LCI Arizona Community of Practice

January presentation:
Scrum in Design & Construction
Agenda:

• Welcome
• Food
• Housekeeping
• Presentation: Scrum in Design & Construction
• Future Events
• Plus-Delta
Housekeeping Points

Set Cell Phones to “stun”…….
Arizona CoP Core Group Members:

Core Group Members:

- **TP** Chad Halmrast (Southland)  
- **O** Bill Schofield (Intel)  
- **O** Ron Davidson (Intel)  
- **GC** Kable Oldham (Hensel Phelps)  
- **GC** Callie Johns (JE Dunn)  
- **DP** Michael Williams (HMC Architects)  
- **GC** Ryan Brady (McCarthy)  
- **PM** Tracy Lucero (WWPS)  
- **DP** Kevin Hunsberger (Southland)  

Vice Chair  
Communications  
Chair
Discussion Question

How much does DOWNTIME cost you?
Lean Construction Principles

1. Respect for people
2. Pull Value from the Customer
3. Create Flow
4. Eliminate Waste
5. Continuous Improvement
6. Optimize the System

What are the different types of waste in LEAN?
https://youtu.be/NJN-Istk_DLU
Discussion Question

How much does DOWNTIME cost you?
Scrum in Design & Construction

Felipe Engineer-Manriquez
McCarthy Building Companies, Inc.

Southland Industry’s Phoenix Office

16 January 2019
WARNING

Use of any shared steps will result in increased capacity.

More time to improve, optimize, and coach others will be YOUR problem.
Scrum: What is it and how can it benefit your team?

Isn’t this a software thing?
Scrum has been used by:

- Amazon
- Microsoft
- Yahoo
- Google
- Electronic Arts
- Lockheed Martin
- Philips
- Siemens
- Nokia
- Capital One
- BBC
- Intuit

- Nielsen Media
- First American Real Estate
- BMC Software
- Ipswitch
- John Deere
- Lexis Nexis
- Sabre
- Salesforce.com
- Time Warner
- Turner Broadcasting
- Oce
RFI SCRUM Template

Title/Issue:
RFI #000-000

Description: RFI question as written in RFI on Procore.

| Discipline(s): What party needs to review (stickers) | Date: Due Date per LPS |

Discipline(s) Color Code
- Architect
- MEP Engineering
- Structural Engineering
- Civil/Landscape
- General Contractor
- Owner

Existing 5SB Foundation Exposure
RFI # ES-42

Memo @ existing 1st floor
Second level

Existing 5SB Foundation will be left exposed 6" above
Finished Ground Level + 6" loud of 3.5' will
Please advise
Provide design.

1/26

Enabling @ 5SB Constructability
RFI # ES-44

Bearing wall supporting canopy along 5SB design change due to constructability. Proposal shaft wall. Please confirm acceptance.

1/26

APS Yard Clearance
RFI # ES-43

Per APS Inspection: 1. Curb brought down from 48" for 2'.
2. 3' flat surface area...and 4" due to curb to patio.
3. Please advise on side yard.
Yard is to extend to be built right of APS equipment.

1/26
Rugby Scrum
Focus
Openness
Respect
Courage
Commitment
Agile Scrum
Scrum in 100 words

Adapted for Construction

• Scrum is an agile process that allows us to focus on delivering the highest business value in the shortest time.
• It allows us to rapidly and repeatedly inspect actual completed work (every single week to one month).
• The business sets the priorities. Teams self-organize to determine the best way to deliver the highest priority work.
• Every single week to a month anyone can see real work completed and decide what to produce next or continue to enhance it for another sprint.
The Agile Manifesto—a statement of values

- Individuals and interactions over Process and tools
- Working software over Comprehensive documentation
- Customer collaboration over Contract negotiation
- Responding to change over Following a plan

Source: www.agilemanifesto.org
Focus
Openness

Respect

Courage
Commitment

Transparency

Inspection

Adaptation
Let’s Sprint Together
Scrum: What is it and how can it benefit your team?
Pick 3

Sprint time boxed (e.g., two weeks)

One Week
Product Backlog Improves Communication Effectiveness

Emphasis shift from documentation to conversation

2 people at whiteboard
2 people in video conference
2 people on phone

Video recording
(Question-and-answer)

Audio recording
(No question-answer)

2 people on email

Document

Richness ("temperature") of communication channel

Source: research from McCarthy and Monk (1994) and Scrum Inc 2006-2015
Individual Exercise: Backlog Building

THE EISENHOWER MATRIX
How to Make Decisions on What’s URGENT & IMPORTANT

Image Source: https://goo.gl/images/YmZrUf
Backlog

1. Highest Value
   Most Important

2. High Value
   Somewhat Important

3. High Value
   Somewhat Important

4. Some Value Not Yet Important

Scrum Master
Development Team

Daily Scrum

Product Owner

Sprint Planning

Sprint time boxed (e.g. two weeks)

Product Backlog

Sprint Retrospective

ONE WEEK
Backlog

1. Highest Value
   Most Important

2. High Value
   Somewhat Important

3. High Value
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4. Some Value Not Yet Important

Scrum Master
Development Team

Daily Scrum

Product Owner

Sprint time boxed (e.g., two weeks)

Sprint Planning

Product Backlog

Sprint Retrospective

ONE WEEK
Backlog

Who gets involved?

