



華營建築有限公司
CR CONSTRUCTION COMPANY LIMITED

浙建集團



香港房屋委員會
Hong Kong Housing Authority

Use of BIM for Planning, Construction and Safety for the Project at On Muk Street

Construction of Subsidized Sale Flats Development
at On Muk Street Phase 1, Shek Mun, Sha Tin

Speaker: Louie Lui

Simon Wong



BIM application

- **BIM uses**

- Planning
 - 1. Phase planning (4D Modelling)
 - 2. Site Utilization Planning
 - 3. Construction System Design
- Construction
 - 4. Design Reviews
 - 5. Spatial Coordination
 - 6. Drawing Production
 - 7. 3D Construction Coordination
 - 8. Cost Estimation (QTO)
 - 9. As-Built & Asset Information Modelling
- Safety
 - 10. As-Built Site Condition Survey by 3D Laser Scanning

BIM Software

- Revit
 - Modelling
- Navisworks
 - Review
- Fuzor
 - 4D animation

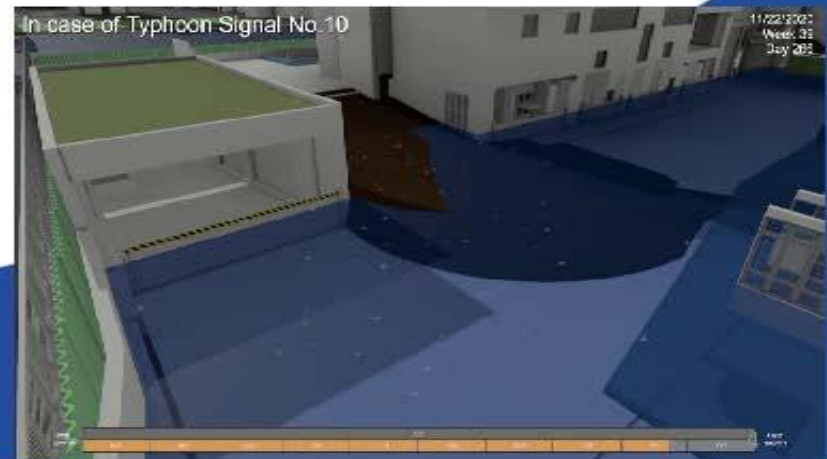
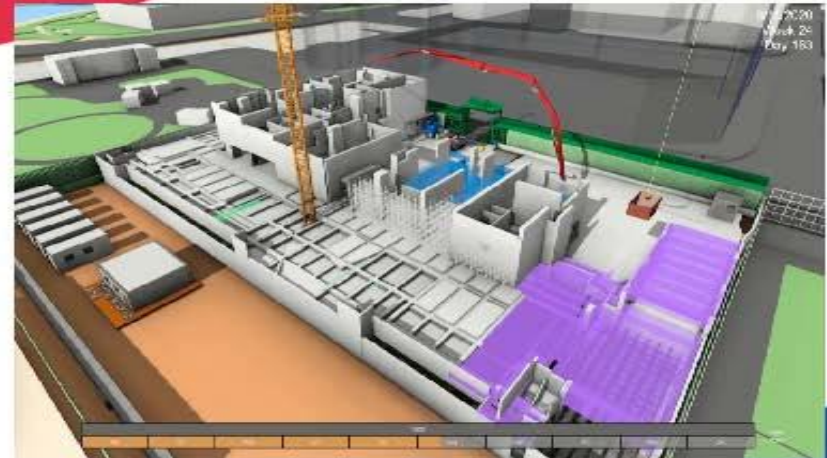


BIM use for **Planning**



1. Phase planning(1)

- Site layout planning
- Construction sequence
- Planning for Typhoon No.10 incident



