

LET'S RAISE THE BAR



RFI AND SUBMITTAL PROCESS

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AGENDA

- DEFINITIONS
- THE OPPORTUNITY
- CURRENT STATE
- VARIATION & UTILIZATION - IMPACT ON OUR WORK
- RFIs & SUBMITTALS – COMMON PRACTICES AND DEFAULTS
- LEAN CONCEPTS APPLIED
- IDEAS TO IMPROVE
- CASE STUDY – LET'S ELIMINATE RFIs!

LET'S RAISE THE BAR



**RFI AND SUBMITTAL
PROCESS**

January 12, 2022



DEFINITIONS

RFI = request for information

Submittal = shop drawings, material data, samples, and product data.

Submittals are required primarily for the architect and engineer to verify that the correct products will be installed on the project.

THE OPPORTUNITY

One study by Navigant Consulting (a large global consulting firm) looked at the volume of RFIs submitted across 1,362 projects spanning from 2001 to 2012. In total, more than 1.1 million RFIs were submitted, which equaled roughly 796 per project.

The results were telling:

- The average RFI review and response costs companies about \$1,080, with a total cost of about \$859,680 per project.
- 13.2% of the RFIs fell into the "not justifiable" category, meaning the changes were either not considered or the requests had already been addressed in another method.
- Project owners were largely to blame by not responding to RFIs in a timely manner and failing to provide a specific RFI process to set the right expectations for handling RFIs.

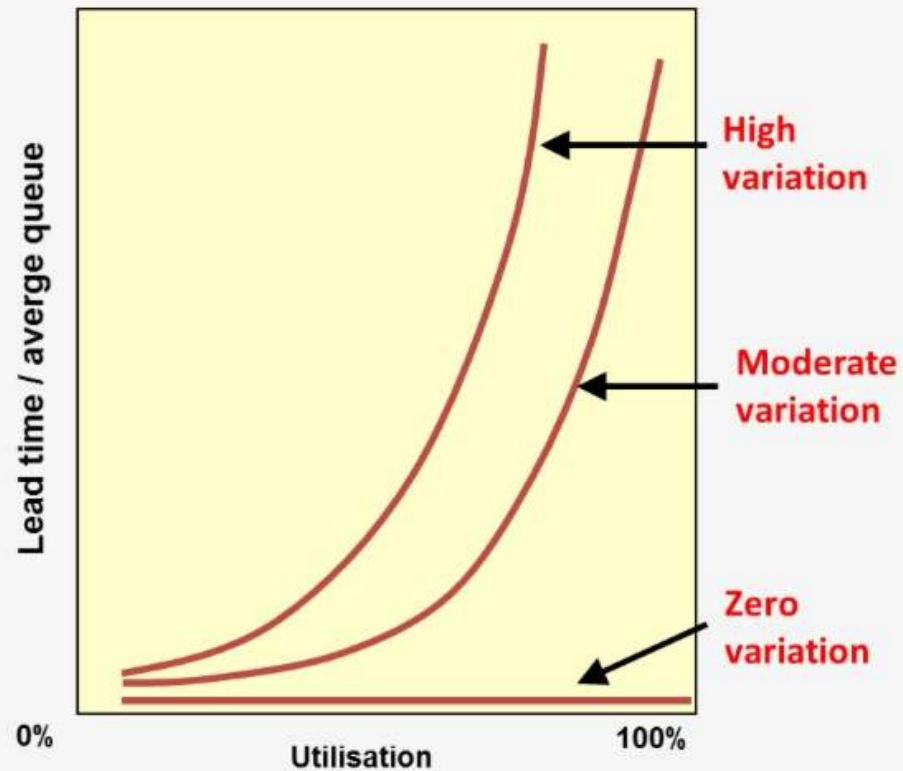
\$1,080 PER RFI

**PROJECT OWNERS WERE
LARGELY TO BLAME FOR
LATE RESPONSES.**

**13.2% OF RFI'S
WERE NOT
JUSTIFIABLE**

WE HAVE AN OPPORTUNITY TO DO BETTER!

VARIATION AND UTILIZATION



THE REALITY ABOUT HOW PEOPLE PRIORITIZE WORK



**FRANK
THE
FOREMAN**



**Arthur
The
architect**

**TELL ME HOW YOU
MEASURE ME, AND I
WILL TELL YOU HOW I
WILL BEHAVE**

ELIJAH M. GOLDBLATT
PICTUREQUOTES.COM

PICTUREQUOTES.COM



**Ella
The
Engineer**



**SAM
THE
SUPER**

HOW MANY DESIGN FIRMS ARE RUN:

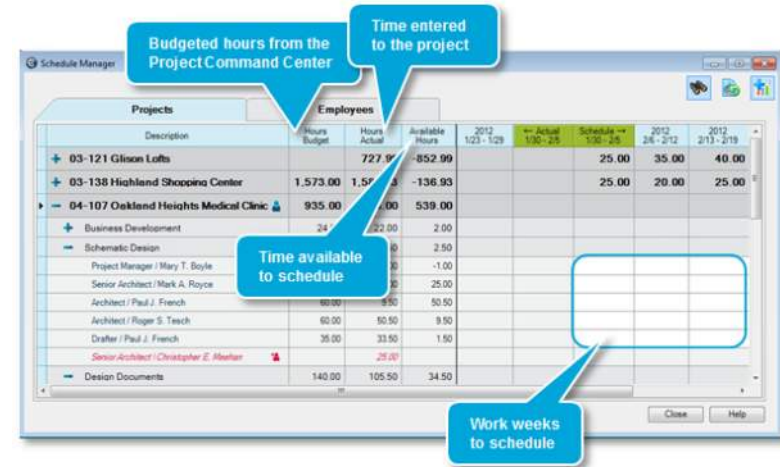
$$Utilization = \frac{Billable\ hours}{Total\ hours} \times 100\%$$



How do we schedule our staff?

