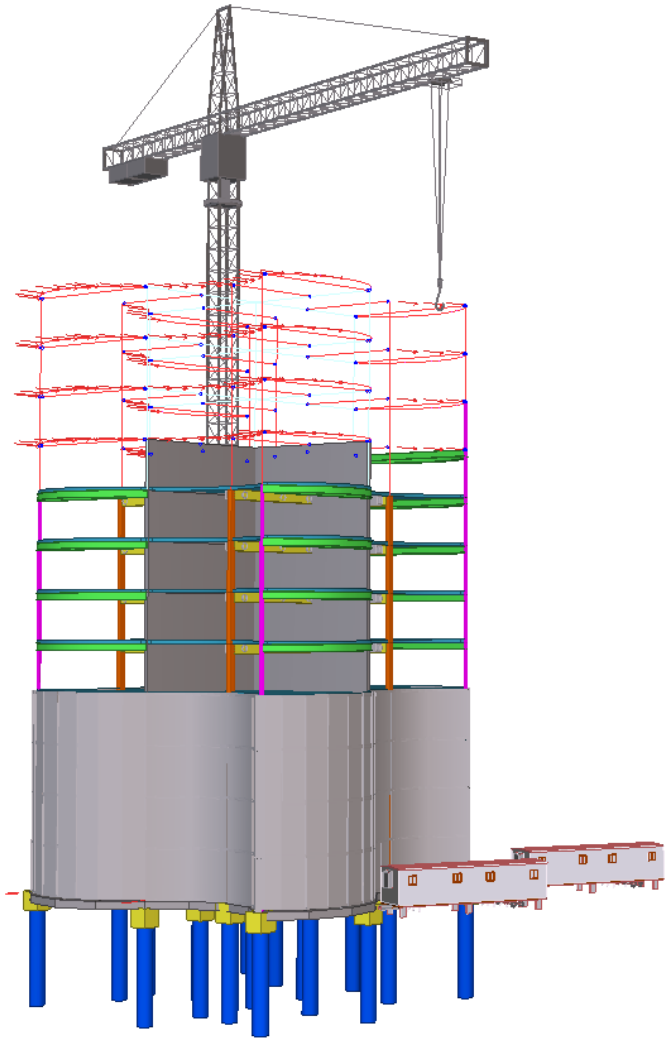
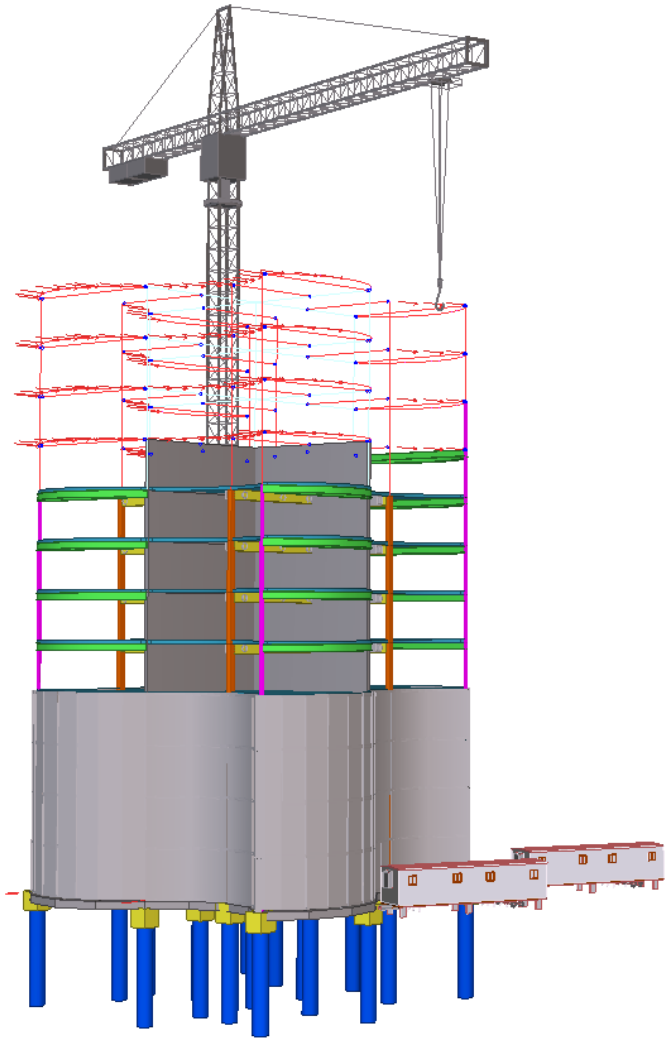
# Design Models meet Construction Models: Making Project Collaboration Easier