1. Phase planning(2)

2. Site Utilisation Planning

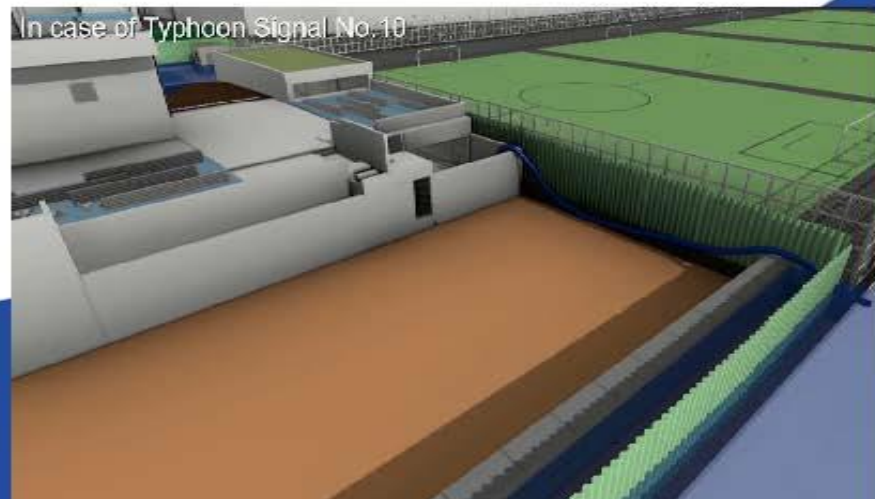
Erection of Falsework and Formwork



Construction of Transfer Floor



In case of Typhoon Signal No. 10



3. Construction System Design(1)

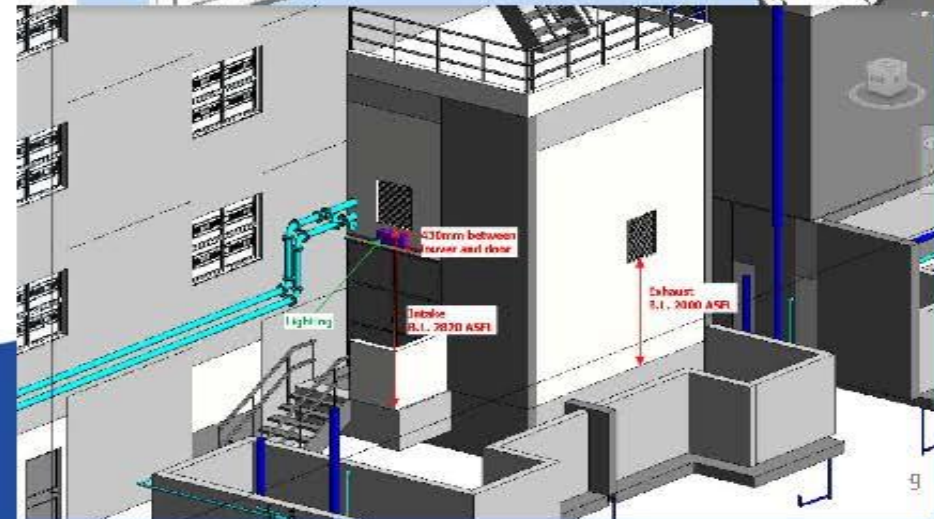


BIM use for **Construction**



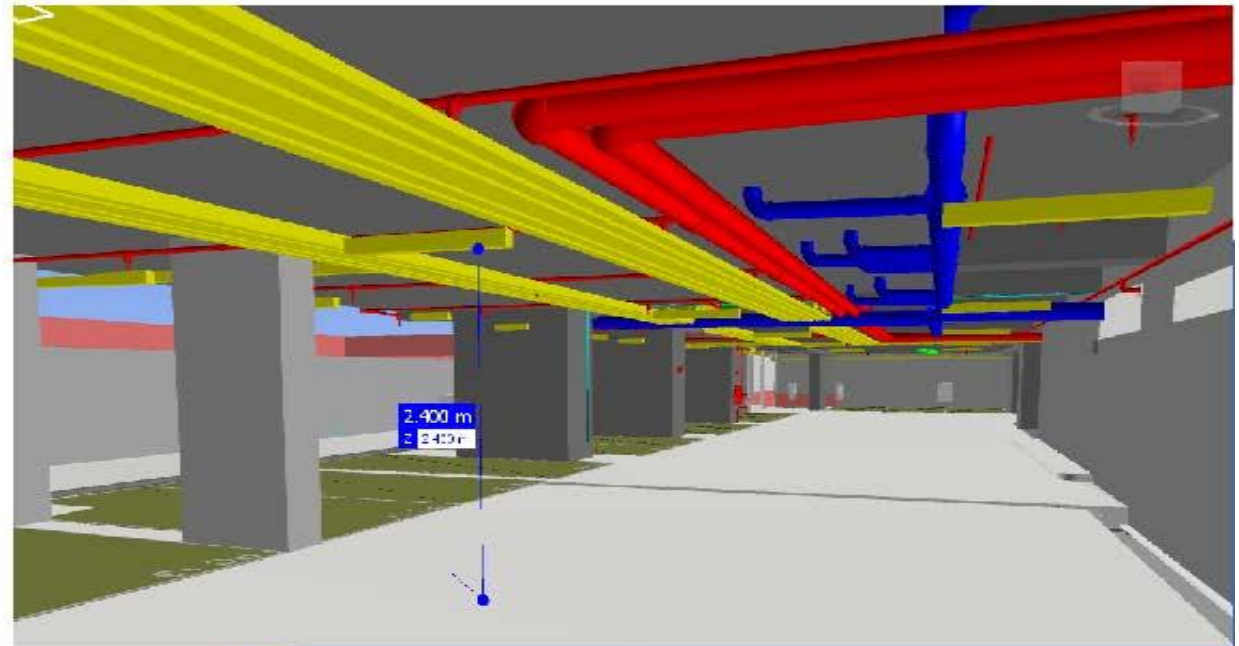
4. Design Review

- Weekly Technical Meeting (BIM Workshop)
- Architect, Engineers, Contractor participate
- Review, report & comment via E-mail and meeting



