

24<sup>TH</sup> ANNUAL



24<sup>TH</sup> LCI CONGRESS  
OCTOBER 18-21

# Visual Management – The Rosetta Stone of Construction

Jonathan Witmer  
Justin Wingenfield



BUTZ  
FAMILY OF  
COMPANIES

Mike Hallas  
Todd Lord



LIGHTHOUSE  
ELECTRIC  
ELECTRICAL CONTRACTORS



PennState Health

LEAN GUMBO: THE RIGHT INGREDIENTS FOR PROJECT SUCCESS

Thursday October 20<sup>th</sup> 10:45 AM – 11:30 AM CT

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Justin Wingenfield



Mike Hallas

Jonathan Witmer



Todd Lord













# Problem Statement

How can large, multi-industry teams of diverse experts and specialties find ways to overcome industry and trade-specific language barriers that create miscommunication and negatively impact schedule, quality and budget?

- ‘How soon will I have access to the Cath Lab? Do you mean Level 3, Area A?’
- If this conversation between a healthcare professional and a construction professional sounds familiar, then you can imagine how beneficial it would be to have an image showing both the medical and the construction parameters of the building right about now.
- The old adage “a picture is worth a thousand words” couldn’t be more true when working in a fast paced, highly complex healthcare construction environment. Listen and learn from a team who will share how they used visual management to communicate and collaborate with industry professionals to complete activities strategically; meeting milestones successfully. The team will share specific examples of visual management used, including why and how they implemented the tool, and their resulting outcomes.



