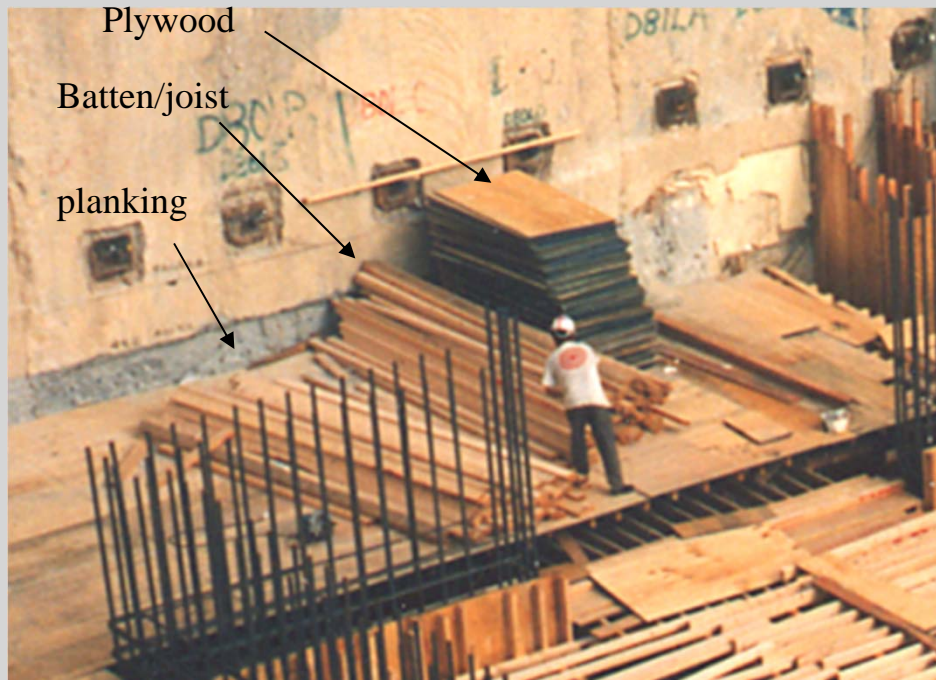


# Traditional Formworks

## Features of traditional formwork

1. Usually timber in the form of plywood, planking, batten and joist are used as the basic material.

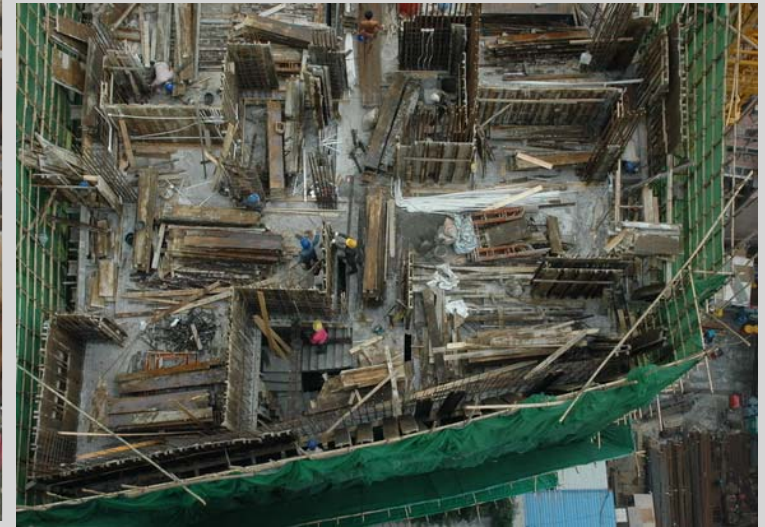
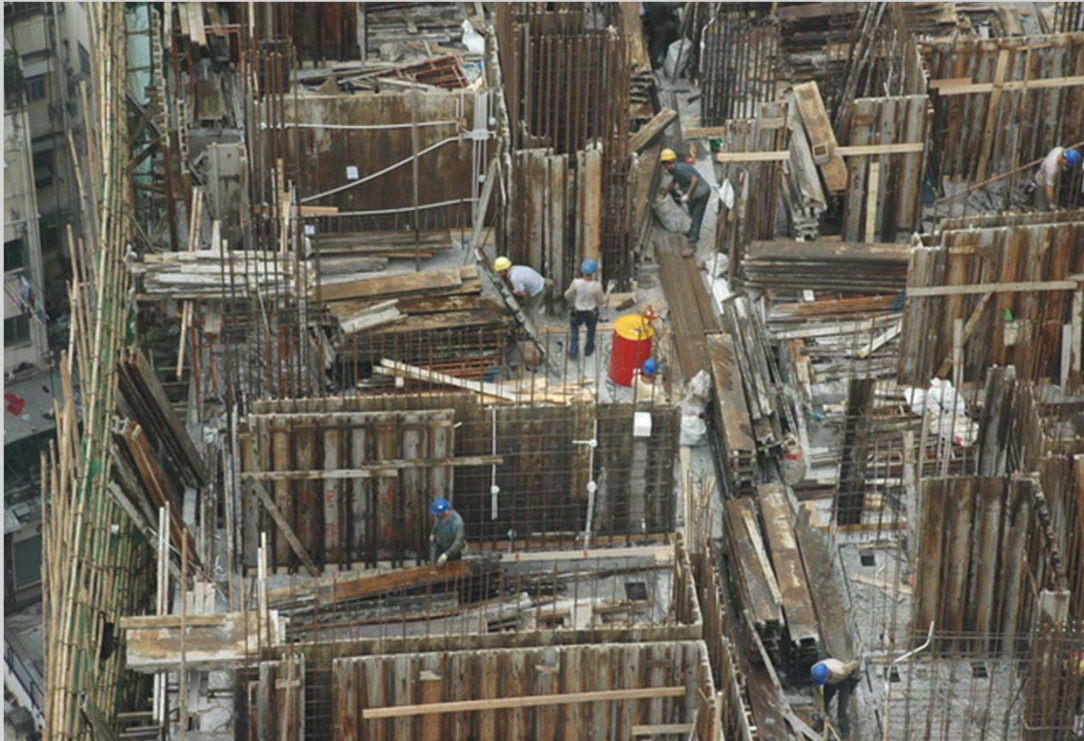


Batten (stud) to stiffen the plywood panel

Plywood with plastic coating to make the surface more smooth and durable



2. Installation of the formwork is on a labour-intensive basis.



Human workers need to enter into every corner to perform the formwork installation works



3. The work operation is so designed to allow a single worker can handle his work basically by oneself.



Size and weight of each formwork panel is so designed in the right combination to be moved and lifted for installation by a single worker



## Features of traditional formwork

4. Except for simple hand-tools, limited machinery is required in the installation process.
5. Every work location is required to be taken care by human workers



Every small, difficult accessible and awkward shaped location can be taken care of by human worker

6. Works are repeated from location to location or from floor to floor. For example, when workers completed the installation of formwork on the lower floor, they need to get up to the upper floor and repeated the works again though they are basically the same.

## Features of traditional formwork

7. Tailor-design work can be achieved especially for complicate-shaped building details or layout.
8. Efficient for small scale and non-typical building projects where identical component cannot be used.