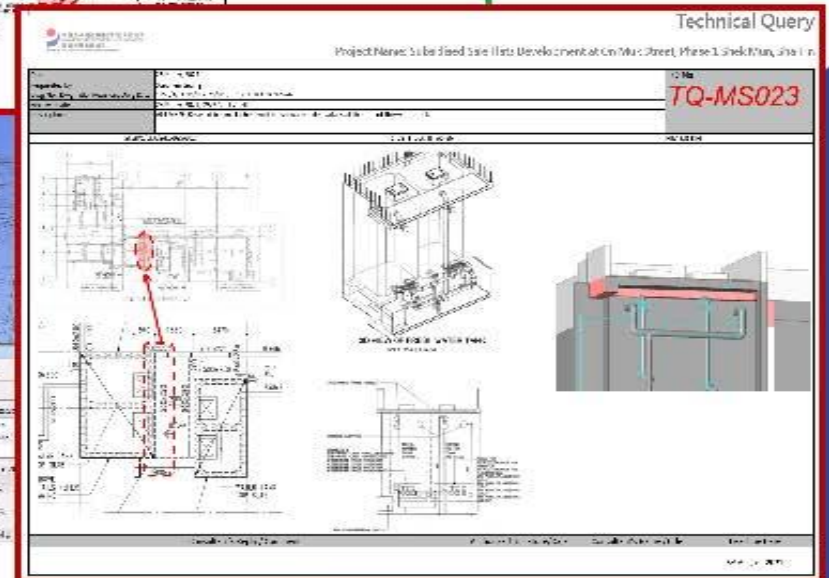
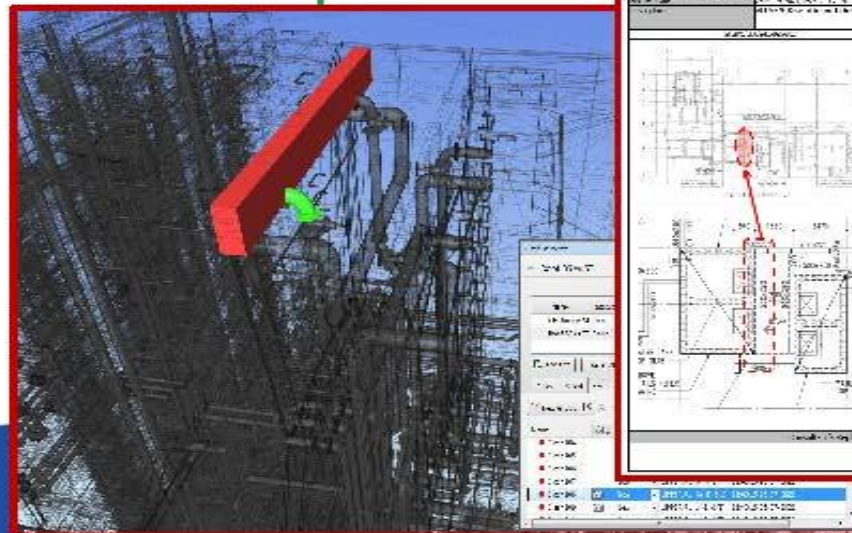
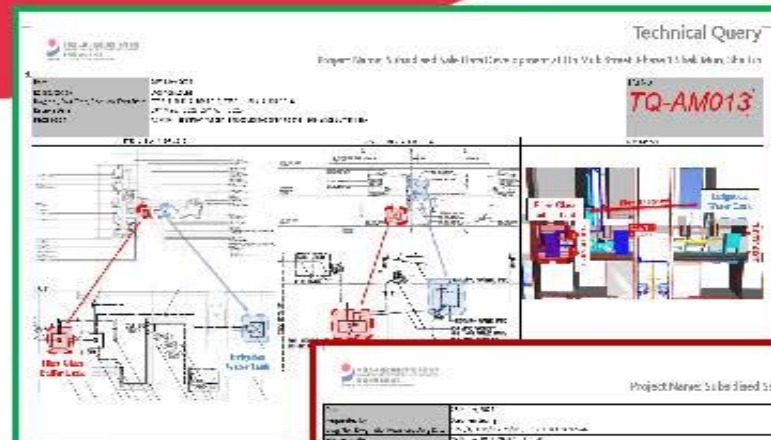
5. Spatial Coordination(1)

- Checks for Spatial and Headroom Requirements
