



What if specifications were
transparent, collaborative,
and continuous?



THE CULTURAL MINDSHIFT AND
THE LEADING ROLE OF THE
CONTRACTOR (AND OWNER)
WHITE PAPER

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PROVIDING MEANING TO DRAWINGS

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Conspectus, Inc. is a respected leader in creating comprehensive design and construction documentation including specifications that help owners and their design and construction teams manage uncertainty and meet expectations. Our transparent approach increases value and reduces risk for all capital project stakeholders from conception through operation. This approach includes the following services: decision management, risk and quality advisory, comprehensive system and performance descriptions, assessment reporting, technical construction specifications, and innovation and thought leadership.



INTRODUCTION

This round table took place on May 12, 2022, at the CURT Conference: Lean and Workforce Summits in Covington, KY. It was conducted by Conspectus, Inc. David Stutzman.

Purpose of the Round Table is to discuss the opportunities to improve communication between the specifier and other members of the AECO team, on projects from inception and throughout the process. The initial focus was mostly on the contractor, to investigate how their position specifically can drive success throughout the entire process. This particular round table included owners, contractors, project managers, CURT staff, and LEAN consultants.

Discovery goals were to understand:

- The knowledge base of written construction document formats
- Confidence level in written construction documentation
- Challenges and frustrations with the decision making process
- Ideas on how to improve the process
- Ideas on how to influence design
- Where members of the project team can drive improvement and success across the board

The program title emphasized contractors but welcomed owners too. Attendees were more owners and owner reps (6) than contractors (3). This may be due to the number of owners the CURT meeting attracted, or perhaps the owners are more interested keeping abreast with the industry. Pure speculation on our part. Half of those registered were contractors, but fewer contractors actually attended.

Company	Role
Procter & Gamble	Family Cost Engineer
Procter & Gamble	Global Construction Manager
PTAG	Managing Partner
Burns & McDonnell	Project Delivery Leader
Microsoft	Director of Project Governance
Microsoft	Director of Construction
United Group Services	CEO
CJ Hughes	Project Manager
IPI	Director of Estimating
Lean Coaching	Director of Capital Projects



DISCUSSIONS & DISCOVERIES

The Survey, Discovery, and Study

Round Table participants logged onto Menti to participate in an anonymous survey that lead the discussion and promoted thought exchange, dialog, etc. It is important to gain an understanding of the following:

- Goals for attending
- Base knowledge and usage of documentation formats
- Favored delivery method
- RFI reasons
- Description of specifications
- Use of specific documents
- Content of specifications
- Purpose, timeliness, contribution of specifications
- Progress Meeting
- Value in transparency vs. collaboration vs. reduction of RFIs vs eliminating VE

The questions in Menti were brought up one at a time. In live time they were answered. Participants watched the results appear as individuals provided anonymous feedback. The group discussed the responses before the next question was presented.

Through these discussions, discoveries were made.

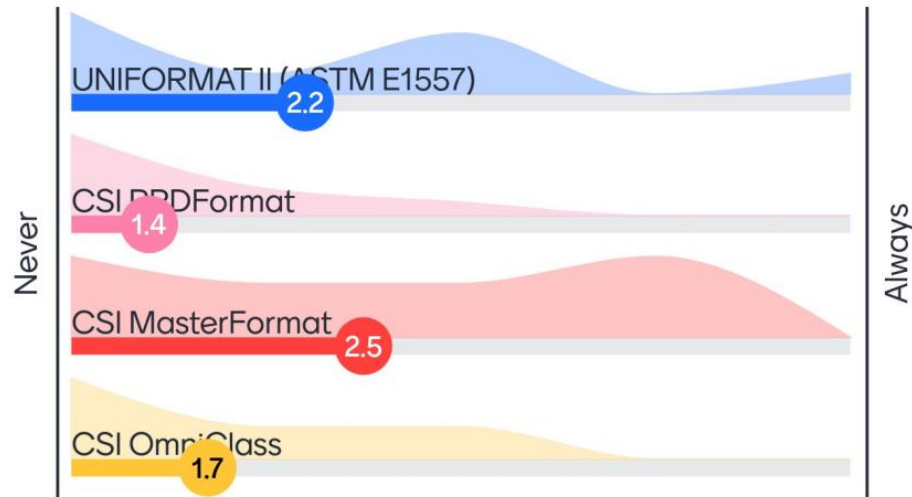
DISCOVERY 1: Why did you decide to attend this roundtable?