FOR HIGH UTILIZATION!

AROUND 80%-90%



What type of work do we PLAN for?

WE PLAN TO DO THE WORK WE KNOW ABOUT

MOST FIRMS DO NOT SCHEDULE THEIR PEOPLE FOR UNPLANNED WORK

VARIATION AND UTILIZATION



**LET'S HELP OUR
DESIGN PARTNERS
PLAN THEIR WORK
BETTER!**

**HELP THEM TO SEE
WHAT IS COMING
NEXT WEEK.**

RFI and Submittal Process



OF DAYS FOR REVIEW
SIZE OF SUBMITTALS
TIMING OF SUBMITTAL
TOOLS USED
COMMUNICATION METHODS
DISTRIBUTION LISTS

WHAT ARE COMMON INDUSTRY PRACTICES & DEFAULTS?

CRITICAL THINKING

is a manner of thinking that employs curiosity, creativity, skepticism, analysis, and logic, where:

Curiosity means wanting to learn,

Creativity means viewing information from multiple perspectives,

Skepticism means maintaining a "trust but verify" mind-set,

Analysis means systematically examining and evaluating evidence, and

Logic means reaching well-founded conclusions.

SOFTWARE DEFAULTS – ARE THEY HELPING US?

ORACLE

Primavera Submittal Exchange

?

