Using Shared Visualization Skills For More Robust Constraint Identification

ASKM

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WORKSHOP AND MATERIALS CREATED BY ASKM ASSOCIATES

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The Secret is Creating a Shared Visualization

On almost every project we coach, one or more project team members ask, “How do you get the foremen to share so much good information? You always seem to ask such good questions.” That skill will be the focus of this workshop.

But before we tell you how we do it, let’s talk about why this skill matters. Asking "such good questions" is the key to identifying constraints, i.e., risks to the planned flow of the project. Identifying constraints is the first and most beneficial step in make-ready planning, which will ensure more reliable workflow, schedule reduction, and greater overall project success.

So how do we ask such good questions? The secret is creating a shared visualization (like painting a scene for ourselves and others) from other's descriptions and planning questions to fill in any gaps in that scene.

Workshop Learning Objectives

In this 4-hour workshop participants will be able to:

- Understand the impacts of visualization on constraint identification;
- Leverage the mind's innate power to visualize;
- Practice the different levels of visualization;
- Utilize a basic outline of inquiry during visualization to support operations planning and constraint identification; and
- Avoid pitfalls such as asking leading questions of subject matter experts when filling in a shared vision.

Workshop and Materials Created by ASKM & Associates

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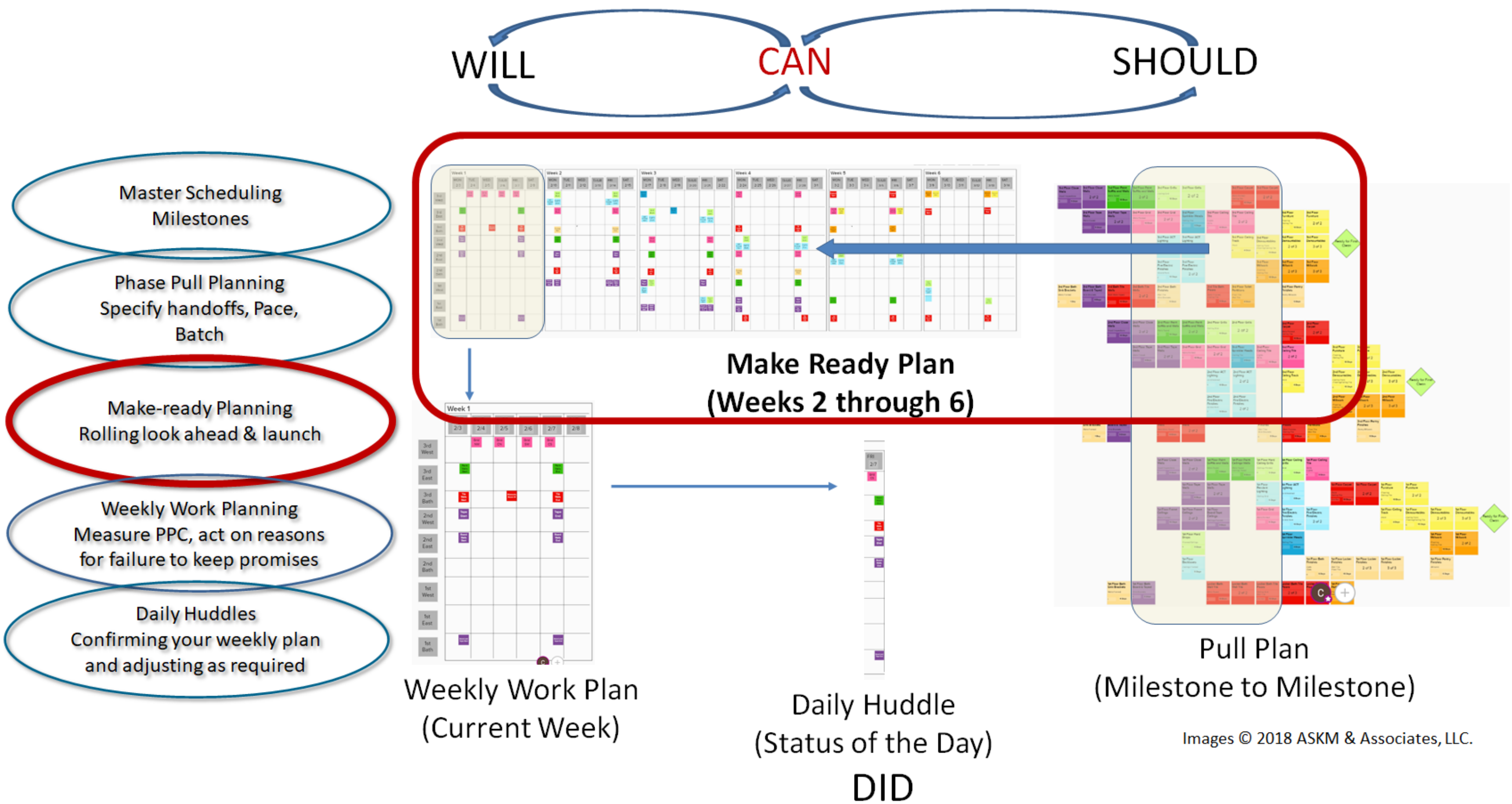
Introduction Exercise Instructions