- Interested in conversation about where we can go with construction.
- Interact with thought leaders
- Engage in open discussions about the industry and gain diverse perspectives.
- Interest (as Owner) in seeing perspective of Contractors
- An Opportunity to hear from Industry Peers
- I want different perspectives on what owners do wrong. Particularly at the outset of projects.
- Intrigued by the title of this meeting. I'm curious as to what the contracting community is doing or planning to do to mitigate labor risks.
- What trends are emerging - or fading?
- To gain more knowledge on how to improve our industry in aspects such as leading young professionals and how to foster relationships between client/contractors.
- Want to hear the thoughts of other industry leaders.
- How do we as owners work better with our contract partners to develop high performance teams?

The consensus seemed to be a curiosity to learn more about the construction industry from peers and different perspectives, especially relating to improvement.

DISCOVERY 2: What formats do you use? Scale 1 - 5

1. CSI MasterFormat
2. UNIFORMAT II (ASTM E1557)
3. CSI OmniClass
4. CSI PPDFormat



Results found owners in favor of MasterFormat for the ease of use on the majority of the projects.

Contractors favor UNIFORMAT because they have seen it in estimating, and touched on potential connection with BIM.

A discussion on Preliminary Project Descriptions (PPD) and System Performance Descriptions (SPD) about what each format is and how they are used provided insight to the audience, as not all participants understood the differences. Stutzman provided information about each of the formats and examples of how the formats work. Stutzman also described how OmniClass incorporates adaptations of UniFormat and MasterFormat. Notice there were more attendees that said none of these formats were used. All show the greatest peak at a 1 value for never. This is a bit surprising, especially for MasterFormat. However they may know MasterFormat as the CSI format only and not by the "official" name. Or it may be that the participants are working mostly in the industrial sector where CSI formats may be less prevalent.

PPDs facilitate better understanding of a project in early stages of development by the owner, cost estimators, and design team, and assist in implementing BIM by helping design teams make earlier decisions about some aspects of their projects and document those decisions as they are made. PPDFormat coordinates with UniFormat, MasterFormat, and CSI's other standards and provides guidance for authoring and organizing PPD content.¹

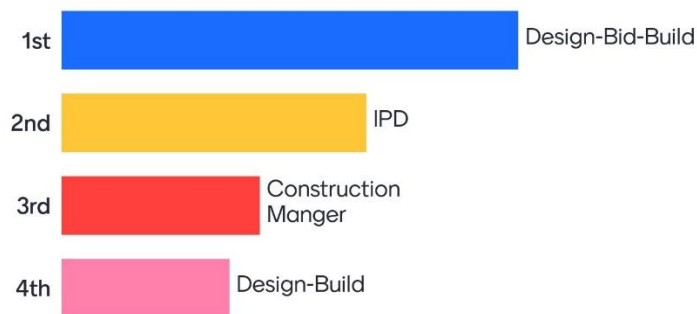
DISCOVERY 3: Rank project delivery methods you use on a scale of 1 - 5, Most common first.

1. Design-Bid-Build
2. IPD
3. Construction Manager
4. Design-Build

RANK MOST COMMON FIRST

Rank project delivery methods you use

Mentimeter



Procurement processes rely on three bids and a buy to ensure competition in bidding. This approach is used for contractor and trade partner selections.

Integrated project delivery (IPD) methods are used. Integrated form of agreement (IFOA) is not normally used. IPD is preferred as a means to implement Lean Principles and to take advantage of early trade partner involvement to help improve design documentation.

There is an interest in value-based contractor selection and in establishing long-term relationships between owners and contractors. Because contracting is on a project-by-project basis, the current delivery methods do not seem to support such an approach.