- Checks for Working Spaces for Building Operations and Maintenance Activities

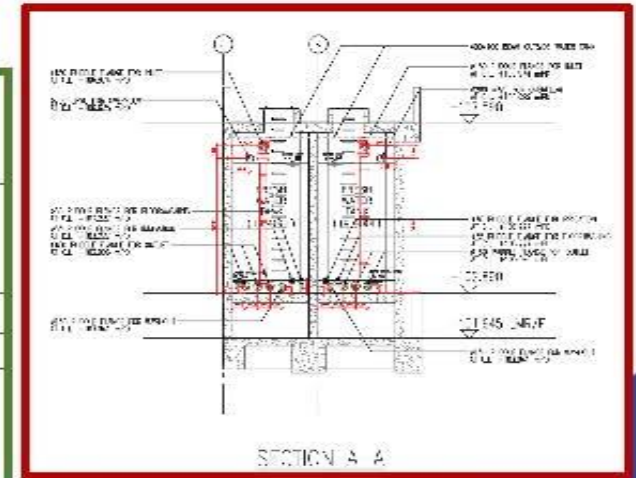
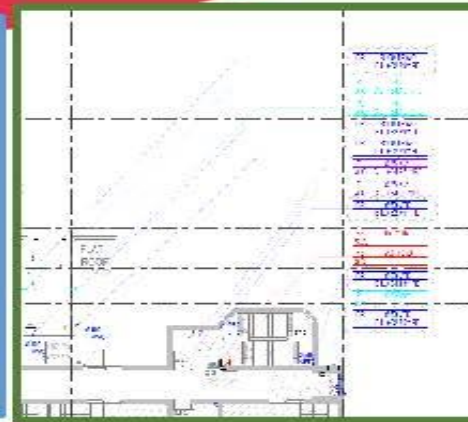
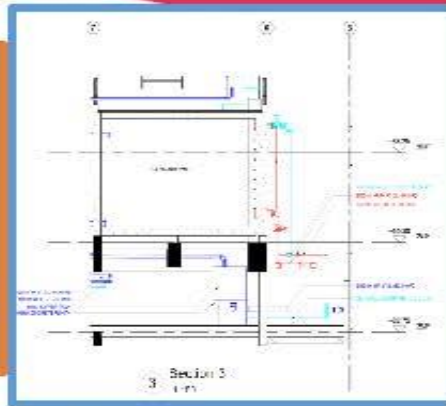
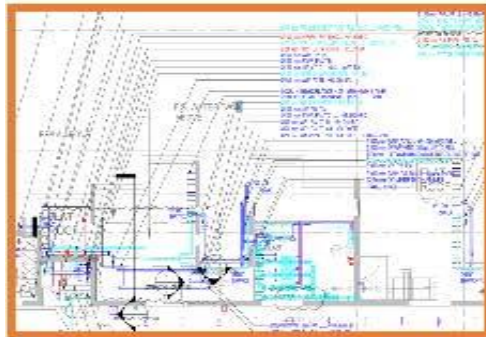