Logged in as Unconfirmed

Project Index

Messages

Reports

Project Logs

Project Team

Sections & Categories

Preferences

Submittal

Project: Darci's Day Spa

Project Number: 9923648

All Projects

Add New Project

View: My Activity | All Activity

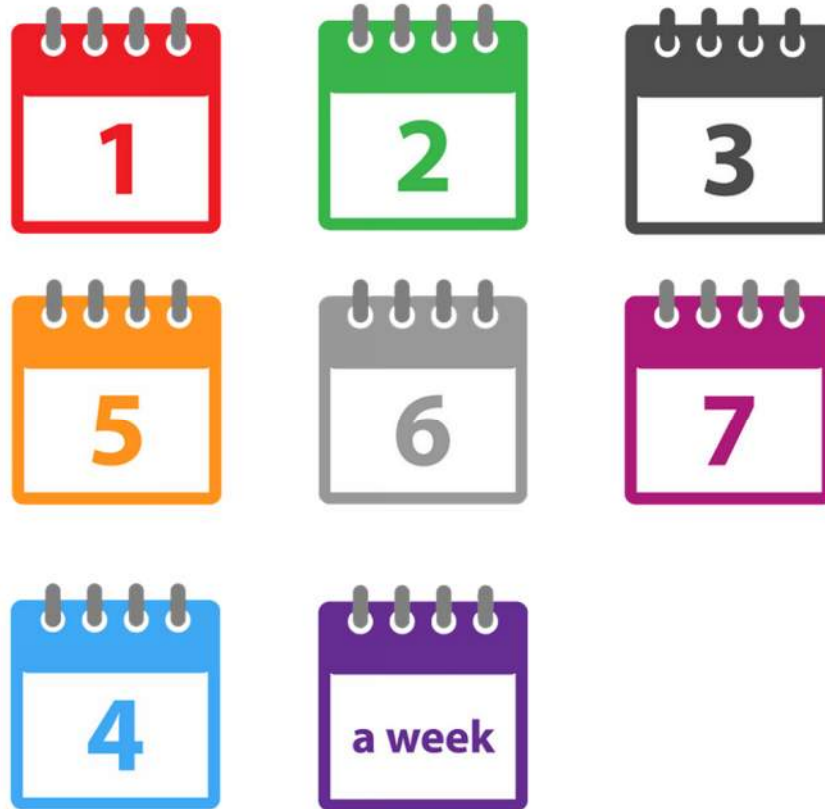
Search this Log

Div: 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 21 | 22 | 23 | 31

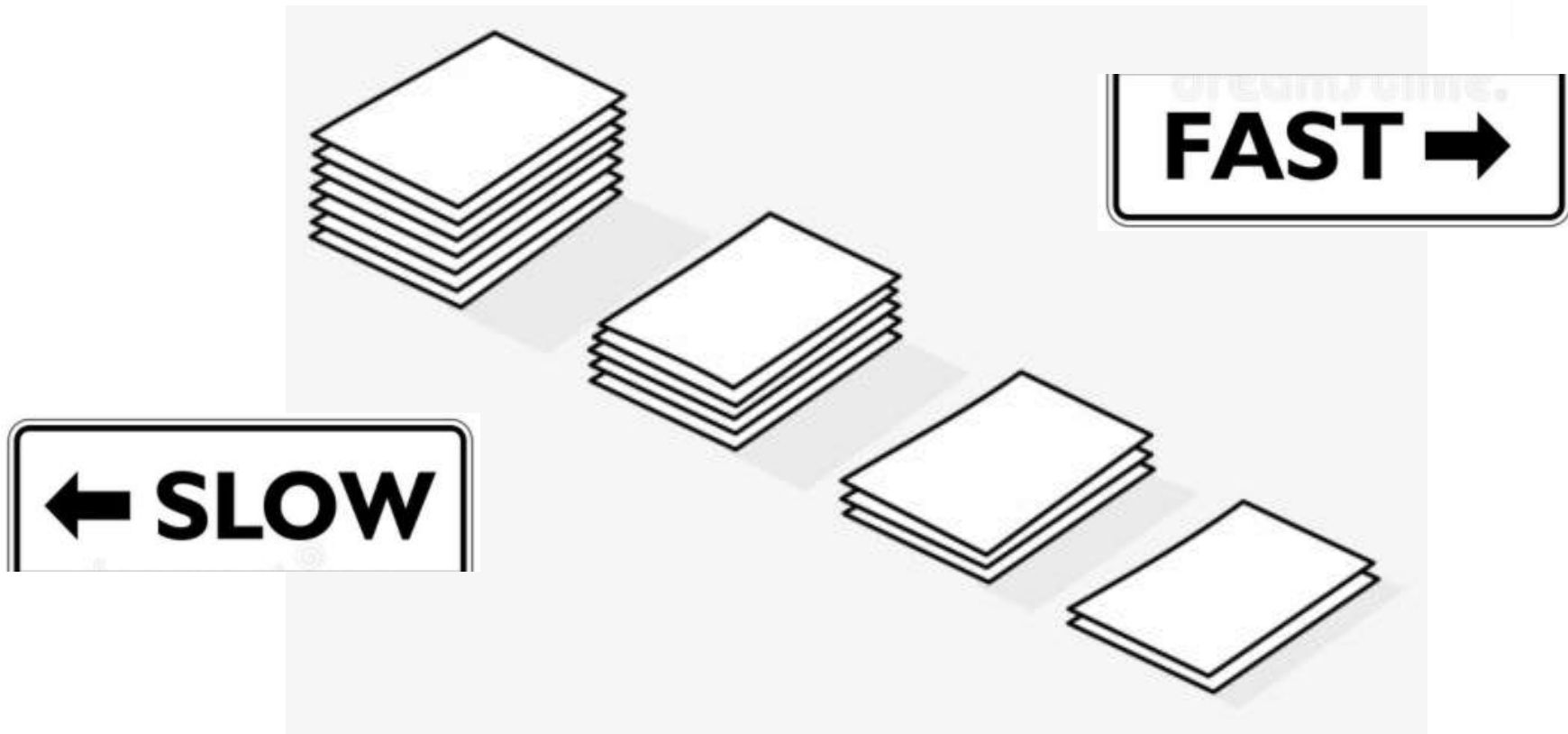
Filter: None

Section Number	Section Title	Upload	Submittal #	Description	Supplier or Manufacturer	Date Expected	Submittal from Subcontractor			Submittal from GC			Review by Consultant				Review by Architect				Returned to Sub	
						Set Dates	Date	Type	Sent to Arch.	Date	Type	Sent to	Reviewed	Type	Action	Returned to GC	Type	Action	Date			
042113	Brick Masonry		042113-01-0	Product Data	Universal	10/1/17	11/1/16	PDF	11/2/16	11/2/16	PDF	11/2/16	11/8/16	PDF	AC	3/28/17	PDF	RR	4/12/17			
			042113-01-1	Resubmital of Produ...			3/1/17	PDF	3/14/17	3/14/17	PDF	3/14/17	3/15/17	PDF	AC	3/15/17	PDF	APP	3/20/17			
			042113-02-0	Material Certificate			1/4/17	PDF	1/5/17	1/5/17	PDF	1/5/17	3/15/17	PDF								
			042113-03-0	Manufacturer's Insta... Samples			3/1/17	PDF	3/1/17	3/1/17	PDF	3/1/17	3/15/17	PDF	APN	3/1/17	3/20/17					
055213	Pipe Railings		055213-01-0	↑ Product Data & Shop ...		3/28/17	11/7/16	PDF	11/8/16	11/8/16	PDF	11/8/16	12/12/16	PDF	AAN	12/6/16	PDF	APN	3/1/17	Arch.		
			055213-02-0	Product Data			12/12/16	12/12/16	PDF	12/12/16	12/12/16	PDF										
			055213-03-0	Shop Drawings			1/3/17	1/2/17	1	3/29/17	3/29/17	PDF	3/29/17	1/5/17	PDF	APN	3/1/17					
			055213-04-0	Resubmital of Produ... Samples			3/29/17	3/29/17	3/29/17	3/29/17	PDF											
062023	Interior Finish Carpentry		062023-01-0	Product Data	Universal		10/26/16	PDF	11/8/16	11/8/16	PDF	12/6/16	12/6/16	PDF	APN	12/7/16	PDF	APP	1/25/17			
			062023-02-0	Product Data			1/5/17	1/25/17	PDF	1/25/17	3/2/17	PDF	APP	3/22/17	PDF	APP						
			062023-03-0	Shop Drawings Resubmission of Prods			1/25/17	PDF	3/20/17	3/20/17	PDF	3/20/17										
064114	Plastic-Laminate-Clad Countertops		064114-01-0 064114-02-0A	↑ Product Data Shop Drawings Samples		3/21/17	PDF	1/25/17 4/12/17	1/25/17 4/12/17	PDF PDF	4/12/17											
066600	Vinyl Handrails & Guardsails			Samples																		
072100	Thermal Insulation		072100-01-0	Product Data Product Data Shop Drawings			11/14/16	PDF	12/6/16	12/6/16	PDF				1/13/17	PDF	APN	3/14/17				
072500	Weather Barriers			Product Data																		
073113	Asphalt Shingles		073113-01-0	↑ Product Test Reports Product Data Research/Evaluation ... Sample Warranties Samples					4/12/17	4/12/17	PDF											
074600	Vinyl Siding		074600-01-0	Product Data Product Certificates Product Test Reports Qualification Data Research/Evaluation ... Samples Product Certificates					11/2/16	11/2/16	PDF	11/2/16	11/9/16	PDF	MCN	11/17/16	PDF	APP	3/20/17			

WHY 7 DAYS?



