

Verify! Verify! Verify! Create, Coordinate, and Prefabricate for Subcontractors

Katelyn A. Sanchez

VDC/BIM Coordinator



Katelyn A. Sanchez, VDC/BIM Coordinator



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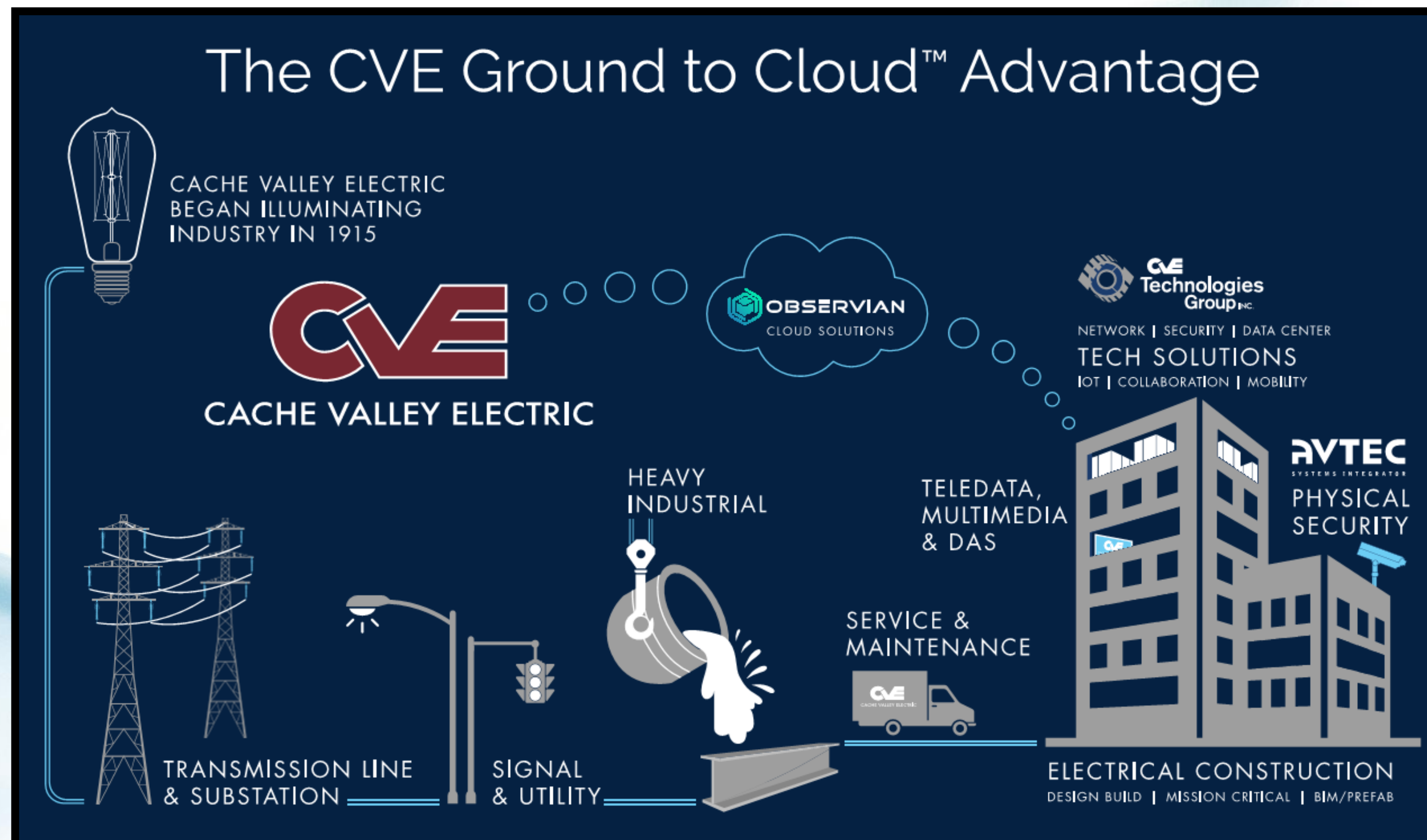
- Love for woodworking/Skills USA Alumni
- 13+ years experience with Autodesk software products
- 11 years in the AEC Industry
 - 8-years Mechanical Designer/BIM Coordinator-B&P
 - 2-years BIM Coordinator-HB Construction/CSTi
 - 1-year VDC/BIM Coordinator-Cache Valley Electric
- Specialize in BIM implementation and training
 - Process workflows
 - Optimizing Efficiencies
 - Solve project systems challenges



<https://www.cve.com>

We are CVE....

Coming together to build infrastructure, power buildings, network companies, and connect ideas. Family-owned since 1915, Cache Valley Electric is a market leader in all areas of electrical construction and technology solutions.



Credit: Cache Valley Electric

Learning Objectives

- Learn how communication and collaboration help with cost, safety, and overall quality
- Discover the difference between being a BIM coordinator for a subcontractor vs. a general contractor
- Preparing your project for virtual coordination and prefabrication
- Learn about the process, workflow, and timeline needed to stay ahead of the general contractor

Communication and Collaboration Really Help!

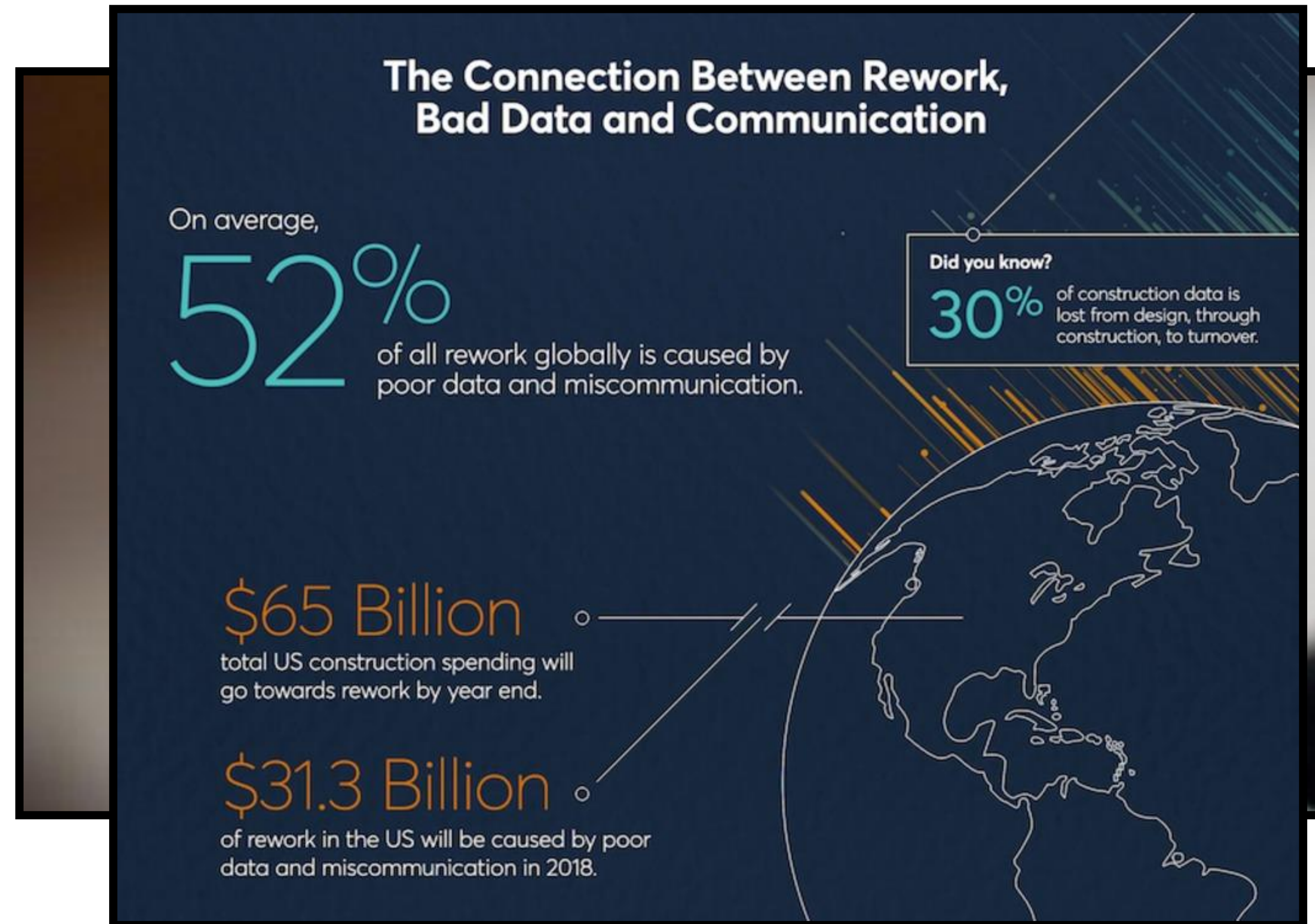
- General contractor
 - Providing & receiving info
- Your company
 - Receive info from PM
 - Construction/BIM schedules
 - Info to Fab Shop
- Field crews
 - Provide accurate info for install



Cost

In 2018

- U.S. spent almost \$65 Billion in rework
- About 30% of data is lost
 - Design-construction-turnover
- Over \$31 Billion of rework in the U.S. in 2018
 - Inaccurate field data
 - miscommunication



Credit: PlanGrid/FMI

<https://www.forconstructionpros.com/profit-matters/press-release/21015974/plangrid-poor-communication-rework-bad-data-management-cost-construction-industry-177b-annually>

Cost

VDC/BIM Coordinators help bridge the gap in lack of communication for better cost efficiencies:

- When, where, and what needs completed
- Preconstruction visual before built onsite
- Improve scheduling
- Increase productivity
- Improve coordination and clash detection