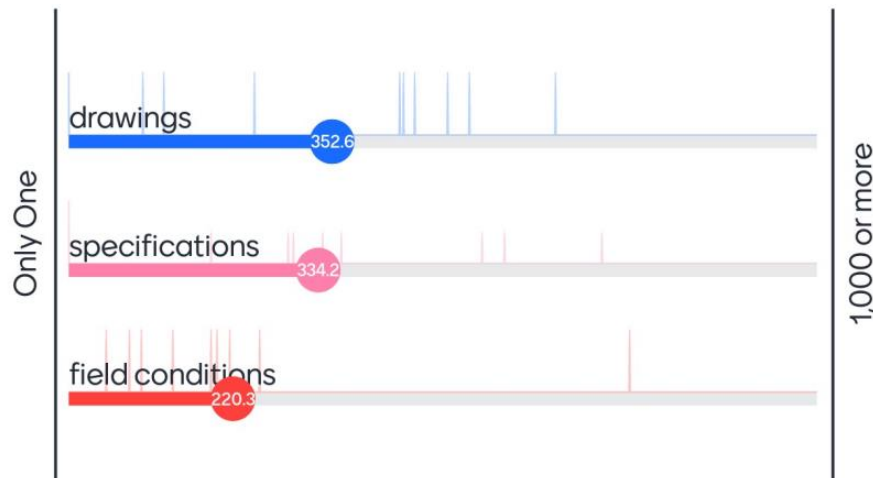
The group was interested in learning if there is an intent to move away from Design-Bid-Build (D-B-B) to gain greater value for the owner.

Could the influence of the focus of the CURT Procurement and Contracting white paper push the familiarity of the D-B-B process as the primary method in this group? Design-Build (D-B) delivery seems to be on the increase in the commercial market sector from the group's experience. Nearly all private work is Construction Manager as Contractor (CMc) or D-B delivery.

Comment: Possible responses did not include Engineer Procure Construct (EPC) delivery method. This may have showed a greater acceptance than design-build. Both methods are essentially the same. In the industrial sector, EPC may be the more familiar term. For future roundtables, responses will include EPC as a separate choice or combined with D-B.

DISCOVERY 4: Thinking about a typical project - How many RFIs are due to

1. Drawings 35%
2. Specifications 33.4%
3. Field Conditions 22%



Attendees asked for explanation about this question and among themselves decided the way to answer the question was to assign the percentage of RFIs per project based on source of the RFI, rather than a raw number of RFIs. So read the scale as 0-100%.

A discussion followed and the following points were highlighted and emphasized:

Schedule As a contractor:

- Schedule becomes "the law" and target
- More info is needed before contractor can share
- Contractors typically put "2-3 month buffers" into schedule to account for this
- "Trust Piece" contractor commented that owners tend to lose trust in the contractor when they bring them in and schedules and budgets change

Schedule As an Owner:

- Time is spent on front end (unnecessary)
- Proposal times are 6 weeks when it should be 3 months to get accurate pricing. Contractors feel forced
- Not enough time to even talk to subs

What would be ideal time to join a team:

- Contractor: if the contractor could come in EARLIER to participate 2- 3 months of design at the same time 2-3 months of engineering estimating (Side by Side)
- Contract methods help support getting a better handle on schedule

DISCOVERY 4: RFIs Continued

The discussion focused on schedule and timing of team involvement. Contractors are concerned about the time allotted for talking with subcontractors and preparing bids. The consensus was that earlier involvement allowed an opportunity to review, comment, and improve the construction documents, reducing the number of RFIs.

The distribution of RFI sources is interesting considering Conspectus (as the specifier) sees very few RFIs for projects, suggesting those stemming from specification are few. We know our larger projects have many RFIs, usually greater than 800. Some of these may be occurring during design from CMc and D-B contracts when the contractor is involved in precon

The concern about schedules suggests the RFIs may be pushed into the construction phase rather than being resolved during design and bidding. This may be compounded by the D-B-B delivery method. This should strengthen the position of the specifier, allowing early construction team involvement in spec production to ask and resolve questions before bidding and construction. The implication is eliminating 30% of RFIs.

Schedule emphasis may mean that design documents are issued before they are ready just to meet the schedule. This also may mean that design decisions needed for document preparation are delayed too long for proper coordination. This may support the specifier's position of managing design decisions for better outcomes and tracking design completion by level of development in UNIFORMAT.

DISCOVERY 5: Thinking about quality - How would you describe specs for your projects?



The following is the complete list of words attendees provided:

- Unnecessarily complex
- Uncertain project start
- Platform managed
- Not tailored to user
- Poor communication medium
- Not edited for clarity
- Evolved
- Lack of information
- Bogus
- Barely Adequate
- Improvable
- Not consistent
- Variable
- Loose
- Lacking
- Need improvement
- Exhaustive
- Not project specific
- Challenged
- Lack Clarity
- Ambiguous
- Incomplete
- Low quality

None of the words were repeated to stand out as a preferred answer. "Evolved" could be positive, meaning better than previously. "Exhaustive" may have two diametric meanings - incredibly complete or excessive. Without context, the intent of exhaustive is impossible to know.