# Problem Statement





# What is Visual Management?



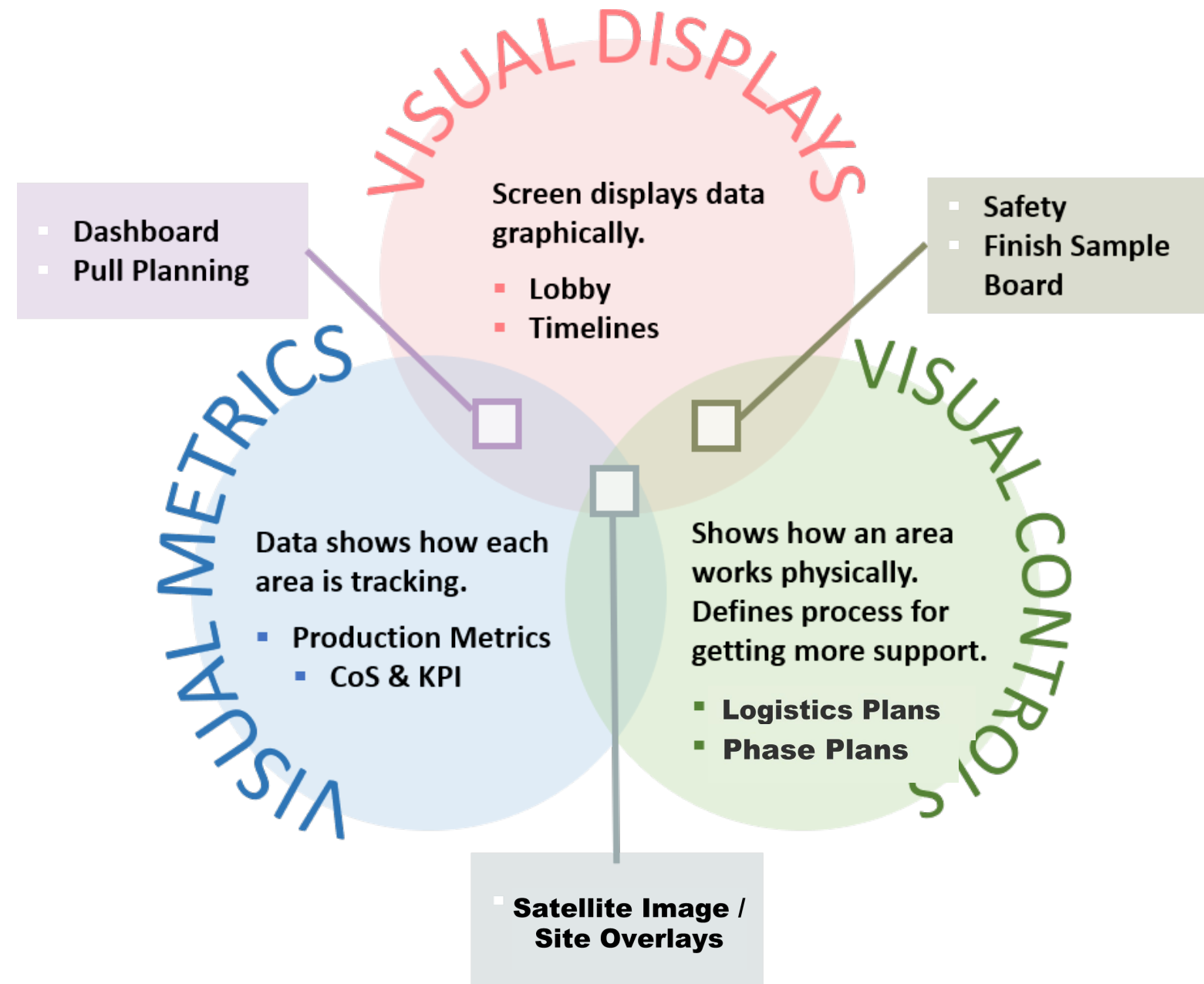


# How Did You Get Here?





# Visual Management



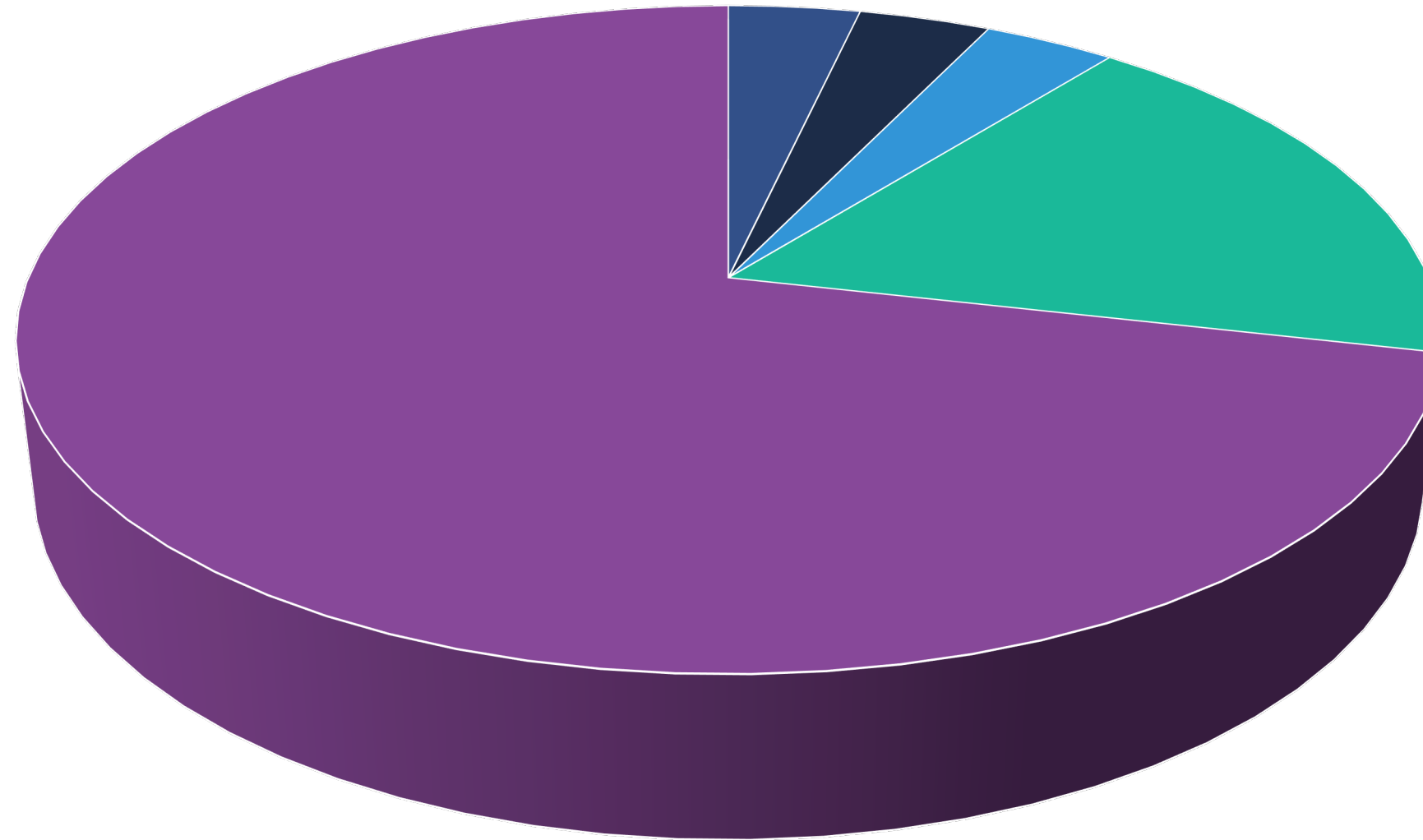


# What was used to communicate across all of these teams and individuals?





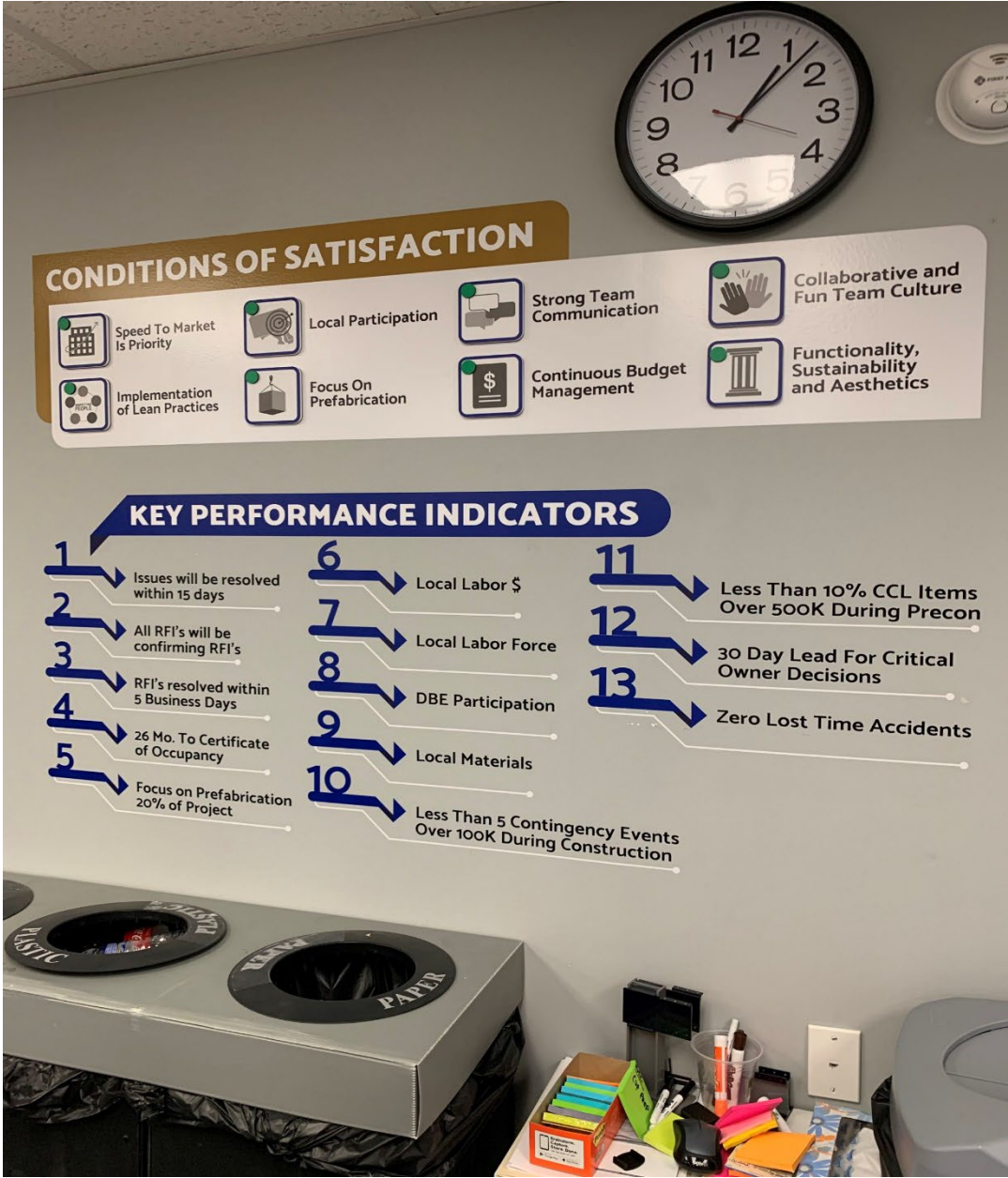
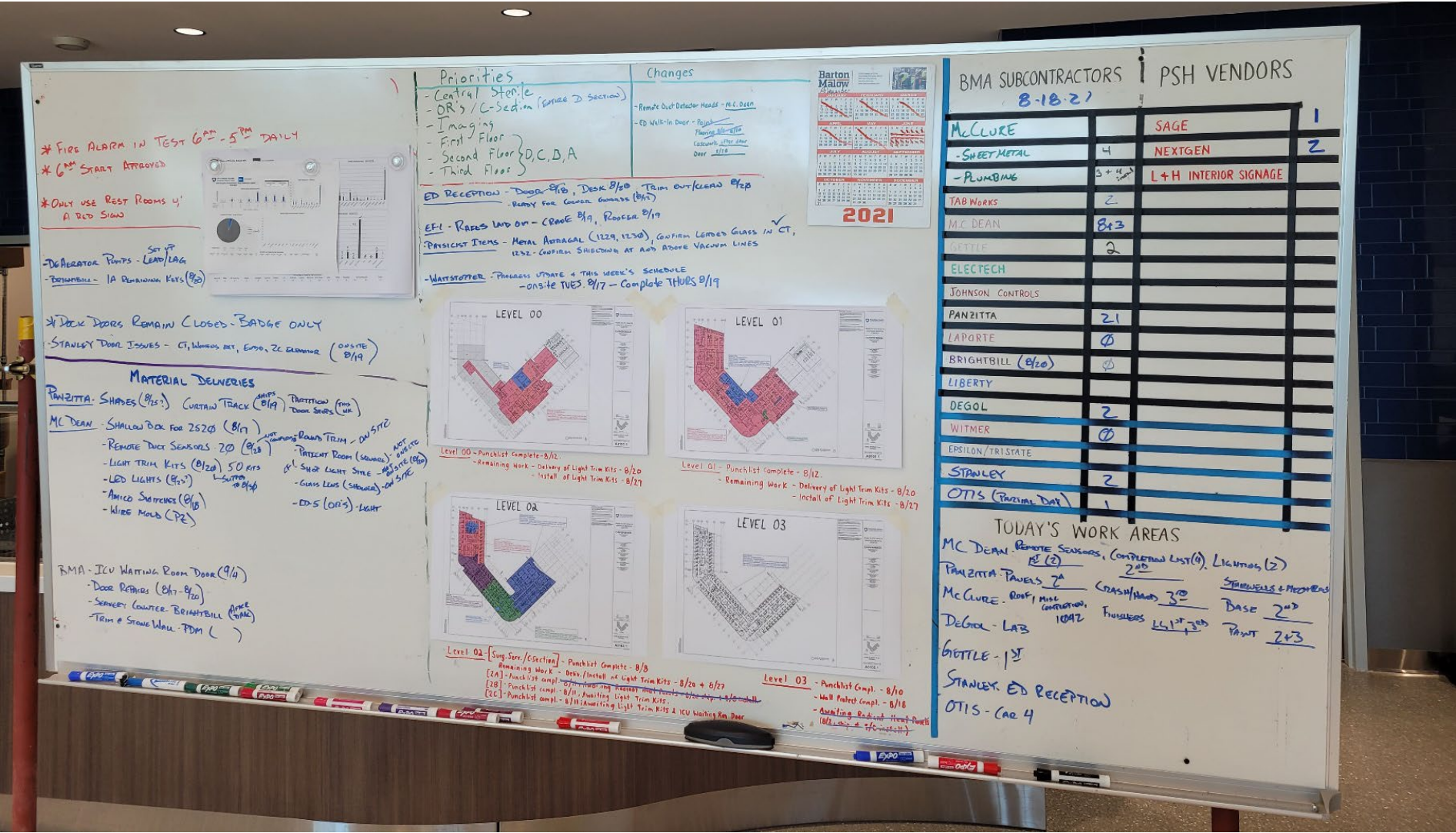
## 1,400 TOTAL TEAM MEMBERS



■ Owner ■ Owners Rep ■ CM ■ Designers ■ Trade Partners



# How do you Effectively Reach 1400 Team Members?





# It's Simple but, We Need To Think Of It Differently



## Coronavirus (COVID-19) - Aviso a Los Visitantes -

**La seguridad de los miembros de nuestro equipo, clientes, socios, familias y visitantes es la primera prioridad de Barton Malow.**

Nuestro objetivo es mantener seguros a los miembros del equipo, prevenir la propagación del coronavirus y garantizar las operaciones y el núcleo COVID-19 no afecta gravemente las funciones comerciales.

Abstenerse de ingresar a una oficina o sitio de trabajo de Barton Malow si tiene:

- Contacto cercano o cuidado alguien diagnosticado con COVID-19 en los últimos 14 días.
- Ha sido diagnosticado con COVID-19 en los últimos 14 días.
- Experimentas síntomas de COVID-19, que incluyen fiebre, tos, dolor de garganta, enfermedades respiratorias o dificultad para respirar.

