

Project Cases of HK with the use of various systems of Self-Climbing Formwork

prepared by Wong Wai-man, Raymond
as part of his presentation series
for the sharing of his long-year of construction studies in
the related field

1

Case 1

Lee Garden Hotel Redevelopment

2

- 50-storey office building
- inner core constructed in reinforced concrete
- outer frame in structural steel
- RC core constructed using the VSL climb form -- self-lifting formwork system using hydraulic jacks



Assembling of the climb form on the ground slab level



The climb form at
its trial operation



5

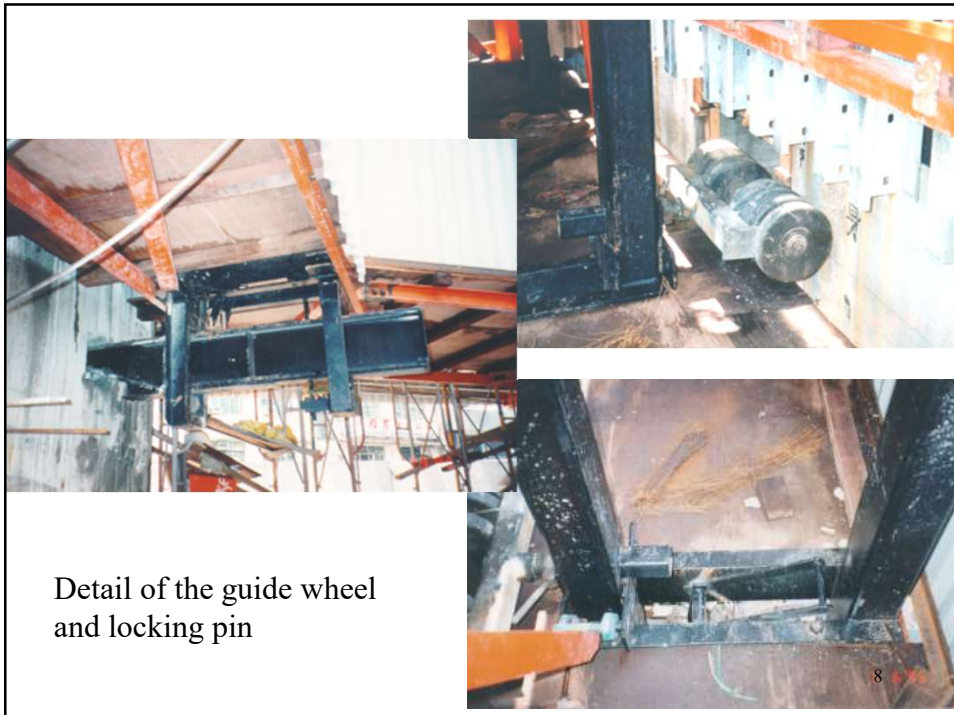
Details of
the Climb-
form
system



Gantry frame,
shutters, rail tracks,
and scaffold detail

6

More detail on the rail track for the panel shutters



Detail of the guide wheel and locking pin

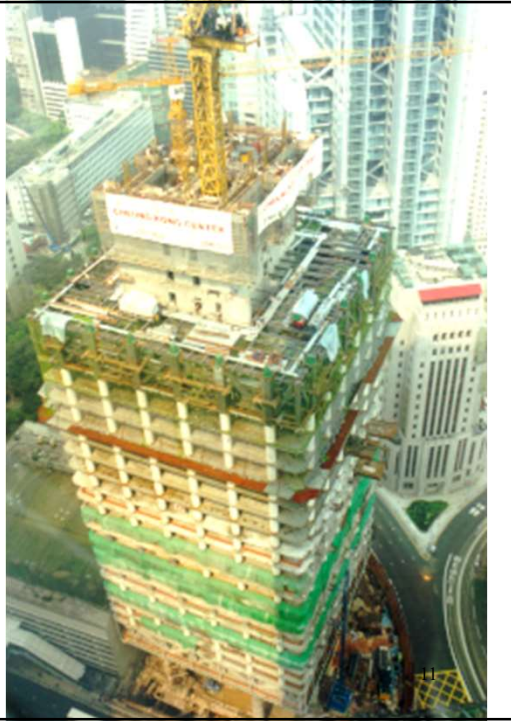
section of the core wall changed



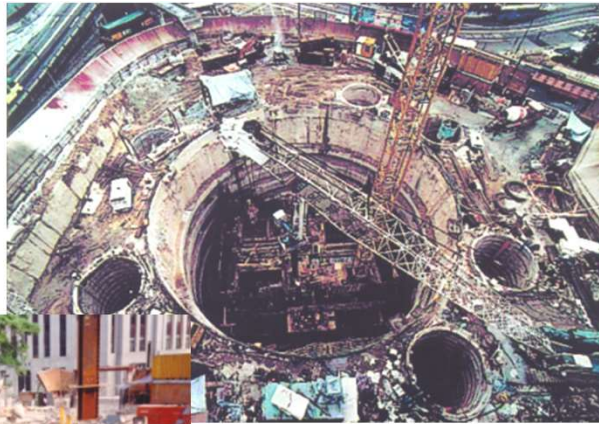
