



Gannett Fleming

*Excellence Delivered **As Promised***

Building Information Modeling An overview for



**Pennsylvania
Section**

 American Water Works Association

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- Gannett Fleming
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Who are you?

- **Design Team**
- **Contractor**
- **Owner**

What if?

- **Project on time or ahead of schedule?**
- **Project at or under budget?**
- **Reduce contingency budget by 50%?**
- **Reduce the number of errors & omission's**
- **Fewer Claims/Litigations?**

Project Description

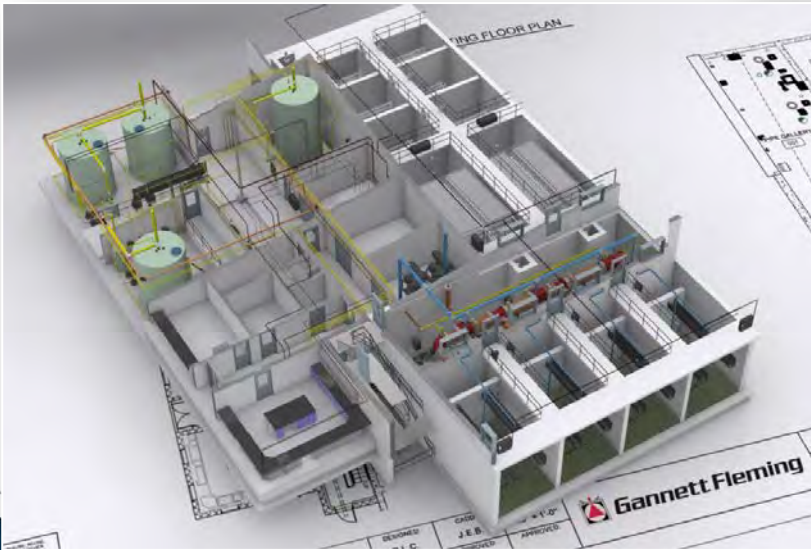
- **Small Water Treatment Plant**
- **Project is a good candidate for BIM, and Client has agreed**

What is BIM?

Building **I**nformation **M**odel (noun)

Building **I**nformation **M**odeling (verb)

Concept introduced – 1975 – Dr. Charles Eastman



Are you the: Design team, Contractor, or Owner

How does a BIM project effect me?

What do I have to change?

How do I manage my projects time?

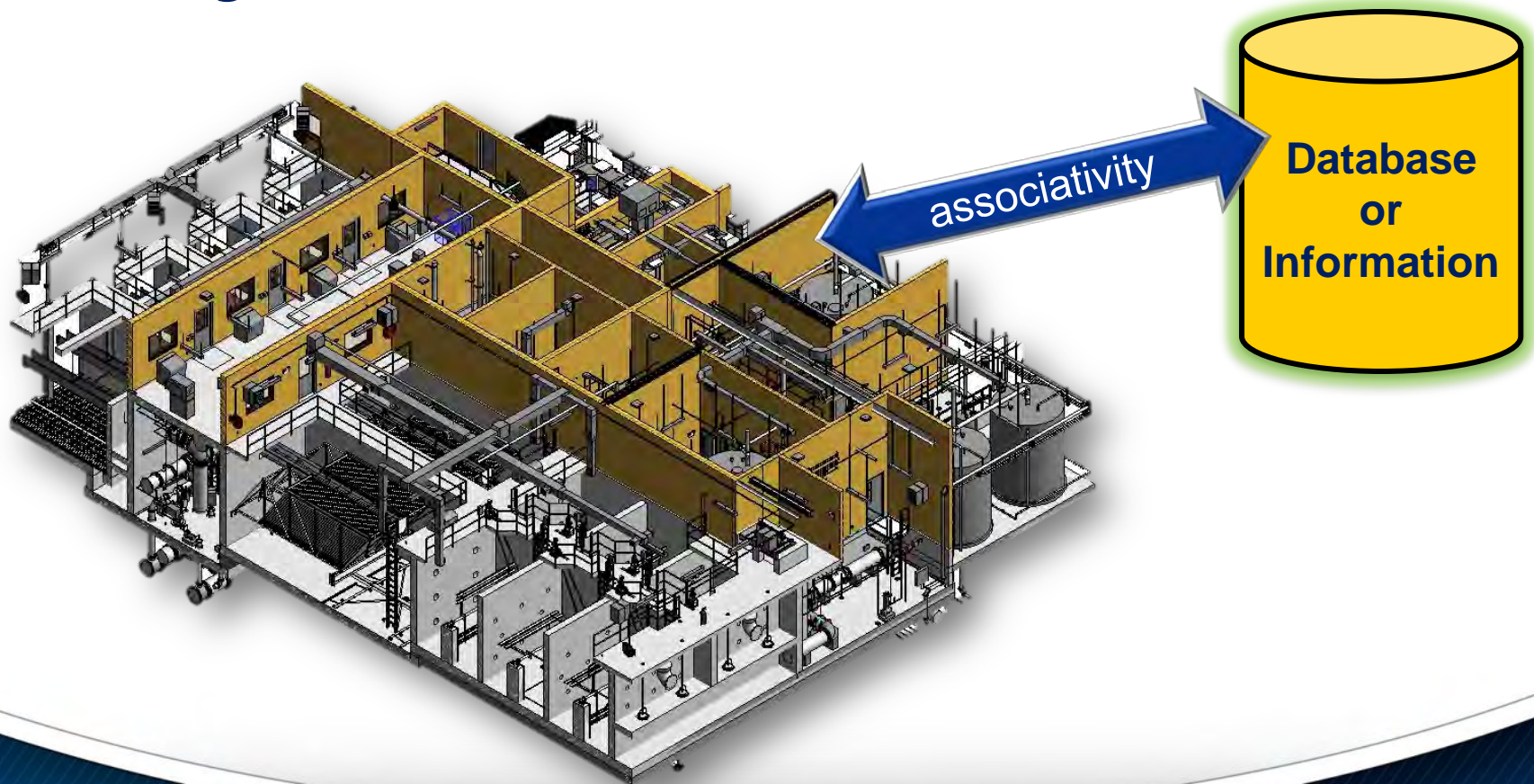
How do I manage my projects budget?