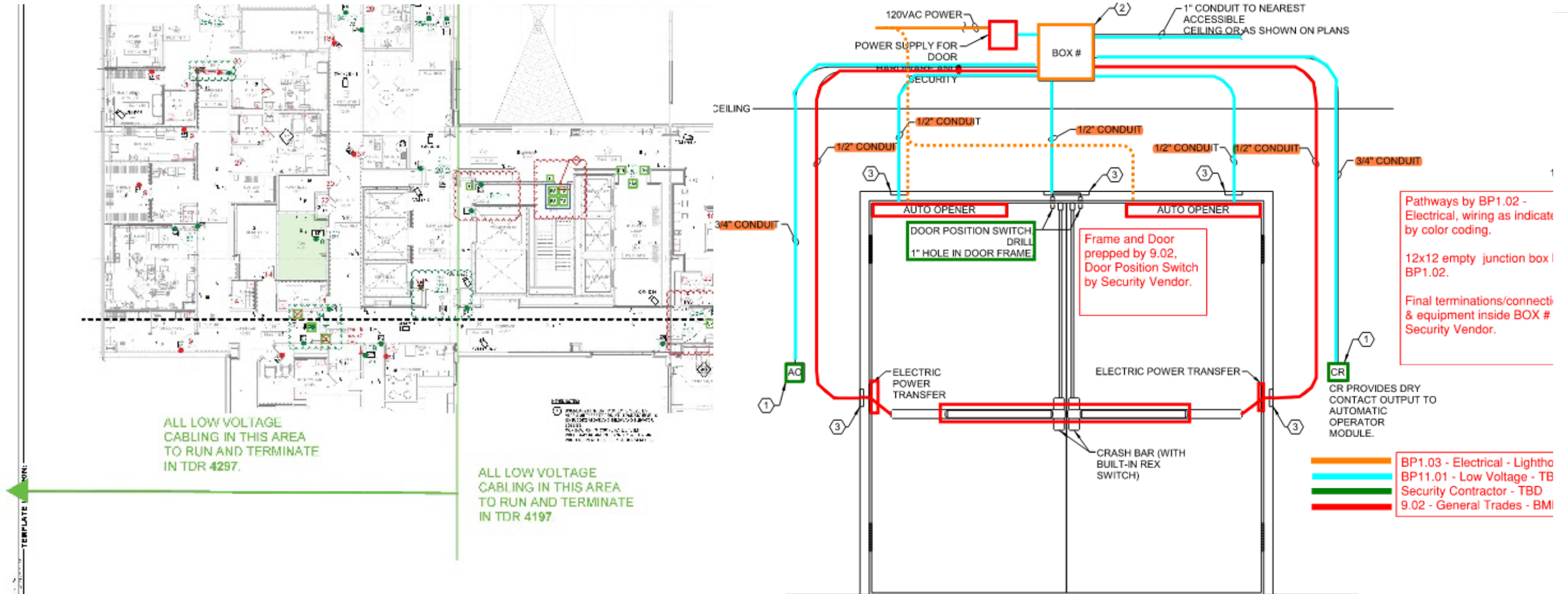


Escané este código QR con su teléfono y complete la encuesta para ingresar a esta oficina o sitio de trabajo de Barton Malow.