5. Spatial Coordination(2)

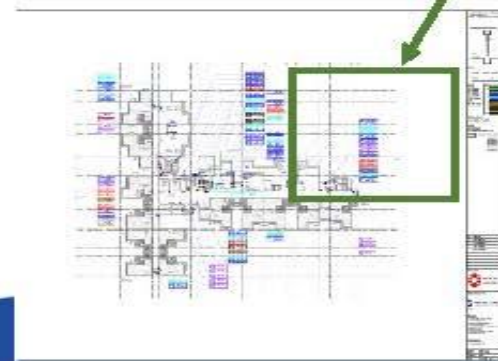
- Automatic Clash Detection
- Minimize abortive works



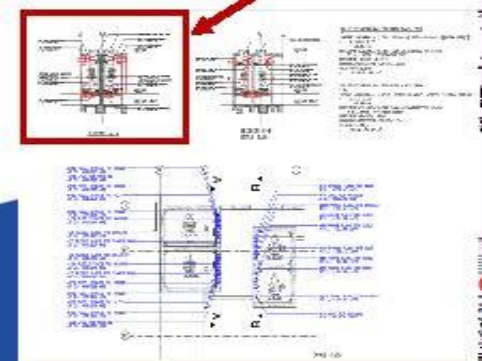
6. Drawing Production (1)