- To start the session, you will engage in a liberating structure called impromptu networking.
- Grab a sticky note and sharpie from the supply table.
- Take a couple of minutes to think of a situation that significantly interrupted your work or the work on your project and what you most want to get out of this workshop.
- Write your Name, title and title for the situation you thought of on one sticky note.
- On a second sticky note, write what you want to get out of this workshop and post both in the designated area.
- Next, take 4 minutes (2 minutes each) to introduce yourself to someone you don't know and share a brief story about your situation or what you want to get from this workshop.
- Continue doing introductions with someone new until the facilitators say to stop.

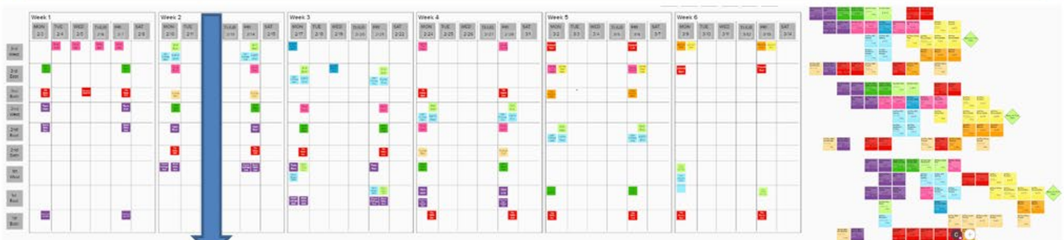
Notes

Context of Make-Ready in LPS



Context of Constraint ID in Make-Ready

Step 1: Look ahead to identify work to make ready next while considering what you had planned for your furthest out look-ahead week from your phase pull plan while considering the actual status of work in your look-ahead window



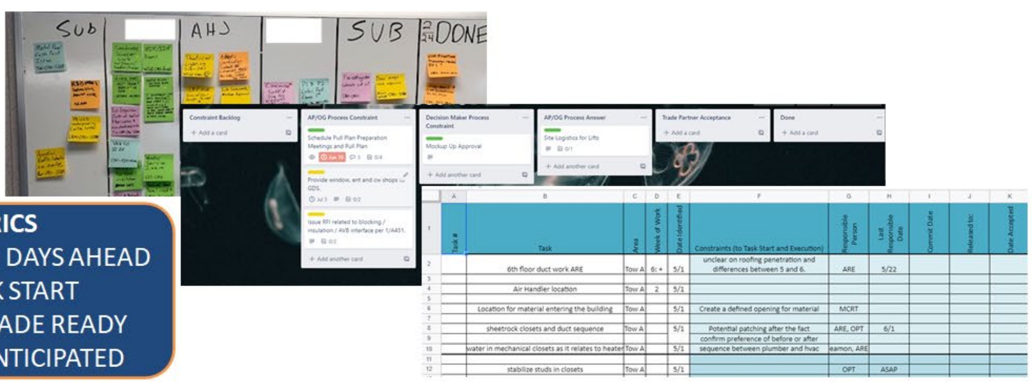
Step 5: Adjust your Look-Ahead plan based on constraint removal commitments or updates; any newly identified constraints on work to be made ready; and any changes based on current performance