**Barton  
Malow**

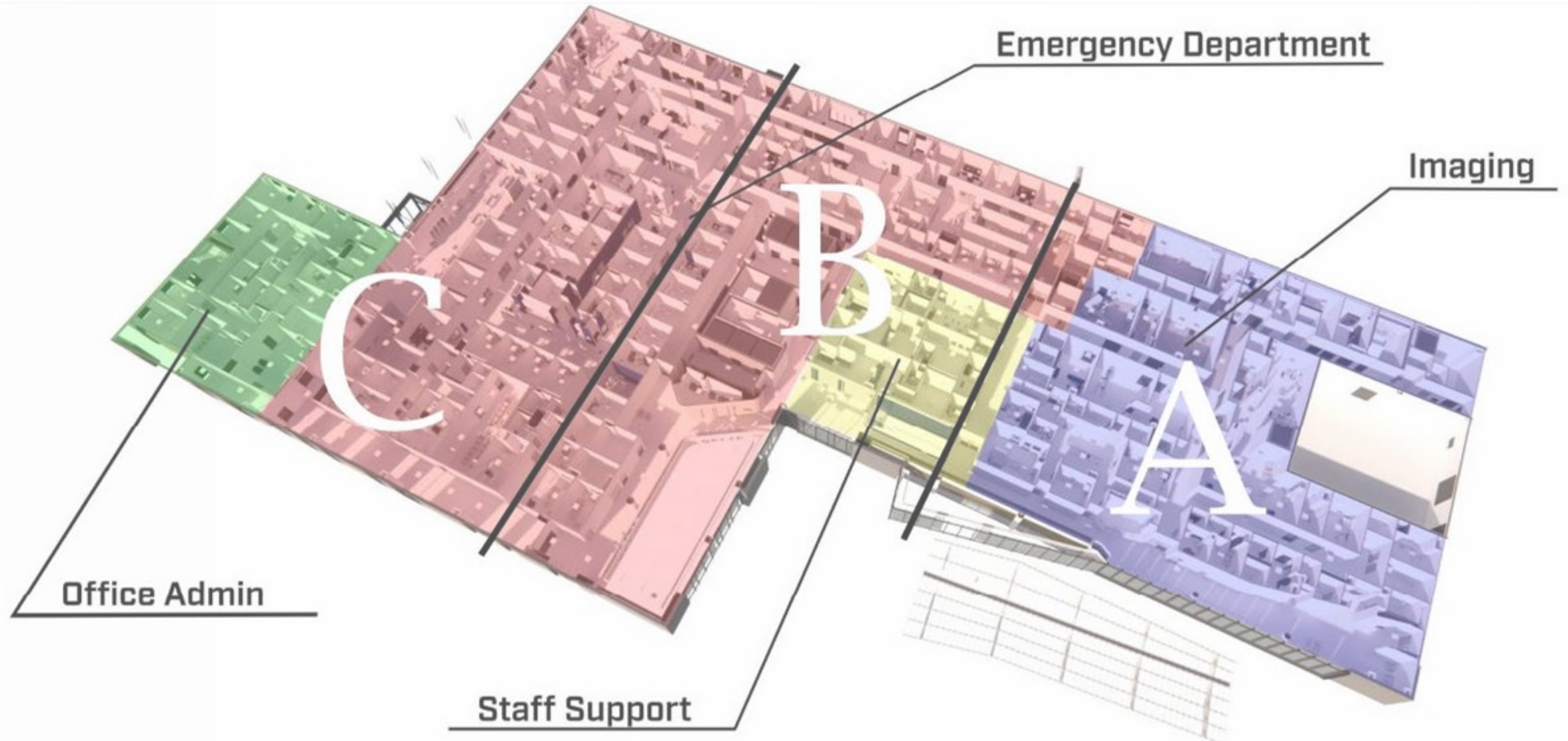


# Different Communication Across Trades, Types



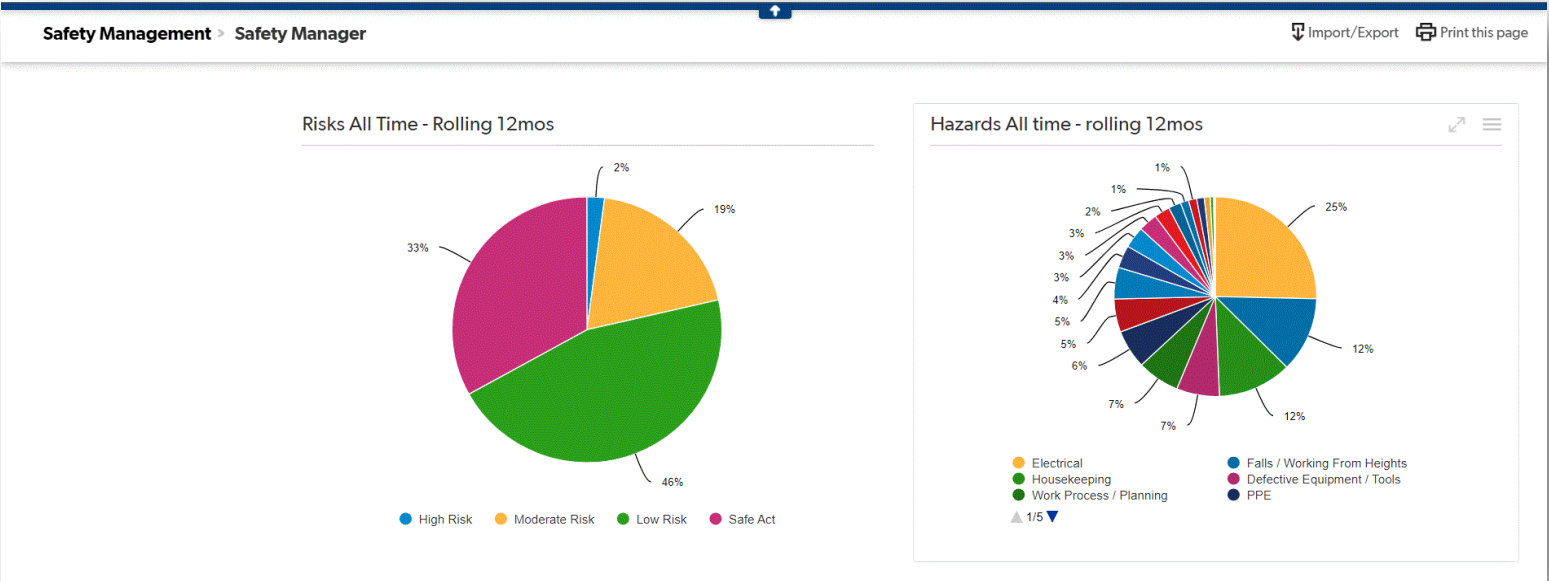
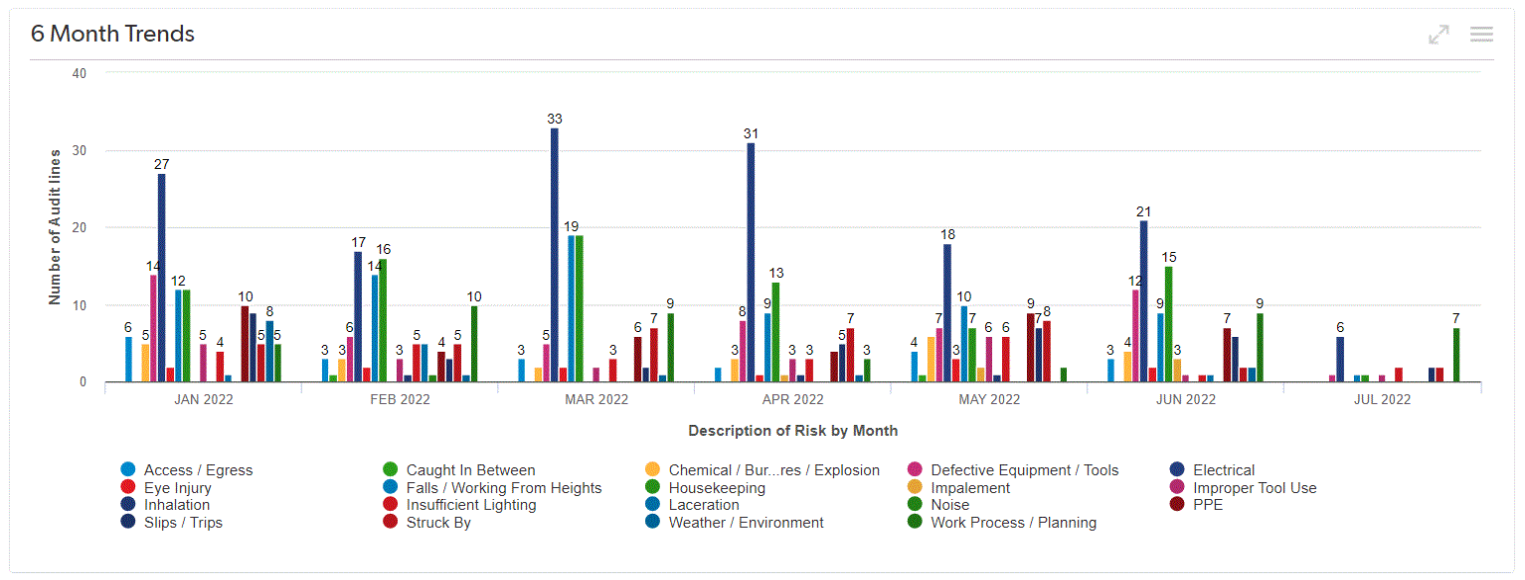