Michael Gustafson, P.E., ,and Christopher Keyack,
Tekla Inc.
March 17, 2009

# Objectives

- Best-in-breed usage is ok
- Design vs. Construction is ok
- Share but protect your deliverables



TEKLA

# What is “Design” to a Structural Engineer?

## What to Build

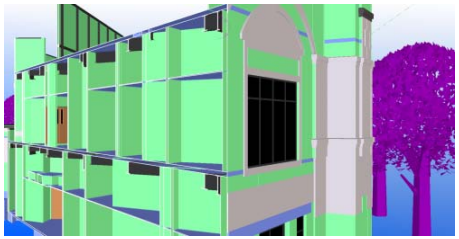
- Stability
- Durability
- Serviceability
- Strength

## How to Build it

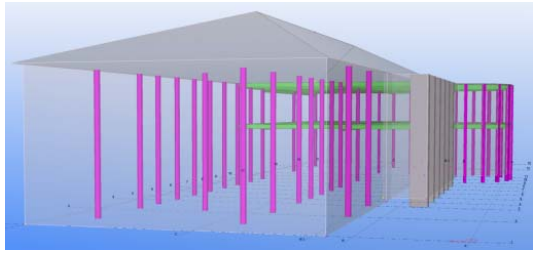
- Constructability Analysis
- Design repetition
- Cost
- Documentation

TEKLA

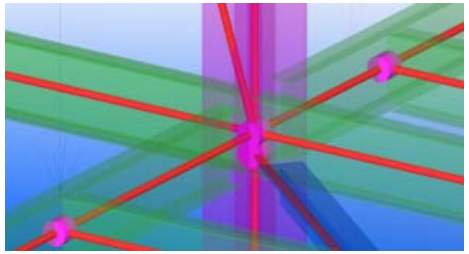
# What is a Design Model?