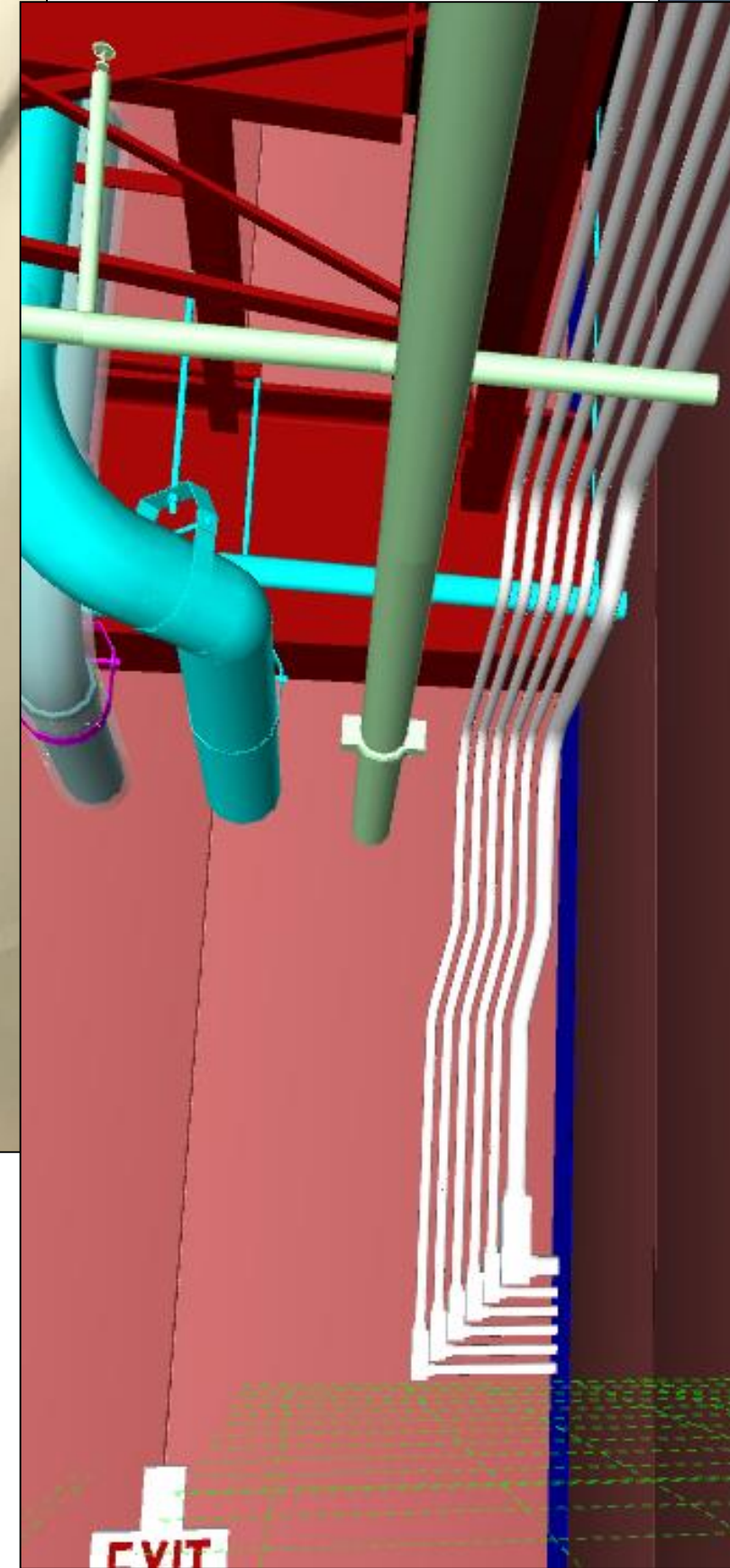
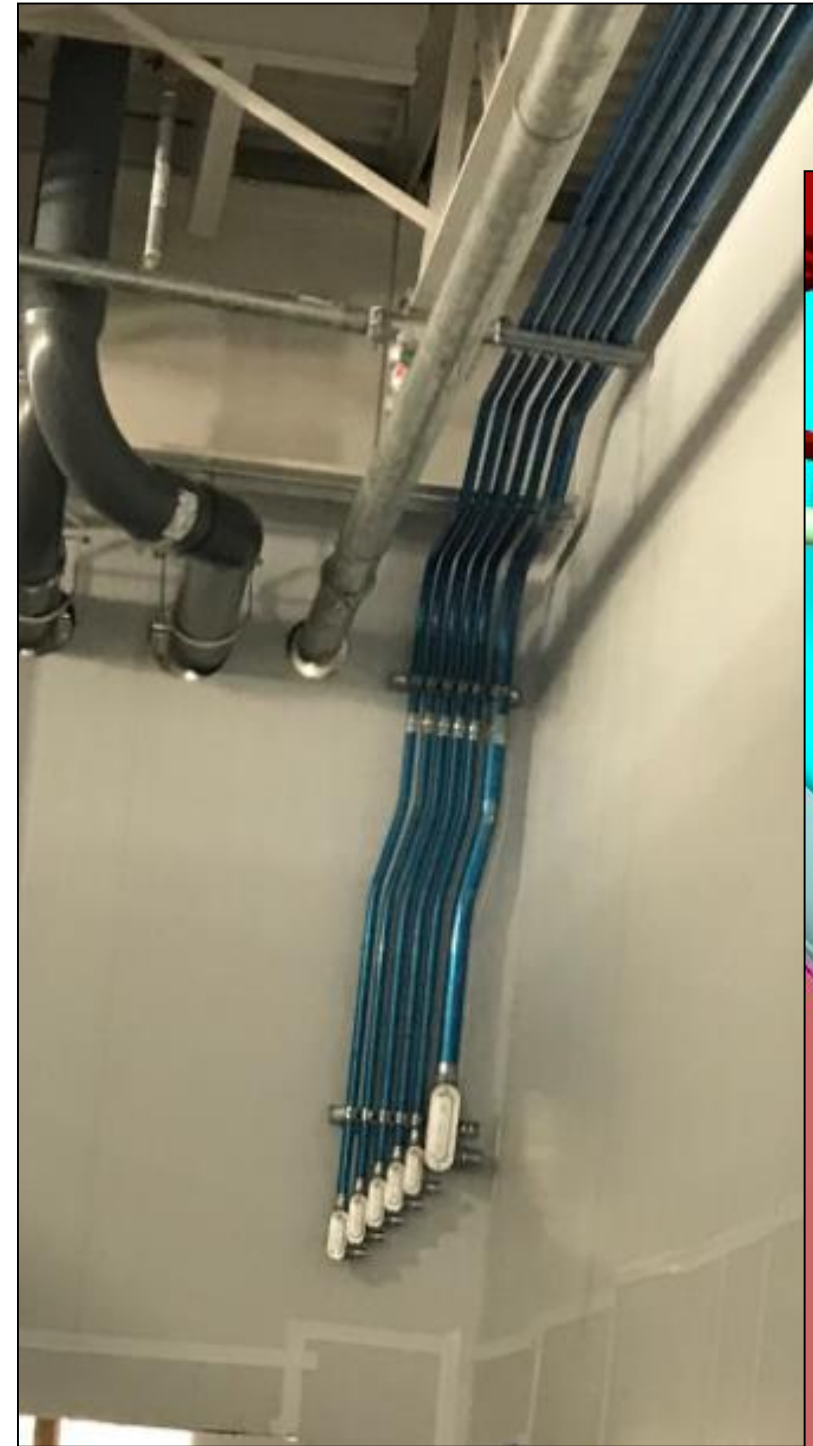
Quality

VDC/BIM Coordinators help:

- Improve deadlines
- Improve Efficiency
- Prevent errors
- Stay on budget
- Increase client satisfaction

Good quality project collaboration:

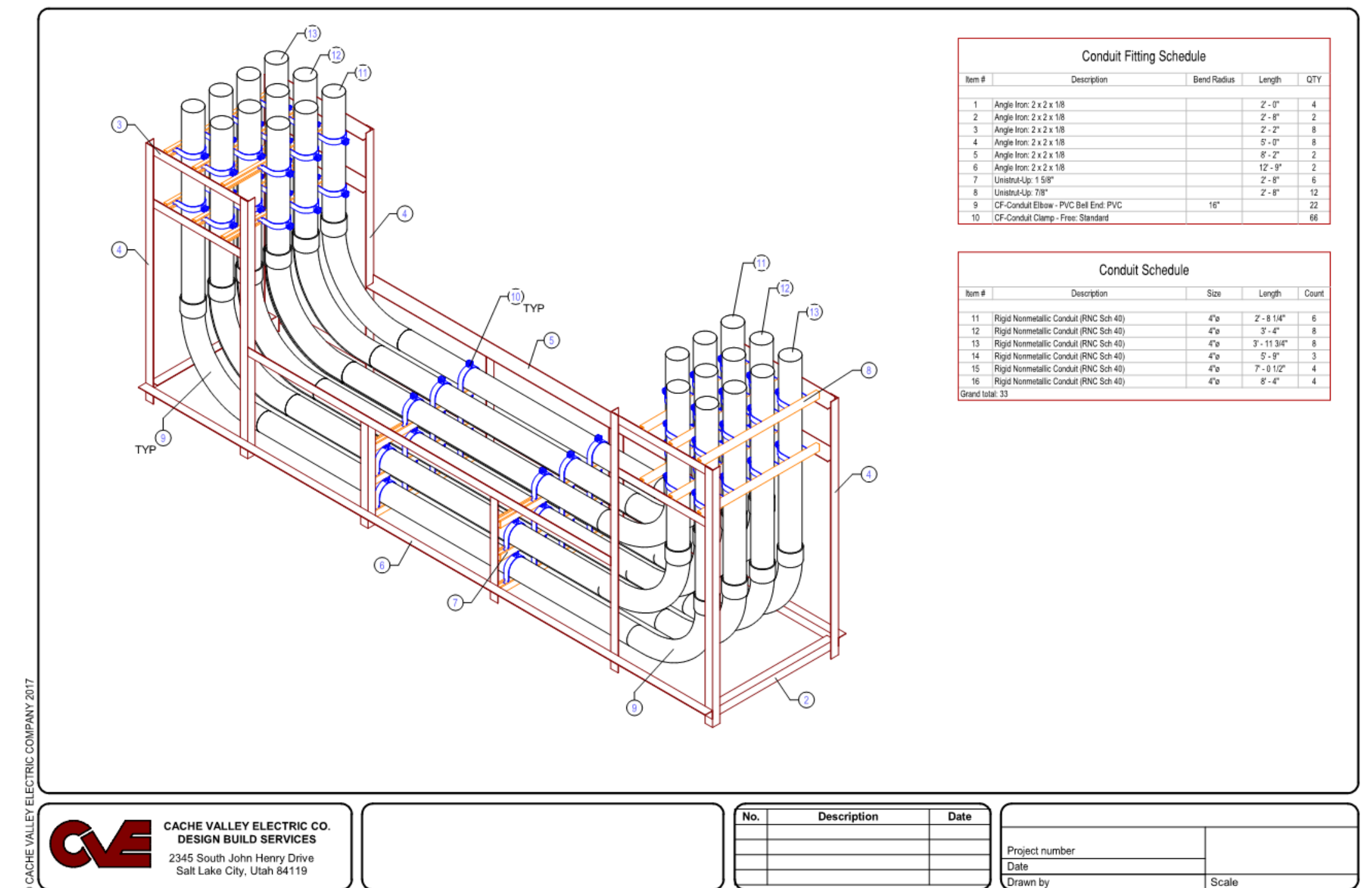
- Within your company
- General contractor
- Other subcontractors



