About the speaker

Peter Razavi

• 5 years with one of the world’s leading project development and construction groups
• Implemented various construction technologies including PlanGrid on projects
• Worked on small and large projects in various construction market sectors: Biotech, Healthcare, Higher Education, Aviation & Commercial
• Worked on projects with different delivery methods including IPD
• MS Civil & Environmental Engineering from UC Berkeley
About the speaker

Lorrin Blair, PE

- 8 years construction field experience
- Civil Field Engineer for one of the largest private construction companies in the world
- Project Manager for an owner and a specialty subcontractor
- 1.5 years as Lead Consultant & Trainer for PlanGrid
- BS Civil Engineering from Purdue University
- Licensed Construction Engineer
Agenda

In this session, you’ll learn how different companies have set up and standardized their workflows to maximize efficiency and productivity.

- Intro to Standardization
- Pro Tips & Unique Use Cases
- Lifecycle Collaboration & Standardization Outcomes
- Integrations & Partner Ecosystem
- Key Takeaways + Q&A
PlanGrid Best Practices

An Intro to Standardization
Why Standardize

- Get everyone using the tool the same way - **Consistency**!
- Keeps everything **organized and uniform** between users and groups of users
- Helps users **adopt the tool faster** and easier
- Minimizes rework & confusion

- Minimizes support needs
- Helps with **data and information flow** between users
- Gives a **foundation for future uses** and **easier interpretation** of the data collected over time
PlanGrid Standardization
Developing Standards

DOCUMENT PROCESSES

• Develop a baseline: Understanding how you are completing project workflows today
• Look for areas of improvement: Duplicate data entry, siloed information
• Continue to reevaluate
Developing Standards

CHAMPIONS & POWER USERS

• Use committees to help identify, prioritize, solve, test, train, and support
• Include original end-user
• Identify users to test out new ideas
• Keep management informed
Developing Standards for Your Teams

LEAN ON EXPERTS

• You don’t have to go it alone
• PlanGrid Professional Services Team provide Standardization Workshops
• Talk to your peers & attend industry events
PlanGrid Best Practices

Standardization Quick Wins

- **Document Control**
- Tasks
- Color Standards
- Template Projects
Document Control Standards

Naming Conventions

- Sheet Numbers & Titles:
  - Do they need to be what’s on the sheets?

- Sheet Version:
  - Example: “Revision 1 - 04.05.18” (date on sheet)

- Issuance Date:
  - Date on Sheets or Date received

- Submittals:
  - Example: Spec # - Title

- External RFIs:
  - Example: RFI #001 - Title

- Other Documents:
  - Title
Consider what **types of documents** should be uploaded:

- Contract/ Scope of Work
- Approved/Rejected submittals
- Shop Drawings
- Schedule
- MSDS documentation
- External RFI’s
- Owners Manuals
PlanGrid Best Practices

Standardization Quick Wins

- Document Control
- **Tasks**
- Color Standards
- Template Projects
How will you use task tracking?

**Pre-construction**
- Existing damage
- Value engineering
- Constructability
- Plan Reviews
- Design Items
- Planned Work

**During construction**
- Trade damage
- Added scope
- Punch lists
- QA/QC
- Safety
- Planned Work

**Post-construction**
- Facilities management
- Task management
- Notes for future work
Custom Task Stamps

Things to Consider

- Task stamps are completely customizable per project (and workspace)
- What tasks do you want to track on your projects?
- How will you label your stamps for different purposes? (planned work vs. punch vs. safety, etc.)
- Stamps can be imported and cloned from other projects
- **Recommendation**: set a standard set of task stamps that every project should start with and allow customization from there base on project.
Custom Task Lists
Things to Consider

- The list of task lists is completely customizable per project (and workspace)
- What type of reports would you like to make on each project?
- Who’s responsibility to add or remove any lists that do not apply to the project?
- **Recommendation:** set a standard set of task lists so everyone on each project knows exactly what kinds of lists and reports they need to be tracking on the project.
PlanGrid Best Practices

Standardization Quick Wins

- Document Control
- Tasks
- **Color Standards**
- Template Projects
Color Standardization
Choosing what color to use

- Every markup can be created in one of 12 color choices.