Case 2

Cheung Kong Center

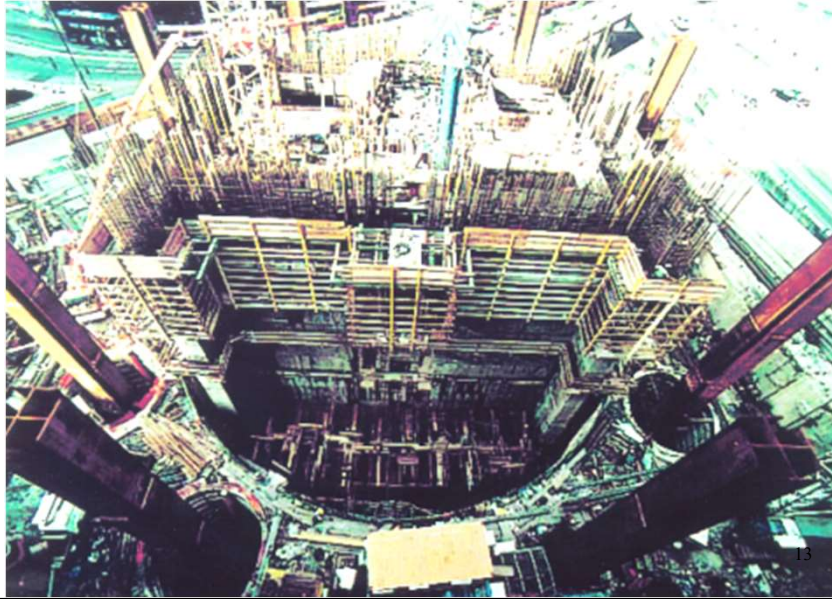
- 62-storey office building
- Jump form system for core
- composite slab and concrete-filled steel tube as the outer frame



Layout of the Jump Form rising from the foundation raft



Overall layout arrangement of the
Jump Form as seen from an elevated position



Formwork arrangement
as viewed from the side



The gantry frame that mounted the panel shutters rigidly within the core wall layout



15



16

Detail seeing the arrangement
of the formwork system with
the panel shutters in position



17

Form system as seen
from the inner shaft



18

Case 3

The Gateway

19

- 3 detached building towers each of 38-storey high
- structure of towers –
 - central core with averaged 12m span RC columns around
 - post-tensioned flat slab system,
 - core wall - VSL climb form, partially in large panel gang forms
 - slab – aluminium strutted flying form system



