

# Collaborative Partnership



Development Bureau

THE NEC JOURNEY  
IN HONG KONG

## The NEC Journey in Hong Kong

To improve citizens' quality of life, enhance Hong Kong's competitiveness and promote our economic development, the Hong Kong Government has been implementing a wide range of public works projects.

The Development Bureau continually advocated **“collaborative partnership”** in delivering public works projects in Hong Kong, including the introduction of the **“New Engineering Contract” (NEC)\* form**, aiming to elevate management efficiency and cost effectiveness. This initiative began to blossom and bear fruit with encouraging results. Accordingly, a new management culture has been revolutionised in the construction industry.

*\* NEC is a standard suite of partnering contracts developed by the Institution of Civil Engineers in the United Kingdom which emphasises on mutual trust and co-operation and collaborative risk management.*

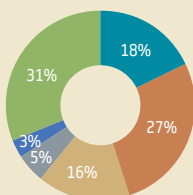


## 1st Pilot - Fuk Man Road Nullah Improvement

- The first NEC pilot carried out in Hong Kong was the Fuk Man Road Nullah Improvement in Sai Kung in 2009.
- Project was successfully completed six months ahead of schedule plus cost savings in 2012.

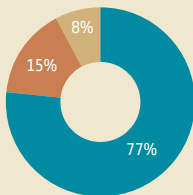
### Total NEC Works Contracts: 93

- ECC Option A
- ECC Option B
- ECC Option C
- ECC Option D
- ECSC
- TSC Option A



### Total NEC Consultancy Agreements: 13

- PSC Option A
- PSC Option C
- PSC Option G

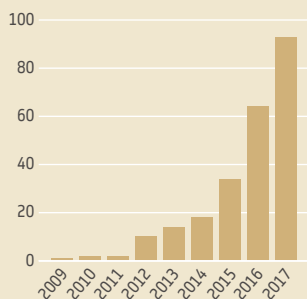


(as at December 2017)

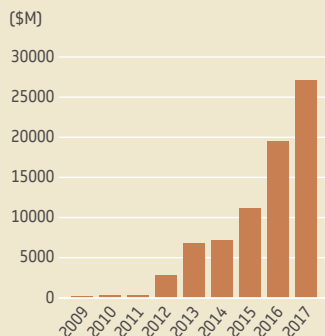
## Wide Adoption of NEC in Public Works

- Since 2009, the Development Bureau worked alongside works departments to extend the NEC form to various works categories, including land supply, building, highway, drainage and sewerage, water supply, electrical and mechanical works, geotechnical works, and operation and maintenance.
- Construction industry stakeholders including clients, consultants and contractors are encouraged to accumulate expertise and experience.

### Accumulating Number of NEC Works Contracts



### Accumulating Project Estimate



## The NEC Journey



Improvement of Fuk Man Road Nullah in Sai Kung



Retrofitting of Noise Barriers on Fanling Highway



Happy Valley Underground Stormwater Storage Scheme



Design and Construction of Tin Shui Wai Hospital

2009

2010

2012

2013



## Enhance Collaboration

- Contracting parties have abandoned the zero-sum thinking and pursued **win-win** solutions for projects.
- For the design-and-build project of **Tin Shui Wai Hospital**, managed by the Architectural Services Department, collaborative working environment was established to cater for modifications evolved from the specialist users' requirements and fast track design development.

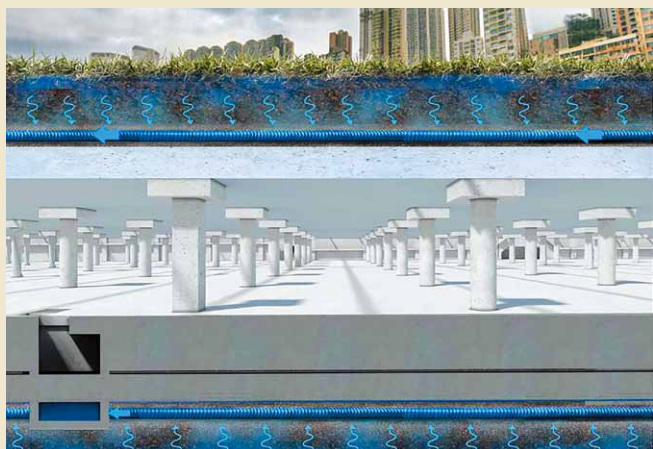


Design-and-Build Project – Tin Shui Wai Hospital

## Unlock Innovations



- The **Happy Valley Underground Stormwater Storage Scheme (HVUOSS)** managed by the Drainage Services Department, opted for the target cost option which unleashed cost saving innovations including alternative foundation with subsoil drainage system.
- The HVUOSS was fully commissioned in March 2017 (ahead of schedule) with a cost saving which amounted to some \$60 million (about 5% of the final target cost).