Relatively small site with limited building area on each floor





# Wall Formworks and its components

Timber  
joists



Timber  
Walings

Tie rod with  
bolts & nuts

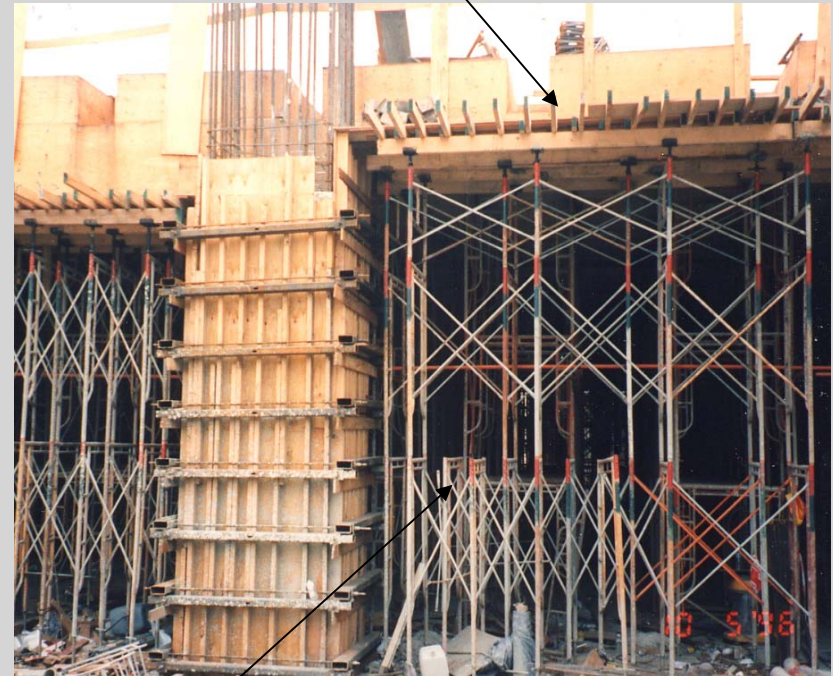
Battens or  
stiffening stud

Kicker  
plate

# Wall Formworks and its components

Floor soffit

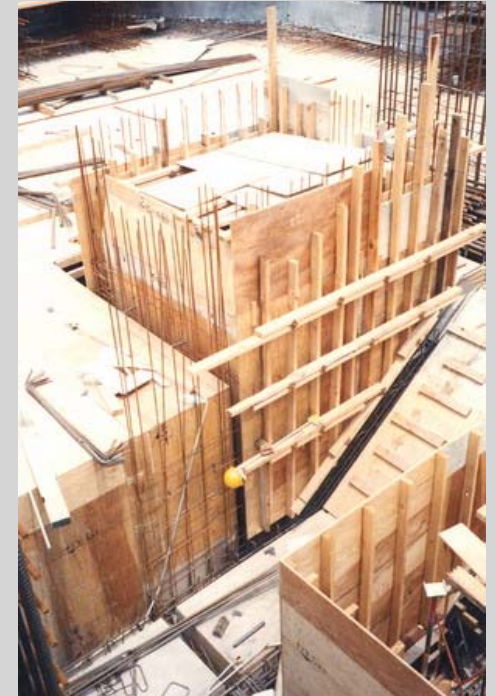
Timber joists to support the floor soffit



Metal prop (tubular frame)