- Can be standardized by:
  - What **type** of markup it is
  - What **user** is creating the markup
  - What **phase** of the project it is
## Color Standardization
What type of markups should be published?

<table>
<thead>
<tr>
<th>COLOR</th>
<th>MEANING</th>
<th>PUBLISH TO PROJECT STANDARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED</td>
<td>As-built notes</td>
<td>Users should send Snapshots to PM. Publish to Project upon approval.</td>
</tr>
<tr>
<td>PINK</td>
<td>Submittals</td>
<td>Project will use Pink to hyperlink all approved submittals to the contract documents. <strong>Always</strong> Publish to Project.</td>
</tr>
<tr>
<td>ORANGE</td>
<td>Instructions from owner</td>
<td>The owner will use this color to add any special instructions/notes on a drawing. <strong>Owner will Publish to Project at own discretion.</strong></td>
</tr>
<tr>
<td>BLUE</td>
<td>Safety hazard</td>
<td>Safety team should use blue for any areas where there is a potential safety hazard. <strong>Always Publish to Project.</strong></td>
</tr>
</tbody>
</table>
PlanGrid Best Practices

Standardization Quick Wins

- Document Control
- Tasks
- Color Standards
- Template Projects
Template Project

- Avoid having to create every new project from scratch
- Create a pre-set customized project
- Information from the template project can be cloned and imported into each new project
Template Projects Overview

- Template project contents:
  - Team (clone/import)
  - Sheets & Project Tags (clone)
  - Documents & Document folders (clone)
  - Field Report Types (clone)
  - Customizations
    - Task Stamps (clone/import)
Weekly Project Announcements

Electrican is scheduled to have the new Generator delivered on 11/28. No other deliveries will be allowed on this day. Please schedule accordingly.

Site crew is installing storm pipe on east side of the site. Please be aware of equipment and stay out of this area.

^ Please click HERE for location

Please review specs V2

High-Priority / Schedule Announcements

11/16 - MEP Engineers will be out on 11/22 for cover-up inspections for Level 01 Interior walls. Please be ready!

Project Notes and Updates

Everyone on site MUST attend safety training to obtain hardhat sticker.

Everyone MUST be wearing PPE at all times while on site.

Safety Checklists are due to Project Superintendent on Friday of each week. Please submit by 11:00AM

Trash MUST be picked up daily. Every trade must participate in daily site cleaning from 4:30-5:00PM each day.
PlanGrid Pro Tips

Standardization Stories & Unique Use Cases
PlanGrid Pro Tips
Standardization Stories & Unique Use Cases

• **Tasks**
• Workspaces
• Workflows
How will you use task tracking?

**Pre-construction**
- Existing damage
- Value engineering
- Constructability
- Plan Reviews
- Design Items
- Planned Work

**During construction**
- Trade damage
- Added scope
- Punch lists
- QA/QC
- Safety
- Planned Work

**Post-construction**
- Facilities management
- Task management
- Notes for future work
Collaborative Design Reviews

- Project stakeholders can collaboratively review the plans and requirements, and identify issues in the design that need to be addressed or resolved.

- Participants can assign Tasks to responsible parties with start and due dates for when resolution is needed.
2D Design Review

- Reduce manual / duplicate entry
- Real time collaboration
- Reporting via Excel & PDF
- Time, Date & User Logged Actions
- Revision Control

PlanGrid Generated Dashboards

PlanGrid Generated Excel Export
## Value Engineering

### Overview Tasks Stamps Reports

<table>
<thead>
<tr>
<th>ID</th>
<th>Status</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Value Engineering

<table>
<thead>
<tr>
<th>Task Description</th>
<th>ID</th>
<th>Status</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add perimeteth in (2273 1/7F 73)</td>
<td>#1276</td>
<td>Open</td>
<td>11/16/2019</td>
</tr>
<tr>
<td>Add HDMI and VGA cables in all 43 ...</td>
<td>#1277</td>
<td>Open</td>
<td>11/16/2019</td>
</tr>
<tr>
<td>Add data cables A2 in all 43 occ ...</td>
<td>#1278</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
<tr>
<td>Eliminate hot water hose bibs in th ...</td>
<td>#1279</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
<tr>
<td>Upgrade elevator and stair finishes</td>
<td>#1280</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
<tr>
<td>Zone Leak procedure individually</td>
<td>#1281</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
<tr>
<td>Zone Leaking and water tests</td>
<td>#1282</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
<tr>
<td>Zone Leaking and water tests</td>
<td>#1283</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
<tr>
<td>Zone Leaking and water tests</td>
<td>#1284</td>
<td>Open</td>
<td>11/01/2019</td>
</tr>
</tbody>
</table>