Alternative Foundation with Subsoil Drainage System of HVUOSS



Improvement of Fresh Water Supply to Cheung Chau



Management and Maintenance of High Speed Roads in New Territories East and Hong Kong Island



Improvement Works at Mui Wo, Phase 1



Photovoltaic System at Siu Ho Wan Sewage Treatment Works

2014

2015

## International Recognition



- The Development Bureau was honored with the Winner Award in the NEC Client of the Year category along with the Highly Commended Award in the Contract Innovation Through Additional Clauses category of the NEC Awards 2017\*\*.
- Moreover, the Drainage Services Department won the Winner Award in the Contract Innovation Through Additional Clauses category in the same contest for the HVUSSH project.

\*\* NEC Awards were established in 2015 by the Institution of Civil Engineers in the United Kingdom, aimed to commend excellent performance and innovative practice in project delivery through collaborative partnership by organisations across the world.

## Strive for Excellence



- A new chapter of the NEC journey in the public works procurement has just unfolded.
- Currently we are planning the progressive transition from NEC3 to NEC4 to enhance collaborative partnering, unlock innovations and achieve better cost management and value for money in public works.
- Furthermore, we are confident that the NEC form will continue to help shape the **new management culture** in the construction industry for its sustainable growth and development.



Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works



Secondary School at Kai Tak Development



Central Kowloon Route (under planning)



Cross Bay Link, Tseung Kwan O (under planning)

2016

2017

## Performance Benchmarking



- We are introducing benchmarking mechanisms for measuring quantifiable benefits of the NEC form.
- **Key Performance Indicators (KPIs)** have been encompassed to measure the cost and time performance of NEC ECC contracts and to formulate further improvement goals.
- Preliminary analysis shows that the NEC form can help improve performance of works contracts in cost and time management, including large and complicated projects delivered on time and within budget.

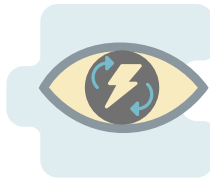
## Embrace New Technologies



- Works departments piloted the NEC form with new technologies, namely **Building Information Modelling (BIM)** and digital communication platforms.
- BIM would facilitate effective collaboration across the integrated project teams, help minimise changes in the construction process and exercise better resource management.



**Budget  
Monitoring**



**Risk  
Monitoring**



**Time  
Certainty**



**Finalisation  
Performance**



# Collaborative Partnership

Building a new culture, the NEC form is intended to:

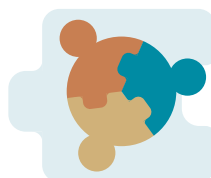
- stipulate **enhanced project management** through stakeholders' involvement;
- encourage contracting parties to embrace the **partnering** approach to build **mutual trust and co-operation**, essentially to avoid or reduce disputes;
- promote **equitable risk allocation** to reduce risk premiums absorbed in tenders;
- manage risks and uncertainties pro-actively through **early warning** mechanism; and
- use **clear and simple** language.

Majority of the people working on the NEC form for the first time were impressed by the difference from the confrontational characteristics of the traditional form and the teamwork generated by the NEC form.

## Building New Culture



**Stakeholder Involvement**



**Partnering**

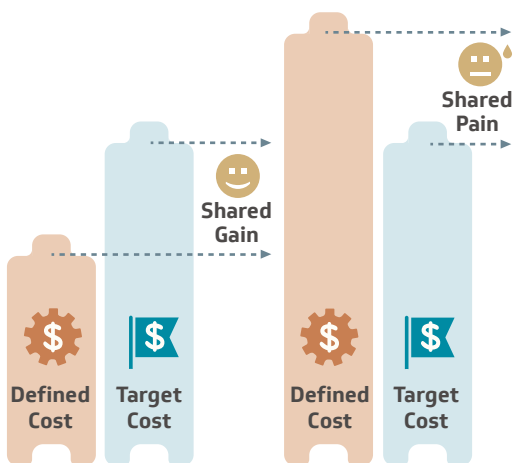


**Equitable Risk Allocation**



**Enhanced Project Management**

## Pain/Gain Share Mechanism



## Target Cost

- Target cost options of the NEC form incorporate a **pain/gain share mechanism** for the cost overrun and saving. An **open book accounting** is adopted to strengthen budgetary control and transparency.
- This mechanism incentivises contractors to pro-actively strive for more innovative and cost-effective proposals to lower cost and/or for early completion.
- The target cost options have been adopted in **relatively large projects** in Hong Kong which help to align common objectives of contracting parties and ultimately drive for better performance on cost and time management.



**Open Book Accounting**

# Knowledge Harvest

- We have published the **Practice Notes** to share with works departments and industry stakeholders with a view to aligning the practice and codifying the knowledge and experience harvested.
- Good practices, such as Champion Group, partnering workshop and joint site office, have been shared in the Practice Notes.
- We will continue to **work with industry stakeholders** to optimise contract management workflow for more efficient project delivery.



Sharing with Works Departments



Sharing with Industry Stakeholders



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