How do I manage my projects schedule?

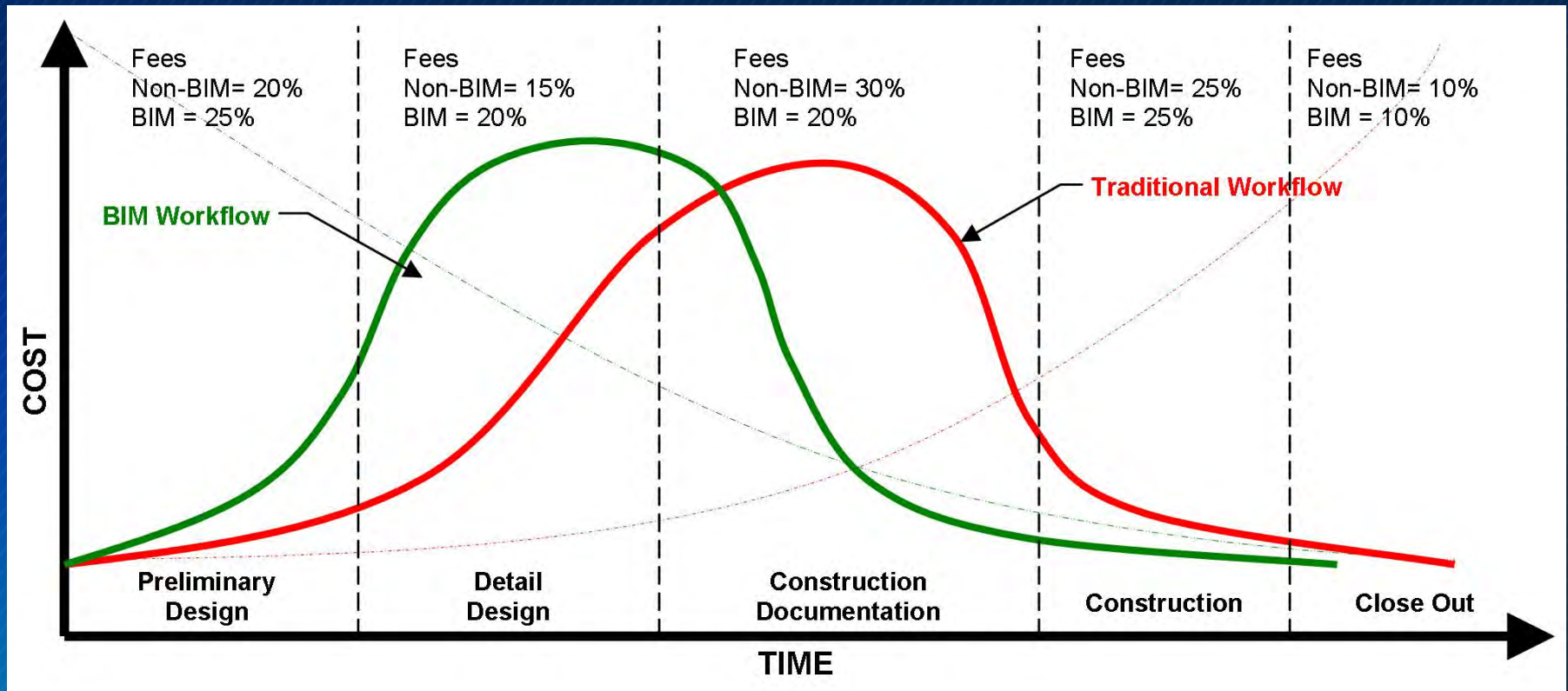


Features of BIM

Building **INFORMATION** Model



BIM and Project Schedules/Budgets



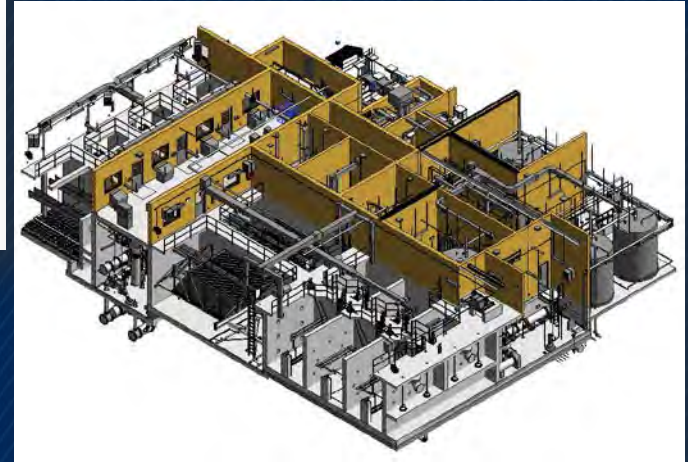
BIM - A new way of thinking



PLAN-centric



What do you see?
By shifting perspective you might see an
old woman or a young woman.



MODEL-centric



McGraw-Hill BIM SmartMarket Report 2012

■ Who uses BIM

- Architects
 - 2009 – 37%
 - 2012 – 60%
 - 2014 – 75%
- Engineers
 - 2009 – 21%
 - 2012 – 26%
 - 2014 – 43%

■ Who uses BIM

- Contractors
 - 2009 – 21%
 - 2012 – 31%
 - 2014 – 55%
- Owners
 - 2009 – 18%
 - 2012 – 30%
 - 2014 – 44%

The Benefits of BIM

**Drawing
Coordination**

Conflict Resolution

**Decrease Change
Orders**



McGraw-Hill BIM SmartMarket Report 2012

■ **Top BIM Benefits for Owners**

- Reduced Document Errors and Omissions
- Reduced Rework
- Reduced Construction Cost
- Reduced Project Duration
- Fewer Claims/Litigation

McGraw-Hill BIM SmartMarket Report 2012

■ Owners Using BIM for O&M and FM

- Building performance against specified design
 - 18%
- Maintenance scheduling
 - 24%
- Asset management
 - 24%
- Space management and tracking
 - 25%
- Building Systems operation analysis
 - 32%

Uses of BIM after design

■ 4D - Time

- Simulate construction sequencing
 - allows the contractor to evaluate and optimize construction sequencing and virtually plan all aspects of the construction

■ 5D – Cost

- Estimate the construction costs
 - At any time during the process

■ 6D - Operations

- Export information for input to CMMS or GIS for facility maintenance
 - SQL or Excel based