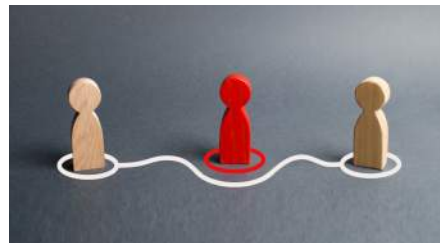
HOW ARE SUBMITTALS SIZED? – WHO IS SIZING THEM?



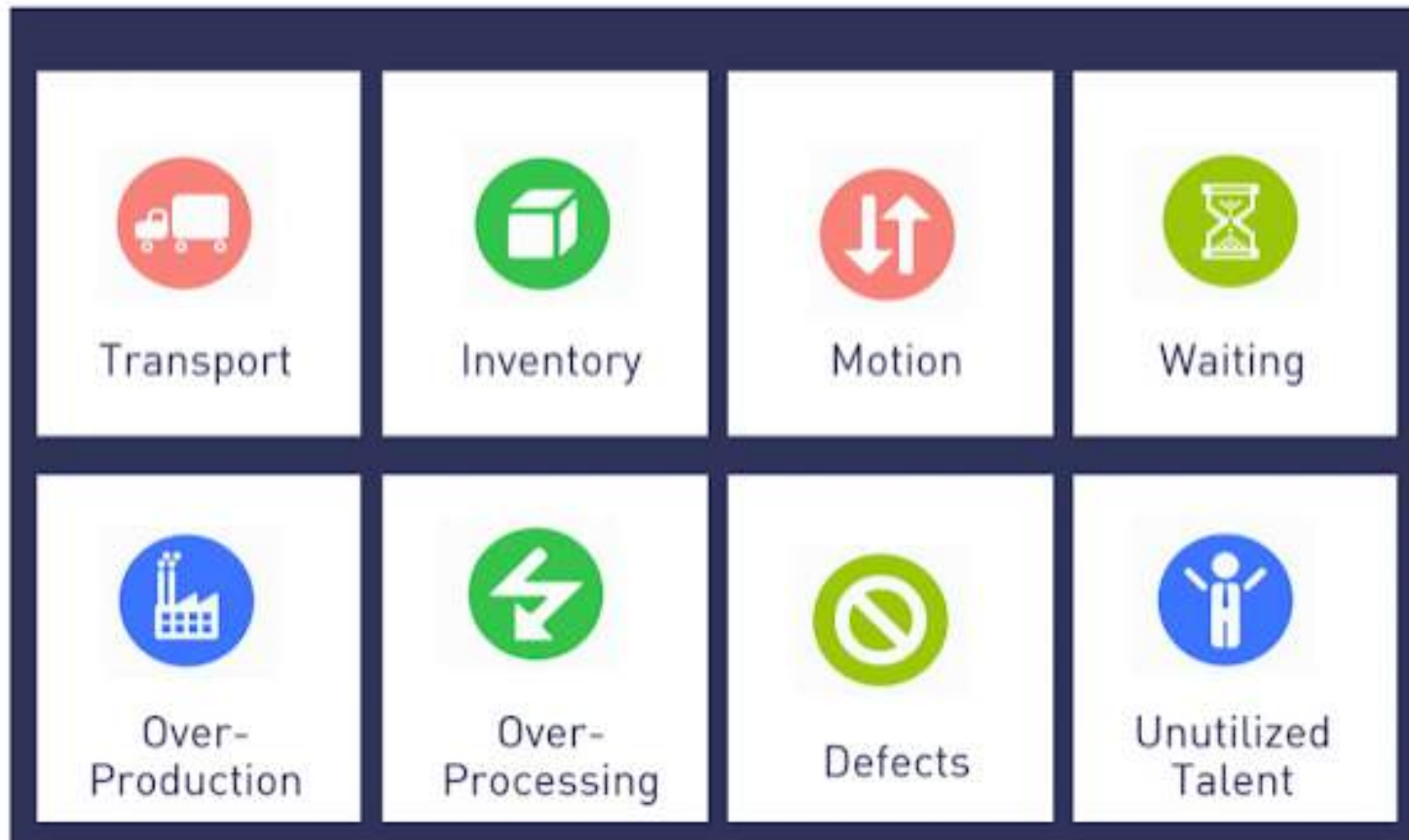
ARE OUR INFORMATION DISTRIBUTION CHANNEL RULES FIT FOR PURPOSE?



**TAKE ADVANTAGE OF TODAY'S TECHNOLOGY TO
ELIMINATE THE MIDDLEMAN**



LEAN CONCEPT: ELIMINATE WASTE



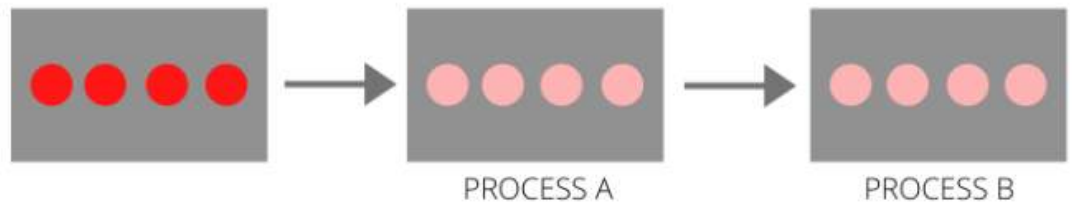
LEAN CONCEPT: SMALL BATCH

What is One-Piece Flow?