Safety

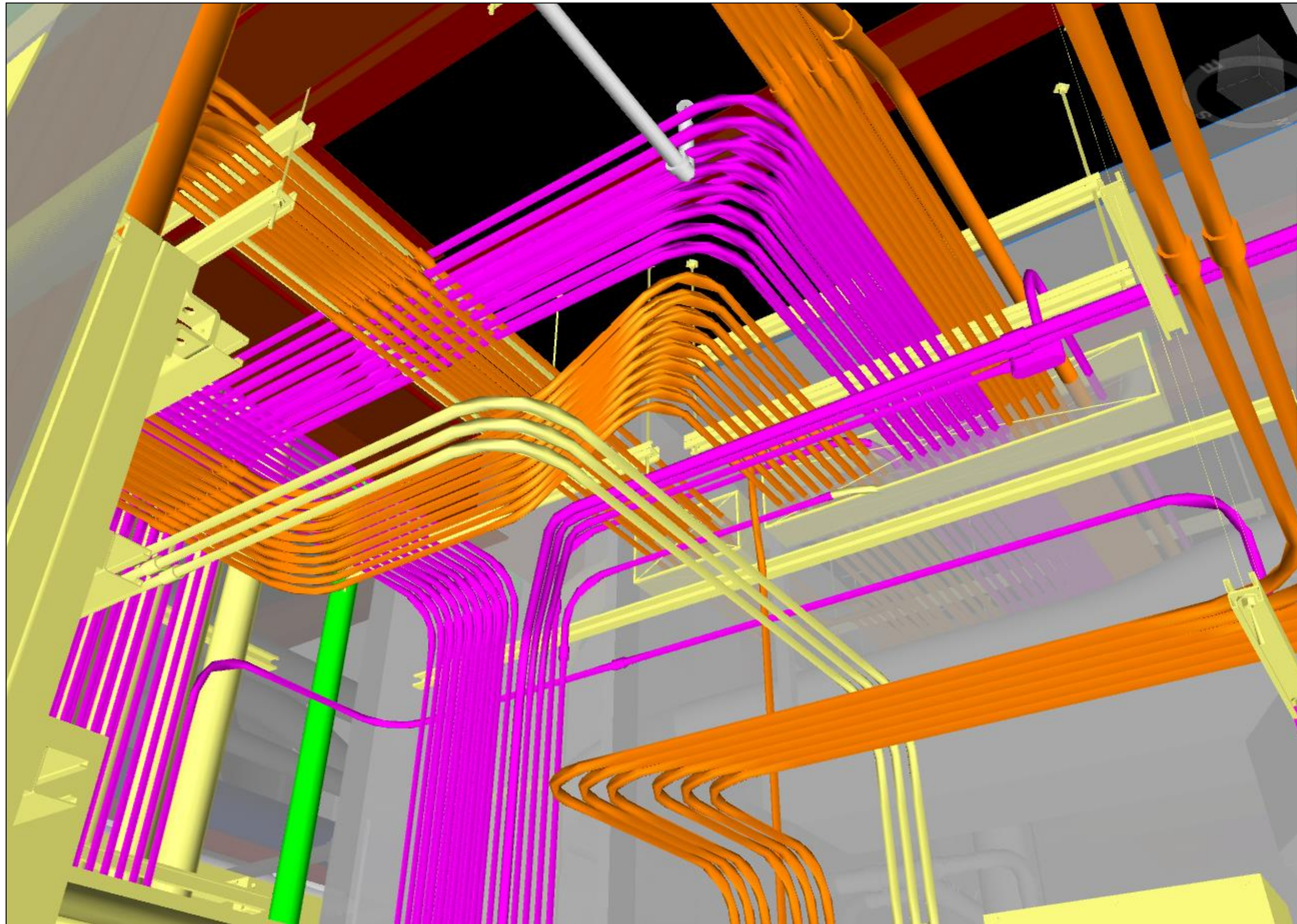
BIM Technology can improve safety:

- Detect health and safety risks
- Prefabrication and off-site fabrication
- Identify collisions
- Access models on job sites



Credit: Cache Valley Electric

Cloud based software make it easier to communicate and manage construction projects



Model



Install

When team members have access to the same information in real-time, it is easier to build processes, communicate, and increase productivity.



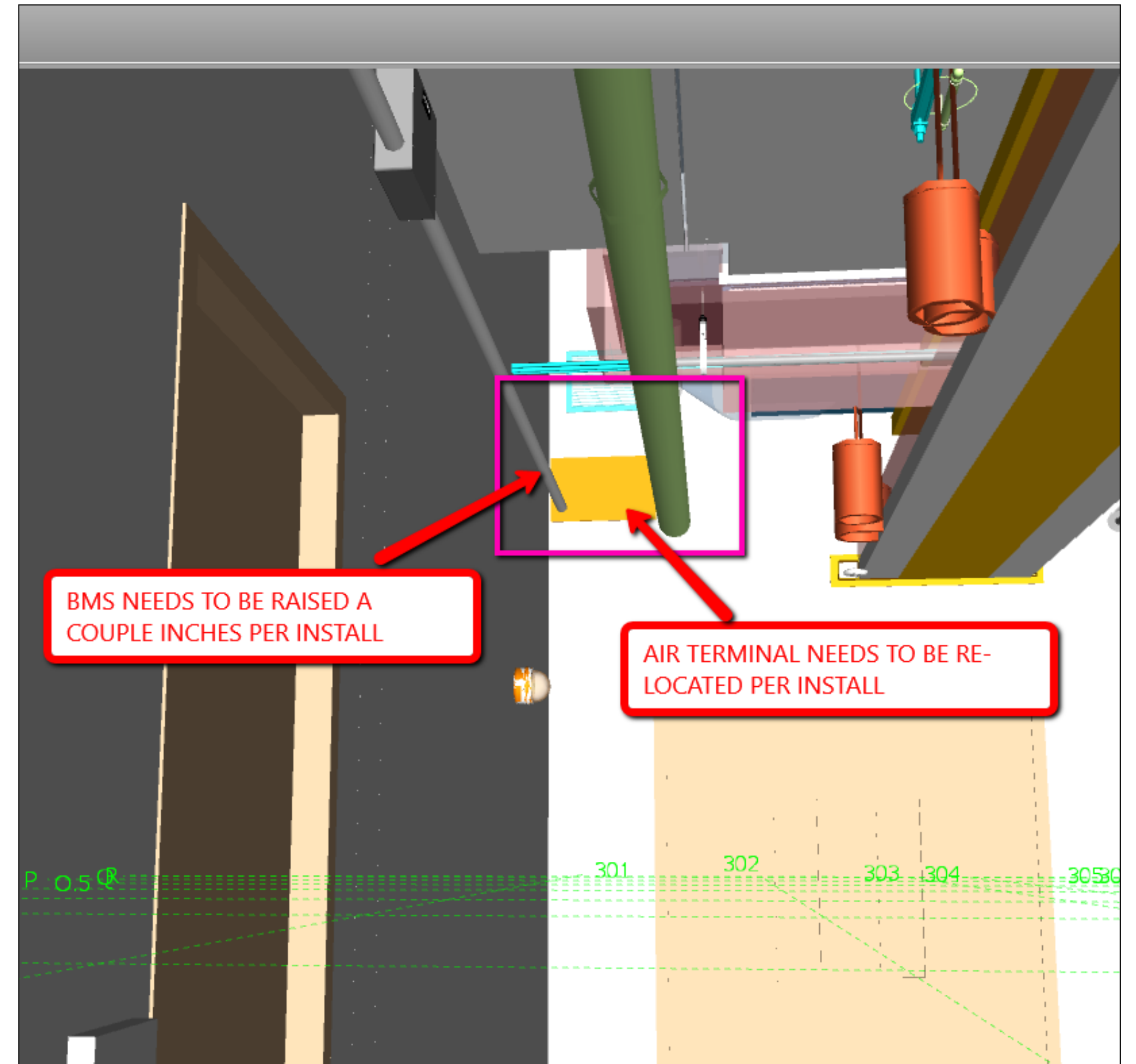
Subcontractors vs. General Contractors

The focus of a VDC/BIM Coordinator in our industry, is to provide for our field crews and make life easier and better for their install.

VDC/BIM Coordinator for a General Contractor

GC Coordinator will typically:

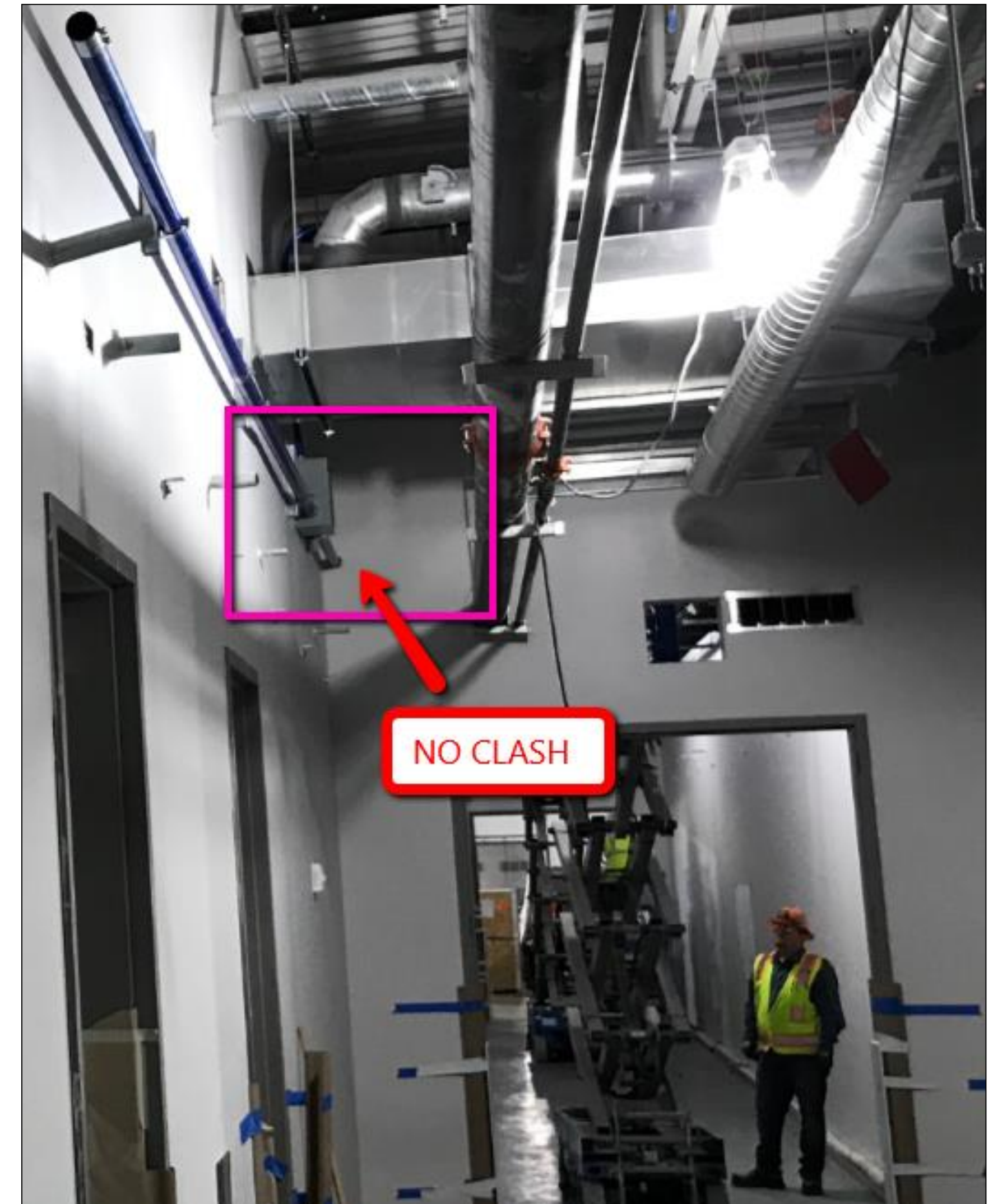
- Coordination kick-off meeting
 - *Coordination schedule*
- Host coordination meetings
- Mediators to resolve clashes
- Verify as-built modeling to install



VDC/BIM Coordinator for a Subcontractor

Subcontractor Coordinator will typically:

- Create internal BIM team
 - Coordination schedule
- Join BIM kick-off meeting
 - Coordination schedule
- Model per equipment submittals
- Resolve clashes
- Create clash-free shop drawings to field
 - Create prefab drawings for fab shop
- Current live as-built models



Prepare for Virtual Coordination

- Project contract
- Pre-con involvement
 - BIM team
- Know sub teams
- WHAT SOFTWARE??
 - 2019? 2020?