## Staircase formworks – floating panel interfacing with adjacent wall

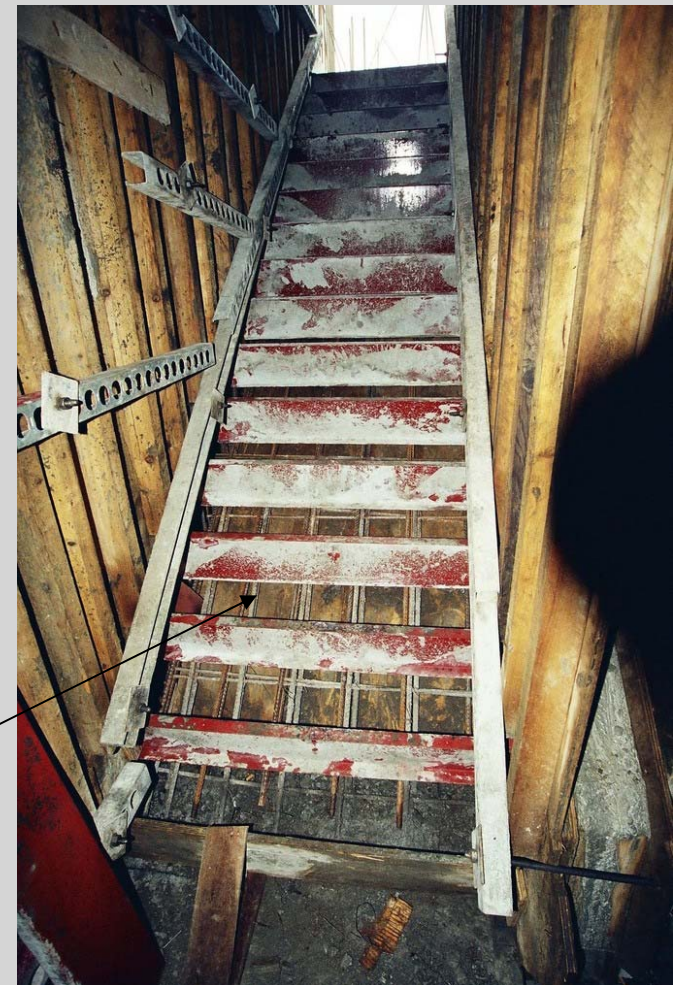




## Staircase formworks – typical location where manual-type timber formwork system applied



Tread and Riser formed  
by timber plank board



Tread and Riser  
using metal  
forming module



Staircase formworks - Complicated 3-dimensional geometry of a staircase also makes it more suitable for the use of manual method.





Staircase formworks - Complicated 3-dimensional geometry of a staircase also makes it more suitable for the use of manual method.