# Simplifying Technical and Wide-Ranging Information





# Safety – Signage, Digital Dashboards





# Electrical Status One-Line

Conduit Installed

Feeder Pulled

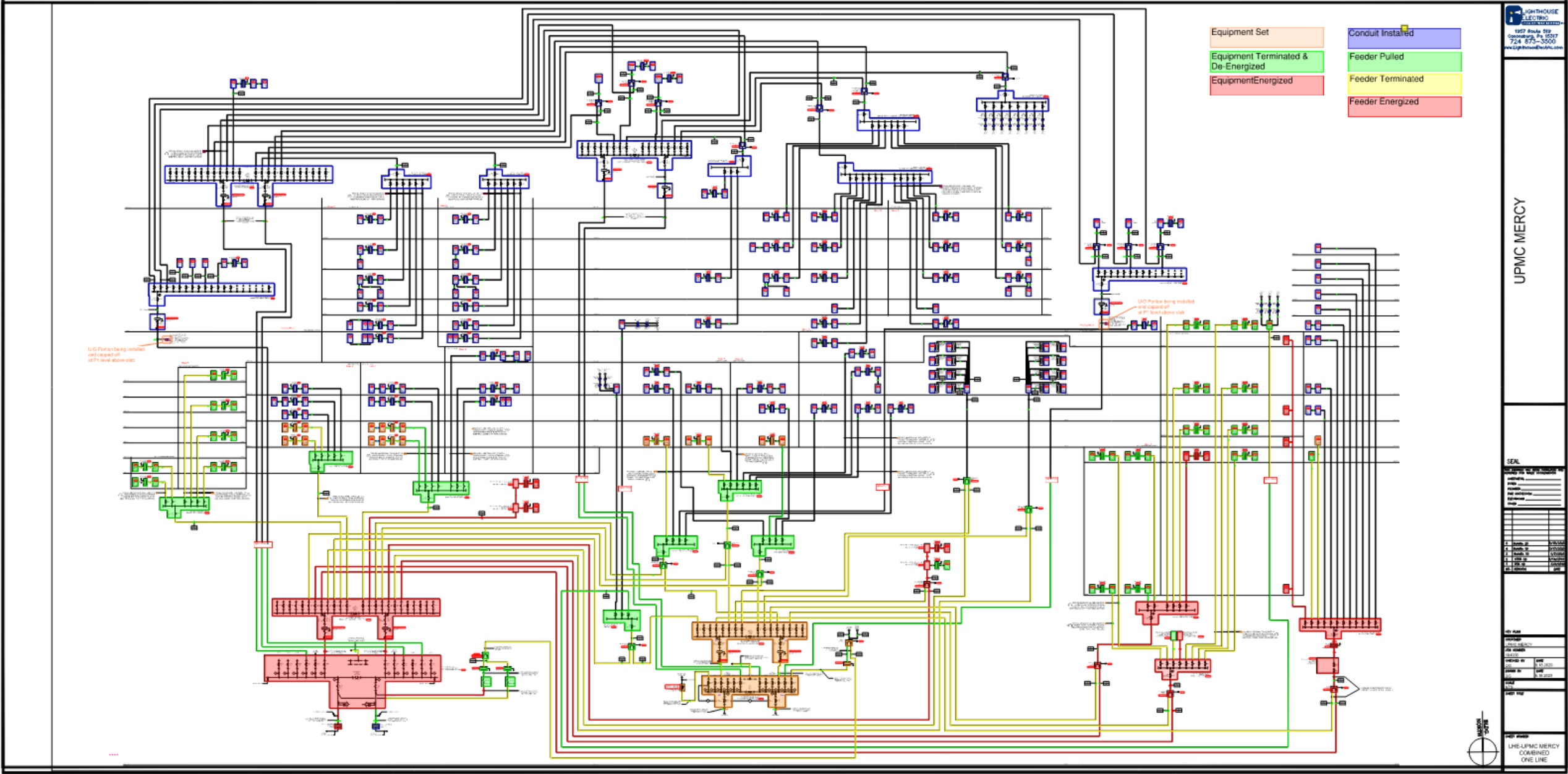
Feeder Terminated

Feeder Energized

Equipment Set

Equipment Terminated & De-Energized

Equipment Energized



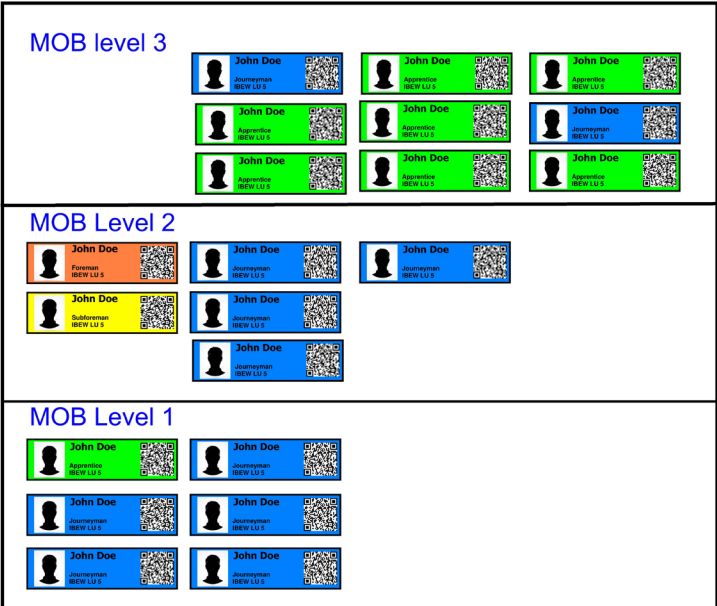
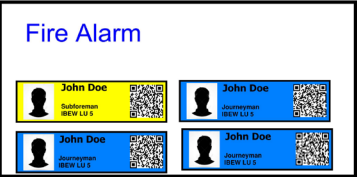
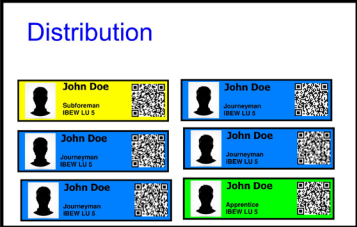
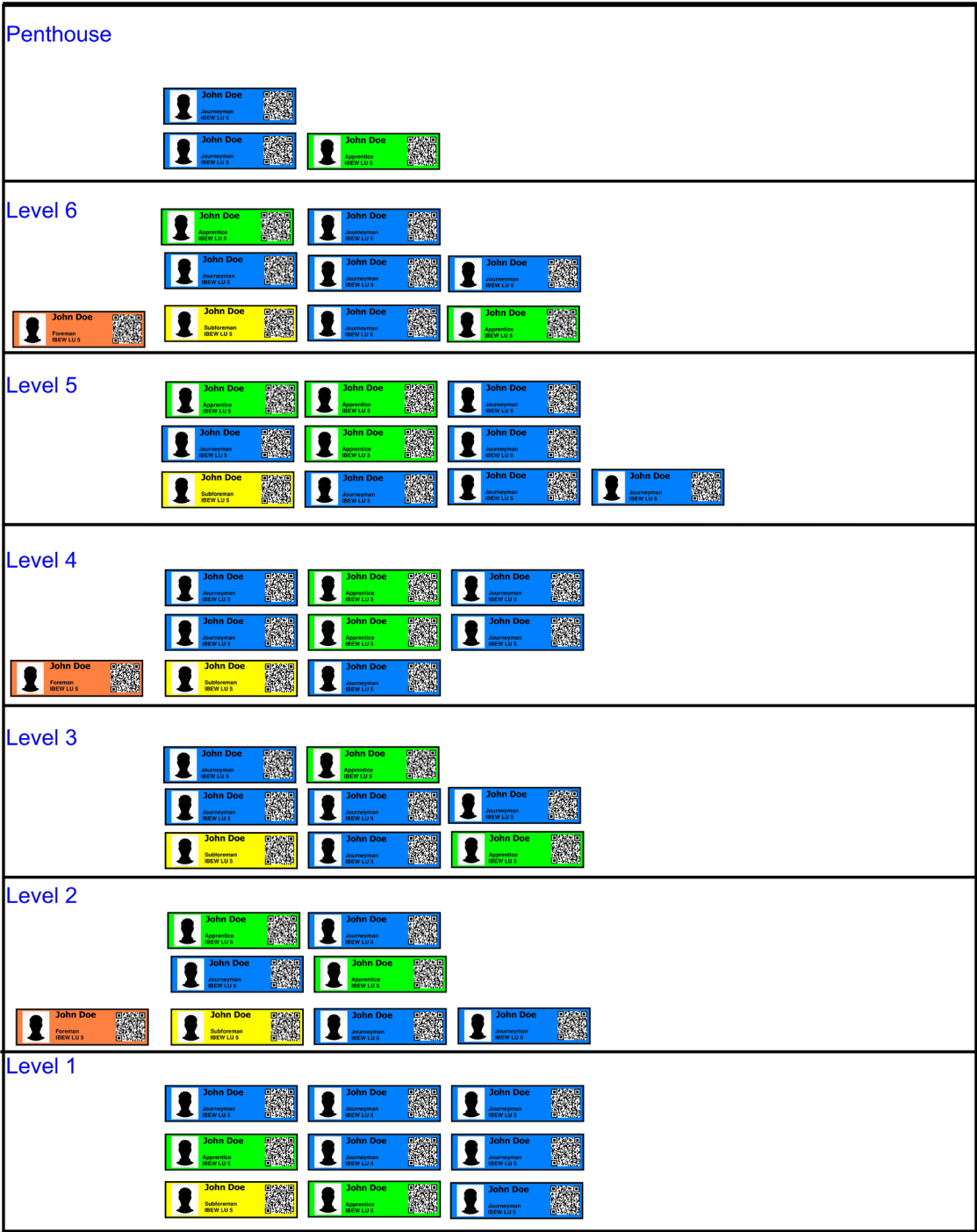


# Craft Labor Tracking



**Mike Hallas**  
Apprentice  
IBEW LU 5







# Coordination with Owners and Non-Construction Personnel





# Cater to Multiple Audiences





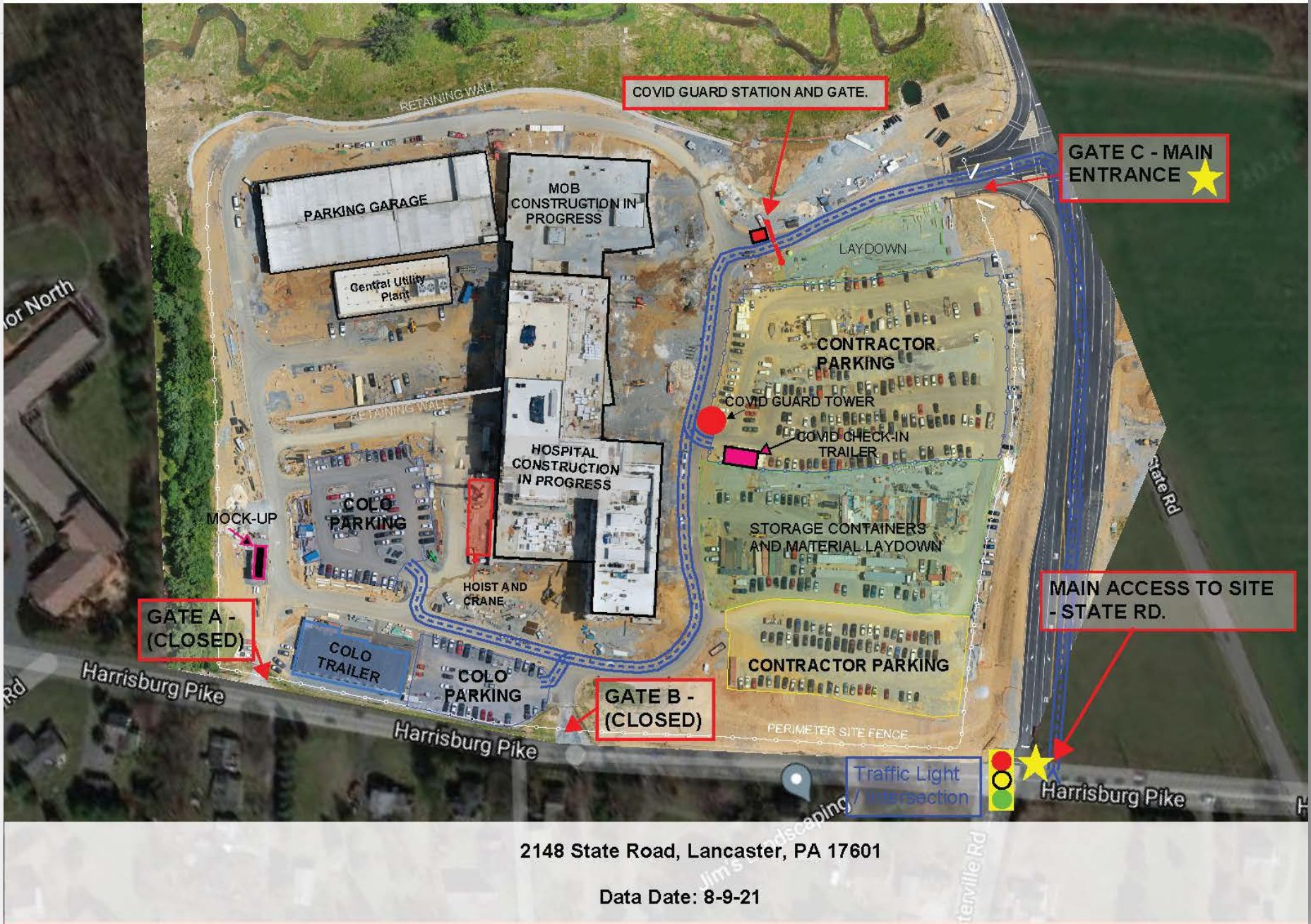


ALEXANDER  
A JOINT VENTURE

# Lancaster Medical Center Site Plan



PennState Health







**PennState Health**  
Lancaster Medical Center



**ALEXANDER**  
A JOINT VENTURE



**Big Room: May 2021**

My Work Will Save Lives

Culture, Compassion and Quality Drive Clinical Excellence!

ICE BREAKER

10:30 – 10:40am

What is the best piece of advice you've ever been given?

SAFETY

10:40 – 10:45am

One Screen Go Safe  
Temperature Sensors



QR COVID  
Questionnaire

Mandatory mask use.  
Except when sitting in your cubicle.