ONE PIECE FLOW

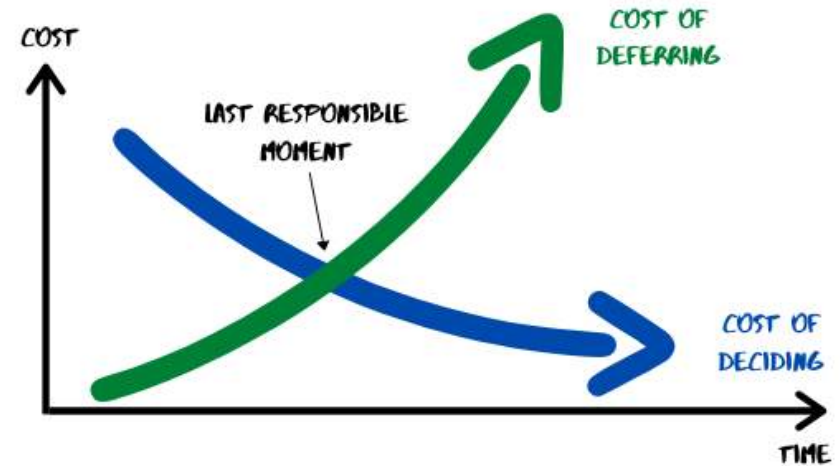
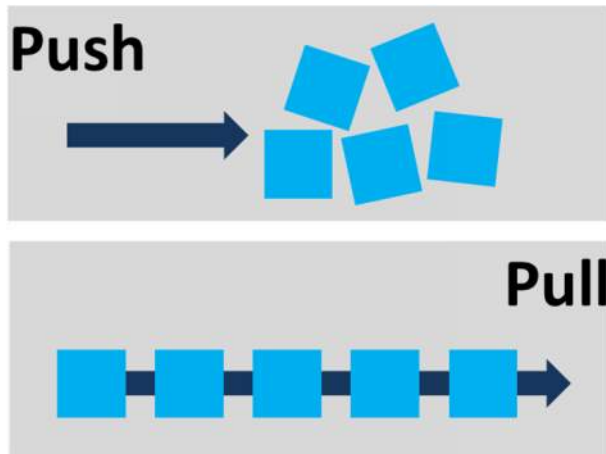


BATCH FLOW



When might small batching Submittals or RFI's be Useful?

LEAN CONCEPT: PULL VS. PUSH



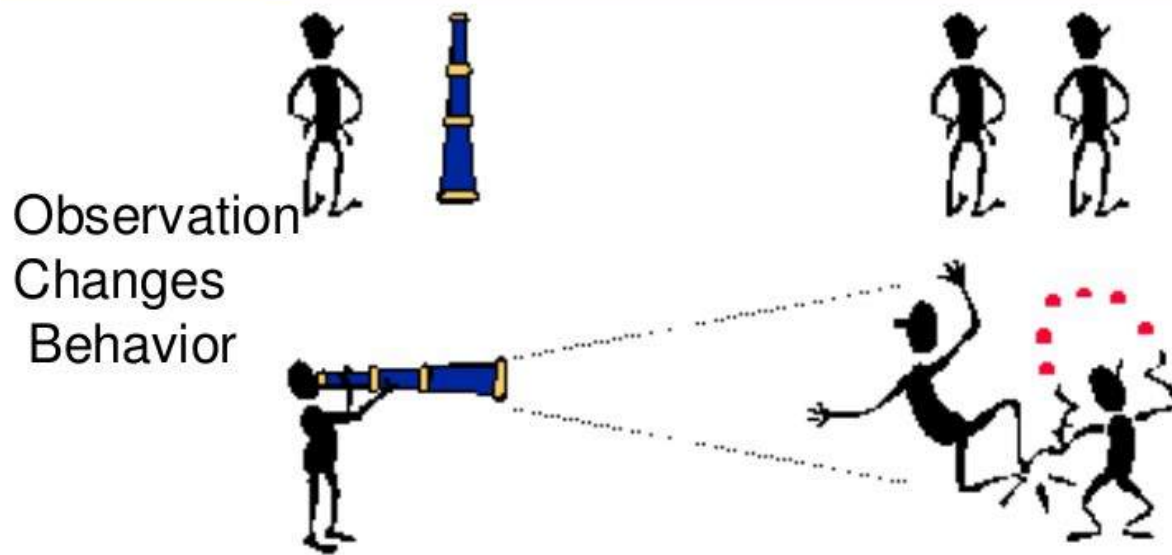
Do you really need that information NOW?

Can it wait till later so Designers can focus on items that matter NOW?