What’s a Sprint? (Scrum Work)

Where do you Scrum?

Why use Scrum?

When to use Scrum?

How does Scrum benefit my team?
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Individual Exercise: Post-It Notes Prioritization

Urgent & Important

Not Urgent & Important

Urgent & Not Important

Not Urgent & Not Important

Image Source: https://goo.gl/images/YmZrUf
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Plan

1. Make Work Visible
2. 45-Minute Sprint (Time Box)
3. 5 Points
4. Daily Stand-up
5. Learn and Adapt
Plan

1. Make Work Visible
2. 45-Minute Sprint (Time Box)
3. 5 Points
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5. Learn and Adapt

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Why use Scrum?

A long time ago (2014) in a galaxy far, far away (California)...
Why use Scrum?

1. The way the world works is broken
2. The origins of Scrum
3. Teams
4. Time
5. Waste is a crime
6. Plan reality, not fantasy
7. Happiness
8. Priorities
9. Change the world

Appendix: How to Begin (11 Steps)
Why use Scrum?

- 2009: 100+ Hrs/Wk
- 2014: 60-70 Hrs/Wk

Discovered Lean

N=1
Why use Scrum?

- N=1
- 2014
- 2016
- 2018

Output

Time

3X

~6X
Why use Scrum?
Why use Scrum?

“Using visual boards without metrics misses the whole point of improving performance.”

Jesse Fewell, Agile coach, writer, trainer
Why use Scrum?

Scrum + Visual Velocity = +3X Improvement < 30 days
Why use Scrum?

- Started Team: Scrum
- Output: 
  - Started Point Velocity: 3.5X
  - Velocity: 3X
  - 3X
  - 30d
  - 4 Months
  - Time 2018

N=7
Why use Scrum?

The Scrum Guide™

The Definitive Guide to Scrum: The Rules of the Game

November 2017

“Easy to understand, difficult to master.”
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What’s a Sprint? (Scrum Work)

Do

Teamwork

• Deliver value

• Work on beneficial transformation of information, materials, or combinations

• Customers pay for it
What’s a Sprint? (Scrum Work)

“Walk the Board”

1. What did you do yesterday to finish the Sprint?

2. What will you do today to finish the Sprint?

3. Are there obstacles blocking the Sprint Goal?

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**Do**

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- Scrum Master
- Daily Scrum
- Development Team
- Product Owner
- Sprint time boxed (e.g., two weeks)
- Sprint Planning
- Product Backlog
- Sprint Retrospective

**ONE WEEK**
What's a Sprint? (Scrum Work)

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Daily Scrum
Development Team

Product Owner

Sprint Planning
Sprint Backlog
Product Owner

Sprint Time Boxed (e.g. two weeks)

Sprint Retrospective

ONE WEEK

Do
Retrospective
1. What went well?
2. What can be better?
3. What improvement can be made now?
4. What is our velocity?
Act
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Scrum Anywhere Work is Complex

Source: Strategic Management and Organizational Dynamics by Ralph Stacey in Agile Software Development with Scrum by Ken Schwaber and Mike Beedle.
# Scrum Board

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Scrum Work
When to use Scrum?

Scrum Essentials [https://youtu.be/3plK0jWHJcU](https://youtu.be/3plK0jWHJcU)
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- **How does Scrum benefit my team?**
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Reduce

F  U  D
How does Scrum benefit my team?

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- Reduce
- Fear
- Uncertainty
- Doubt
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**Scrum Board**

**How does Scrum benefit my team?**
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“Jeff Sutherland is the master of creating high-performing teams. The subtitle of this book understates Scrum’s impact. If you don’t get three times the results in one-third the time, you aren’t doing it right!”

Scott Maxwell, Founder
OpenView Venture Partners
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A. M. P.

- Autonomy
- Mastery
- Purpose
How does Scrum benefit my team?

Team Led Training

Team Begins Helping Other Regions

Team Led Onboarding

N=7

2018
How does Scrum benefit my team?

Workshop Sprint

Sprint Burndown Chart

On Target

60-Minute Timebox
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- **When to use Scrum?**
- **Why use Scrum?**
- **What’s a Sprint?** (Scrum Work)
- **Where do you Scrum?**
Start small.
Get better every sprint.
Individual Exercise: Prioritization Report Out

THE EISENHOWER MATRIX

How to Make Decisions on What's Urgent & Important

Image Source: https://goo.gl/images/YmZrUf
The Mountain Goat Software slides are compliments of Mike Cohn, one of the Scrum’s early founders/contributors.

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Mountain Goat Software, LLC
Questions?

Felipe Engineer-Manriquez
fengineer@mccarthy.com

Certified ScrumMaster
MBA | PMP
LEED AP BD+C
Kaizen Institute Greenbelt
Lean Construction Institute
Facilitator & Approved Instructor
Future Events

- February: Choosing By Advantages – Ron Migliori
- March: Lean Coffee
- March: Last Planner System™ Workshop (all day)
- April: Lean Coffee
- April: Event to be determined
Plus - Delta