The details matter!

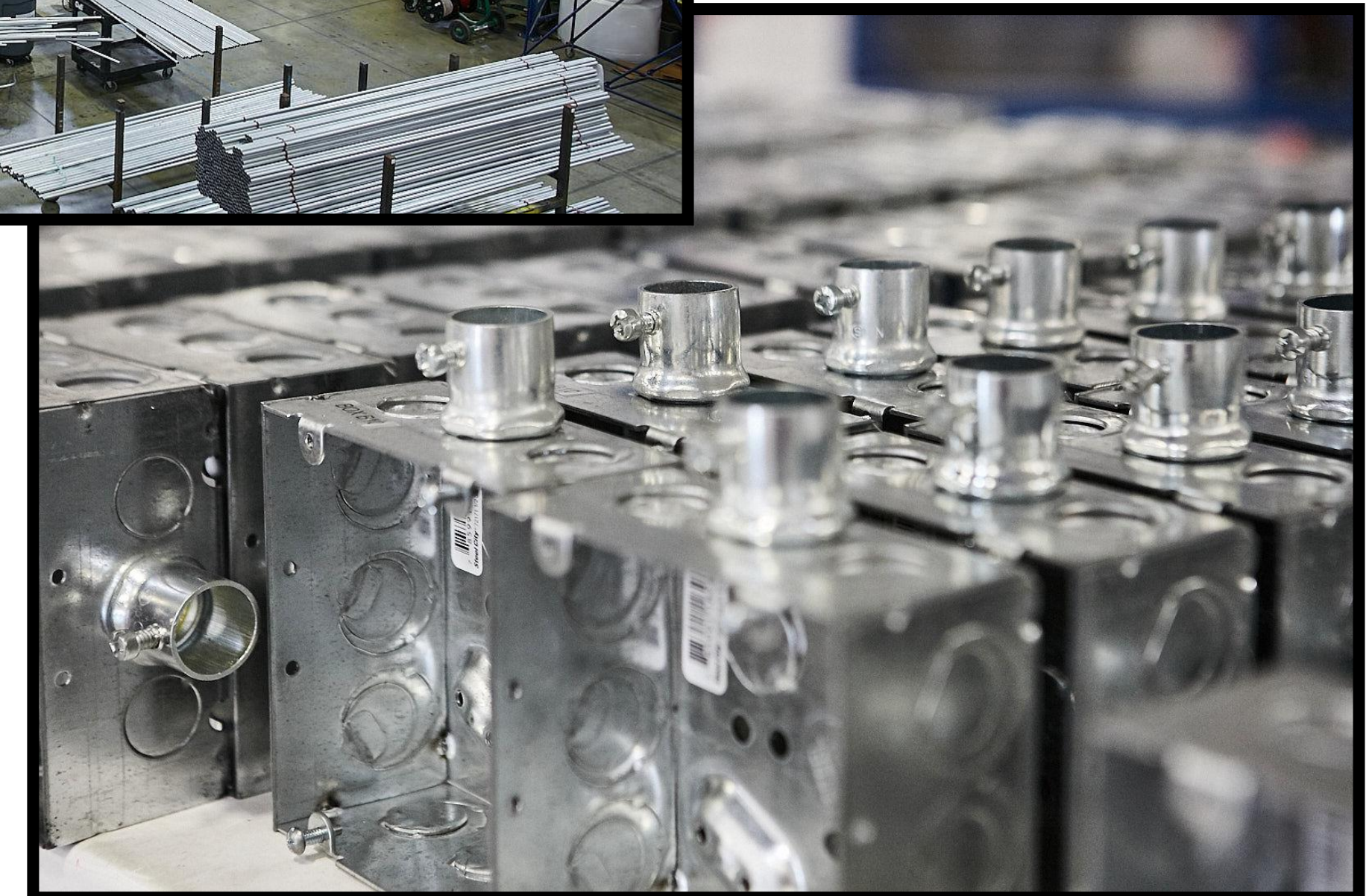
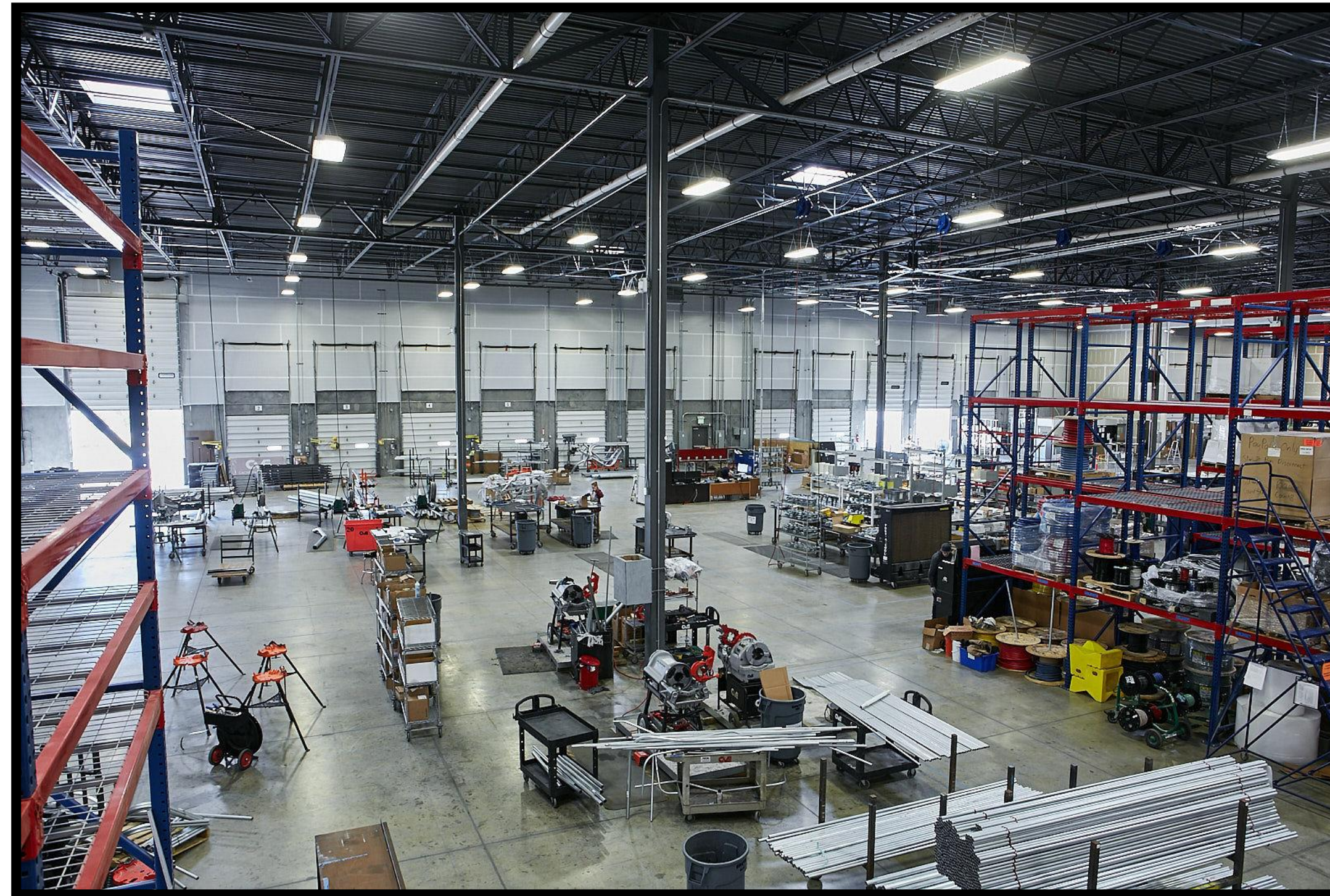
- Training