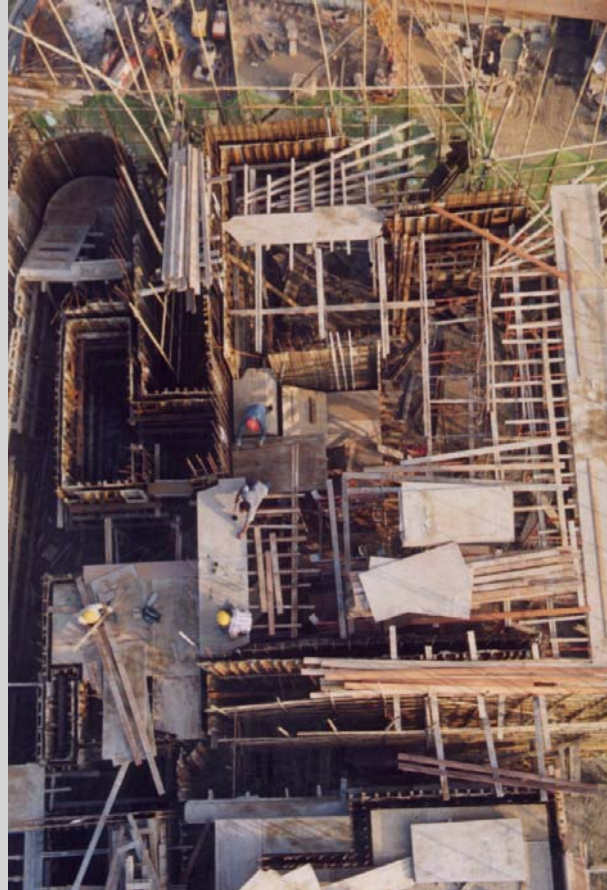


Final stage of wall form installation before the placing of the slab formworks





## Placing of the slab formworks





Wall and Floor formwork further complicated under situation with high-headroom

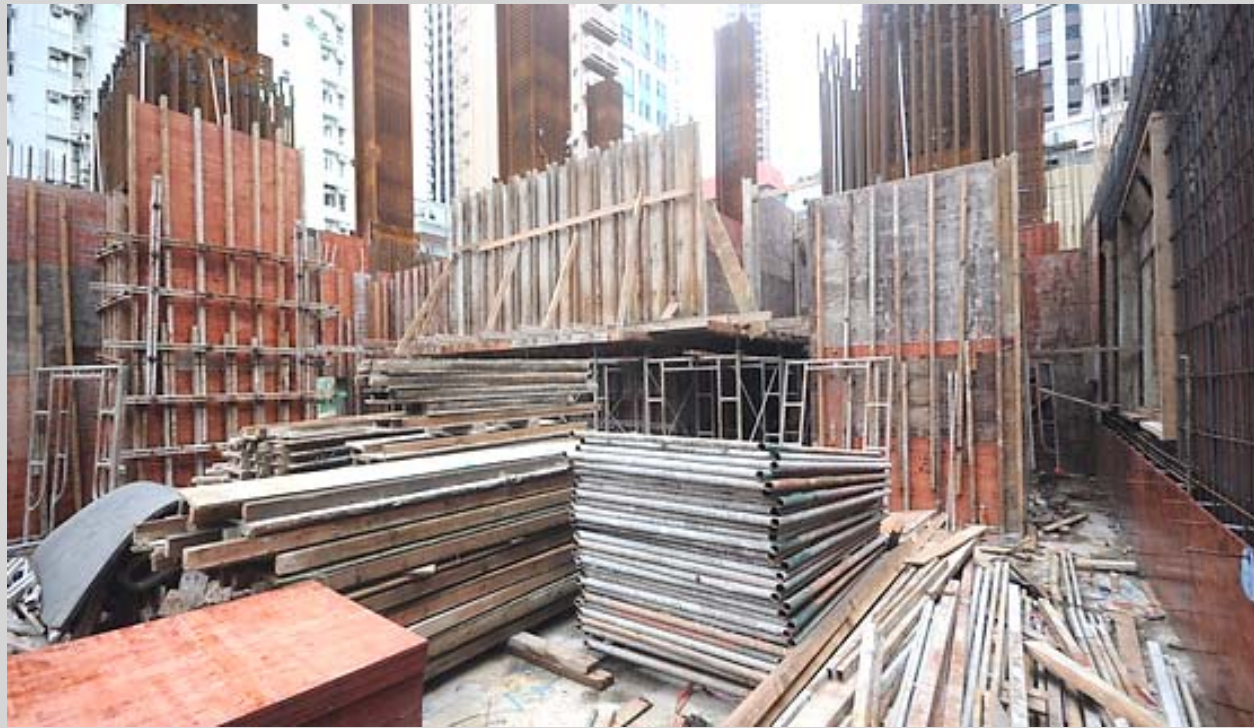






Wall and Floor formwork further complicated under situation with high-headroom (such as for podium structure)





Typical formwork set-up for podium floor with higher headroom.



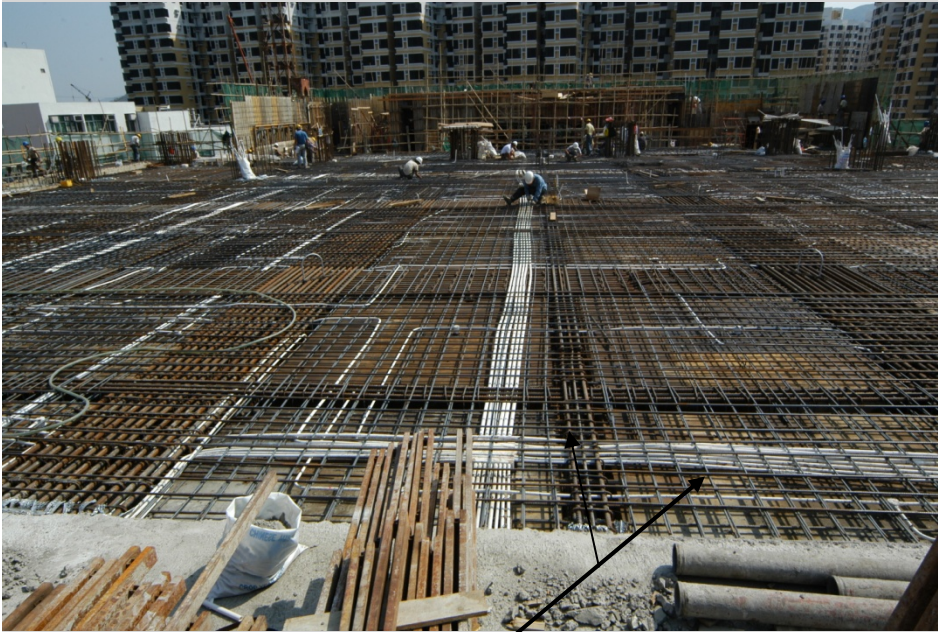




The podium interior after concreting and removing of formwork (usually with high headroom, long-span beams, and may not have too much large columns especially using transfer plate)