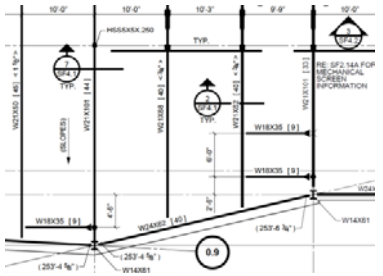
Design Coordination



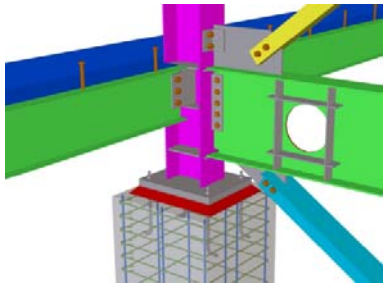
Conceptual Design



Integration with Structural Analysis



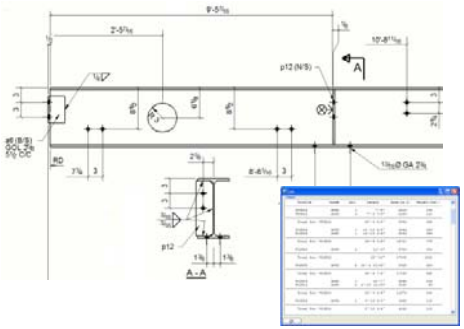
Contract Documents



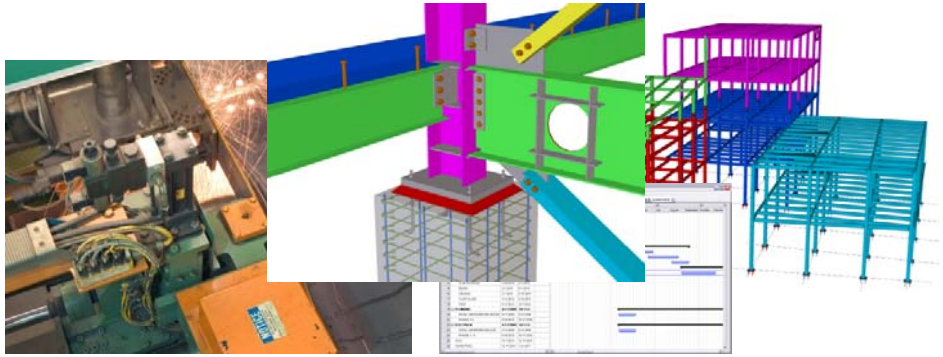
Constructability analysis

# What is a Construction Model?

Multi-Material
Detailing

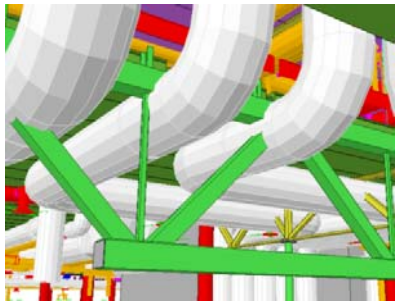


Fabrication Drawings &
Reports



CNC & MIS Links
for Fabrication

Construction
Scheduling



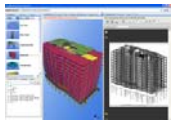
Clash Management