BIMTRACK®

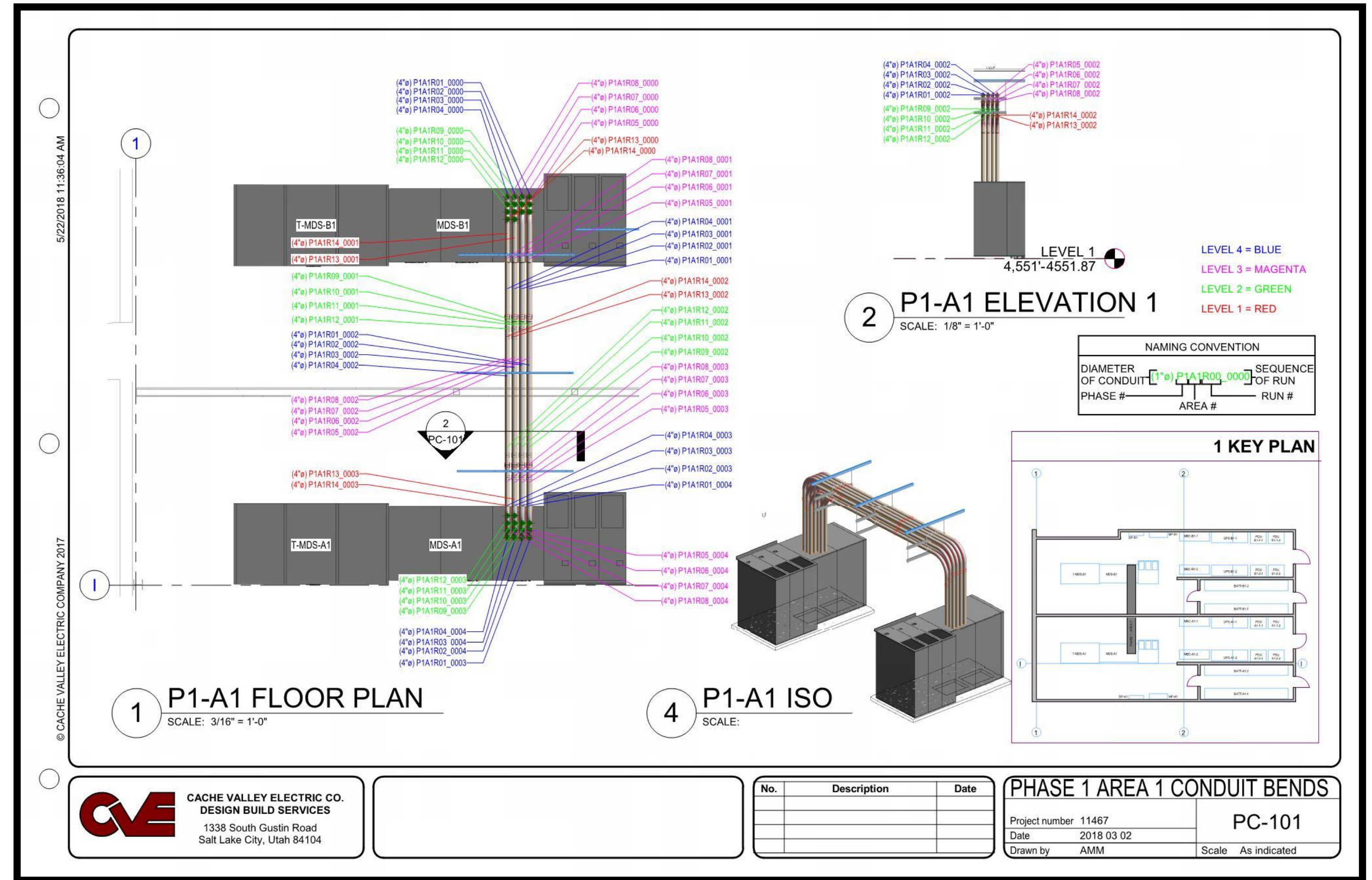
Prefabrication “connects” it All

- Controlled environment
- Cost savings
- Quality increase
- Less material waste



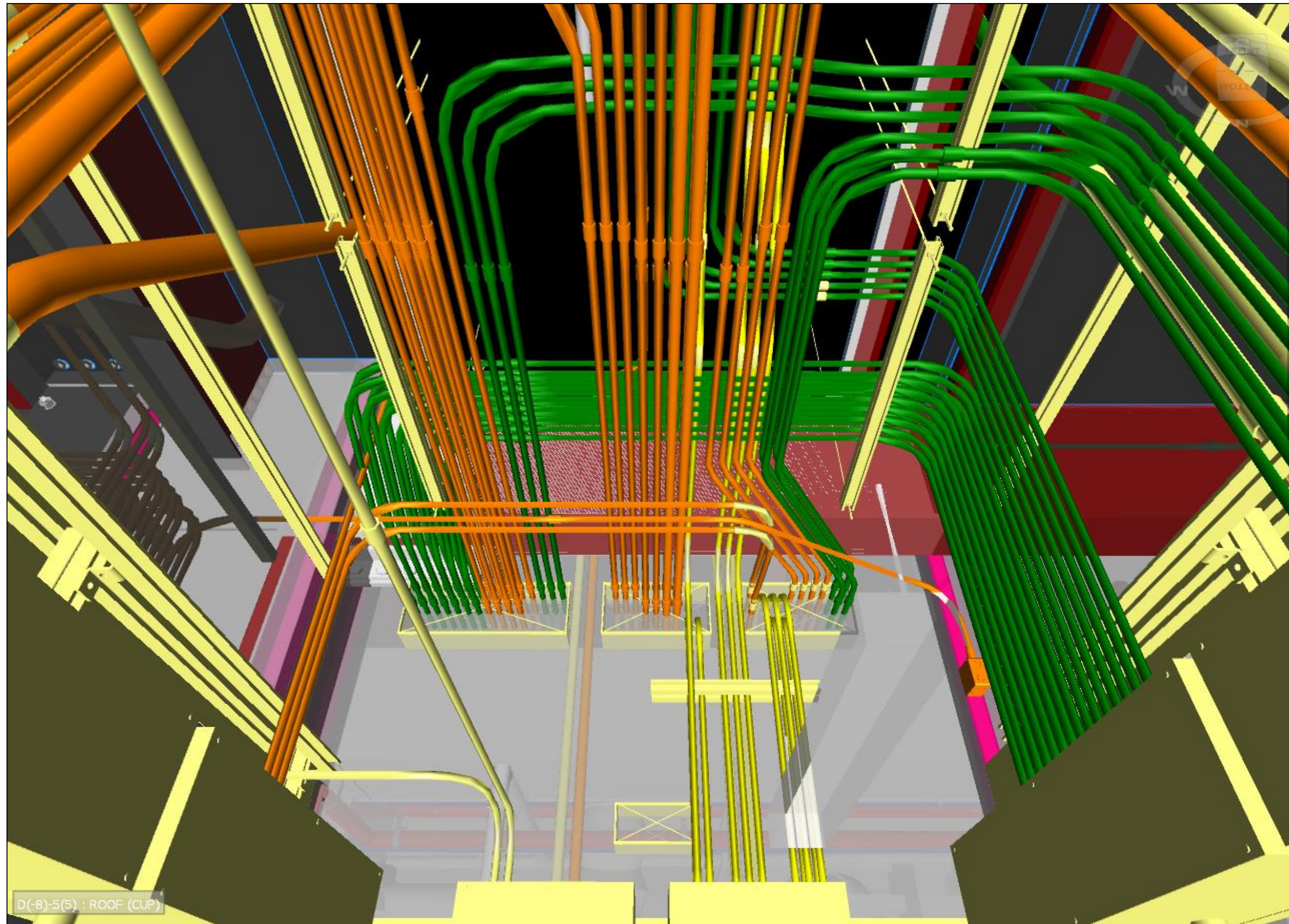
Prefabrication from the Electrical side

- Software:
 - Greenlee Bendworks
 - Content in-house
- Create bend reports
 - Internal process checklist
- Sent to prefab shop