### Cost Impact Schedule Impact Amount (days) List

| Yes | $1,463.00 | Value Engineering |
| Yes | $8,490.00 | Value Engineering |
| Yes | $31,409.00 | Value Engineering |
| Yes | $53,845.00 | Value Engineering |
| Yes | $-6,357.00 | Value Engineering |
| Yes | $5,455.00 | Value Engineering |
| Yes | $10,435.00 | Value Engineering |
| Yes | $70,457.00 | Value Engineering |
| Yes | $-22,183.00 | Value Engineering |
| Yes | $-5,970.00 | Value Engineering |
| Yes | $32,458.00 | Value Engineering |
| Yes | $-2,087.00 | Value Engineering |
| Yes | $15,489.00 | Value Engineering |
| Yes | $16,413.00 | Value Engineering |
| Yes | $-42,025.00 | Value Engineering |
| Yes | $20,066.00 | Value Engineering |
| Yes | $4,433.00 | Value Engineering |
| Yes | $7,133.00 | Value Engineering |
| Yes | $15,047.00 | Value Engineering |
| Yes | $20,087.00 | Value Engineering |
| Yes | $6,052.00 | Value Engineering |
| Yes | $26,355.00 | Value Engineering |

Total Cost Impact: $407,626.00
Weekly Work Planning
Weekly Work Planning

- Collaboratively manage constraints and hold all project stakeholders accountable as part of Weekly Work Planning sessions.
Bulk Importing of Tasks

- Bulk import Tasks using PlanGrid’s Task spreadsheet template to eliminate manual Task creation and streamline Task management throughout project lifecycle.
Permit Approval Process

- Collaboratively manage all plan check comments issued by the City in one centralized location.

Project Execution Plan

- Collaboratively manage all project execution action items prior to site mobilization.
EHS Project Startup

- Complete all safety related action items prior to start of construction.
PlanGrid Pro Tips

Standardization Stories & Unique Use Cases

• Tasks
• Workspaces
• Workflows
Workspaces

Overview

- Allows users in the workspace to collaborate without displaying information in parent project.
- Allows users to concentrate on just the information they need
- Create a project within the parent project and then choose:
  - Drawings
  - Documents
  - Users

Note: Workspaces setup should be organizational, but the standards within a workspace may need to be different than the parent project.
Workspaces

What workspaces will you need?

Examples to consider:

- MEP Coordination Workspace
  With MEP contractors

- Punch list Workspace
  For tracking tasks ONLY

- Project Phase Workspaces
  Workspaces dedicated to specific project phases or area readiness

- Internal Team Workspace
  Workspaces to give specific internal users access to sensitive information
PlanGrid Pro Tips

Standardization Stories & Unique Use Cases

- Tasks
- Workspaces
- Workflows
Streamlined RFIs & Submittals Process

Advanced RFIs

- Seamlessly create RFI drafts from the field that can be reviewed and finalized by office staff before being submitted to design team for review.

- Respond to RFIs even **without** a PlanGrid license by simply replying to the RFI notification email.

- Track RFI history all in one centralized location rather than searching through multiple emails.
Streamlined RFIs & Submittals Process

Submittals

- Save time by reviewing and marking up submittals all within PlanGrid’s submittal annotations module.
- Rearrange/delete pages, create bookmarks & smart stamps.
- Automatically publish approved submittals within your project Documents section in PlanGrid.
PlanGrid Pro Tips

Lifecycle Collaboration + Standardization Outcomes
Project Closeout & Turnover

Thinking ahead

Also:

- Upload everything that was generated **outside** of PlanGrid
- Specify who will be in charge of making sure all of this information is correct and prepared for delivery