# Collaboration Workflows

**Design Review**

**Design Model**

- TS Model Review
- TSMR + drawings
- CIS/2, IFC, SDNF, XML
- Tekla native



**Design Delivery**

**Shop Delivery**

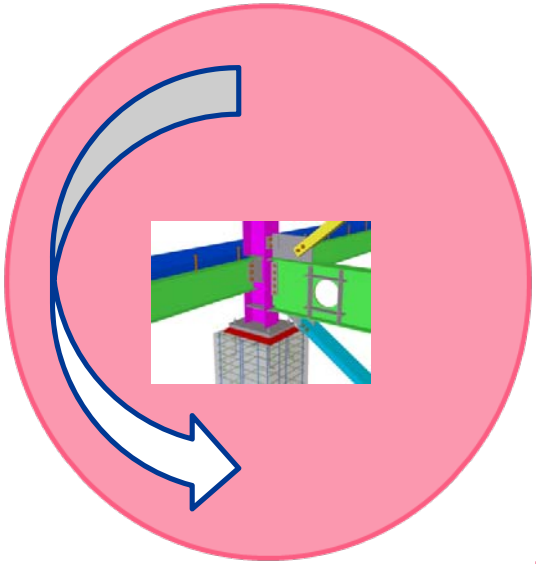
**Construction Model**

**Detailing Review**

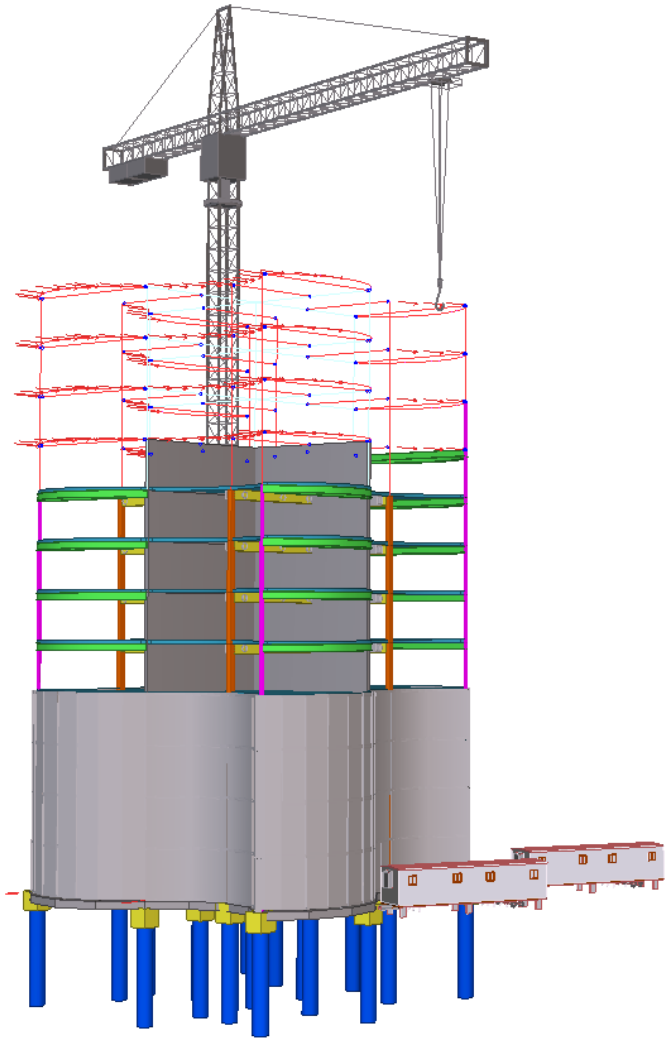
TEKLA

TEKLA Structures

# Design



# Construction



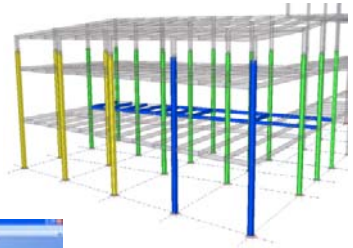
TEKLA

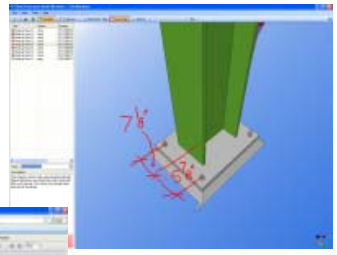
09/2008

# Design to Construction

## Design-detailing collaboration

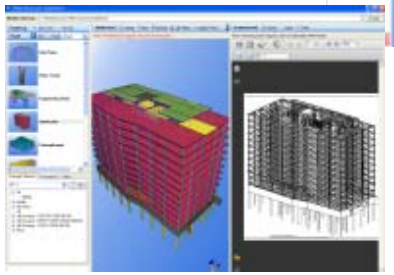
- Make changes
- Identify changes
- Share changes