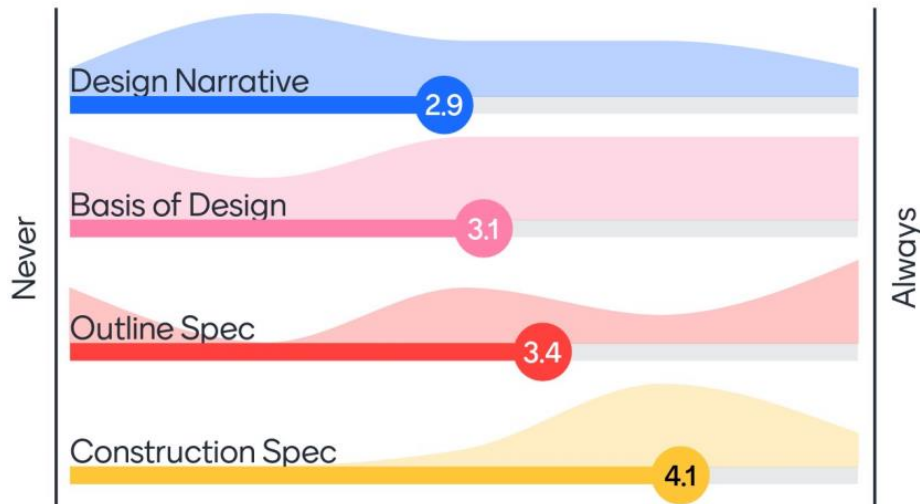
No other word was complimentary. Nearly all were derogative - indicating less than desirable quality.

Who is the specifier, on each project? Can the individual be identified by name? The majority of the participants could not identify the specifier on their project. The specifier is on the design/architect/engineer team and that is the extent of knowing who that team member is. The conversation continued into having the specifier become more involved from the very beginning to document decisions to support the design team and project estimator.

Anecdotally, contractors regularly describe specs as boilerplate and cut-and-paste. Attendee comments indicate the same lack of specificity to the project and a quality that does not instill faith in the documents. This is an area where a specifier can build a strong relationship with contractor and owner clients, considering the current impression of specs.

DISCOVERY 6: How frequently are these project documents used? Scale 1 - 5

1. Construction Spec 4.1
2. Outline Spec 3.4
3. Basis of Design 3.1
4. Design Narrative 2.9



Outline spec use was ranked quite high, but it was also the most variable. Conspectus's experience, as specifiers does not support common use. American Institute of Architects (AIA) and ConsensusDocs Owner-Designer contracts both require outline specs as a Design Development (DD) Phase deliverable. Engineers rarely produce outline specs.

The Design Narrative together with Basis of Design (BOD) as preliminary design documents are used on projects to document early design decisions. Also, the Design Narrative and Basis of Design are often used interchangeably. The relative use when considered together may be greater.

By bringing a contractor on sooner, the narrative can be validated, schedule verified, and cost controlled.

With early involvement, contractors saw the Narrative and BOD as a way to help positively influence design with their market and supply chain conditions and pricing knowledge. It may be helpful to explore when each of the documents is used during the design process. This will help confirm if these are once-and-done as a single deliverable or maintained documents used throughout the design and construction process.

A participant referenced a project that the contractor couldn't bid or construct based on Narrative or BOD. Once the contractor was brought on board, there was a tremendous cost savings with their input and narrative adjustments.

Additional discussions included a contractor comment for a Pharmaceutical Campus. The contractor was brought on board far into the process, and it was difficult to honor the narrative requirements. Savings happened, but time was wasted.

DISCOVERY 7: What is the relative time/value of each?

****This question was skipped due to time.****

Conspectus continues to investigate this question with contractors. It is critical for us to understand the the time required and the value delivered for both drawings and specifications.