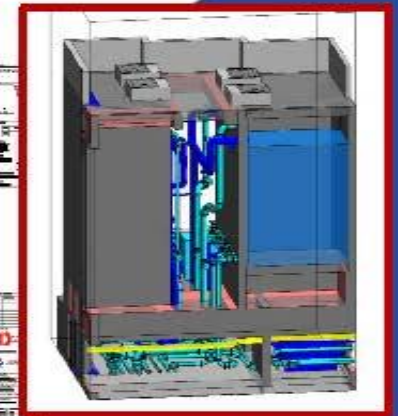
CSD Submission



CBWD Submission

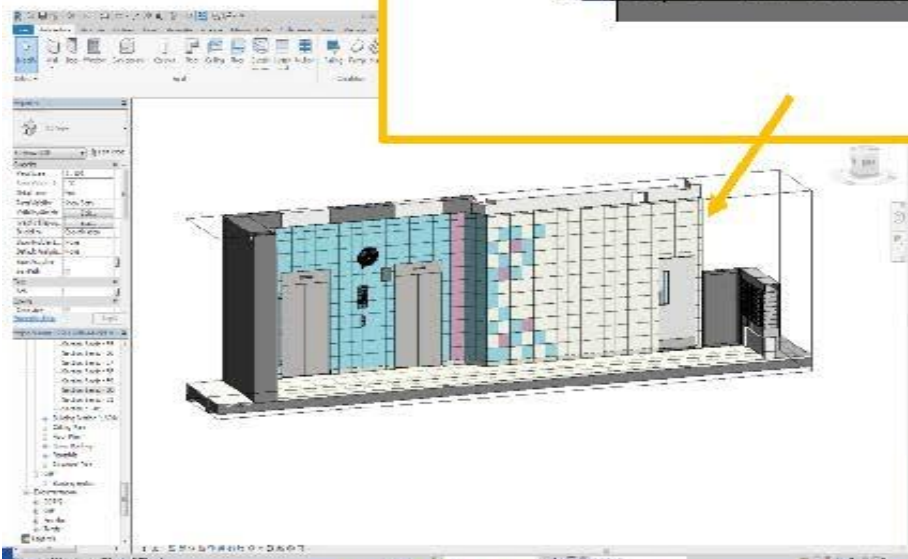
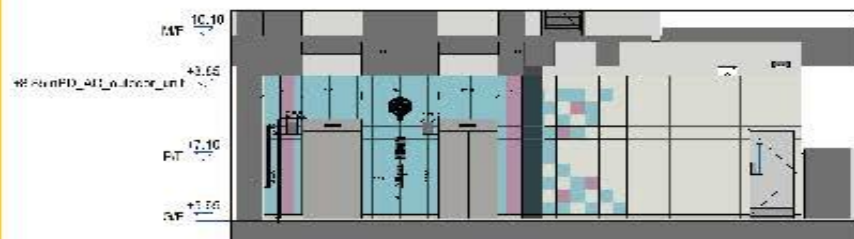