Consider “Last Responsible Moment”

LEAN CONCEPT: MAKE IT VISIBLE

The Hawthorne Effect: Observation Changes Behavior



- Referred to as the observer effect
- Individuals modify or improve an aspect of their behavior in response to their awareness of being observed

LEAN CONCEPT: MAKE IT VISIBLE

Make priorities visible and allow for “low priority”

18 Open RFI's --- 15 Overdue!

PROJECT TEAM

Role	Name	Email
Architect	Arthur Vandelay (Art Vandelay Architecture & Planning)	arthur.vandelay@avandelayarch.com
Project Manager	Melissa McCarthy (GC Construction)	melissa.mccarthy@gcconstruct.com

	expedite
	normal priority
	not critical
	low priority

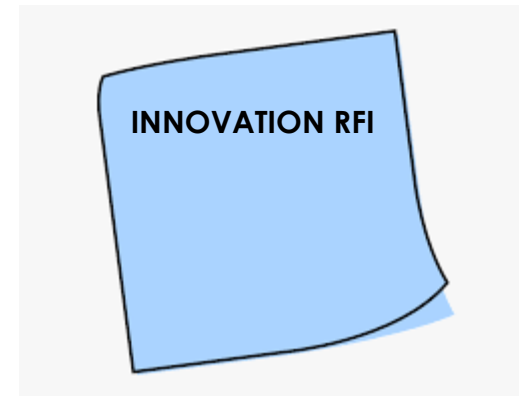
PROJECT OVERVIEW

Overview	 Overdue  Next 7 Days  > 7 Days			Total Open
RFIs	15 1 2			18

IDEAS: INNOVATION RFI

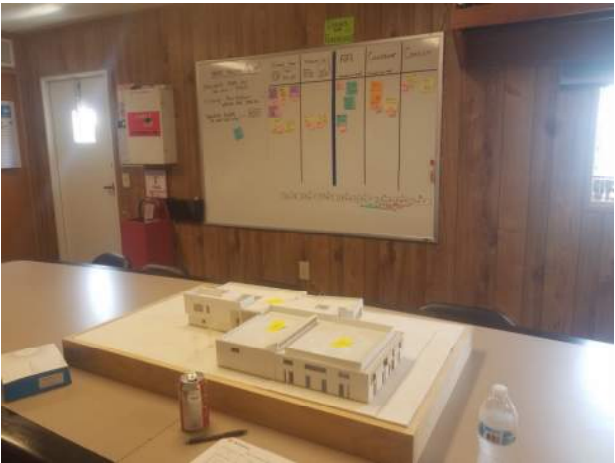
Ask the Design Team if they would support some INNOVATION RFIs throughout the project.
(these RFIs may challenge the design to change in order to accommodate field efficiencies)

Incentivize the Trade Partners to INNOVATE.
Give prizes. Recognize innovation.



IDEA: FIELD ISSUES ESCALATION BOARD

FIELD ISSUES BOARD				
Possible Issue (Anyone can add an issue - put name on and date)	Working on it (Anyone can claim - put name on and date claimed)	RFI (CM this column)	Moved to Constraint Log (CM this column)	Resolved



IDEA: SUBMITTAL PARTY

If multiple people need to review a submittal

Or

Complex work with no time for resubmittals. . . .

Consider SWARMING the submittal and “advance the work together” to get it **expedited with better quality.**

Let's do the math:



SHOP DRAWING / SUBMITTAL REVIEW	
☒ APPROVED	☐ APPROVED WITH CHANGES NOTED
☐ REVISE AND RESUBMIT	☐ REJECTED
SUBMITTAL WAS REVIEWED FOR DESIGN CONFORMITY AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS. REVIEWER IS RESPONSIBLE FOR CONFIRMING AT JOB SITES FOR TOLERANCE, FABRICATION PROCESSES AND COORDINATION OF HIS WORK WITH THE CONTRACT.	
BY _____	
YOUR COMPANY Your City	



SNOWBALL EFFECT

IDEAS TO IMPROVE

Sept. 23, 2021

**Minnesota CoP
1st Annual Lean
Day**

Como Zoo and Observatory
8:00 am - 4:00 pm | September 23rd

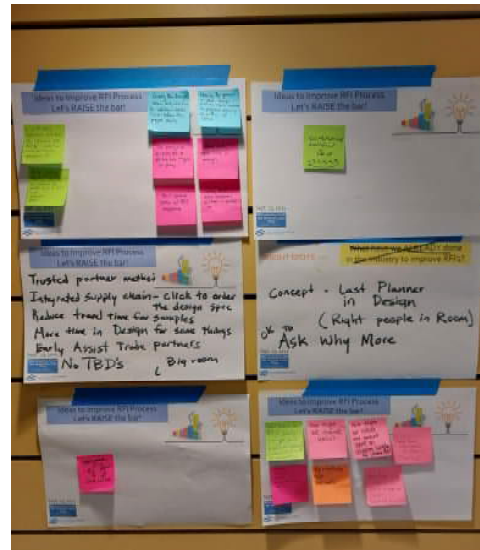


January 12, 2022

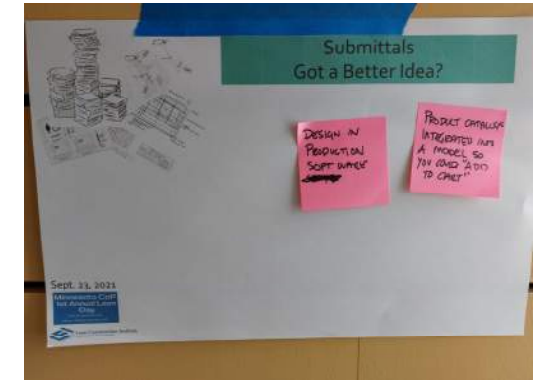


**2022 MINNESOTA
CONSTRUCTION SUMMIT**
BUILDING TOGETHER AGAIN

RFI



Submittal



Sept. 23, 2021 – MN Lean Day

Lean Construction Institute - MN Community of Practice

IDEAS TO IMPROVE - RFI

Ideas to Improve RFI Process Let's RAISE the bar!