Weekly Cycle

Step 2: Identify and capture constraints for the work to be made ready in the trailer and in the field

Step 3: Convert Constraints into action plans with commitments to remove them, prioritized by Last Responsible Moment (LRM)

Step 4: Manage upcoming commitments to constraint removal actions based on LRM



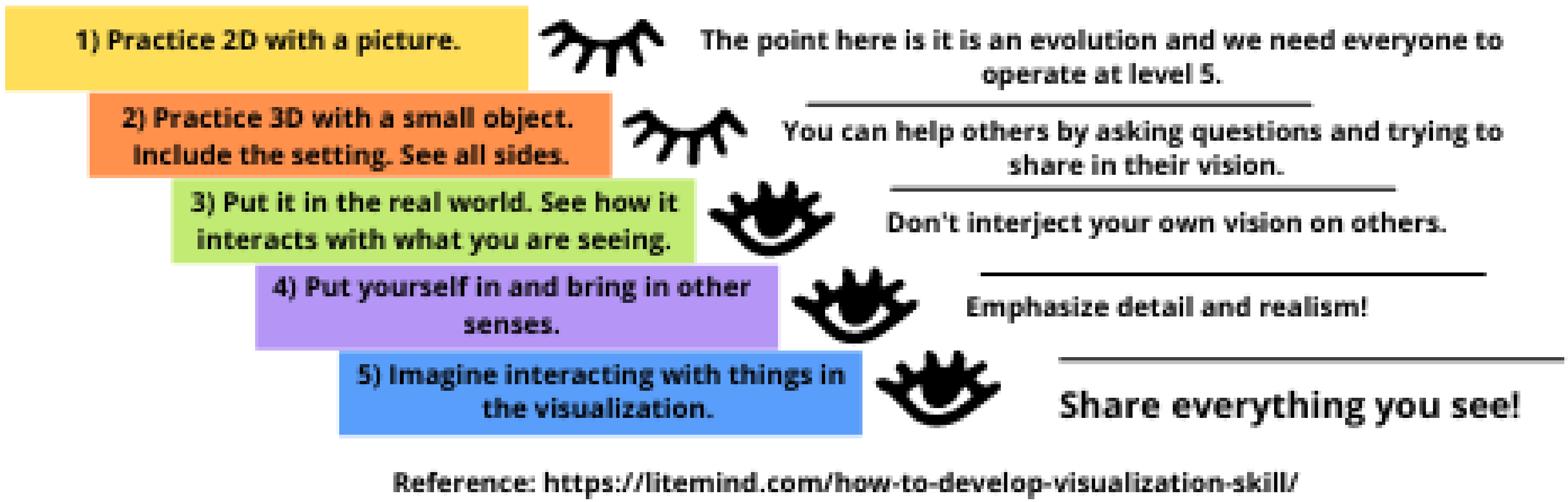
METRICS

CONSTRAINT ID DAYS AHEAD OF WORK START

ACTIVITIES MADE READY

ACTIVITIES ANTICIPATED

Sink Visualization Exercise Instructions



This exercise will have two people practice a shared visualization.

There are two roles.

One role is the Initiator, who in the field would be a trade contractor foreman or any person who is going to work in the space. This person is responsible for having an image in their mind and answering questions from the other role, the Questioner.

The Questioner's job is to ask questions to help deepen the visualization and create shared understanding. A Superintendent or PM would be fulfilling this role in the field to ensure that the trade has no missed constraints or concerns.

Sink Visualization Exercise Instructions

Decide who is in what role, read only your role's instructions below and begin.

TRADE ROLE OR INITIATOR

Visualize the sink in your home.