20

External view of the climb form for the construction of the core wall



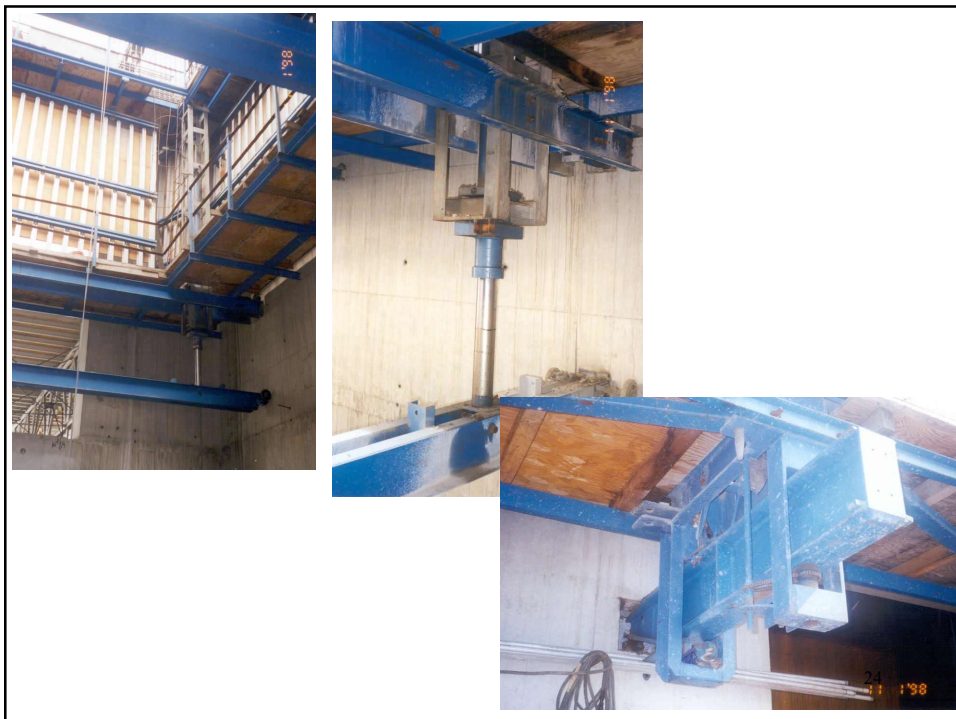
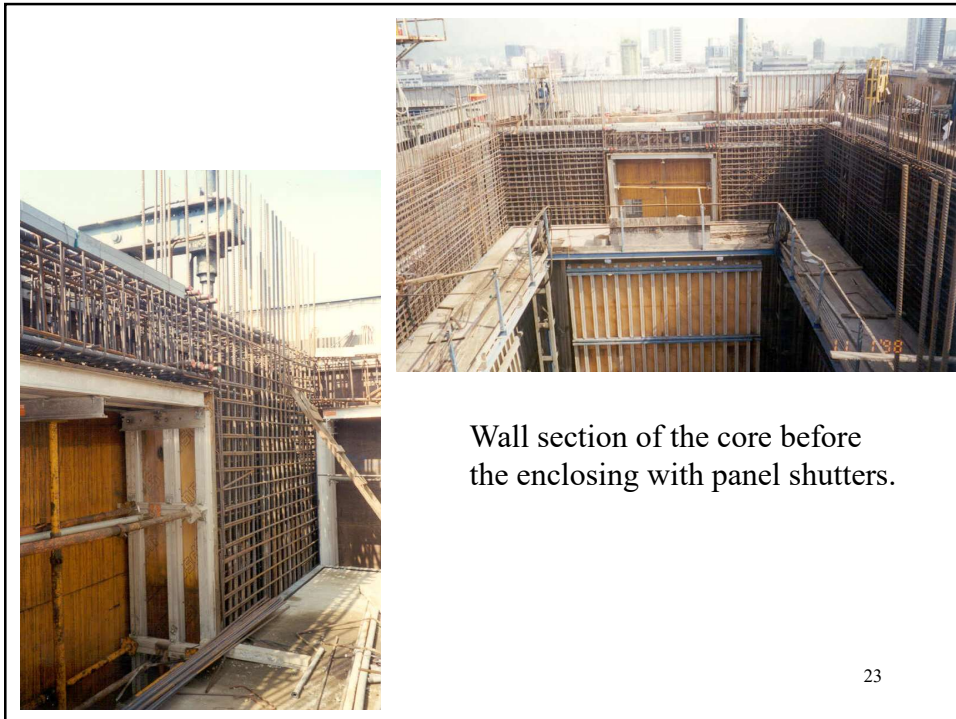
Some sections at the sides of the core wall are formed using large panel shutter

21



Floor slab as seen from various elevations

22



Case 4

Nina Plaza

25

Formwork Features

- Climb form for the core wall (3 isolated cores)
- Modified steel table form for floor slab
- Traditional timber form for podium structure



