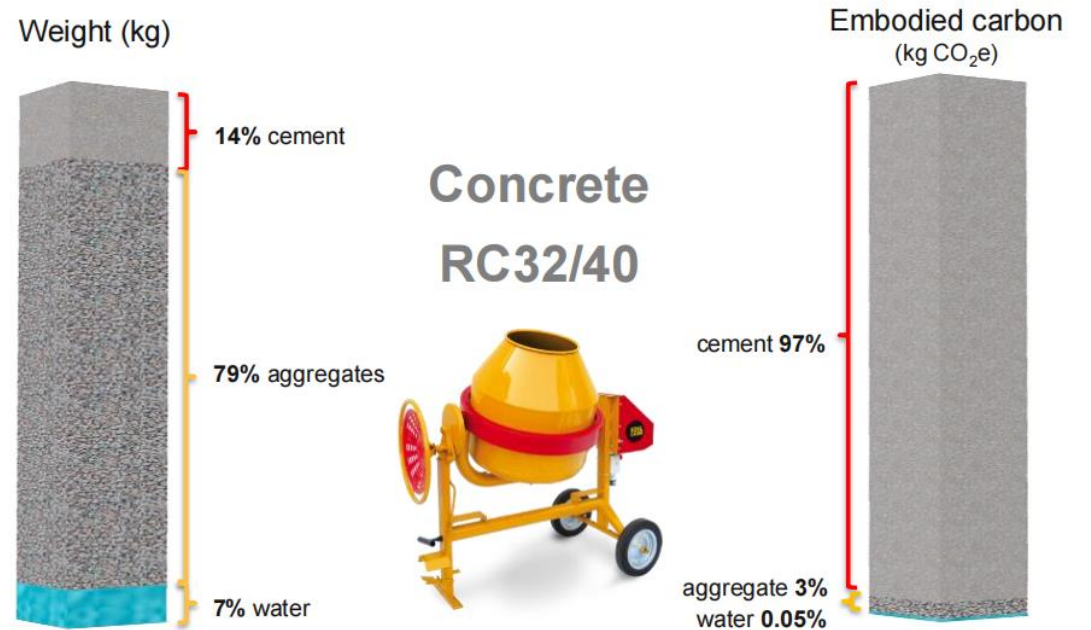




Green Building Material



Adopt Eco-friendly steel reinforcement



Adopt 35%PFA green concrete





Recycle



Category	Metals (steel bar / metal strip)	Metals (aluminum can)	Paper / cardboard packaging	Plastics
Weight (Ton)	1089.66	0.030	0.856	0.175

Data up to January 2023





Recycle



Broken rocks from excavation were delivered to off-site recycling plant for processing, to reduce breaking procedure and noise nuisance on site.





Dust Control



On sunny and dry days, water truck is arranged to spray the main haul road every hour so as to maintain the entire road surface wet. Sanitation workers clean the main paved road every day as well.



All the vehicles leaving the Site are properly cleaned, loaded and covered in such a manner that excavated material, mud or debris would not be deposited on road.



Dust Control



Automatic water spray system was setup at the working area of any excavation or earth moving operation.



Dust Control



Open stockpiles of construction materials or exposed slope surface are covered by tarpaulin.



Monitor emissions from relevant plant and machines.



Air quality monitoring is conducted by Environmental Consultant every 6 days at the nearby ASR.





Noise Control



Checking the plant and machines regularly.



Adopt QPME or Quiet machinery





Noise Control



The breaker tips are wrapped with sound insulating material to reduce the noise



Setup movable noise barrier



Setup noise barrier at site boundary



Setup temporary noise barrier



Setup temporary noise barrier





Water Pollution Control

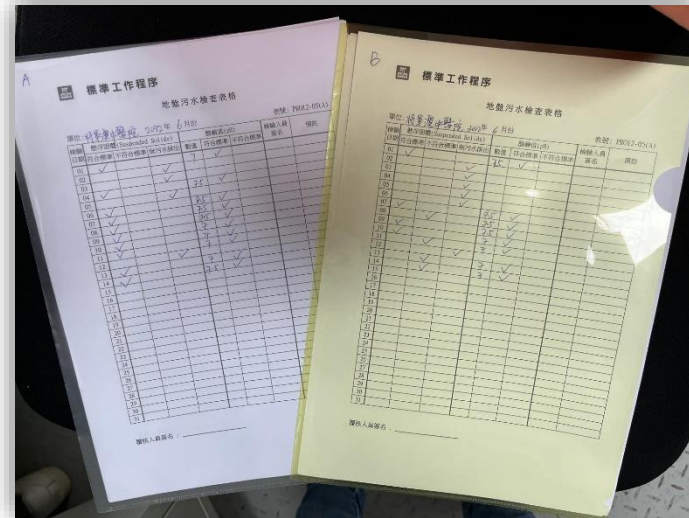


Three wastewater treatment facilities are setup on site to treat the wastewater generated on site.





Water Pollution Control



Carry out water sampling every day to ensure the water quality has fulfilled the discharge license requirement before discharging.





THANK YOU