## Fixing the Slab and beams reinforcing bars



Electrical conduits to be  
embedded in floor concrete



Shutter boards for  
the flower box





## Fixing the Slab and beams reinforcing bars

Electrical conduits  
to be embedded in  
floor concrete





The floor interior with the formwork final fixing, adjusting and securing being completed ready for inspection before concreting





## Placing of concrete for the slab and beams



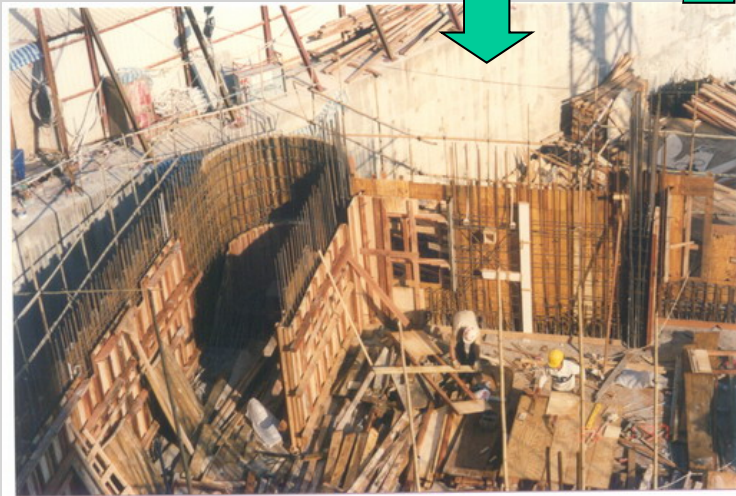
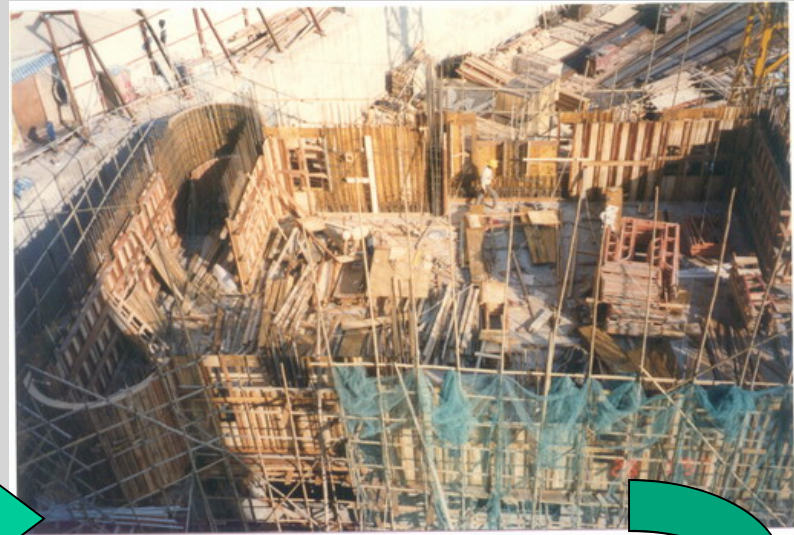
Gangway set up for the placing of concrete using wheel barrow