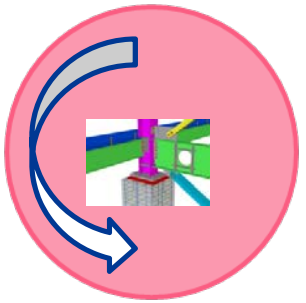




## Design Deliverables

- web viewer
- 2D documents
- reports

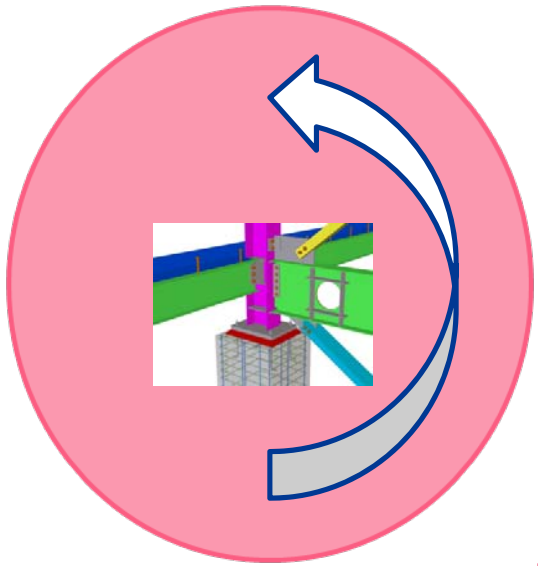




TEKLA

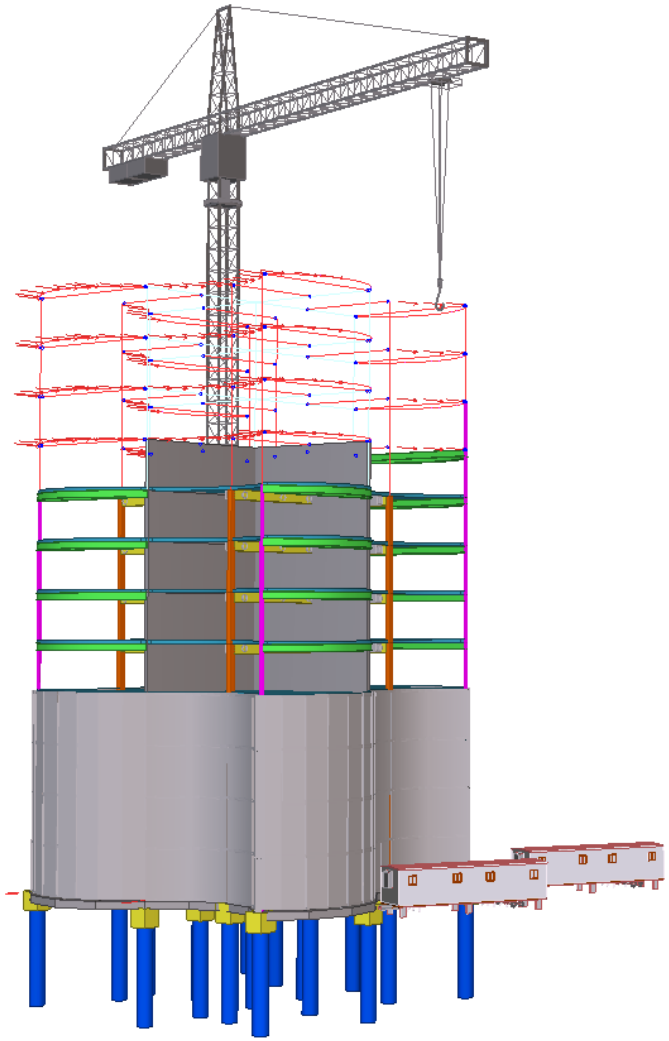
09/2008

# Design



# Construction

TEKLA Structures



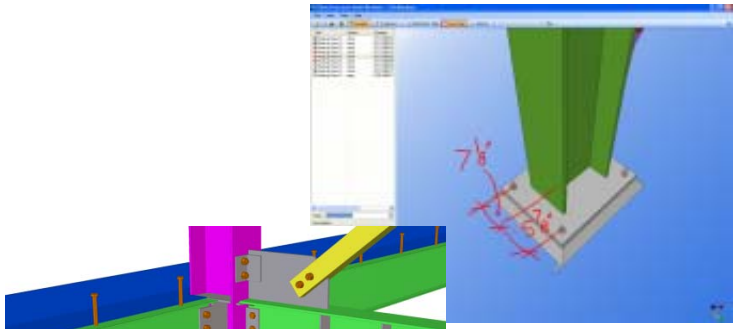
TEKLA

09/2008

# Construction to Design

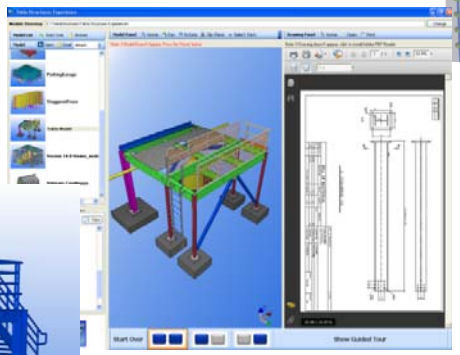