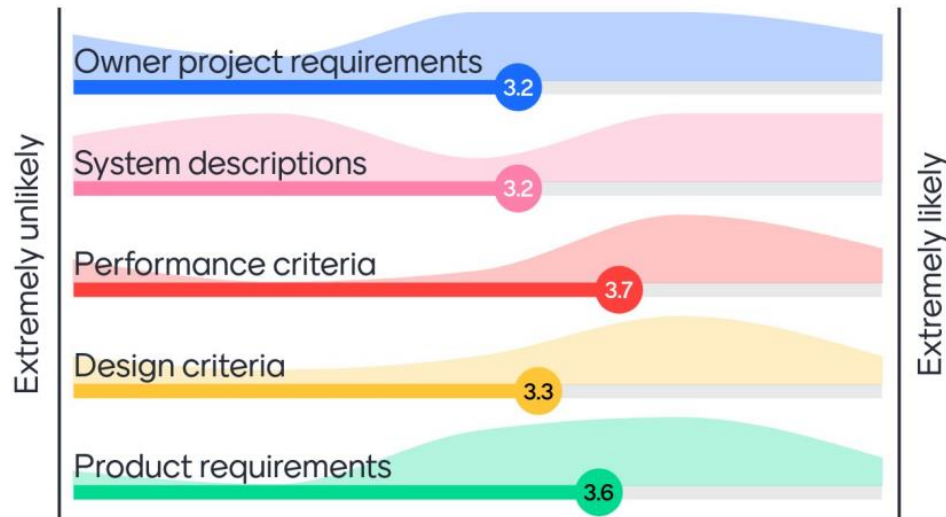
Drawings

Specifications

This question relates directly to the quality of specifications asked earlier. If the quality is poor, the time spent is little, and the value is high, there is a mismatch that must be addressed to improve construction documents.

DISCOVER 8: What can you find in specifications? Scale 1 - 5

1. Performance Criteria 3.7
2. Product Requirements 3.6
3. Design Criteria 3.3
4. Owner Project Requirements 3.2
5. System Descriptions 3.2

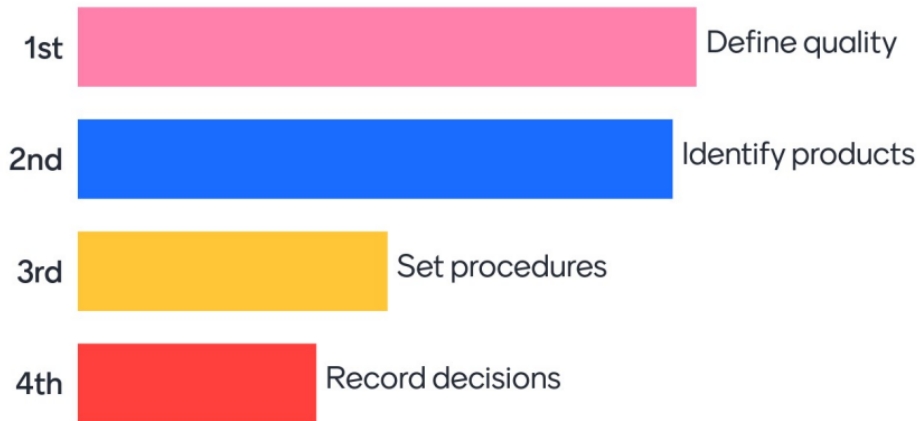


System description were most variable. This may be a reflection of traditional MasterFormat construction specs that are not arranged by systems. MasterFormat specs may contain performance and design criteria and will contain product requirements. Having those three ranked high is expected.

The lower and variable ratings for Owner Project Requirements (OPR) and system descriptions may signal an opportunity to educate the industry about UNIFORMAT and its use and a different set of specifications that complements MasterFormat specifications.

DISCOVERY 9: Most important first - Rank the Purpose of Specifications:

1. To Define Quality
2. Identify Products
3. Set Procedures
4. Record Decisions



After seeing the ranking, Stutzman asked if attendees agreed that specs, by recording decisions, also document all of the others. The group agreed. This seemed to be an AHA moment for everyone - relating specs to recording decisions.