Leveling of the surface after concreting

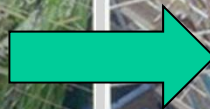


# Typical handling and work sequence – Case 1, building of smaller area





## Typical handling and work sequence - Case 1



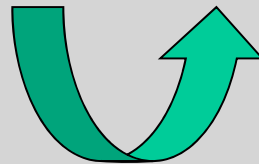
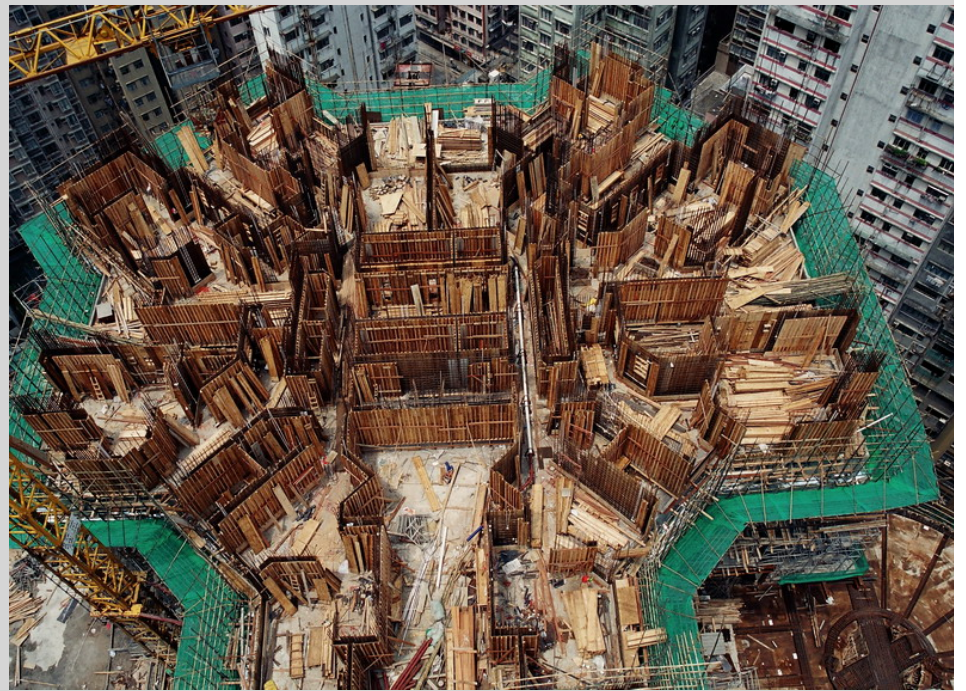


## Typical handling and work sequence - Case 2, building of larger area



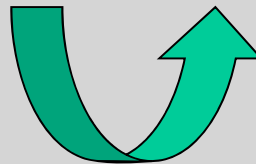
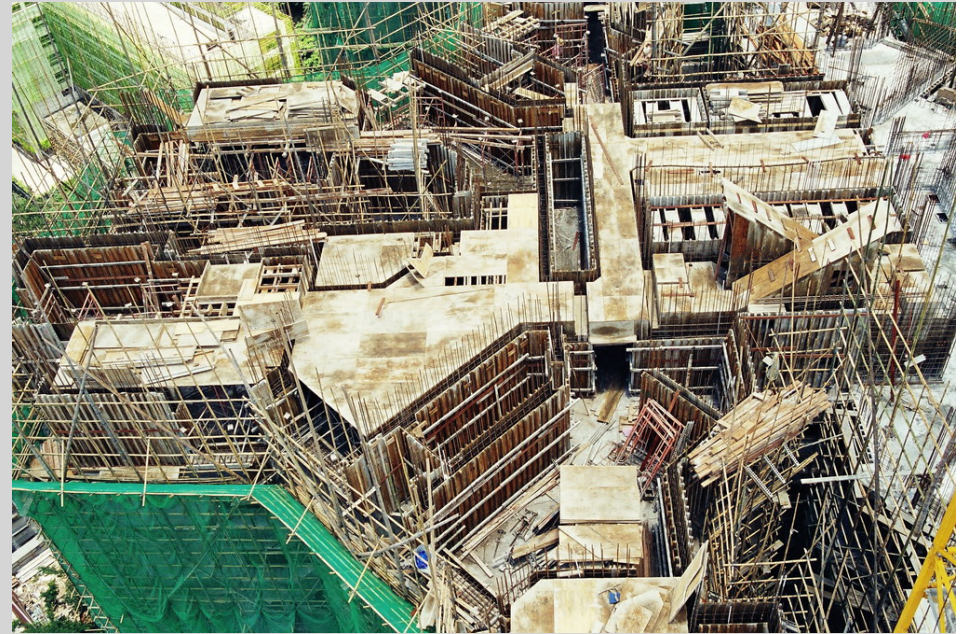


## Typical handling and work sequence - Case 2, building of larger area















## Part A - site record photos – Suite 2









	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Section 1						
External wall						
Core wall						
Internal wall						
Beam & slab						
Section 2						
Section 3a						
Section 3b						
Concreting						
				For Section 1 & 2	For Section 3a & 3b	

Example of a sectioning plan