Culture Shift: Technology Implementation at an “Old School” Construction Company

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Stephen Bessette
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AUTODESK UNIVERSITY
About the speaker

Chad Holbrook

As the Manager of the Virtual Design & Construction department for W.E. O’Neil, Chad brings his extensive experience to implementing technology solutions and leading 3D coordination efforts. Chad has been in the construction industry for his entire career, working for multiple construction companies throughout the country.
About the speaker

Stephen Bessette

As the Construction Subject Mater Expert, he provides technical sales assistance for the Autodesk AEC portfolio. Bessette has over 20 years of experience within the design and construction industry from fire protection design, land surveying, to construction management and estimating.
Key Takeaways

BUSINESS
Discover the benefits and value that revolutionizing current workflows enable to your overall business.

PROCESS
Learn how to differentiate yourself from the competition with better capabilities using connected processes. See how connected teams provide better results and enable better.

VALUE
Learn how to create value for your team through amplifying workflows via collaborative technology. Enable better retention by advancing the “old school” way of working.
Before We Start…

INDUSTRY STUBBORNESS
• Construction is inherently resistant to change.
• AEC is resistant to change.
• Change can be slow.

OUR STORY AND LESSONS-LEARNED
• What have we done to be better?
• How you can learn from our story.

YOU AREN’T ALONE
• Many companies experience the same hurdles.
• Develop networks, groups and friendships.

Persistence Is Key
Don’t Give Up
Facts & Numbers

94 YEARS
Due to the great value in the relationships our people develop with our clients.

80% REPEAT CLIENTS
Ranked #66 on the ENR top 100. Making W.E. O’Neil the 4th largest contractor in Chicago.

66 ENR 100

5 STATES
Careful and strategic expansion from a single-office to a national general contractor with a wide footprint.

Of success due to our people and our commitment to quality, integrity and responsiveness to our clients’ needs.
W.E. O’Neil’s Footprint

1925 – Single Office – Chicago, Illinois

Today – 8 Offices in 5 States
"BUILDING A TECHNOLOGY-ENABLED WORKFORCE"

2017

"Current Reality"
- No In-House VDC Expertise
- Utilizing Consultant As Needed
  - PlanGrid
  - 2 FARO Scanners

2018

"Low-Hanging Fruits"
- 3D/MEP Coordination
- 360° Photography (PlanGrid)
- Laser Scanning
- 3D Modeling
- Assemble Purchased
- Revit Workflow Implemented
- HTC Vive Purchased

2019

"Breakthrough"
- Started Concrete Modeling
- Started 3D Estimating
- BIM360 Purchased
- Autodesk Ecosystem Developed
- 360° Photography Solution
- Drone Purchased

2020...

"Sustain Momentum"
- Estimators Using Assemble/Revit/BIM360
- Microsoft HoloLens Purchase
- Augmented Reality Implementation (AR)
- More Virtual Reality Use (VR)
- Training & Support
2017 – Current Reality

- No in-house VDC team (Chicago)
  - Consultant was used for VDC purposes
  - 1 VDC Engineer in CA
- PlanGrid heavily used
- 2 FARO scanners
- Coordination put on Mechanical trades
2018 – Low-Hanging Fruits

- In-house VDC team grows
  - 3 team members in Chicago
  - 2 team members in CA
  - 1 team member in AZ
- WEO leads ALL coordination
- 2 FARO scanners
  - Pre/post concrete pour scans
  - Heat/contour maps
  - As-built conditions
- Introduced 360° cameras

- 360° photos documented using PlanGrid
- Purchased Assemble
- Implemented a Revit workflow for coordination views
- Purchased an HTC Vive VR headset
- Dabbled in 3D estimating
2018 – Low-Hanging Fruits

- WEO leads/manages ALL coordination
- More trades involved in coordination
2018 – Coordination

• MEP Owned Coordination
  • Lack of visibility into the process
2018 – Coordination

- GC Owned Coordination
  - Better insight into design | coordination issues
  - Enabled more trades to become involved in the entire process
- RESULTING IN BETTER DESIGNS AND LESS ISSUES IN FIELD
• As-built documentation
• Supplemental modeling
2018 – As-Builts

• Utilizing technology to increase “as-is” conditions
• Accuracy increases coordination and decreases issues on project site
2018 – Supplemental Modeling

- Pre-planning
- Floor flatness
- Documentation
2019 – Breakthrough

• In-house VDC team adjusts
  • 3 team members in Chicago
  • 1 team members in CA
  • 1 team member in AZ
• Purchased BIM360
• Developed an Autodesk ecosystem
  • Assemble
  • BIM360
  • PlanGrid
• Purchased a drone (DJI Phantom 4 Pro)

• 360° photos documentation solution Utilizing Ininfraworks more for site logistics planning
• Dabbled in 4D schedule visualization
• Investigating site cameras
2019 – Pre-Planning

- Site Scanning projects
  - Uncovers unforeseen conditions
- Quickly identify issues for resolution planning
- True representation of existing conditions
2019 – Floor Flatness

- Site Scanning projects
  - Uncovers unforeseen conditions
- Quickly identify issues for resolution planning
- True representation of existing conditions

"Current Reality"  "Low-Hanging Fruits"  "Breakthrough"  "Sustain Momentum"
2020 – Sustain Momentum

- In-house VDC team adjusts
  - 4 team members in Chicago?
  - 1 team member in CA
  - 1 team member in AZ
  - 1 team member in CO?
- Estimators using Assemble+BIM360 for estimating
- Having a fully automated Autodesk ecosystem?
- Expand footprint to have VDC training+support staff
  - Product integration
  - Product training
  - Product support
- Robotics?
CLASS SURVEY IN THE AU APP

SOCIAL MEETUPS IN THE EXPO AND COMMUNITY QUADS

WANT TO HAVE FURTHER DISCUSSIONS? LET'S SCHEDULE TIME TO TALK IN THE QUADS