See it from all angles with as much detail as you can.

Add as many senses as you can: smell, feel, sight, sound, emotions, spatial.

Respond to your partner's questions so they can see what you see.

Use only words, no pictures or examples from

the room.

Don't look at the sample questions!!!

CM ROLE OR QUESTIONER

Ask the initiator only questions.

Start by asking them to describe their vision. Be curious about all the details when you ask them. For ideas see some sample questions below:

What type of sink is it?

Where is it in your kitchen?

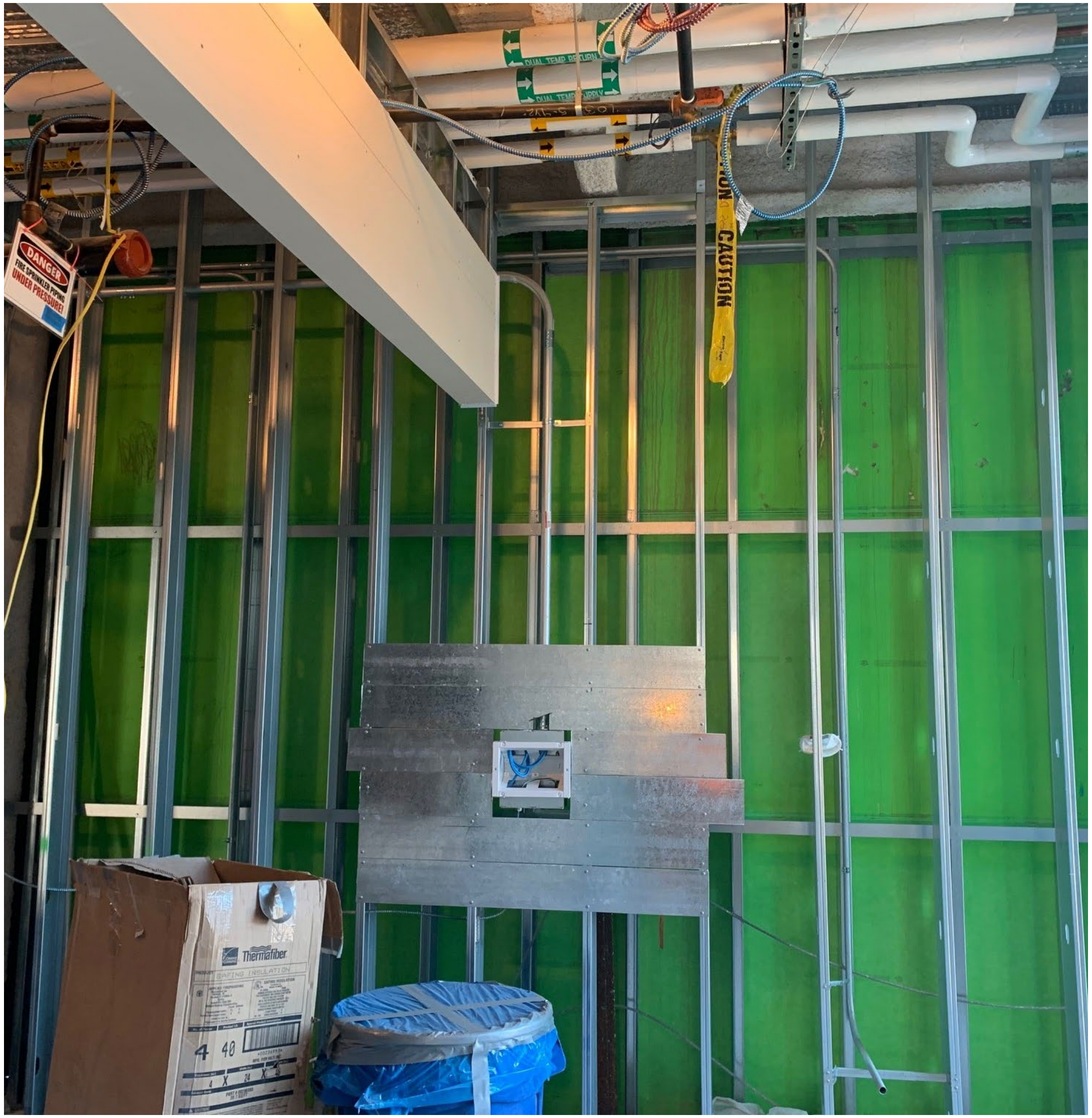
What is around your sink?