26

Arrangement of the
climb form for one
of the building cores



27

Side view of the form
seeing the platform
and the jacking rod



28

Overview of the formwork arrangement for the core and the floor



Floor formed in staggered manner



Propping arrangement
and the layout of the
table form as seen
from the underside



31

Finished look of the
completed building



Case 5

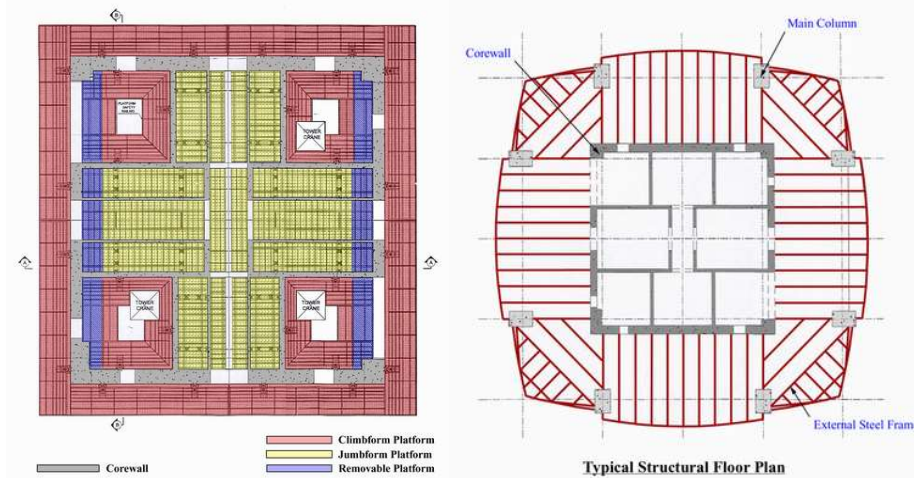
IFC II

33



34

Building frame and core wall layout



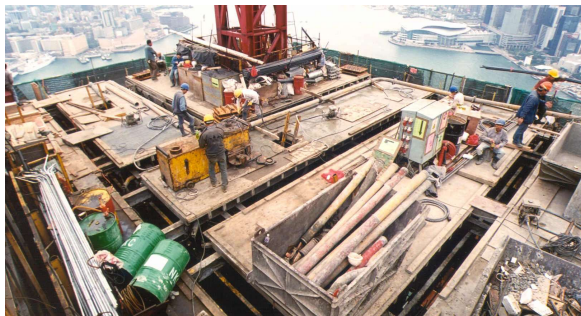
35

Formwork at its opened mold



36

Close up view of the hydraulic jack



Setting up of the climb form at the deck level

Deck at the topping out level





Finished look of the
completed building



Case 6

Residential Development at Repulse Bay

Formwork Features

- A curved apartment-type tower structure of 28-storey high
- 5 parabolic-shaped stair-core constructed using climb form
- Modified steel table form for the floors



Detail of the
staircase core



Junction detail
between core and
the floor slab



45

The table form for the casting of floor



46

The hydraulic jack mounted on the external face for the lifting of the climb-form system



47

Finished look of the completed building



48

Case 7

Chartered House

49



50

Large panel formwork for
the ground floor core wall



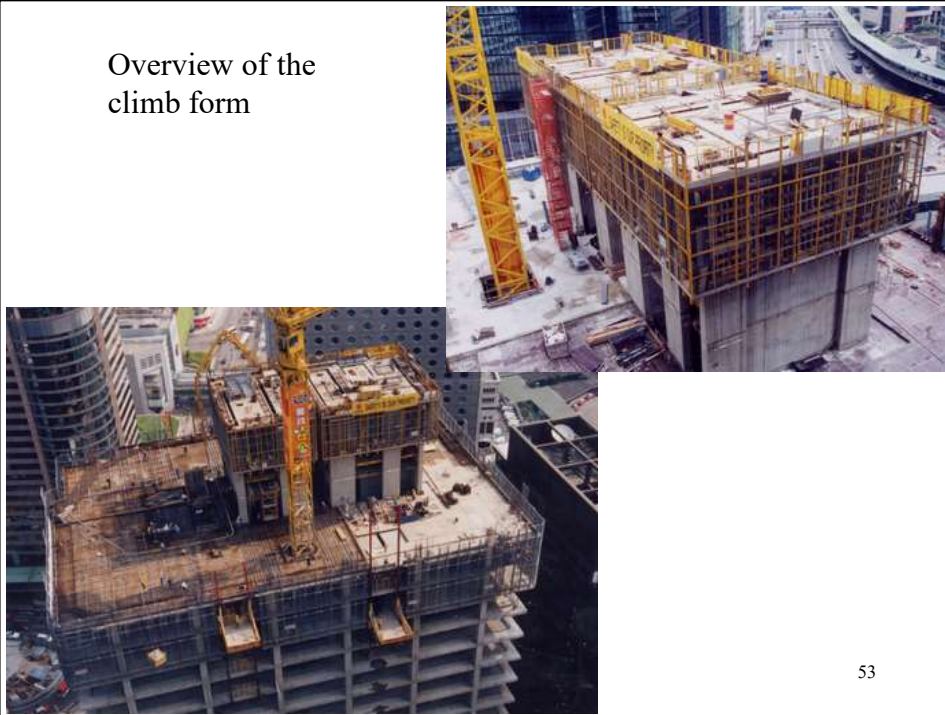
51

Modifying the
large panel form
into the climb
form by adding in
the gantry frame
and jack system