New Sheets for
each RFI drawing
changes. Avoid
large batch addenda!
Creates a lot of work
for contractor pricing

How might
we eliminate
RFI's?

How might
we reduce
the amount
spent on
shipping samples
for submittals?

IMPROVE PROCESS
SAME PLATFORM
FOR MARKING UP.

[SAVE TIME]

"ONE MODEL"
WITH LOD
DOWN TO
MC/LV NUTS/BOLTS
ETC.

- Big room/restroom
build
- Full models

DESIGN PHASE

- FOCUS ON SPEC
WRITING TO ALIGN WITH
PROJECT.

[ELIMINATE BOILER PLATE]

Giving the design
team dedicated time
for additional QA/QC
review before the
project starts

Allowing the general
or other design
partners more access
to progress drawings
as a form of
QA/QC

Use plan grid
or similar so
RFI's are tagged
on plans

Start with
more time in
design

Still update
plans w/ RFI
responses

Only send
RFI responses
to those it pertains
to

IDEAS TO IMPROVE - SUBMITTALS

Submittals
Got a Better Idea?

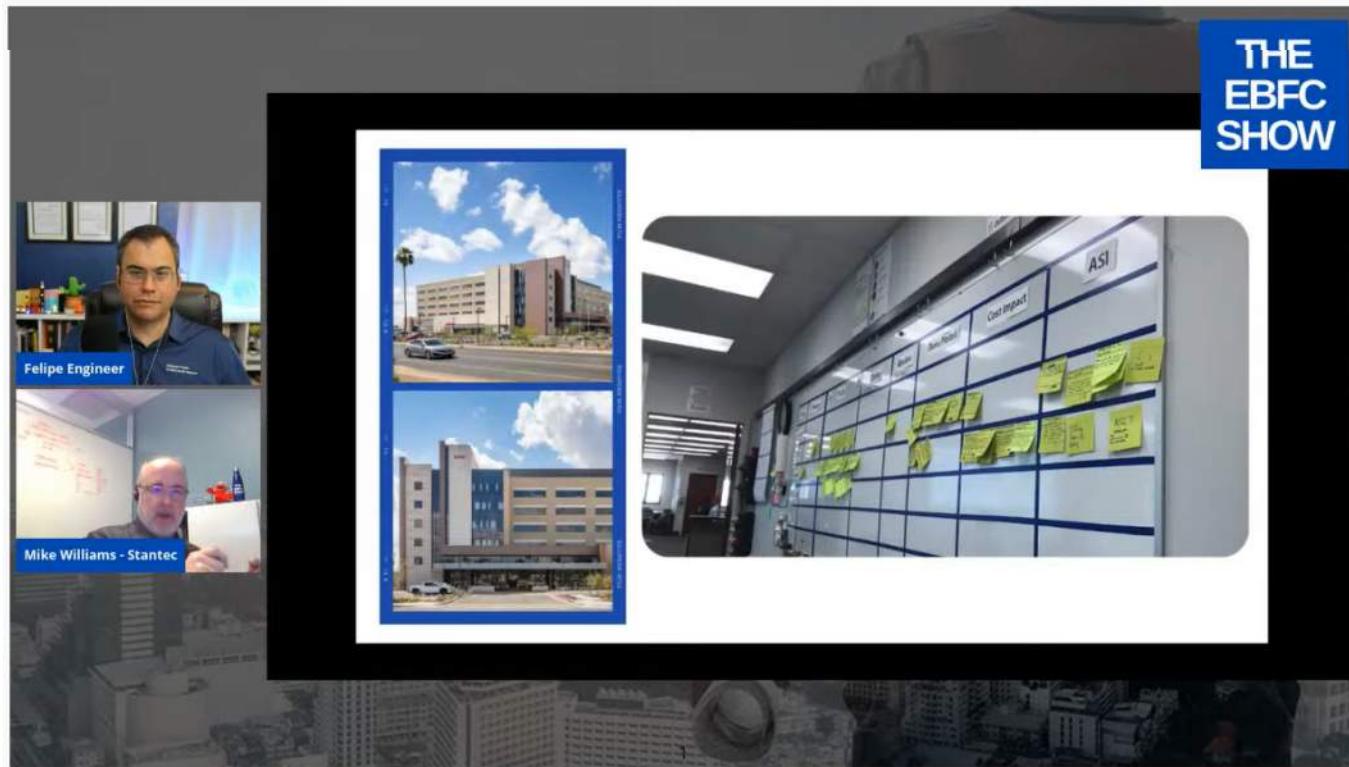
DESIGN IN
PRODUCTION
SOFTWARE
~~SOFTWARE~~

PRODUCT CATALOGS
INTEGRATED INTO
A MODEL SO
YOU COULD "ADD
TO CART"