0 recordable

400-460 people working on site

1,183 people through orientation

0 Total COVID cases

HOT TOPICS

10:45 – 11:00am

Electrical Cluster Group:

- Hospital Security and Hardware Review
- Fire Alarm Comments
- MOB Electrical

Mechanical Cluster Group:

- Drip Pan Locations
- Cold water line between CUP and Garage
- Technology Room Discussion
- Lobby FCU Piping Coordination
- Ice Maker and Coffee Filter
- OR Ceiling Coordination

CUP Cluster Group:

- Flow meter for upstream/ downstream lengths
- Electrical Energization
- Domestic Water Utilization
- Variance Requirements
- FM Global New Comments
- CUP Stairs
- Chem Treatment Start-Up
- Control Valve for By Pass at Condenser Water System

Interiors Cluster Group:

- Wall Protection Graphics
- Door hardware coordination
- Mock-Up Patient Room
- Casework Mockup
- COVID Screens
- Medical Sliders
- Door Finishes
- Pendant Lights

Enclosure Cluster Group:

- CGI Glass Distortion
- Mockup
- Curtain Wall Testing
- EIFS Details
- Stair Enclosure
- Doghouse

Site Cluster Group:

- Lancaster City Water Connection
- Sinkholes
- Concrete Pad Design
- Site Signage
- FM Global – Fuel Containment
- Site Logistics
- Scheduling Praxair
- Ground Water in Electrical Vaults

SCHEDULE

11:00 – 11:05am

Milestone Description	Progress	Start	End	Duration
<b>Hospital</b>				
Roofing (Dry-In)	44%	3/1/21	8/10/21	162
CLT curtainwall & Punchec Windows	84%	2/8/21	5/28/21	109
Exterior Finishes	24%	3/22/21	10/15/21	207
Clovestors (Hospital, MAB & Garage)	3%	5/3/21	12/27/21	238
Permanent Power		6/7/21	6/7/21	1
Permanent Chilled Air		6/30/21	6/30/21	1
Finishes - Level 4	43%	11/18/20	12/27/21	404
Finishes - Level 5	39%	12/18/20	12/27/21	374
Finishes - Level 3	25%	1/25/21	3/18/22	417
Finishes - Level 6	28%	2/10/21	12/27/21	320
Finishes - Level 2	20%	2/24/21	3/18/22	387
Finishes - Level 1	0%	5/19/21	2/16/22	273
Exterior Improvements	0%	2/1/22	5/24/22	112
Systems Commissioning	0%	6/15/21	7/26/22	406
<b>Central Utility Plant</b>				
<b>Garage</b>				
Precast Concrete Structures	32%	5/3/21	5/28/21	25
Remaining Construction	0%	6/1/21	11/19/21	171
<b>MAB</b>				
Fitout Design & Permit	99%	9/14/20	5/14/21	242
Structural Steel	100%	3/8/21	4/9/21	32
Slab on Grade & Decks	66%	4/12/21	5/26/21	44
Exterior Wall Panels	0%	5/17/21	7/6/21	50
Roofing (Dry-In)	0%	6/7/21	7/2/21	25
CLT curtainwall & Punchec Windows	0%	7/7/21	8/3/21	27
Exterior Finishes	0%	7/14/21	8/24/21	41
Finishes	0%	6/7/21	3/7/22	273
Final Inspection	0%	3/21/22	6/17/22	88
Substantial Completion	0%	6/10/22	6/10/22	1
Project Closeout	0%	5/3/22	8/29/22	118
<b>Total Project Duration</b>	<b>53%</b>	<b>02/24/20</b>	<b>06/10/22</b>	<b>837</b>

UPCOMING MILESTONES

		AHU 7A, 7B, 9 @ PH - Install		Garage Precast Erection - Start				
	CUP Install - Complete			Brick Facade Area A, East Side - Start		Permanent Power Available		
		AHU 2, 3, 4, 5 - Install		MAB Level 2 - Slab on deck pour		5 A/B In wall Inspection		
3/25/2021	4/4/2021	4/14/2021	4/24/2021	5/4/2021	5/14/2021	5/24/2021	6/3/2021	6/13/2021
	Penthouse Metal Panel - Start			4 A/B In wall Inspection				
			MAB Roof - Slab on deck					
	MAB Steel Erection - Complete			pour		MAB Ext. Stud/Sheating/AVB - Start		

SITE & 360 PHOTOS

11:05 – 11:15am





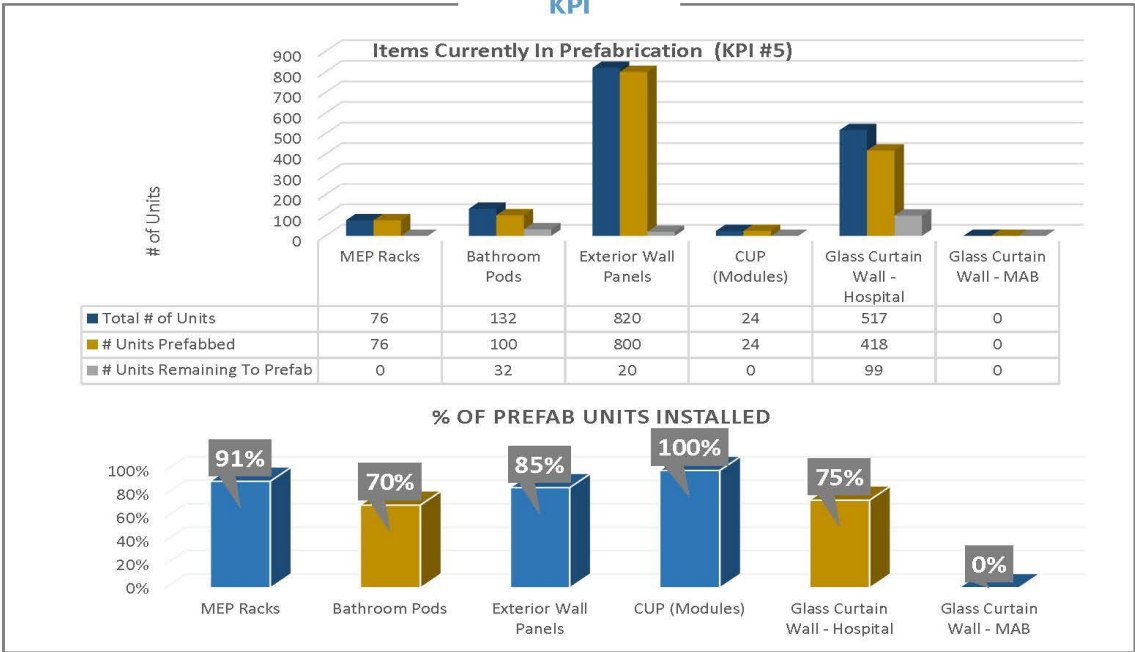
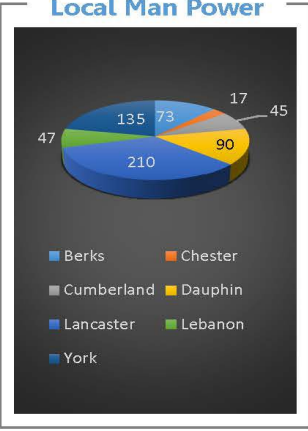
BUDGET

11:15 – 11:18am

Ongoing Budget Tracking		Billed: 49%	
Potential Out of Scope Changes	ROM Costs	Actual Costs	Approval Status
ASI 005 - Canopy, Connector Coordination & Electrical Upgrades			
ASI 006 - Ongoing Coordination, RFIs & Owner Requests			
ASI 008 - Owner Comments & Incorporation of RFI Responses			
ASI 009 - TDR Cooling Mech Changes, RFI Coordination & Permit Comments			
ASI 010 - Entrance Canopy and Screen Wall			
Totals			
Allowances & Contingency	Committed	Remaining	
MAB Fit-out Allowance			
Other Owner Allowances			
Construction Contingency			
Overtime Allotment			

DESIGN UPDATES

11:18 – 11:20am



LIVE SITE CAMERAS

Cameras take a picture every 15min, from 6am to 6pm.

<https://www.senserassystems.com/public/project/pshlm>

COVID VACCINE

All PA adults are eligible for COVID-19 vaccine as of April 13.

<https://vaccinatelancaster.org/>



KUDOS

- Team: MAB Pricing
- Bazella: Good work

COS / LEAN

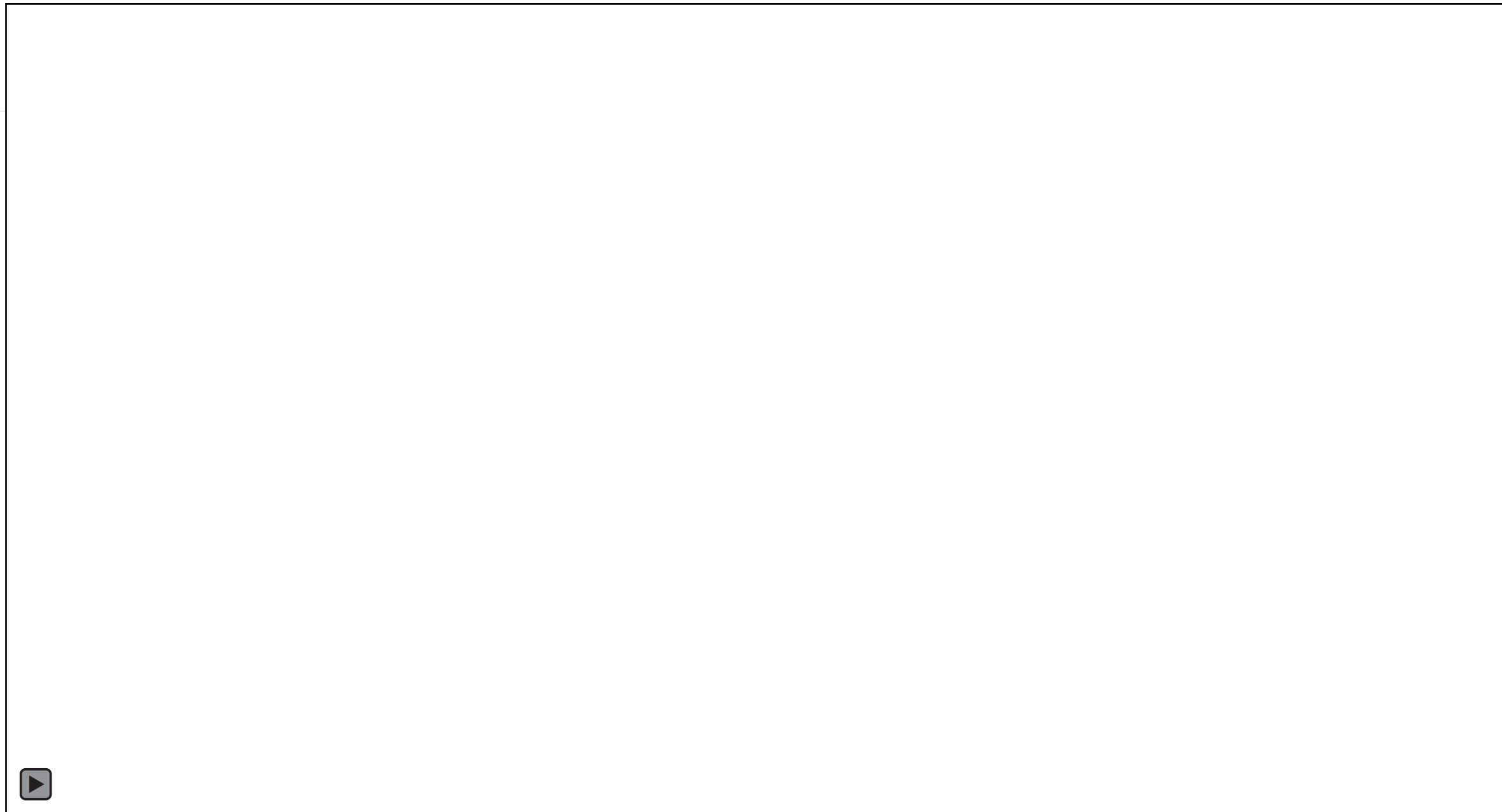
Go to [www.menti.com](https://www.menti.com) and use code 5916 9148