## Review Design Changes

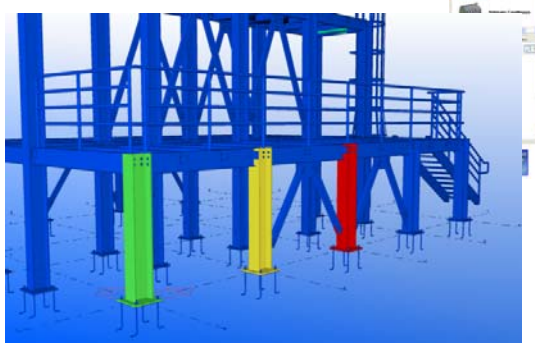
- Comment
- Share ideas

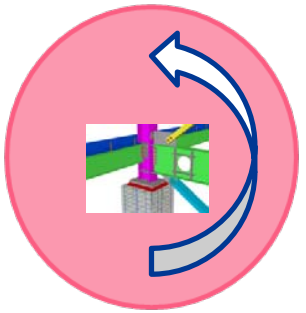


## Submittals

- RFIs
- shop drawing review
- Model-based review



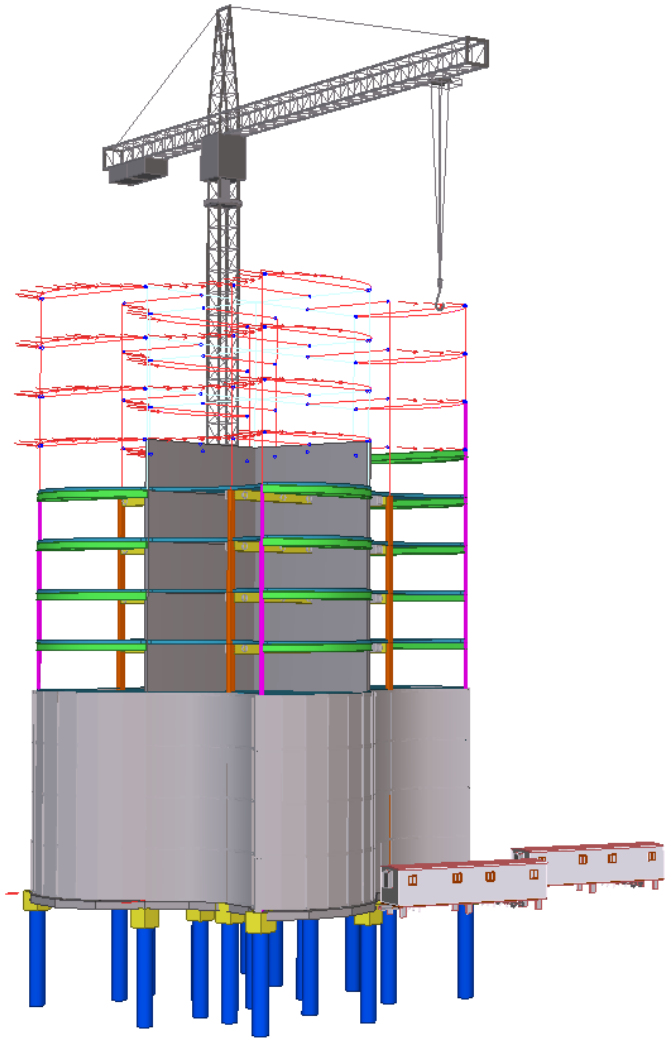




# Conclusion

BIM is….

- Best-in-breed usage is ok
- Design vs. Construction is ok
- Share but protect your deliverables



TEKLA

*Thank You!*

TEKLA

09/2008