***there
were
no
RFIs?***

CASE STUDY: RFI - SCRUM



<https://www.youtube.com/watch?v=31kGv0i80ys>

Courtesy of Felipe Engineer and Michael Williams

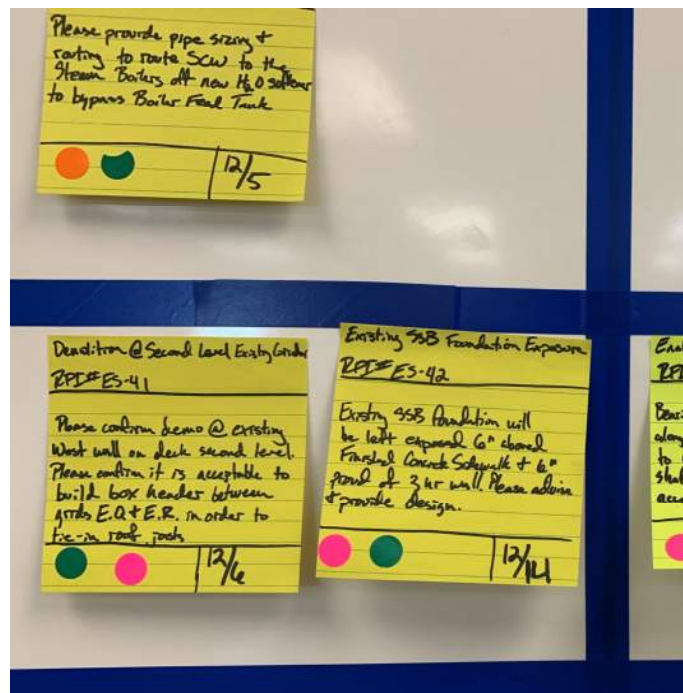
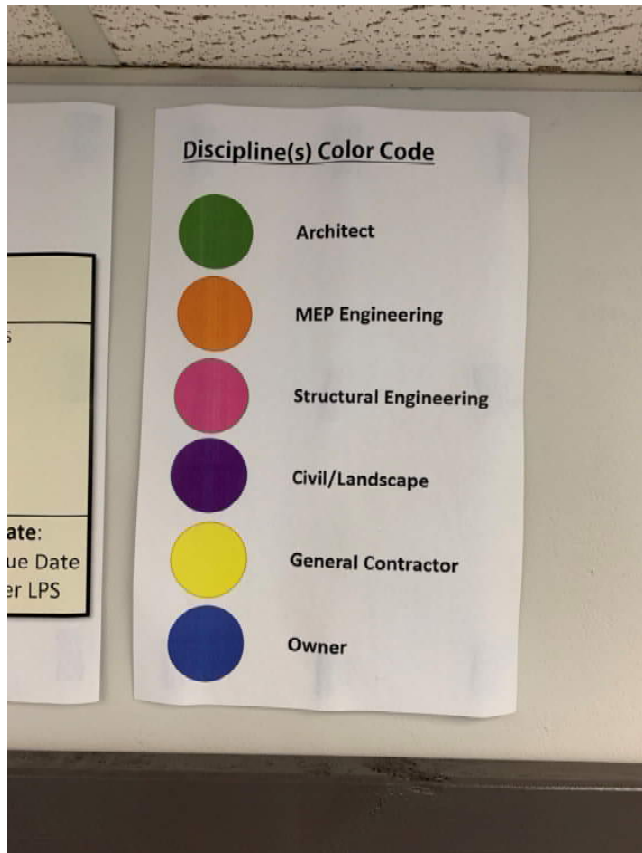
(IPD DELIVERY)

CASE STUDY: RFI - SCRUM



Swim Lanes are Areas of Work ---- Pending Items let us KILL questions BEFORE they became RFIs.

CASE STUDY: RFI - SCRUM



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

CASE STUDY: RFI - SCRUM

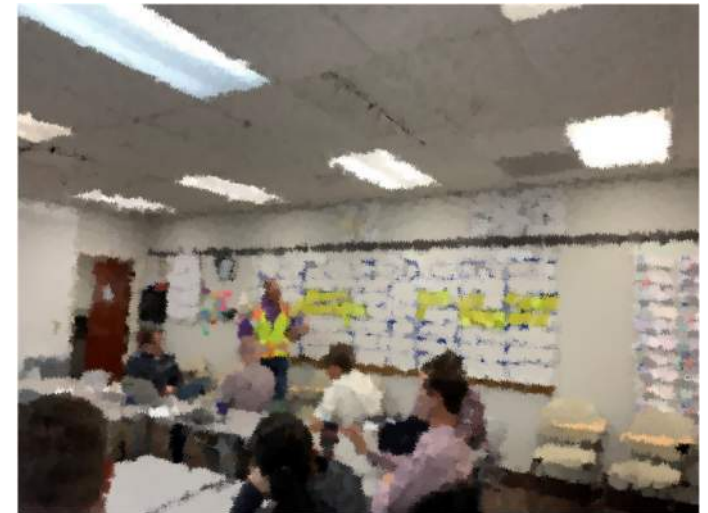
Quotes from the Felipe and Michael:

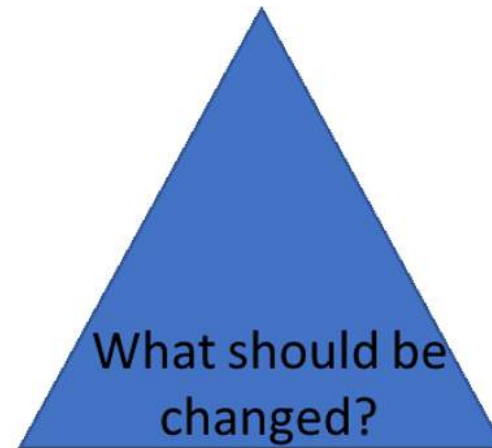
"We often discussed the questions in PENDING column --- answer them – keep work flowing."

"An RFI has the potential to STOP WORK! --- a FLOW STOPPER!"

"We had MANY RFIs that still came through but were "MEMORIALIZING" a decision made."

"Project team (Designers and Constructors) meet as needed to go through project documents as a team – this significantly reduces the number of RFI's."





Terri Erickson
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2022

LET'S RAISE THE BAR



**RFI AND SUBMITTAL
PROCESS**