What does it look like? What does it sound like?

How do you feel when you look at it?

How does it physically feel when you are using it?

As you go, note: Did the questioner ask enough questions to share the initiator's vision? How many questions were kind of blank spots in the vision until asked? Was it hard for the questioner to only ask questions?



Make-Ready Walk Demo & Observation

In your group, discuss some of the following questions and be prepared to share.

How is what you are observing like and different from what you do or see in your work?

What questions would you ask the trade partner in the example or how would you ask them differently?

What do you notice about the tone and reactions of those involved?

Do you think they are achieving a shared vision?

Are they going far enough, or are they too far into the weeds? Why?

What were your key takeaways from what you observed?

Make-Ready Walk Observation Notes Page

Capture your observations here, based on the previous page’s questions

Tip 1:
Avoid leading and simple yes or no questions!

"Let them provide the answers!"

The make-ready questions that you ask are the tools to flush out: constraints; missed prerequisites; and space logistics. The questions you ask, the way you ask those questions, and the level of detail, all impact the level of trust and transparency of the trade partner.

Keep the questions open so that the trade partner can expand your shared visualization. Your questions will eventually get more specific but avoid turning them into leading questions.

Leading questions sound like:

"You are going to come in here and put up your scaffolding like this, right?"

"After you put the duct mains up, you are going to do branches, right?"

Simple Yes or No questions sound like:

"You have everything you need in here, right?"

"You know what to do, right?"

TIP 2:
Ask questions that fill in the gaps!

"The best questions highlight gaps in the plan"

The best questions highlight gaps in the plan, prompting the trade partner to expand the visualization with their thinking, planning and spatial awareness.

Questions like:

"How are you getting your material through this space?"

"Where are you going to store the material?"

"Will anything you see here get in your way?"

"Do you see anything that doesn't look like what you are expecting?"

"What have you seen in the past be an issue for you?"

Use the categories of questions in the constraint checklist (page 28), to expand your shared visualization and identify more constraints.

Tip 3: Know when to stop, and when to dig deeper!

"Ask questions to understand the risk of a potential constraint before digging deeper."

Ask questions to understand the risk of a potential constraint before digging deeper. Don't dig further, if the constraint or lack of detail in the plan or vision will have little to no impact on starting the work or completing it as planned.

For example, try questions like:

"If we won't know which scenario it will be until just before the work starts, what impact would it have on you starting or executing the work?"

"How critical is that information to you performing the work as discussed?"

"Have you dealt with similar situations before and how did it impact your work?"

Tip 4: Emphasize reliability!

“Remind people that you care more about the reliability of an answer rather than getting an answer”

Digging deeper to feel confident information is reliable is important but risks making someone feel you don’t trust them at all. What should you do?

For starters, trust your gut. Meanwhile, practice and refine your skills for recognizing the tells that someone is giving you a response without really thinking.

Most importantly, remind people that you care more about the reliability of an answer than getting an answer. It is ok for them to say they don’t know or are unsure.

Be clear that you are available, and your goal is to help them.

Tip 4: Emphasize reliability!

"Ask a detailed visualization question to determine the reliability of the information"

When you feel information may be unreliable and you know that the information is important, ask a detailed question. By asking a detailed visualization question, you'll see if they have thought it through.

For example, if someone says, in an offhand way, something will fit, you might ask:

"How is it packaged? What path are you planning to bring it in?"

Or you might ask about their processes:

"I'm curious, walk me through the steps you go through."

"So which step are you or your team currently in?"

"Have you put your own eyes on it recently?"