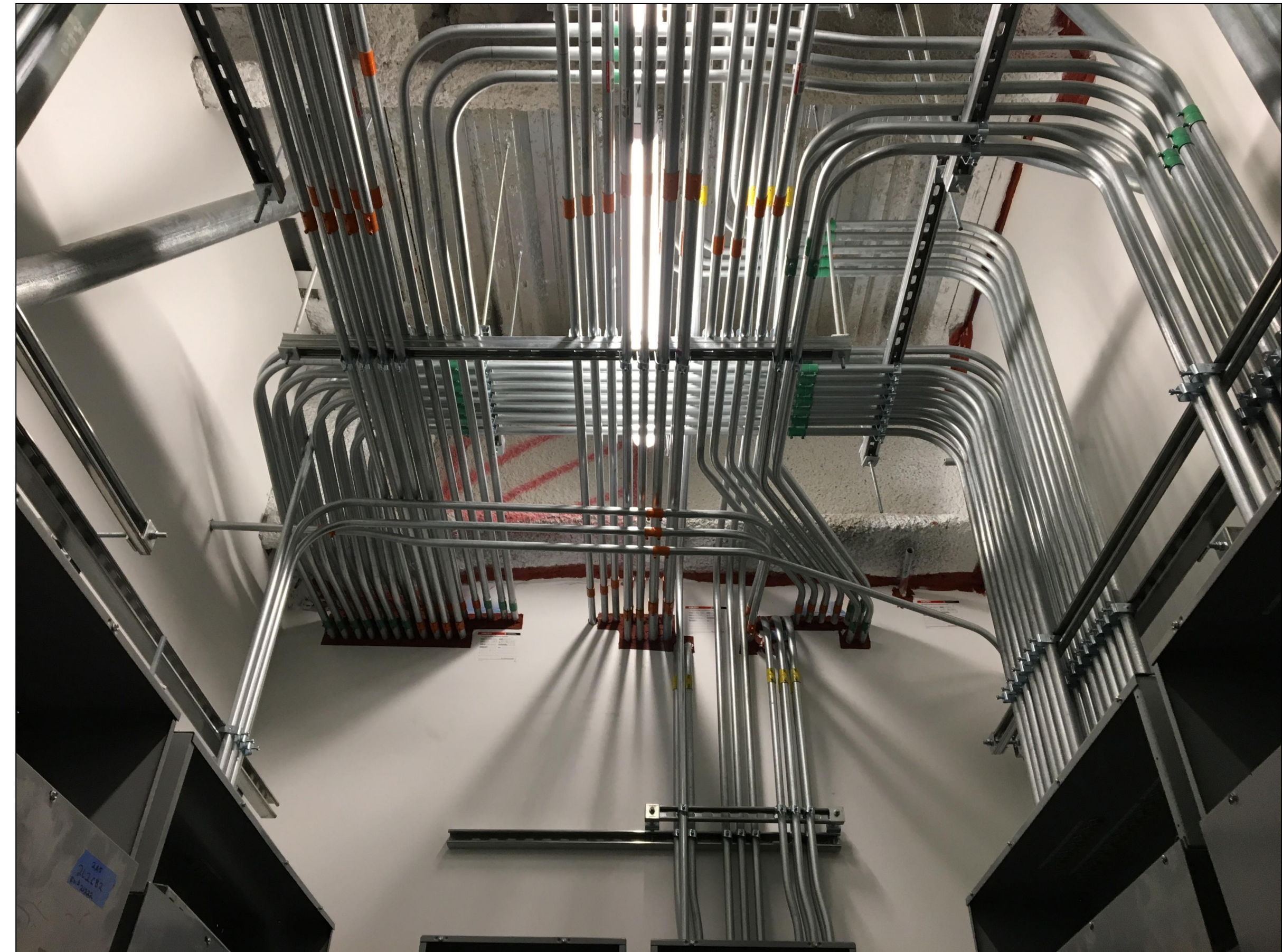


Example #1



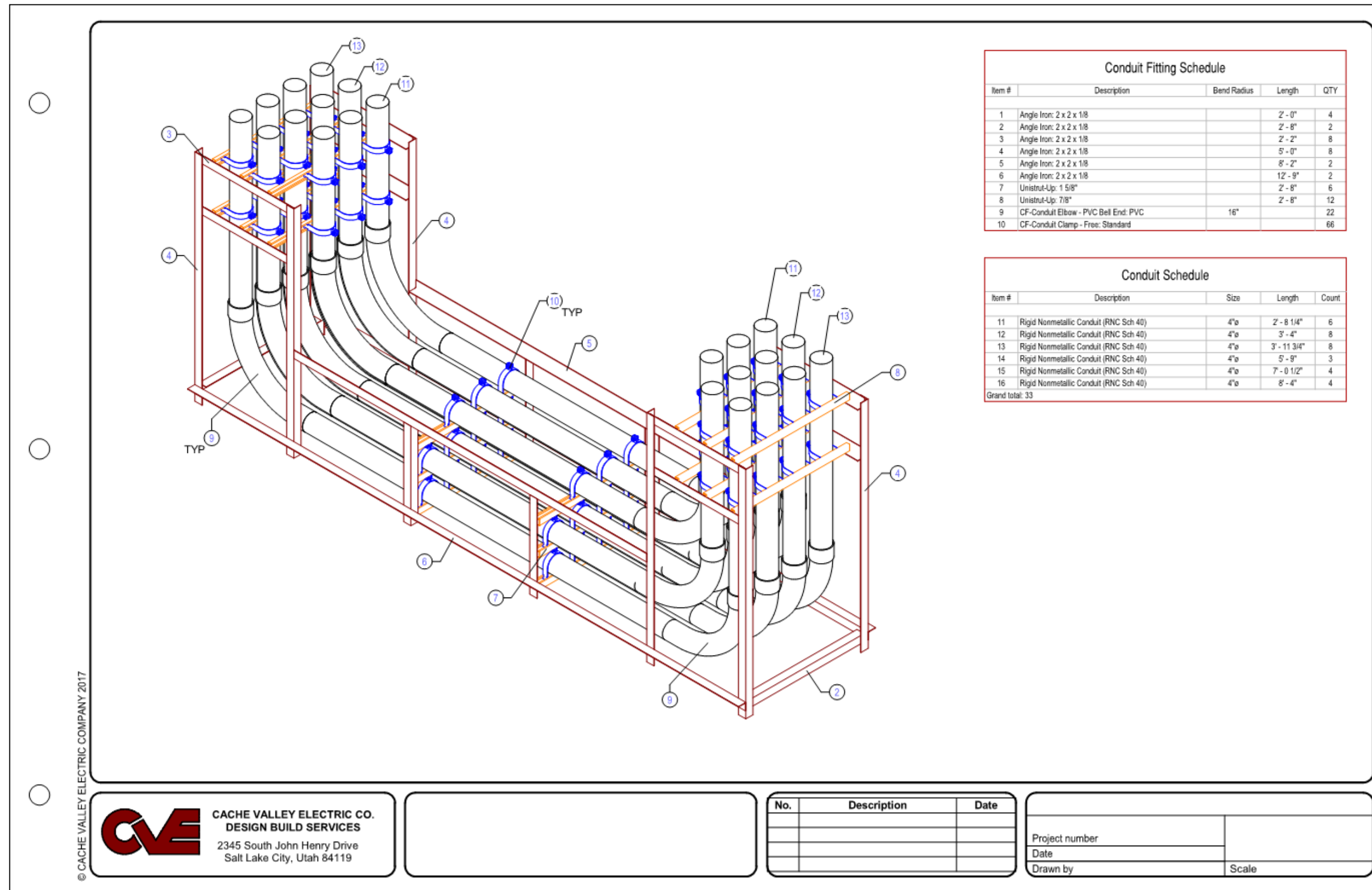
Model

- 90% of entire room was prefabricated
- 20 electrical panels per room
- Mainly one-person install



Install

Example #2

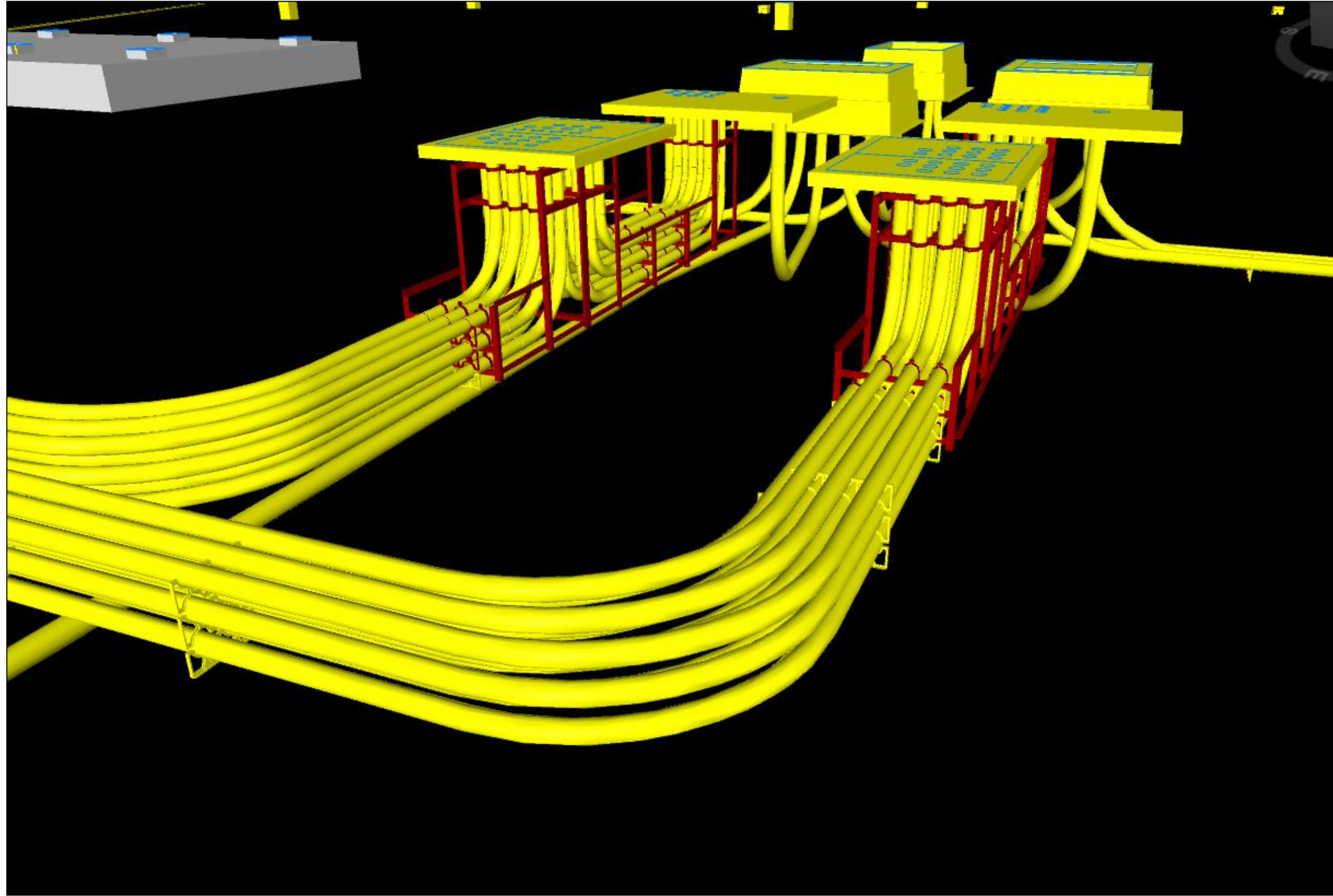


Prefab Shop Drawing

Prefabricated In-house

- Electrical underground conduit assembly
- 100% prefabricated
- One modular unit
- Cost efficient

Example #2



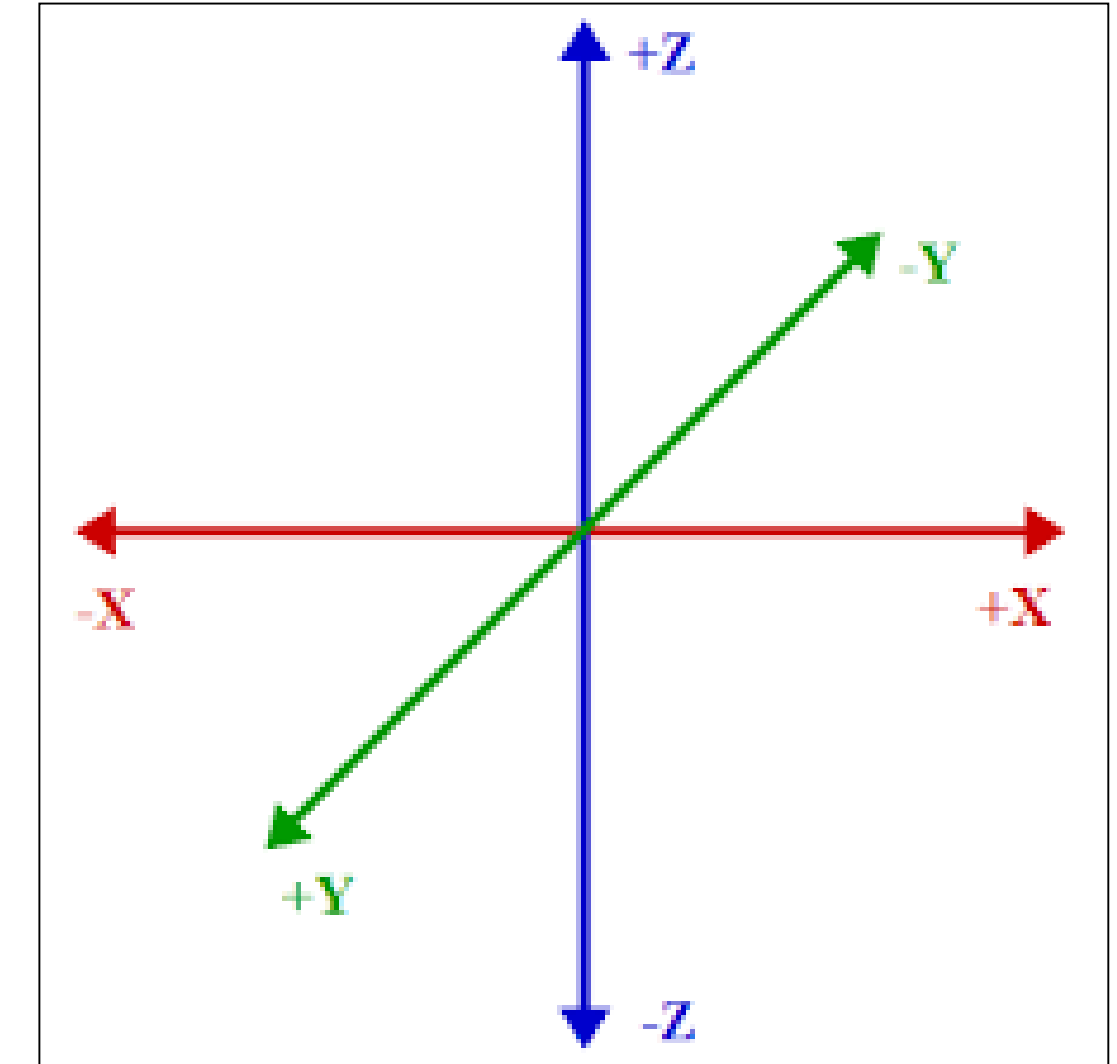
Model

- 14% under-budged labor hours
- Grand total came in 65% overall budget
- CVE anticipates 30% labor saving for future prefab!

Install

Stay ahead of that GC! At the beginning.....