PLUS / DELTA

Go to [www.menti.com](https://www.menti.com) and use code \_\_\_\_\_

11:55 – 12:00pm







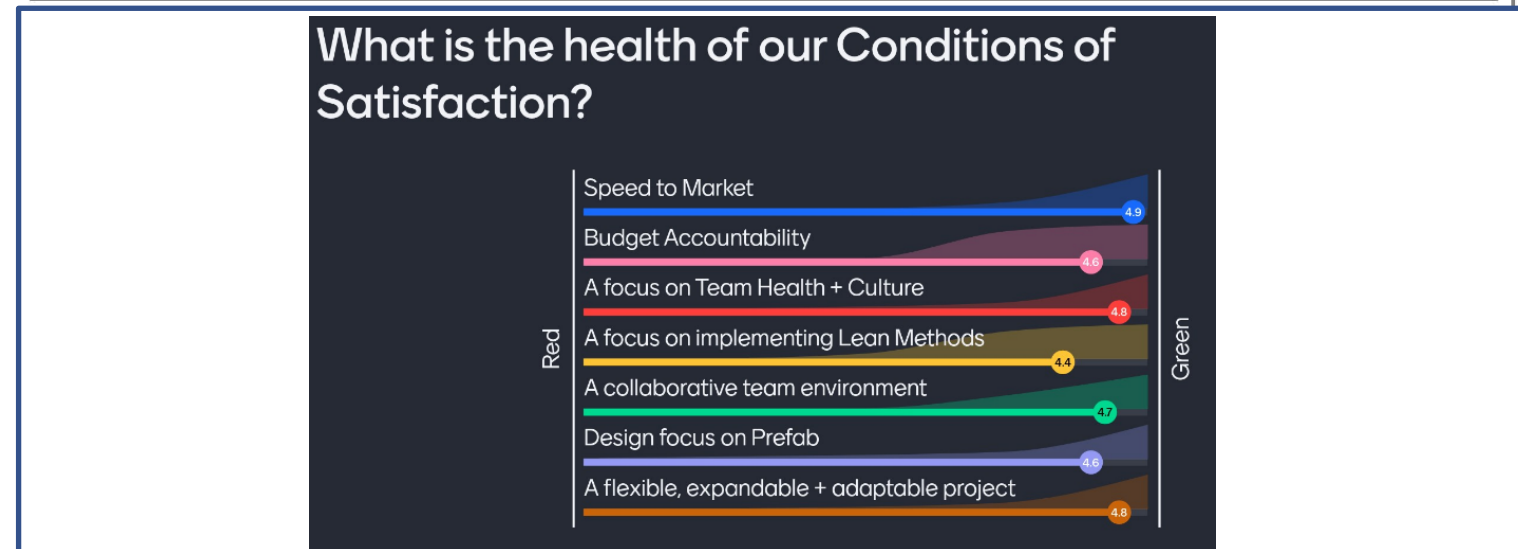
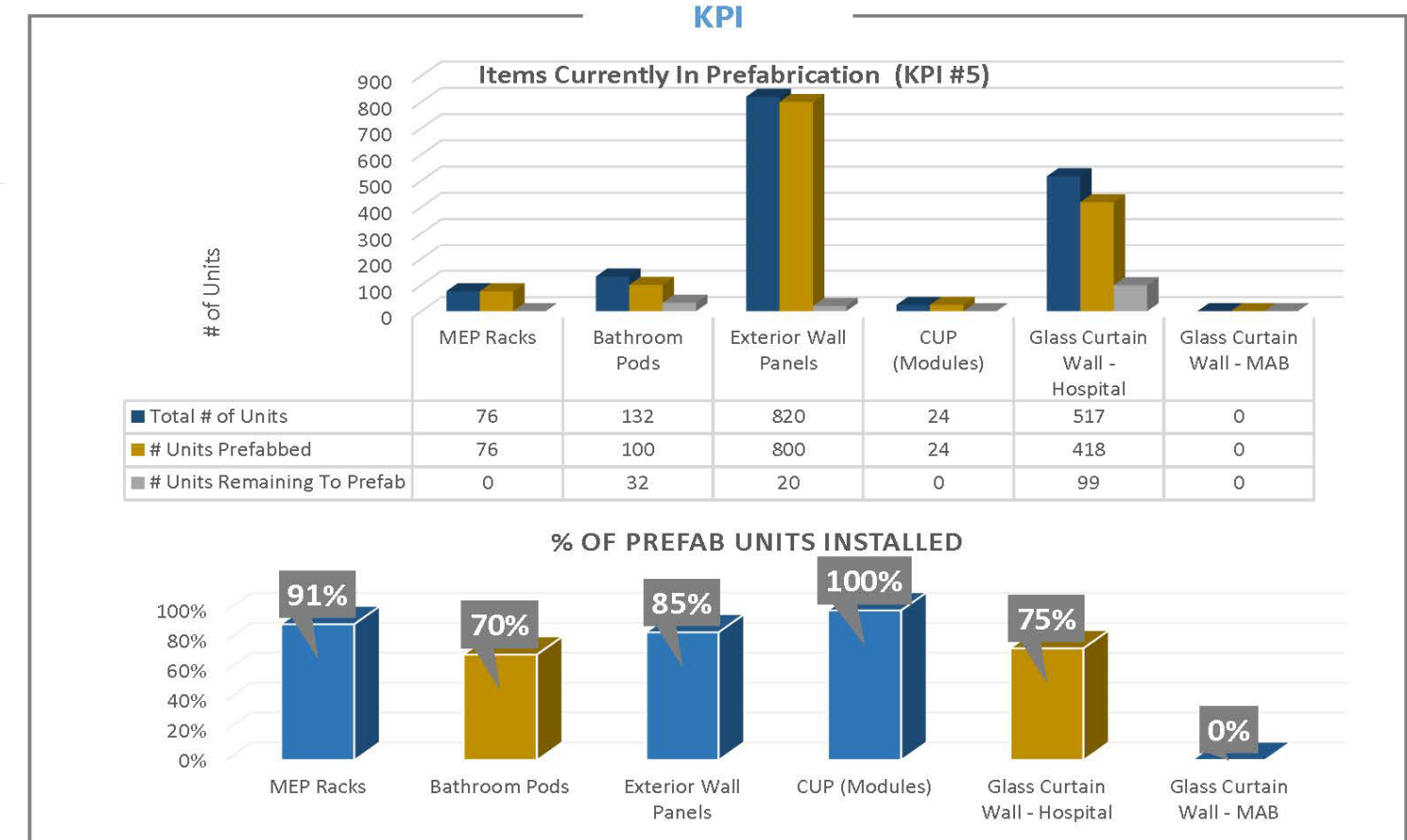
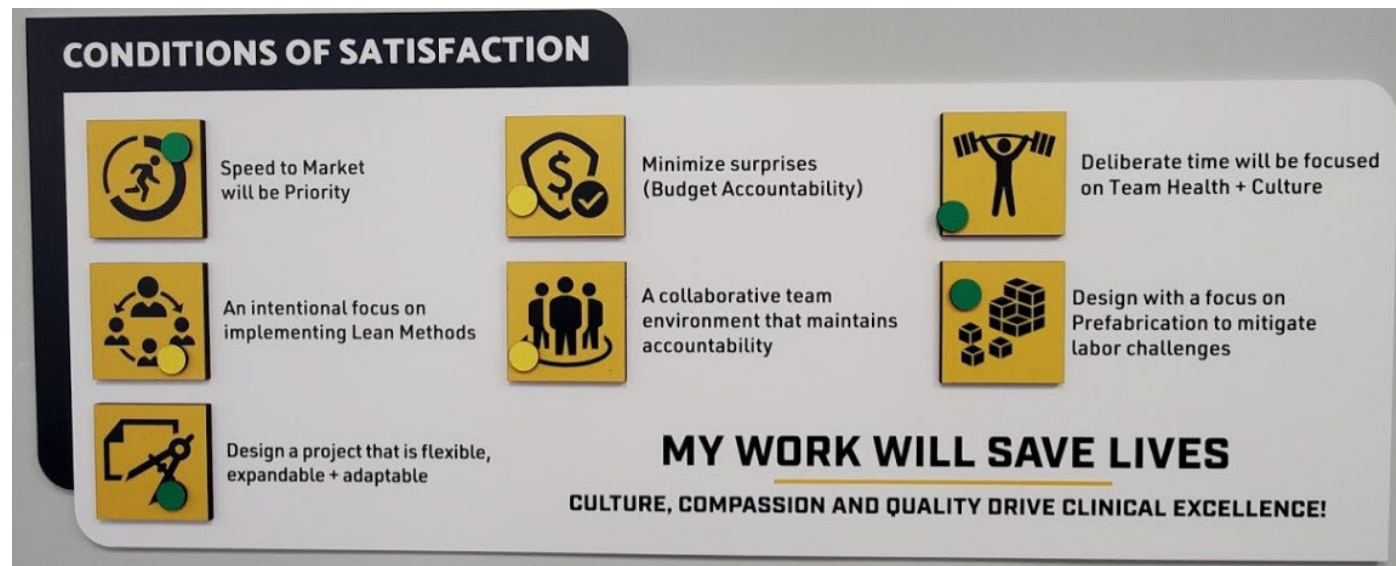
# Continuous Improvement