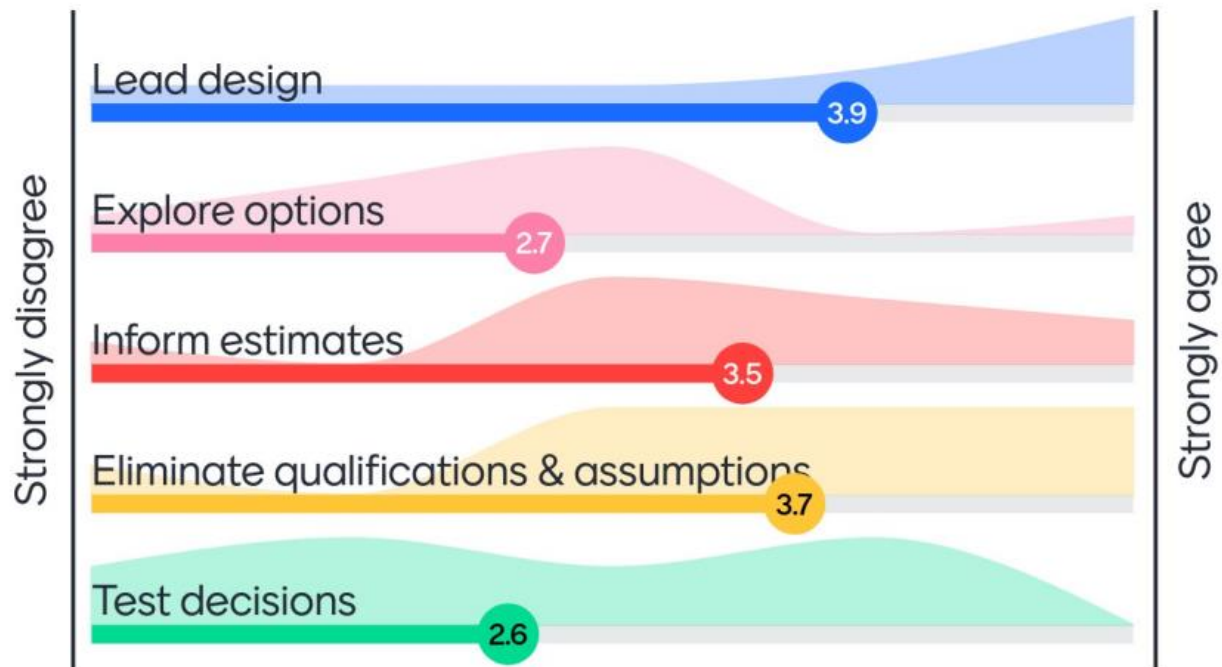
Stutzman also asked: If the contractor could work with the specifier directly, what value would that add in recording and managing decisions?

The participants agreed that recording decisions, in a transparent and collaborative manner, projects would see a higher level of success. Having input on decisions as early as possible would help improve the outcome. The owners were very vocal on this point.

The group answers are predictable. The focus is on the result rather than the process of writing specifications. Documenting design decisions contemporaneously with the design process provides a record for evaluating the design solution against the established project criteria.

DISCOVERY 10 - Do you think specifications should... Scale 1 - 5

1. Lead design 3.9
2. Eliminate Qualification and Assumptions 3.7
3. Inform Estimates 3.5
4. Explore Options 2.7
5. Test decision 2.6



Though "Lead Design" had single votes for 1, 2, and 3 rankings, it had a peak at 5. Perhaps this was a reaction to the previous question and the AHA moment. Conspectus has heard this in other settings recently stated voluntarily and without prompt. Through this concept, is there a way of getting to an informed decision and minimizing rework in design.

Owner, who has retired twice, provided a lot of input towards how projects and processes should run. Many participants discussed how critical the process is.

Specifications can describe projects in words more easily and more quickly than drawings. Many options can be included without the need to draw any of them allowing for effective cost and performance analysis before committing to a solution. The top three answers, if used together, may have significant impact on the decision-making process, maintaining project budget, and eliminating rework due to value engineering.

DISCOVERY 11 - When should specifications be started?

1. Concept Design - 6 responses
2. Day One - 1 response
3. Schematic Design - 1 response
4. Design Development - 1 response
5. Construction Documents - 0 responses

The high ranking for concept design shows the emphasis on early project contractor involvement that was discussed throughout the meeting. The fact that Construction Documents (CD) Phase had zero votes is an encouraging sign of the need to push specs earlier in the projects.

The discussion for Day 1 was more about getting executive buy-in for the project, an effort that specs may not be well suited to support. This seemed to be high-level summary information only that was needed for project initiation.

The conversation continued on "the sooner, the better". Architects wait too long to do specs.

