BIM Commissioning:
Collaboration in Data Management

Megan S. Johnson, AIA
Charlotte Knights Stadium
Design & Construction

“Odell’s Sports and Entertainment Design Studio is very excited to have the opportunity to continue our involvement with the Knights as the lead architect on the new Uptown Ballpark.”

Mike Woollen
Managing Principal - Odell
Davidson College – Basketball Practice Facility
Mecklenburg County – Digital Code Review
VCU Revit work session – equipment coordination
Designers, doctors, nurses, facility engineers
What *is* BIM?

- Building Information Modeling
- Business Intelligence Management
- Building Information Management
- Bureaucracy Information Management
BIM Explained

Eastman, Charles M.  *BIM Handbook*
BIM Handbook, A Guide to Building Information Modeling; Chz: Eastman

Eastman, Charles M.  BIM Handbook
And no, we don’t know where it will lead. We just know that there’s something much bigger than any of us here.”

- Steve Jobs

Deliverables

**Facility BIM Development Plan**
- Facility strategy that establishes effective standards for multiple, potentially simultaneous projects in a single facility.
- Facility strategy that establishes effective processes for file archiving & file maintenance.

**Project BIM Execution Plan**
- Establishes project processes to support overall facility strategy as provided by the Facility BIM Development Plan.

**Template Files**
- Digital Template Files provide standards to project teams supporting the Project Execution Plan requirements.

“Humpty Dumpty BIM does not do an owner any good.”
.. James Salmon
Services

File Management

Model Validation

Data Ecosystem

Base Models

Data Visualization

Facility Model Design
DePaul Medical Office Building

• Time repurposed supporting owner’s needs at occupancy
• Consistent standards
• Valid Facility Database
DePaul Medical Office Building

• Model check in / check out
  • Federated Models
  • Reconciled Models
St. Mary’s Main Facility

- Medicare and Medicaid
- Space Allocations
- Reimbursement requirements
  - 60% of annual revenue
St. Mary’s Main Facility

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Global Unique Identifiers
Accounting Units
Space Naming Standards
St. Mary’s Main Facility

- Effective Facility Management
- Life Safety Management
- Corridors / Hallways
- Joint Commission
Utilizing BIM to manage regulatory compliance
St. Mary’s Main Facility

- Reconciling Design Models
- Information Backbone
- Scheduled upload
- ATM based information accessibility
Old, stale, not effective way

BIM Handbook, A Guide to Building Information Modeling; Chaiss Eastman

Eastman, Charles M.  BIM Handbook
BIM Commissioning and Data Collection
BIM Commissioning and Data Collection

At 60%:

- data set should be assembled as a part of the submittal process
- the designer must review data set to ensure design is covered
- design model to be reviewed for digital standard compliance
BIM Commissioning and Data Collection

At arrival to site:

- data set to be developed as items arrive to site
BIM Commissioning and Data Collection

At Substantial Completion:

• data set is reviewed for compliance, and design models are reconciled with base models
Check in / Check out

File Size

Re-use of MEP BIMs remain a challenge to the industry.

Humpty Dumpty BIM

Complete MEP:
Pros:
- easier handover
- fully functional
Cons:
- very large file, potentially un-manageable
- full functionality not always necessary
- protocol required to maintain validity of calculations

Major and Minor:
Pros:
- calculations possible for reuse
- semi-functional
Cons:
- workarounds required to develop calculations
- protocol required to maintain validity of calculations
- numerous files requires maintenance at handover

Floor by Floor:
Pros:
- easy reuse of files by multiple design teams
- functionality does not need to be maintained
- no shared parameter file
- handover simplified
Cons:
- no calculations possible
- challenges for design teams to utilize files without calculations
Where will data:

- be created?
- live?
- be maintained?
- be viewed?

- Legacy system integration
“I want us to ask ourselves every day, how are we using technology to make a real difference in people’s lives.”

- President Barack Obama