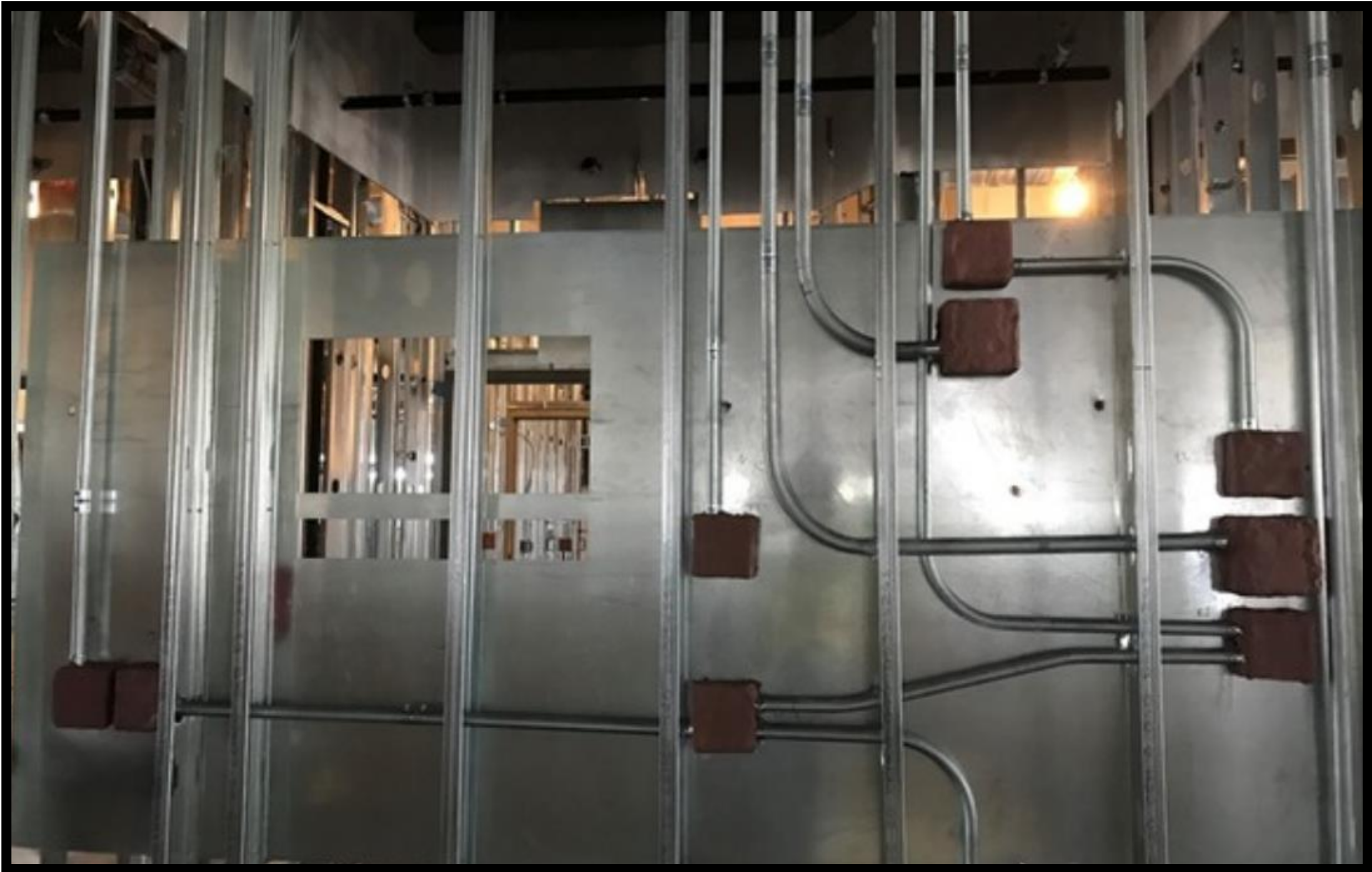
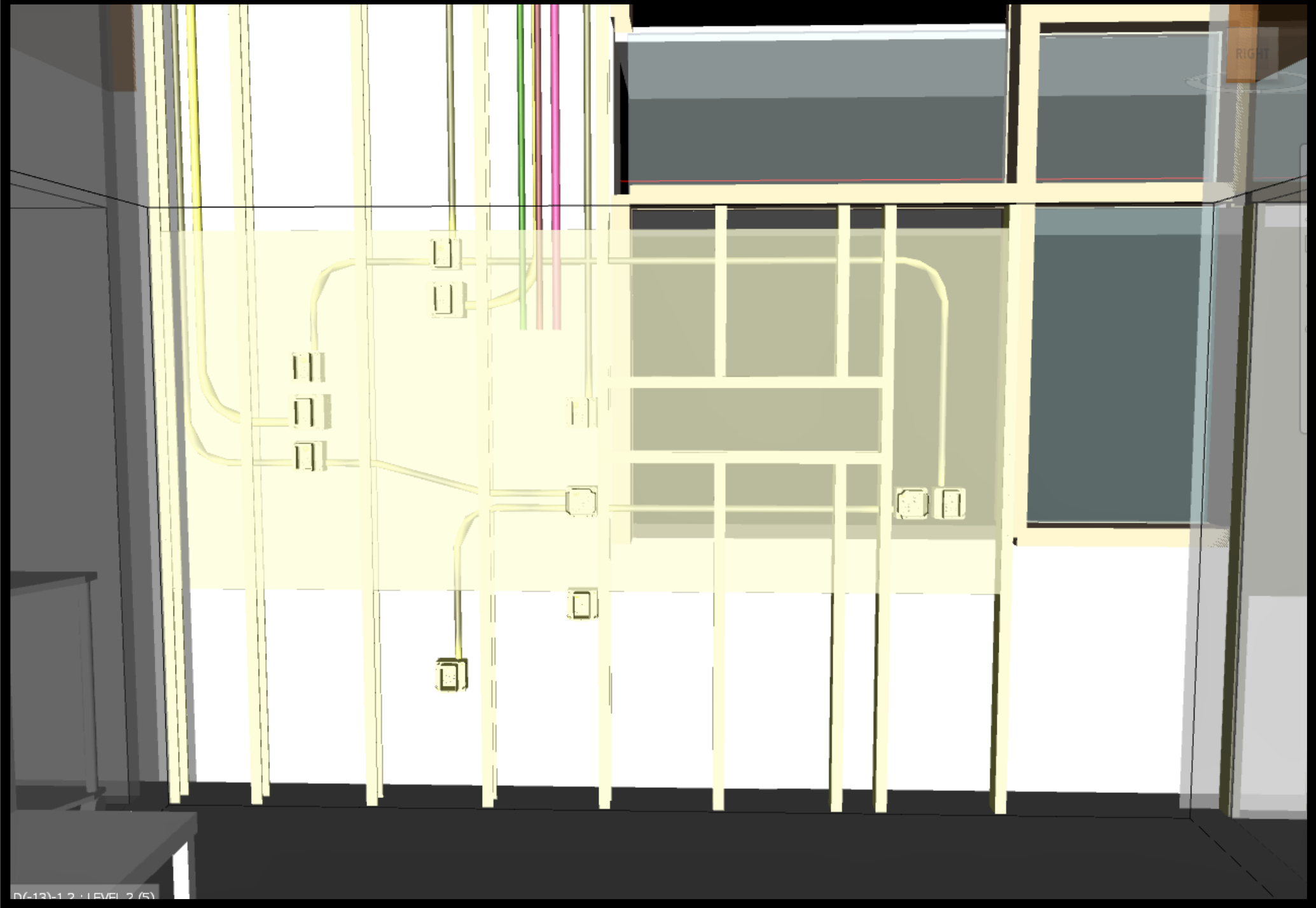
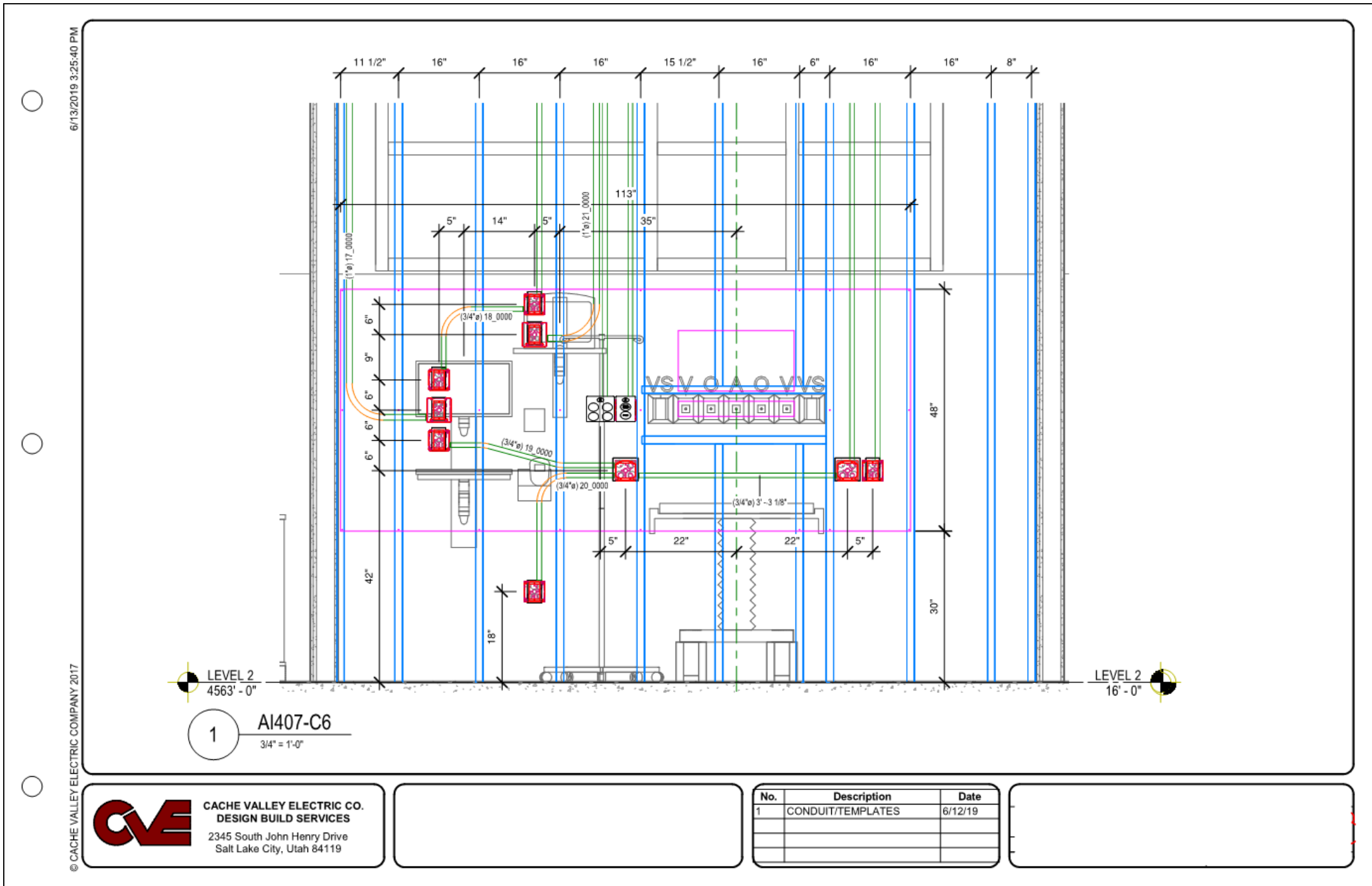
- Review BEP & contracts
- Scope of work
 - Scope gaps?
- Project coordinates
- Internal BIM team



In the middle.....