Puddle Flange Arrangement



6. Drawing Production (2)

3 2



Wall Tile Arrangement



Floor Tile Arrangement

7. 3D Construction Coordination



Site Photo



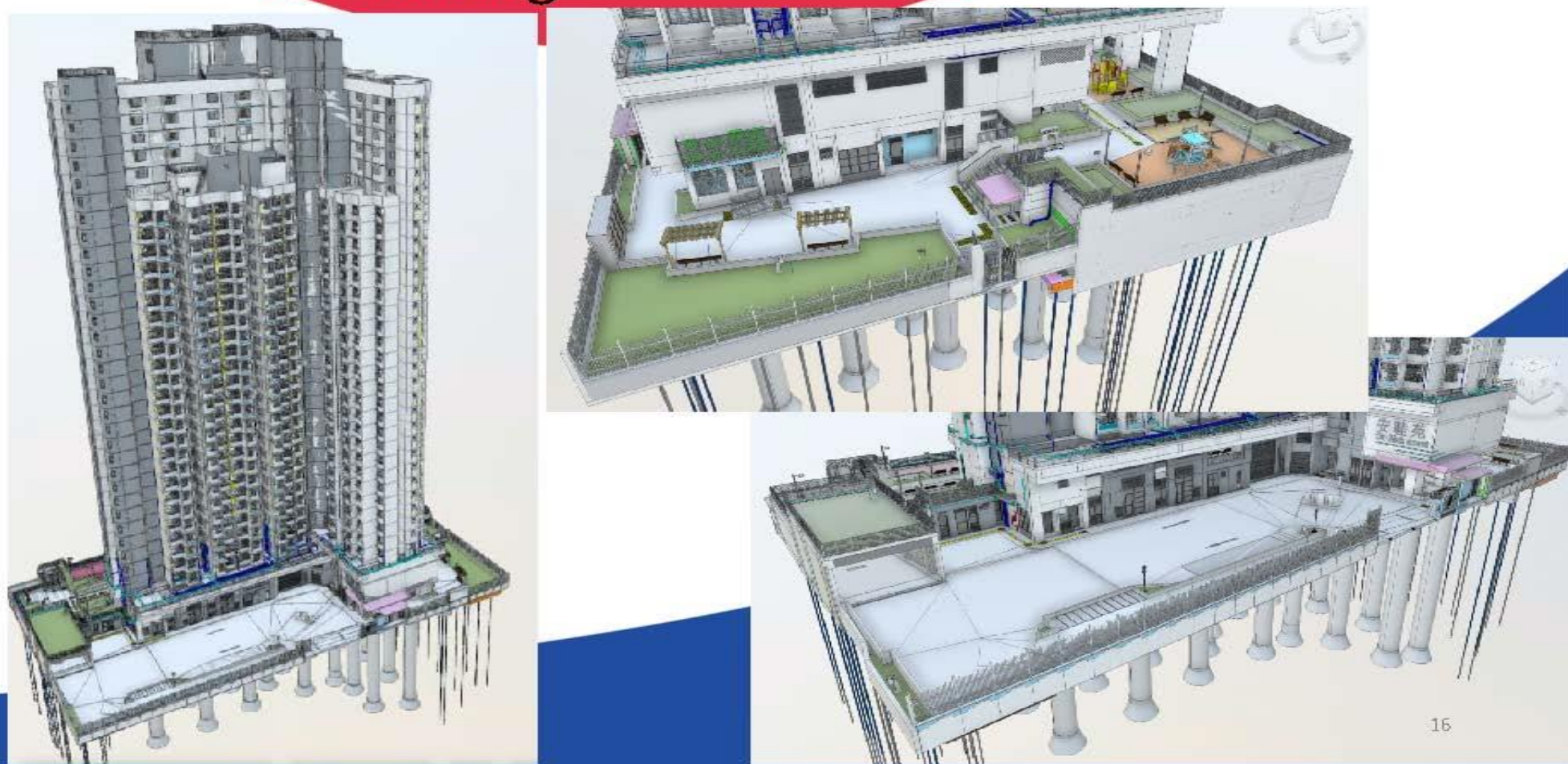
BIM Model



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9. As-Built & Asset Information Modelling



Common Data Environment

- Common Data Environment (CDE)
Autodesk BIM360
- Single source of truth for Model,
Drawing & Document transmission
- Review model and drawings without
Specific BIM software

名称	说明	版本	大小	上次更新时间
☐ ST08-01-BLK-4-M-15.rvt		V10	150.7 MB	2023年10月19日 16:13
☐ ST08-01-BLK-4-M-16.rvt		V10	154.3 MB	2023年10月19日 16:13
☐ ST08-01-BLK-4-M-17.rvt		V10	155.5 MB	2023年10月19日 16:14
☐ ST08-01-BLK-4-M-18.rvt		V10	162.2 MB	2023年10月19日 16:40
☐ ST08-01-BLK-4-M-19.rvt		V10	224.2 MB	2023年10月19日 16:40
☐ ST08-01-BLK-4-M-20.rvt		V10	167.6 MB	2023年10月19日 16:14
☐ ST08-01-BLK-4-M-21.rvt		V9	171.7 MB	2023年10月19日 16:13
☐ ST08-01-BLK-4-M-22.rvt		V10	140.8 MB	2023年10月19日 16:40
☐ ST08-01-BLK-4-M-23.rvt		V10	182.5 MB	2023年10月19日 16:43



BIM use for **Safety**



Construction System Design

- ELS work for Construction sequence and safety monitoring
- To simulate the site condition/safety provisions
- Ensure the feasibility before construction work
- Construction task Planning involve:
 - Site Agent
 - Quality Control Manager
 - General Foreman
 - Safety Officer
 - BIM Coordinator



Construction System Design

10. As Built Site Condition Survey by 3D Laser Scanning (1)

- 3D laser scanning for verification of as-built model
- Site survey
 - More efficiently
 - More accurate
 - More safely
 - Time saving



Scanning on site



BIM Model



Point Cloud Model



Overlay Model for verification

10. As Built Site Condition Survey by 3D Laser Scanning (2)



Thank you