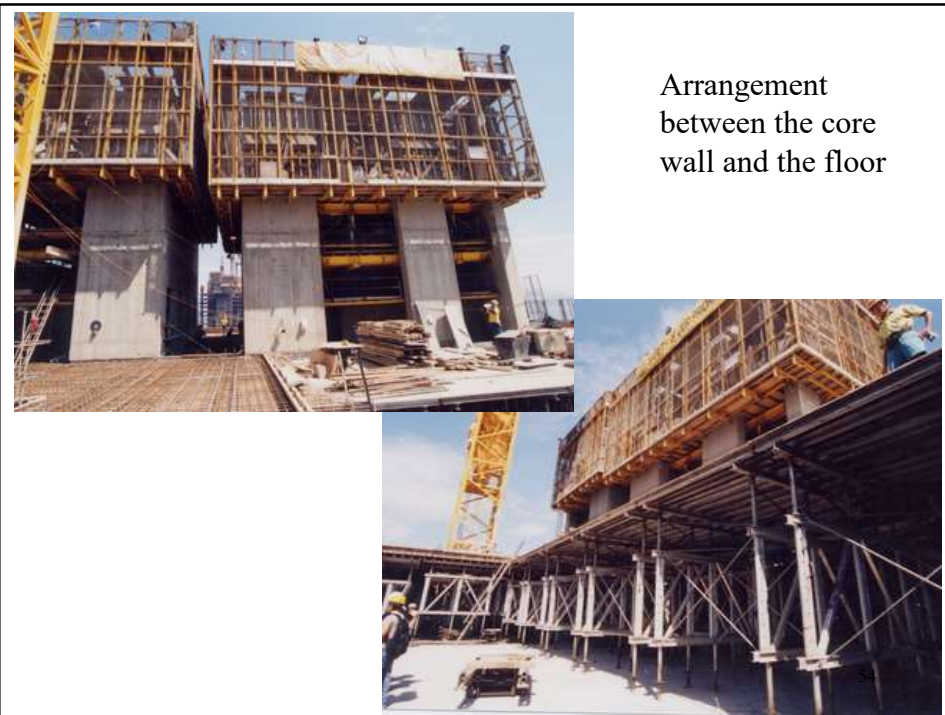


52

Overview of the
climb form



Arrangement
between the core
wall and the floor



Layout of the core wall and the gantry/jack system within the core wall shaft



Placing a section of the table form onto the floor slab





Case 8

URA Mong Kong Redevelopment, Langham Place

59



60

Forming the transfer plate
and the lower section of
core wall using manual
timber form