Note on responses: Attendees started leaving the meeting before getting to this question. Previous questions had up to 12 contributors. From this point on there were seven contributors.

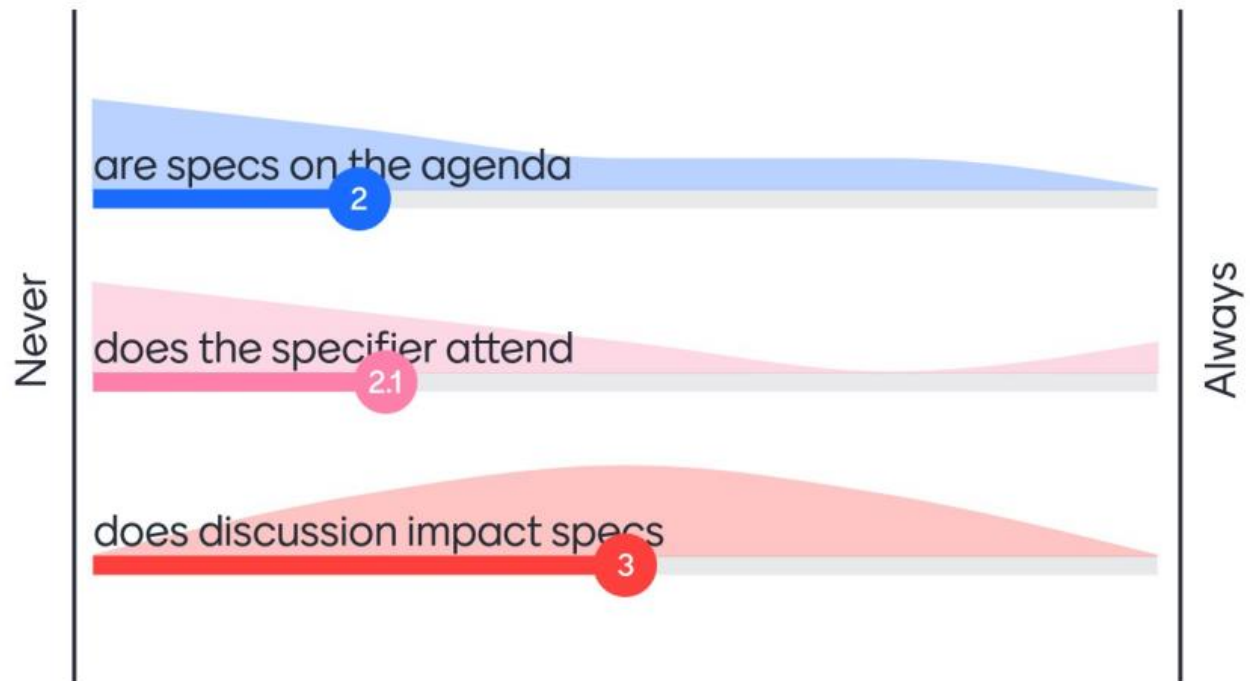
DISCOVERY 13: When do you contribute to specifications?

1. Continuously as written - 6 responses
2. 100% Design Phases - 0 responses
3. 50% & 100% Design Phases - 0 responses
4. Never - 0 responses

The owners thought they were continuously involved because they provided standard specs and design guidelines at the start of the project. At this point in the meeting, by observation, it was owners that remained. So contractors had no voice in these answers.

DISCOVERY 12: In progress meeting, how often... scaled never to always (1 - 5):