Remember with these questions, the goal is not to catch them in a mistake. The goal is to coach them to reach the level of visualization, planning and reliability you expect.

Tip 5: Listen & recap what you heard!

" Be Patient and Listen!!!"

Listen carefully to what you hear to help construct the shared visualization. Periodically recap what you heard to make sure you are all seeing the same thing.

It is easy to bring in our own bias to what we hear. Working to understand, expand and share the visualization is part of Respect for People.

DON'T: Try to extract information. That is not respect.

DO: Come prepared to the conversation.
DO: Bring a sense of curiosity.
DO: Respect the trade partner's skill and experience.
DO: Coach deeper visualization and planning.
DO: Recap and confirm what you heard.
DO: Be Patient and Listen.

Small Group Make-Ready Walk Exercise

This exercise will be your opportunity to practice creating a shared visualization on a make-ready walk as a group just like the facilitators demonstrated. Form into groups of five.

First, everyone in the group will produce a field-specific operation that they feel comfortable with and capable of describing in detail. Office operations are ok too.

Examples of this might be:

- HVAC trade foreman looking at the overhead work required down a corridor.
- Millwork foreman looking at a recently framed area.
- Steel contractor getting ready to mobilize.
- Plumbing contractor looking to start inwall rough before framing takes off.

Each person will have an opportunity to think of and share a brief description of their scenario, and as a group, you will **choose the most interesting one**. The group should keep the other examples in mind, and switch to another one if you've exhausted the first example and have time to spare to practice another.

Small Group Make-Ready Walk Exercise Roles

There will be 3-4 different roles for this exercise.

Primary Trade Foreman (the person who came up with the chosen scenario)

- The job of the trade foreman is to answer questions that the CM staff ask of you in a realistic way. Feel free to add complexity or personality to the exchange.

The CM, 1 or 2 people, a Super or a Super, and PM

- Your job will be to remember the constraint questions and examples of how to build a shared visualization. Pay special attention to the use of rhetorical or leading questions. Acknowledge how your tone and how you react to the information can influence the trades sharing their concerns and preferences. Capture all the constraints in the conversation, but do not try to solve any of them at that moment (unless you have an answer they are looking for). Focusing on problem-solving can cause you to lose the thread of the discussion, and potentially miss a more important constraint.

Observer(s), 1 or 2 people

- The observer's job will be to capture any instances of best and less ideal behaviors that you see and capture them on the observer form (page 25) to review after.

Follow-on Trade, 1-person, optional alternative to being an observer if you really have deep knowledge of the example.

- The follow-on trade's role will be to ask questions about how the primary trade foremen will leave or hand-off areas to be consistent with your needs.

Begin the Exercise

Start your role-playing using the question tips, reference materials herein, and everything you've learned so far.

After 10 or so minutes, observers share helpful comments then swap the CM and observers and continue with new questioners.

After 20 minutes, have one of the CM or observers recap the key information and description they heard from the trade partner and allow the observers to share what they saw.

Then, start a debrief discussion with your group, going over the questions on the next page.

Group Discussion

Discuss in your group until the facilitators bring you back to the full group:

- How in-depth and accurate was the visualization of the work?
- How well the visualization reveal new constraints?
- What was the trade partners experience of the conversation dynamic?
- Did the trade partner play their role as difficult or cooperative?
- How did the CM role play reinforce or diffuse the trade partner’s role?
- What else did you take away from this exercise?

If you’ve completed your discussion before being called back to the main group, begin the exercise again with another scenario your group produced.

Make-Ready Walk Observation Notes Instructions

Take notes on the next page with your observations regarding the following questions.

Items to make note of:

- How many times did they ask leading or open-ended questions?
- What questions are surprising to you?
- What are the participants' tones and what can you deduce from that?
- What is the power dynamic of the conversation?
- What questions are building momentum in the conversation?
- Where are they going too into the weeds?
- Where are they leaving items too soon?
- Where do you see either person get dismissive or disingenuous?

On a scale of 1-10, how well did they achieve a shared visualization and understanding of the work?