The lower section of core wall
below the transfer plate

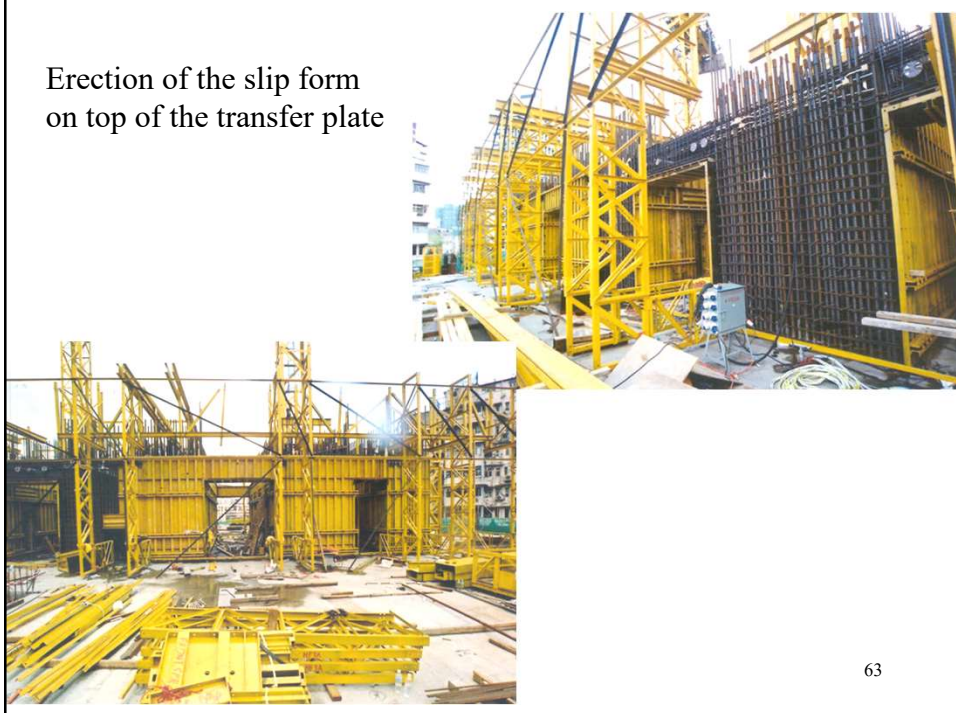
61

Erection and trial
operation of the
slip form system



62

Erection of the slip form
on top of the transfer plate



63



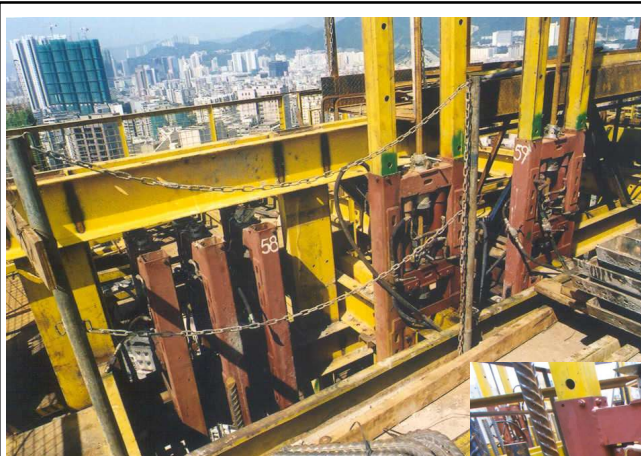
Arrangement for the core
wall and floor formwork

64

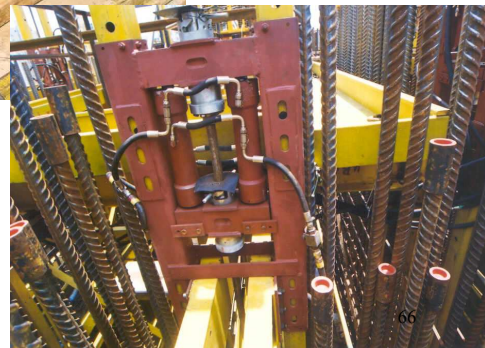
Layout/gantry frame
arrangement above and
below the deck level



65



Close up detail of the
hydraulic jack system



Finished look of the
completed building



Case 9

One Island East in Quarry Bay





Close up look of the formwork system incorporating with the former shutter, work platform and the stabilizing frame

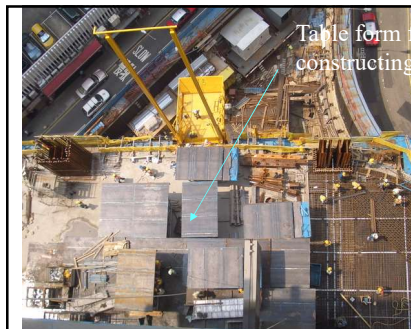


Table form for constructing the floor slab



Close up detail of the attaching core wall and the floor formwork in the form of reduced-size table

72



Material hoist for the lifting of the table form units and the climbing-type safety screen covering the building exterior⁷³

Case 10

Housing Authority's Housing Project in Fanling,
Wah Ming Estate



75



Detail of the jump form for constructing the core wall





Detail and layout of the jump form for constructing a typical wing



77



Close up seeing the operation detail of the jump form and the guide rail for the panel shutters