1. Does Discussion Impact Specs: 3
2. Does the Specifier Attend: 2.1
3. Are Specs on the Agenda: 2



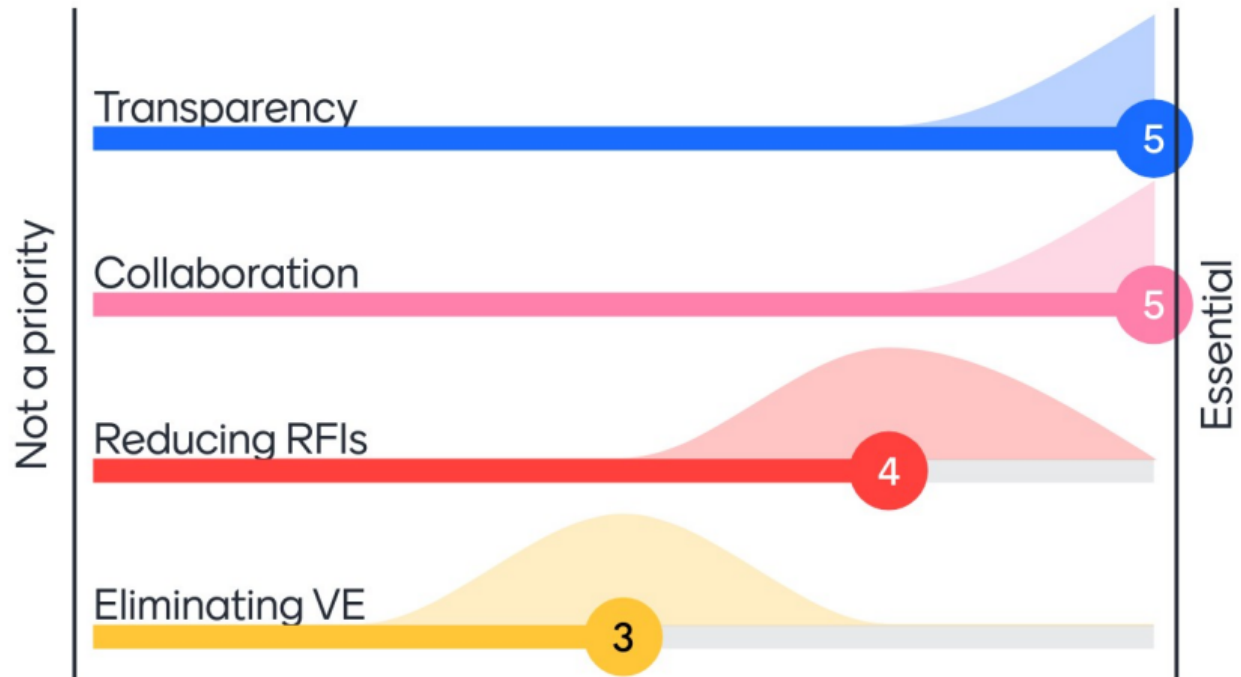
Project meeting discussions impact spec content, yet specs are not on the agenda and specifiers do not attend the meetings. Conspectus experience provides that specs are rarely on a meeting agenda, and specifiers are rarely invited to the meetings. It is more so that architect clients do not want to pay for our meeting attendance. Conspectus perspective is design meetings are often about aesthetics and layout rather than technical aspects.

A counter point - an owner said their specifier attends.

Another owner point: "things are done this way, because they always have been. This is why we need to fix it!!"

DISCOVERY 13: What is the value of Scale 1 - 5

1. Transparency: 5
2. Collaboration: 5
3. Reducing RFIs: 4
4. Eliminating VE: 3



For this question, only one attendee responded. Little can be said from this slide, as a consensus.

An owner with LEAN experience - discussed his experience throughout his career and how this ties into LEAN practices.

Having an open discussion from the beginning is critical.

Anecdotally, transparency and collaboration are always presentation and discussion topics at industry conferences. Both are seen as a way to improve team communications and project outcomes. RFIs are rampant and increasing. VE occurs on nearly every project, usually more than once. By LEAN principles, both are waste and should be eliminated. The hope is that transparency and collaboration, when implemented early with the entire project team, will eliminate this waste.

CONCLUSION

FINAL THOUGHT: PEOPLE-PROCESS-SYSTEMS

The final question was posed to group: What is the correct order of importance of the above three areas of the project. The group unanimously agreed on the order of people first, process second, and systems third.

Feedback from participants:

Thought it was some good discussion with our peers and beneficial. It was interesting to hear that the industry as a whole was experiencing the same issue with keeping their specifications up to date. As with the Prairie Dog OS2 model our industry needs to be driving a shared risk across our businesses thus eliminating paper work.

- Owner

Did you find this round table productive and beneficial?

Yes, I found them interesting and productive. There was an ability to assemble perceptions and experience from a diverse group of highly experienced practitioners that enabled good conversation. I was glad I stayed over.

What was your biggest take away?

There is a potential for significant interaction between Conspectus and Unifomat and the Fundamental Scoping Block concept that I'm advocating.

What would have made it a better experience?

Enough time for small group breakout sessions.

- Project Delivery Leader - Engineering firm