Implementation Best Practices for BIM
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The Importance of BIM

- **Globalization**
- **Urbanization**
  - 30% in 1950, 54% in 2014, 66% by 2050 (+2.5 Billion People)
  - 28 Mega Cities to 41 Mega Cities
- **Sustainability**
  - Number of Sustainable buildings to double by 2018
- **Population**
  - NYC’s Population Tops 8.5 Million for First Time New Census Figures Show
- Number of buildings on Earth to double by 2050
- U.S. and Global Infrastructure
Why is BIM Important

CO\textsubscript{2} Emissions from Fossil Fuels

- Buildings: 39%
- Industry: 29%
- Transport: 33%
Why is BIM Important

BIM in Design, Construction and O&M improves:

- Efficiency
- Sustainability
- Predictability
- Profitability
Why Now?

- We have the connectivity
  - WiFi is becoming ubiquitous

Free super fast Wi-Fi. And that’s just the beginning.
Why Now?

• We have the Devices
• On average, children get smart phones at 10!
Why Now?

• We have the Cloud
  • All of your data, anywhere, all the time!
Why Now?

- The Workforce is Changing

**MILLENNIALS COMING OF AGE**

One of the largest generations in history is about to move into its prime spending years. Millennials are poised to reshape the economy; their unique experiences will change the ways we buy and sell, forcing companies to examine how they do business for decades to come.

- Larger Generation than the Baby Boomers
Why Now?

• We have the Market Economics
  • Urbanization
  • Climate Change
  • Failing Infrastructure
  • Global Economy
  • Costly to build and maintain
  • Conventional methods are inadequate
Best Practices

• BIM is a Process
• Top Down
• It affects all parts of the organization
  • Marketing
  • Business Development/RFP Responses
  • Project Management
  • Production and Delivery
Best Practices

• …shall use Autodesk’s AutoCAD Civil3D 2015, Revit 2015, Navisworks Manage 2015 and BIM 360 Glue, unless approved otherwise by the Construction Manager, as follows:

  a. Revit Architecture to develop and update Master Discipline Models and As-Built Models for Architectural discipline

  b. Revit Structure to develop and update Master Discipline Models and As-Built Models for Structural discipline

  c. Revit MEP to develop and update Master Discipline Models and As-Built Models for Mechanical, Electrical, Plumbing, IT/COMM, and Fire Protection disciplines

  d. Civil3D to develop and update Master Discipline Models and As-Built Models for Civil discipline

  e. Navisworks Manage or BIM 360 Glue to develop and update federated Master Model and perform 3D Coordination/Clash Detection
Best Practices

- LOD 400
- Field Verified
  = LOD 500
Best Practices

• Project Staffing
  • BIM Manager
  • BIM Coordinator/Model Manager

• Training and Mentoring
Best Practices

• Major Metropolitan Transportation Project

• 10 Days: BIM Manager Resume
• 15 Days: BIM Execution Plan (BEP)
• 30 Days: completed Electronic Data Disclaimer, Model Quality Control Plan (MQCP) Reports
• 60 Days: Contractor Discipline, Master Contractor Discipline and Contractor Master Models Minutes of 3D Coordination Meetings along with an updated clash status matrix
• Weekly: Contractor Discipline, Master Contractor Discipline and Contractor Master Models
• Minutes of 3D Coordination Meetings along with an updated clash status matrix
• Monthly: Model Quality Control Plan (MQCP) Reports
• Completion: COBie spreadsheet?