78

Case 11

Hopewell Centre, Tower 2

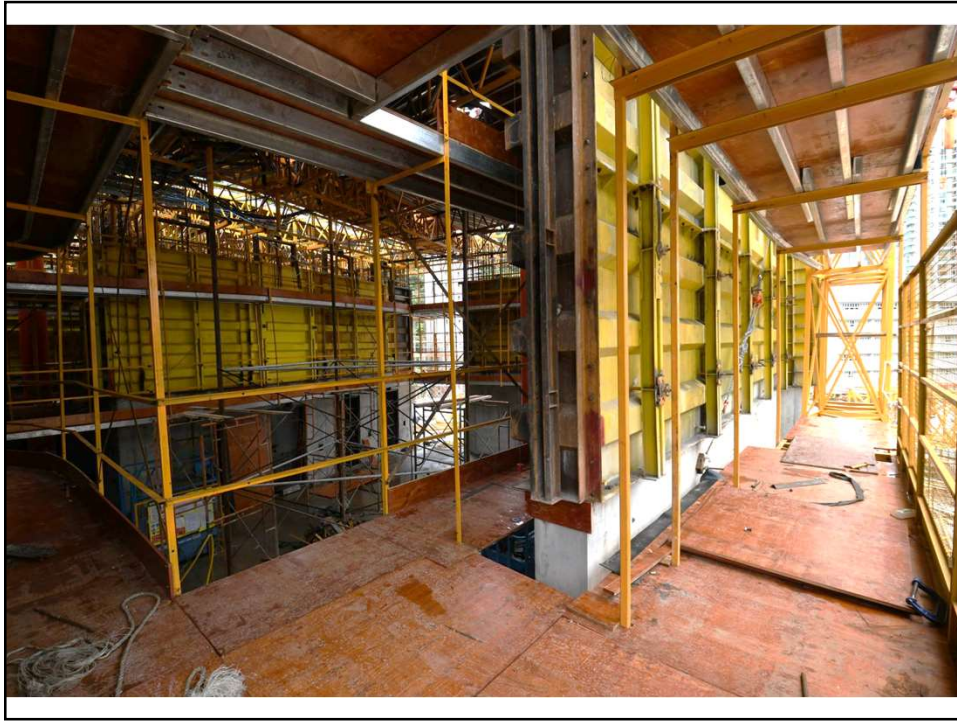
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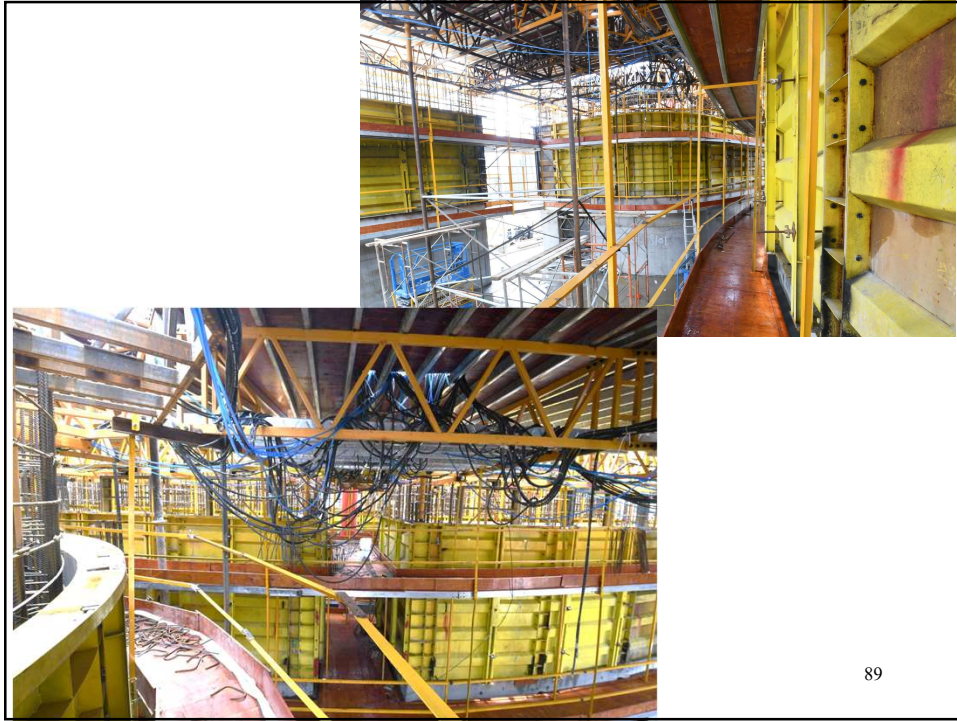