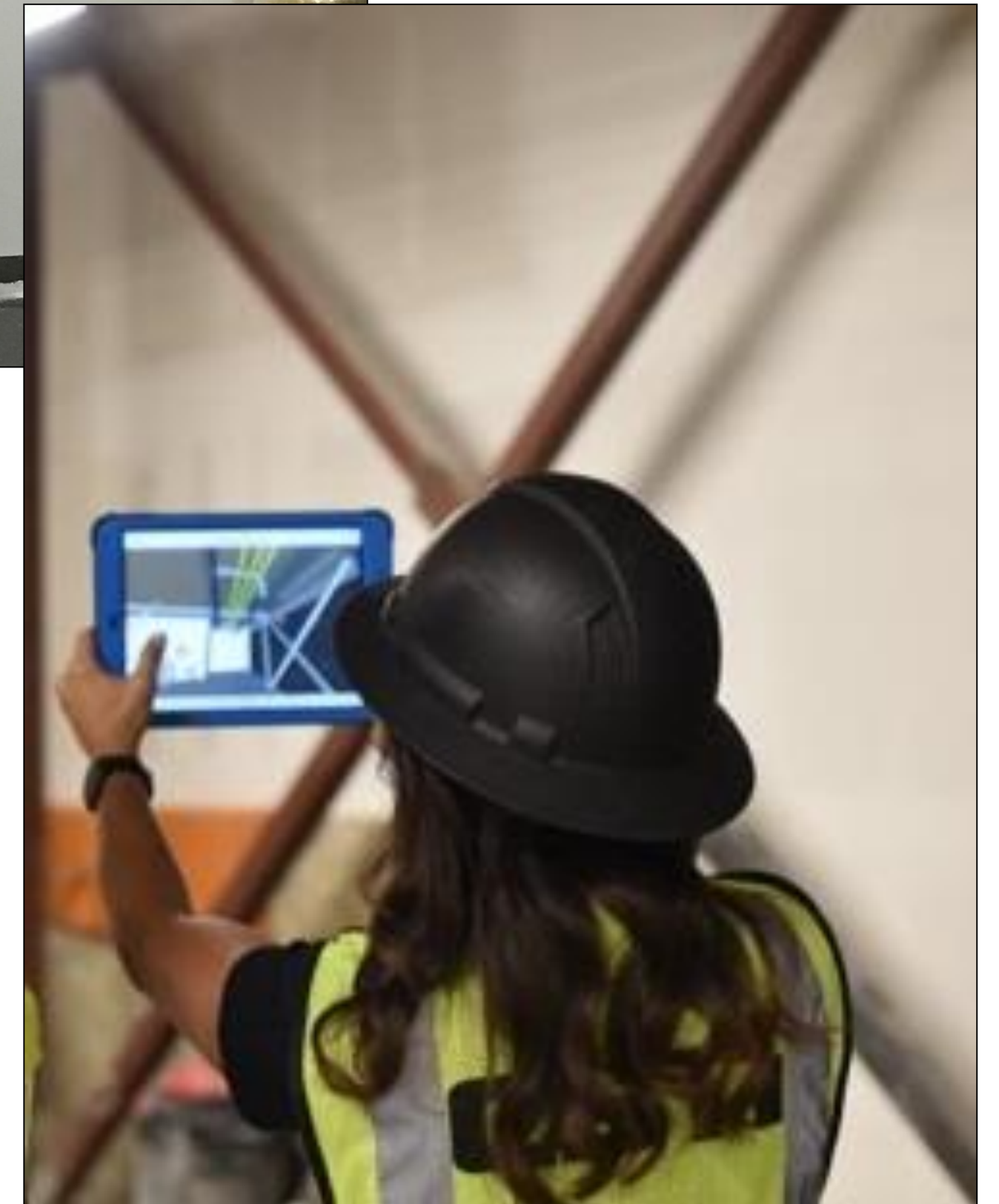
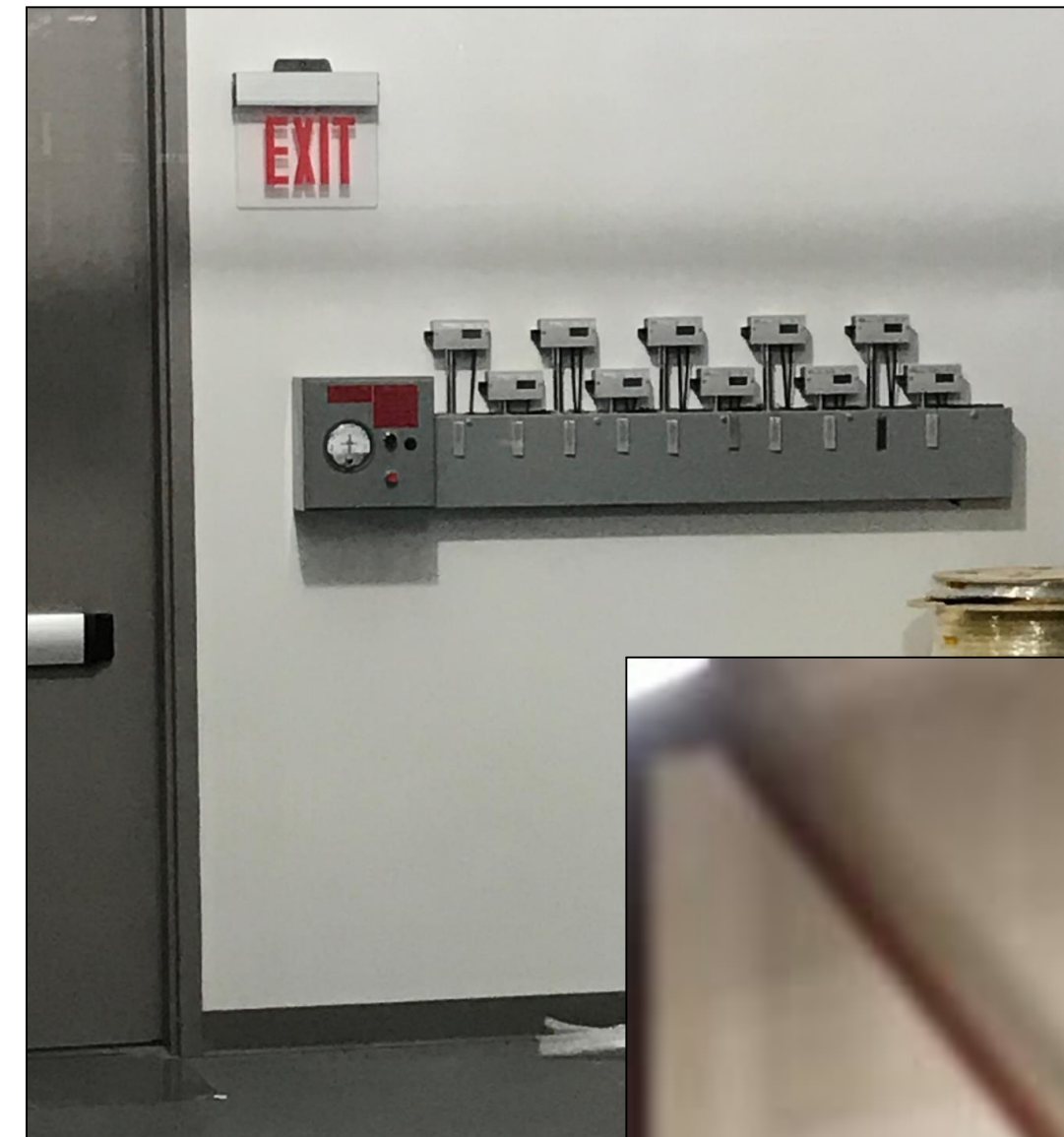
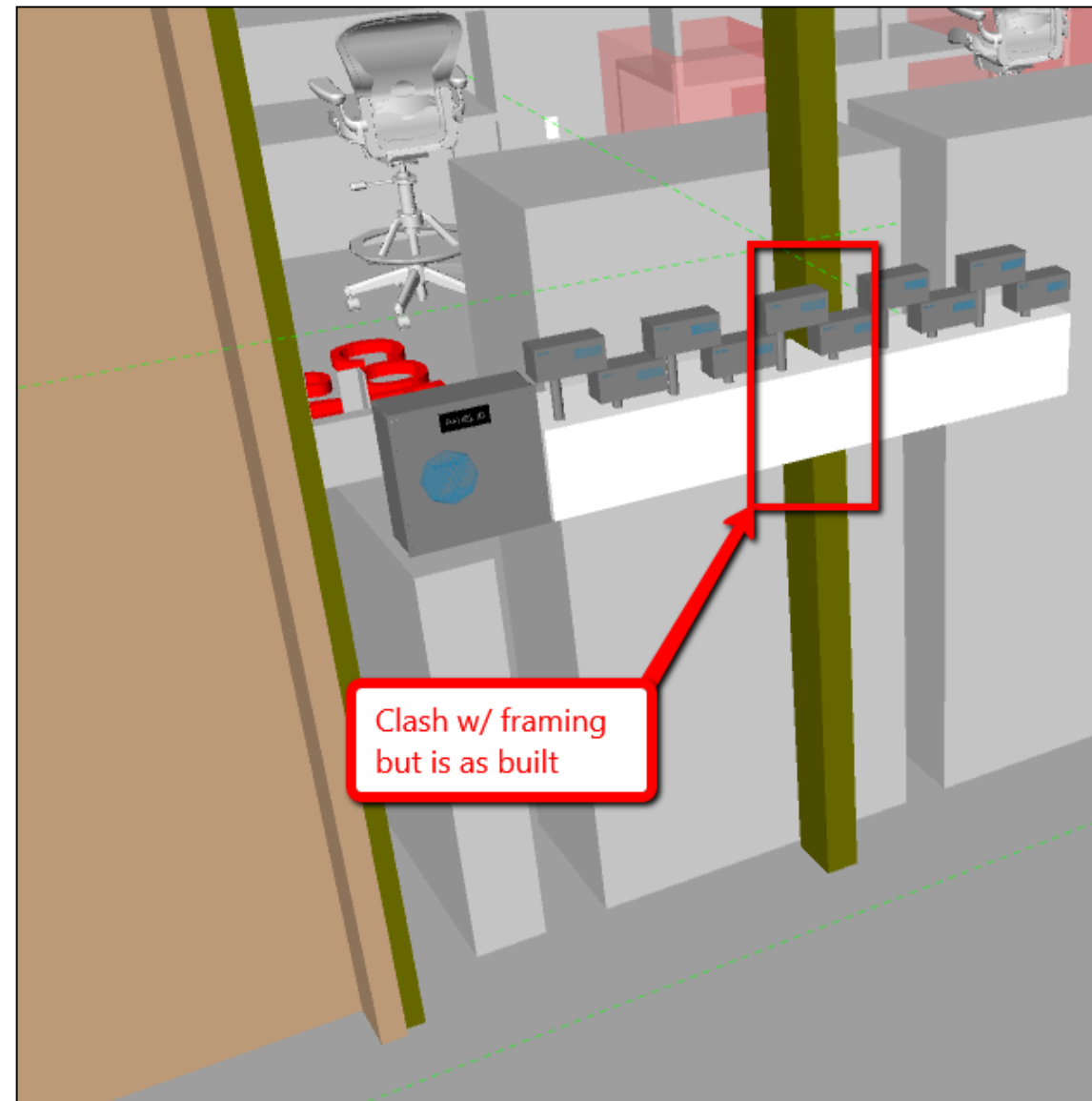
- Modeling
- Resolve clashes
 - communicate
- Create clash-free shop drawings
 - Field crews
 - Fab shop





At the end.....(ish)

- Current as-built modeling
 - Described in BEP
- BIM turnover to owner
 - What happens to our content?



In Closing

- Ever-changing technology
- Human error and stubbornness
- One team-one unit
- Training our clients
- Create processes and workflow together
- Share information



TEAMWORK!
WORKING TOGETHER GETS THE GOODS!



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