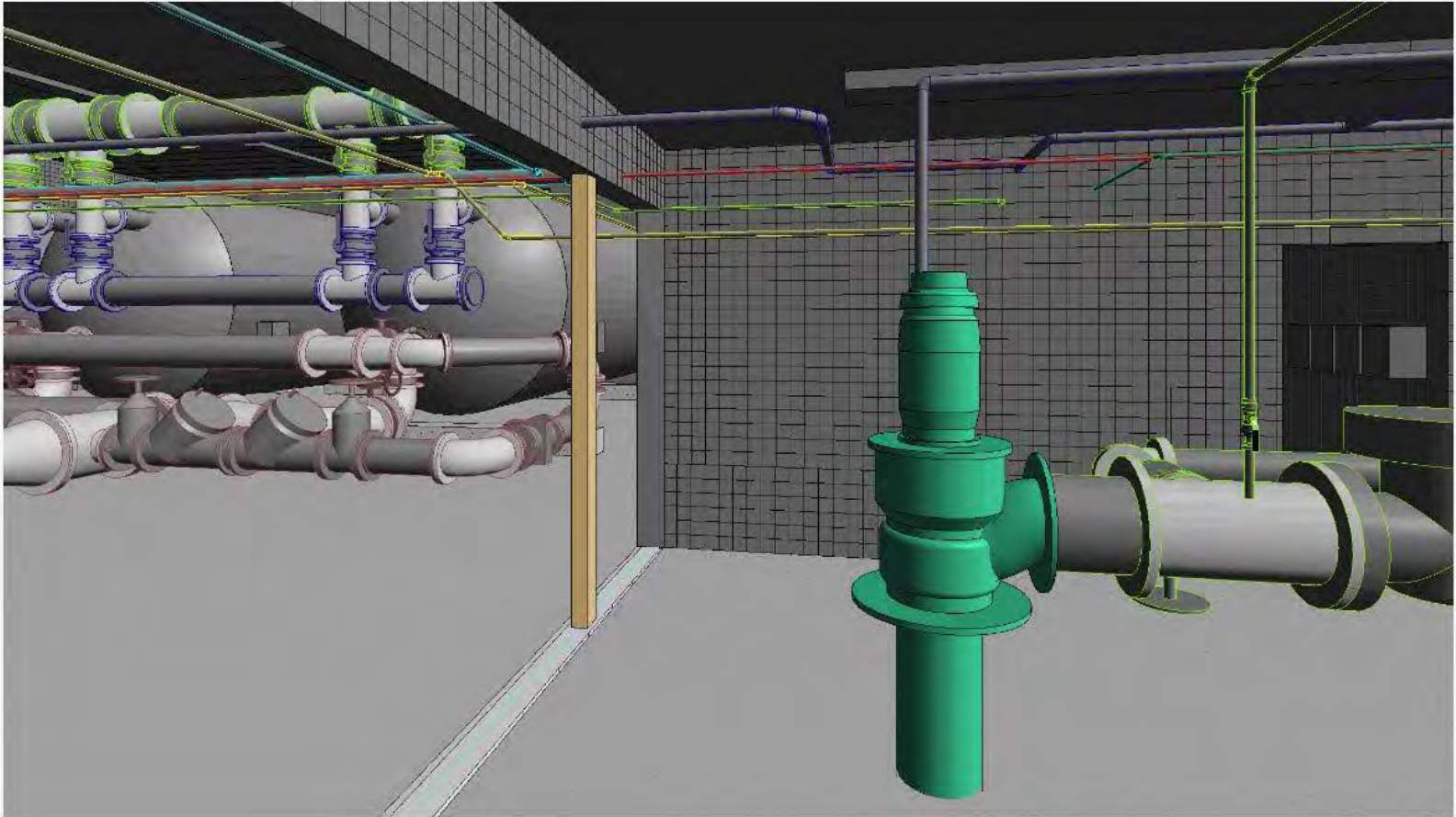
Challenges of BIM



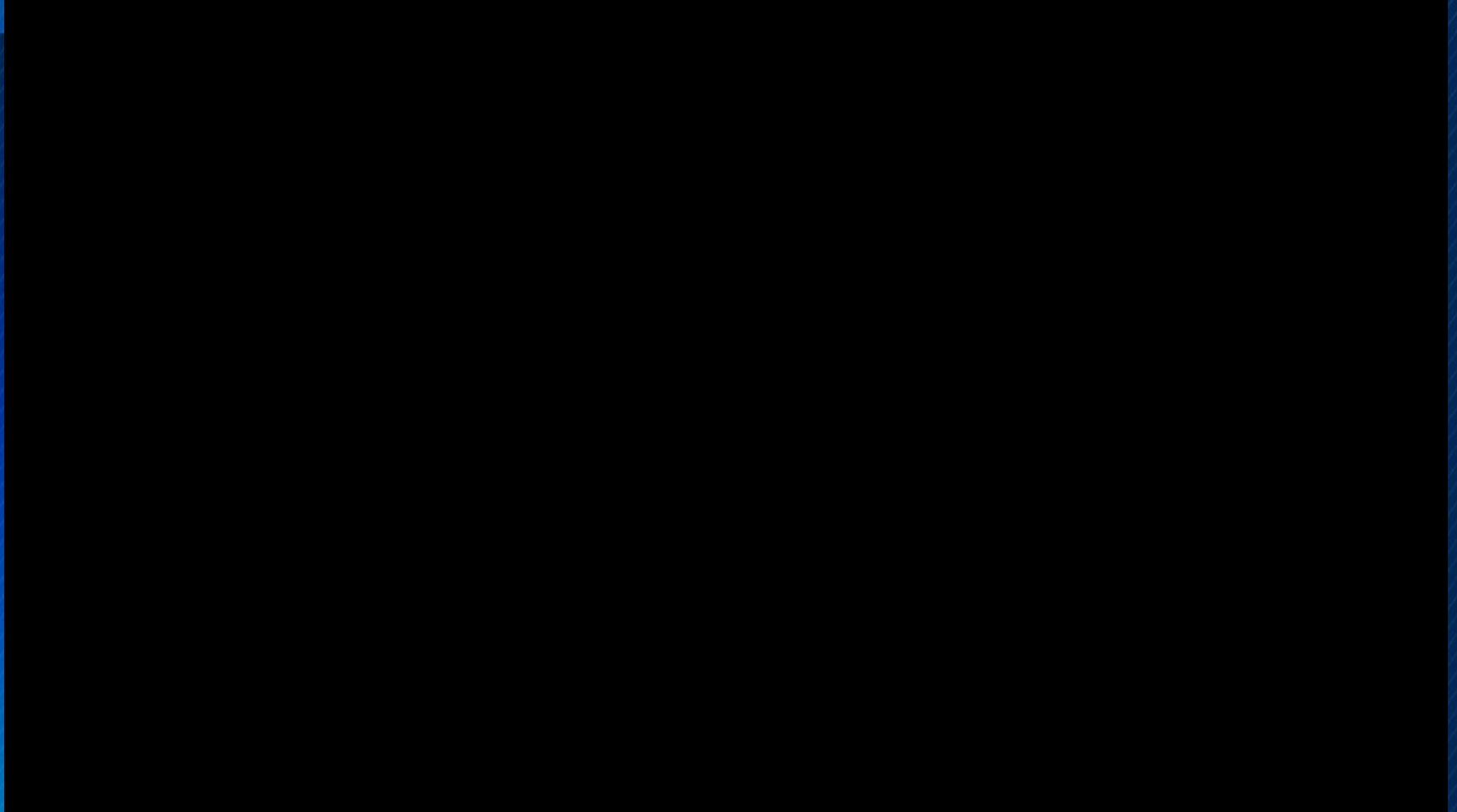
Benefits over 2D workflow



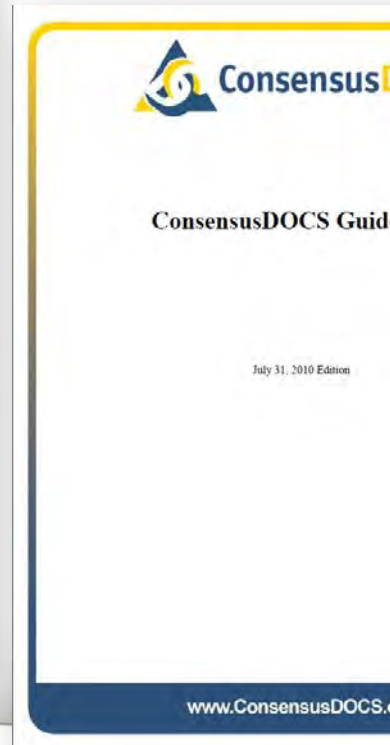
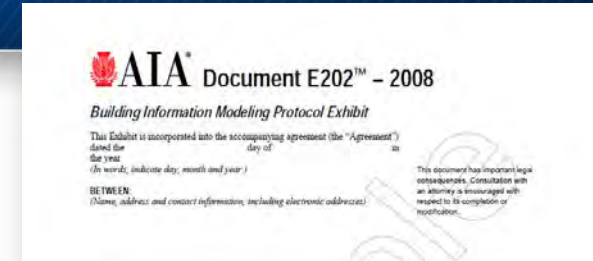
BIM and the client



Red Lion Video



BIM and Contracts



Success or Failure – It's up to you!



Success.