Make-Ready Walk Observation Notes Page

Put a tick mark for every time you heard a yes/no or leading question vs an open-ended question and capture an example of each that you heard.

# of Leading Questions	# of Open-Ended Questions

Capture your observations here, based on the previous page's questions

Personal Action Plan - Getting Started

Individually, take a few minutes to write down some key takeaways you want to remember from the workshop.

Based on those takeaways, what could you try the next time you are conducting or coaching a Make-Ready conversation? Remember, this does not have to be a field example. Make-ready planning can apply to office work such as estimating, the submittal process, staff development, etc. Take a couple of minutes to jot down some rough thoughts here.

Now, take five minutes to convert those rough thoughts into some specific commitments to actions and put those here. Remember, commitments should have a target time frame and should be specific and measurable.

What Would You Share With Your Team or Company?

Reference Materials

Constraint Checklist

These constraint checklist items are intentionally generic to be used as a prompt for the checklist user to come up with more job and task-specific questions. If some of the items are irrelevant to the specific task, then you can skip them.

Design Information (T)

RFI, Change, Revision, Drawing, Specifications, ...

Materials (T&F)

Ordered, Delivered, In Location, ...

Equipment (F)

Ordered, Delivered, Maintained, Right for work, In location, ...

Tools (F)

Right for work, In location, ...

Peoplepower (T&F)

Available, Trained, Oriented, Right for work, In location, ...

Method (F)

Directives, Standard Work, Instructions, ...

T=Trailer, F = Field

Reference Materials

Constraint Checklist

Layout (T&F)

Measurement, Benchmark, ...

Prerequisite Work or Inspection (T&F)

Space (F)

Logistics, Available, Right Size, In Required State or Configuration, ...

Time (F)

Adequate Amount, Time of Day, ...

Access (F)

Shut down, Logistics, Path to Location, ...

Safety (F)

In a Place or On a Person, JHA in Place, Safety Measures in Place, ...

Weather/Environment (F)

Temperature, Dust, Sound, Humidity, Water, …

T=Trailer, F = Field

Think of some examples of something not going right on your job. What problems were caused because of that? Was there a question here that could have flushed that out?

Reference Materials

Make-Ready Identification Practices

"After every interaction, be sure to recap what you heard and check that they agree with your understanding"

The CM and trade foremen should make it a weekly standard to walk and talk with each other and visualize the work to make-ready and identify constraints. After every interaction, be sure to recap what you heard and check that they agree with your understanding.

Make-Ready Trailer Talk

1. Bring in the foreman to the trailer, have the plans and Constraint Log available and ready to review.
2. Consulting the pull plan and the previous week's planning, populate the last week in your make-ready planning with the continuation of that trades work.
3. Once you have populated that board, ask the standard constraint questions about information and resources, recording all of the important information required to resolve any identified constraints. The information you need is:
   a. What work does this impact?
   b. Who is responsible for doing the first step to remove the constraint?
   c. When does that step need to be completed to prevent disruption of work (the Last Responsible Moment)?
4. Then, review the previous week's work and see if that trade needs to make any requests of other trades to be able to do the work on the sixth week, and to see if any trades made any requests of them.

Reference Materials

Make-Ready Identification Practices

"Going to the place where the work is going to occur is crucial to identifying constraints"

Make-Ready Field Walk

"Going to the place where the work is going to occur is crucial to identifying constraints."

1. Take the foreman out into the field and go to the area where the trade plans to be in six weeks (or whatever your look-ahead time frame is).
2. Once there, both you and the foreman observe the space and try to create a shared visualization of the work the foreman will perform there, noting anything that will need to change or be a problem. Use the constraint checklist items relevant to the field to help fill in the shared visualization and identify any constraints or questions that need to be resolved.
3. As you go, record the issues that come up. Be sure to include the Last Responsible Moment, responsible party, and next steps needed to resolve it.
4. Bring your notes regarding Constraints to the next Weekly Work Plan to discuss afterward with the relevant Trades.