• [Project Name] Closeout Manual
  ○ Section #1: General Project Information
    ■ Certificate of Occupancy
    ■ Scope of Work and Specs
    ■ Final RFI & Punch List Logs
    ■ Updated Project Directory
  ○ Section #2: Training
    ■ Training Registers
    ■ Training Videos
  ○ Section #3: Extra Materials/Attic Stock
  ○ Section #4: Operations and Maintenance Manuals
  ○ Section #5: As-Built Documentation
  ○ Section #6: Warranty & Certifications
What to do with a completed PlanGrid project:

Options:

1) Export to PDF via as-built generation
2) Store PDFs of drawings, documents, photos, etc. in internally server/cloud storage tool
3) **Never Delete Your Project**
4) Via Admin Console, remove team members
5) Keep the project linked to your Organization in the Admin Console
Improve the Turnover Process

Overwhelming amount of valuable and non-valuable information "Tsunami" originates across the different stages of the project (planning and design through construction and commissioning).

Handover

FM Personnel

FM System

Retrieve, Recreate and Collate Information created by Others

Valuable Information

Non-Valuable Information
Efficiency from design to wrecking ball.

- Design + construct: <10% of lifecycle
- Maintain + operate: up to 98% of lifecycle costs
Facilities Use Case: Full Life Cycle Data Capture
Facilities teams can tap on objects and see properties as well as seamlessly navigate into the 3D space.

- Access relevant data properties and measurement at your fingertips in 2D.
- Reference object details right on the jobsite, without back and forth
- Easily navigate in 2D, tap to view in 3D
How can you leverage the API?

**Partner Integrations**

Technology partners integrate our API with their applications:
- ERP & Project Management Solutions
- Estimation & Billing Applications
- Document Generation Software (CAD, BIM)
- Content Management Solutions

**Custom Integrations**

Customers integrate our API with proprietary systems and workflows:
- Real-time dashboards that show project progress
- Team, tasks, and RFI reporting tools with custom formats, layouts, and branding
What is PlanGrid Connect? powered by Workato

Customers can build custom, automated syncs between PlanGrid and apps such as:

- Box, Egnyte, Sharepoint, etc
- Procore, Smartsheet, Asana, Jira, etc
- Outlook, Gmail, Slack, etc
- **BIM 360 Docs**
Project management
Keep drawings, teams, issues, RFIs, and documents completely in sync between PlanGrid and your PM software.

Cloud storage
Import drawings from and export snapshots and as-builts to cloud storage such as Box and Egnyte.

Photo & video
Import imagery from drones and webcams to document progress on job sites.

Business intelligence
Analyze issues, RFIs, logs, and drawings to uncover trends, performance, and insights.

Inspection & safety
Connect issues and markups to inspections and reports for real-time status from the field.

Workforce Collaboration
Streamline communication and coordination throughout your field team.
Business Intelligence
Gain insight into field activity

Export PlanGrid data to analyze:
- User activity
- Issues
- Drawings & revisions

Leverage BI tools to examine PlanGrid data
- Across projects or within specific projects
- Alongside data from other applications
Lookahead tracking & Constraints Management

- Bulk import lookahead schedules for streamlined milestone and constraints tracking.

- PlanGrid can offer live integration solutions with platforms such as Smartsheet to connect the office to the field.
With powerful new and improved workflows. We now have greater:

**Breadth**: In the past 12 months we have broadened our portfolio to include best of breed solutions for bid management with BuildingConnected, field collaboration with PlanGrid, and stronger ties to the design phase, giving us the broadest offering in the market today.

**Depth**: We’ve delivered more than 300 improvements in the past year, including more than 50 we’re announcing at C&C. See complete list.

**Connectivity**: We have connected all 4 products above to each other to enable your design and construction data to seamlessly flow through all stages of construction, from design to plan to build to turnover/operations.
Key Takeaways

• Best Practices = Standardization
  o Develop Standards using the right resources
  o Quick Wins: Naming Conventions, Document Folder Structures, Color Standards, Create a Template Project
• Protips & Unique Use Cases
  o Streamline your Task Management
  o Look beyond core features
• Living As-built & Improved Turnover
• Integrations & Partner Ecosystem:
  o Eliminating double data entry
  o Creating custom workflows
  o Utilizing your data
Thank You!