Emory Psychology Building
Atlanta, GA

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Construction Management
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Building Statistics

- **Size**
  - 119,000 SF; 5 stories + mechanical penthouse

- **Cost**
  - $35,029,000 (GMP)

- **Schedule**
  - October 2007 - March 2009

- **Structure**
  - Concrete, steel penthouse framing

- **Façade**
  - Limestone dimension stone, stucco, glazed curtain wall
Use

• Labs, Classrooms, Offices of Psychology Department
  - Currently spread throughout campus in six buildings
• Used successfully on Psychology Building

• How and why?
  BIM Implementation (Depth Study)
• How does this measure up across the industry?
Psychology Building BIM Use

- HOK decided to use BIM
  - Develop spatial relationships
  - Create room data sheets
Psychology Building BIM Use

- Benefits of architect using BIM
  - Pushed design decisions earlier
  - Early information stays with the model
  - Made occupants aware of what they were getting
  - Allowed renderings from any angle
  - Sustainable Design
Psychology Building BIM Use

• Integrated Project Delivery

• Holder brought on during schematic design
  – Aid with constructability
  – Create structural model early
  – 4D scheduling/phase planning
  – Estimating
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- Integrated Project Delivery

- Subcontractors brought on during design development
  - Required to purchase Navisworks
  - Created models of their disciplines
  - Accepted training from Holder if necessary
  - Coordinated weekly
Psychology Building BIM Use

• Construction phase
  – Weekly Coordination meetings continued
  – Clashes fixed as needed

• Post-Construction
  – HOK and Holder will provide as-built models
• Problem - Still skewed perceptions of BIM
  – Modeling without information
  – Beyond MEP clash detection

Goal
  – Determine how the model is being used in addition to clash detection
  – Determine what would allow more usage of BIM
Construction Manager BIM Study

- 4 construction managers
- Known to be successful users of BIM
  - What has made them so successful?
  - What characteristics do they share?
  - How do they analyze a building for BIM use?
  - What are they doing with BIM that others aren’t?
Construction Manager BIM Study

- Interviews pertained to 19 categories
- Consensus on 8 Categories
  - Early assessment of project (RFP Review)
  - Project Players and MEP coordination are focus
  - MEP clash detection is the primary use
Construction Manager BIM Study

- Other categories vary
  - Owner’s reactions
  - IPD view
  - Stages of new technology implementation
Construction Manager BIM Study

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Construction Manager BIM Study

- Beyond clash detection...
  - Estimating
  - 4/5D modeling for scheduling
  - Material tracking
  - Facilities management model development
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• Conclusions
  – Owner’s need to be informed
  – Find a way to quantify schedule and cost savings
  – IPD is most effective now while there is a learning curve for the software
  – Several uses of BIM are being applied, CMs must keep an open mind and look for ways to expand BIM use
Questions?