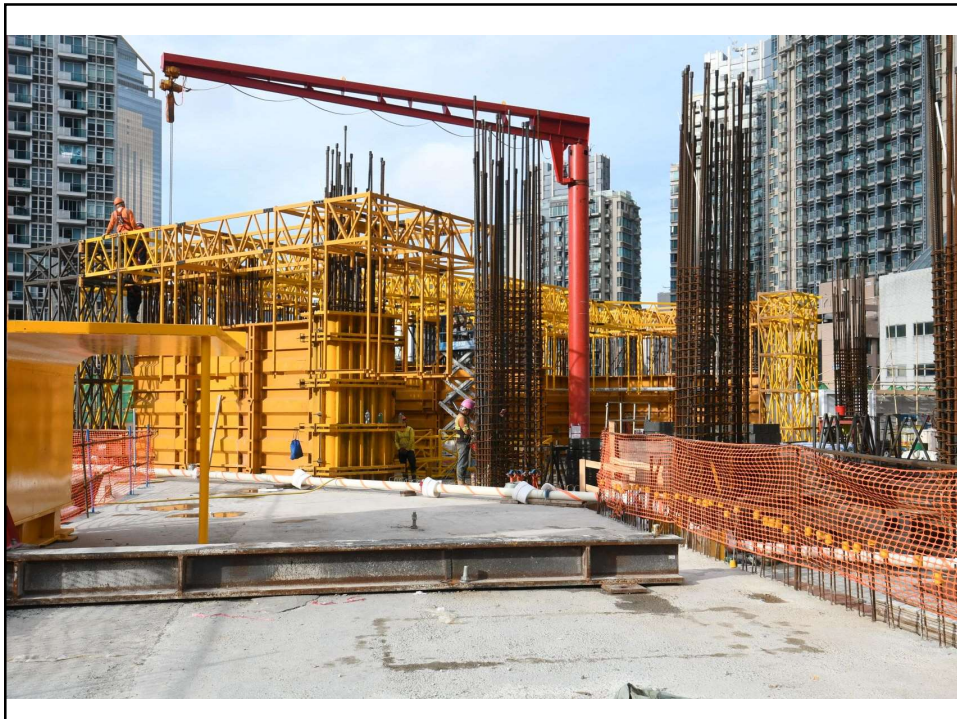






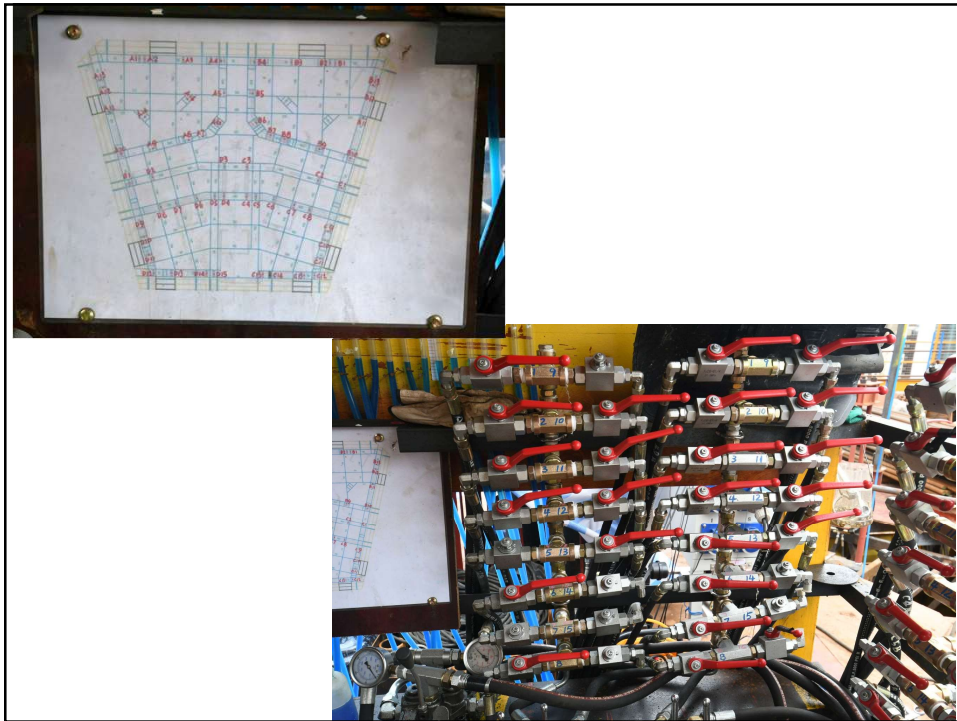














99

End of presentation

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<http://const-infobank.org/>

Thank you.

100