# Early Involvement

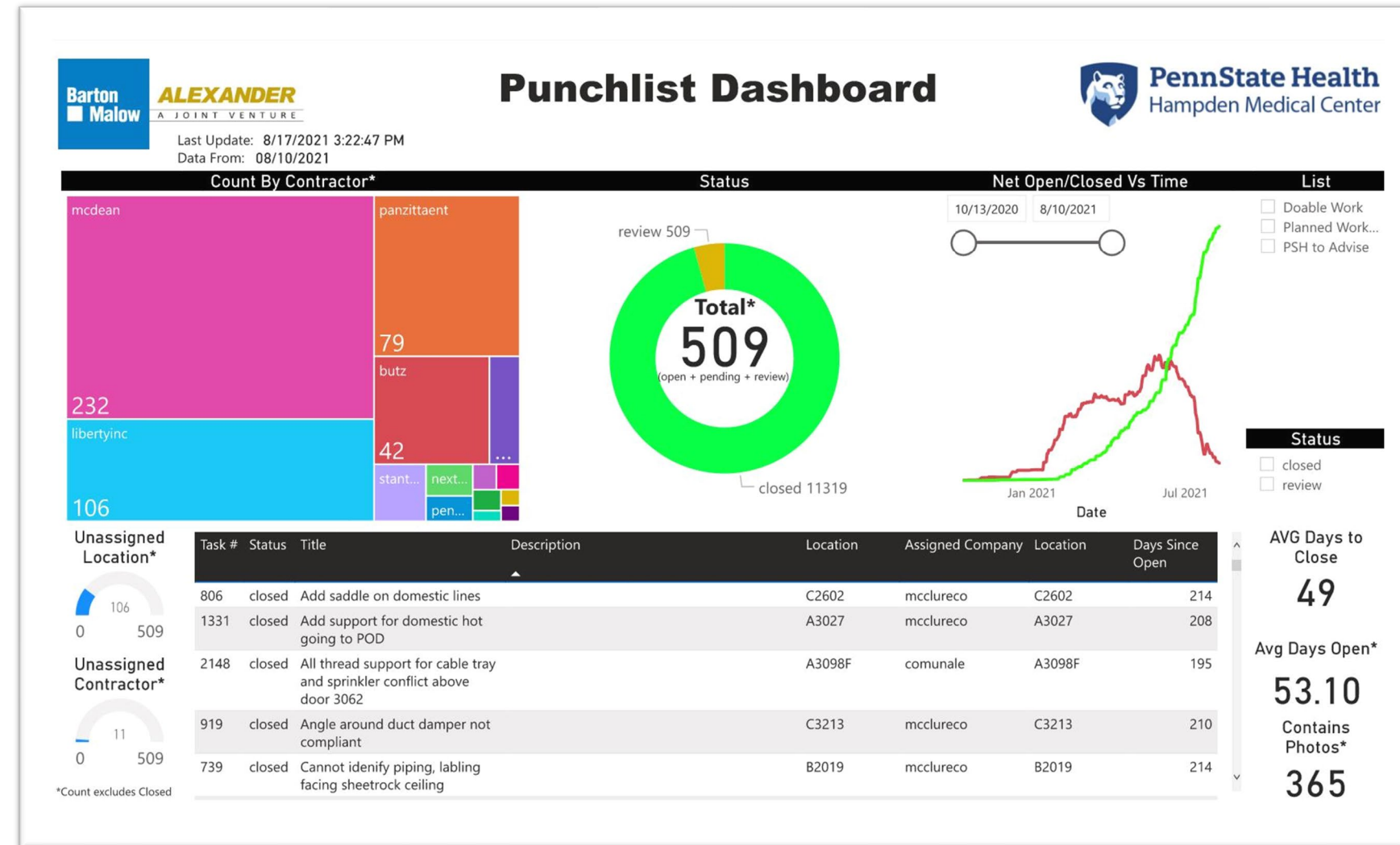
- Getting teams involved
- What fits the needs of all parties?
  - Format
  - KPIs
  - Output
- Continued assessment.





# Reach out of the norm

- New tools, Improved Outputs
- Living PDFs / Digital Dashboards
  - Quick visual References
    - Statuses
    - Lock out / tag out
    - Installation tracking
    - Testing / maintenance tracking
- Building Information Modeling (BIM)
- Virtual Information overlay in the field





# Lessons Learned

- VM is an additional way to communicate information
- Importance of real-time information improved communication led to the success of the project both financially and timing-wise
- VM creates transparency amongst the team members
- Not every technique works for every project



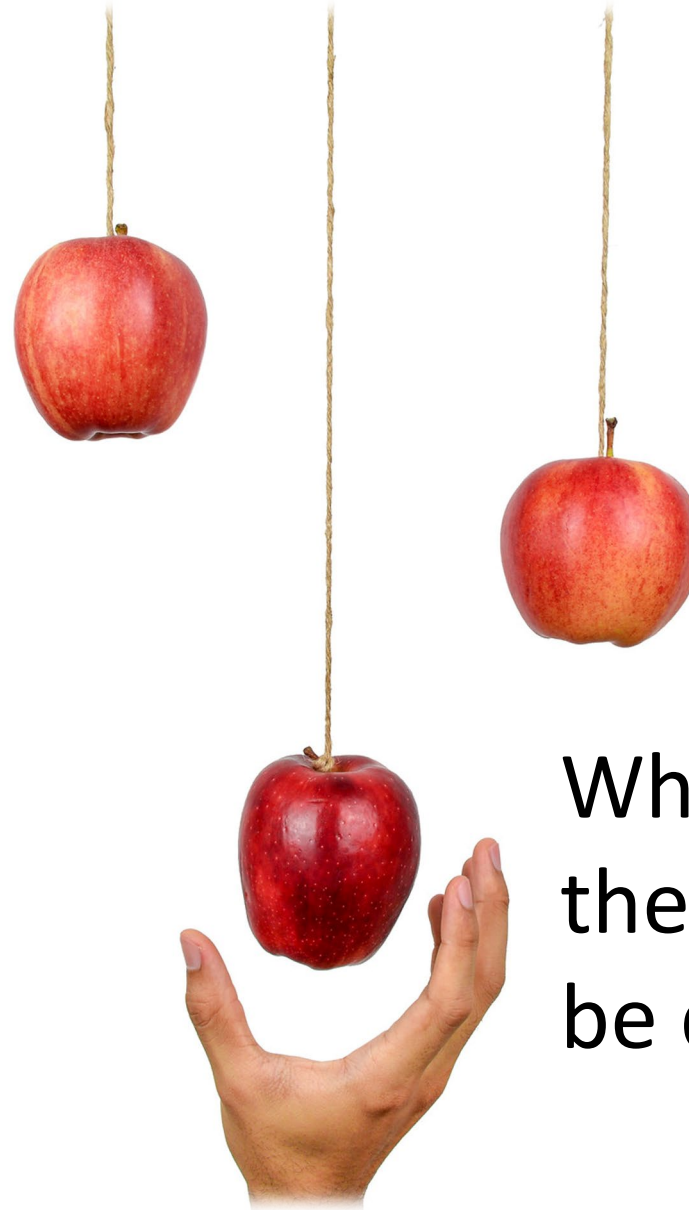
# How can you start using Visual Management tomorrow?





# Make it work for your team

What information do you want to convey?



Who needs to know the information?

Where is the best place for the Visual Management to be displayed?

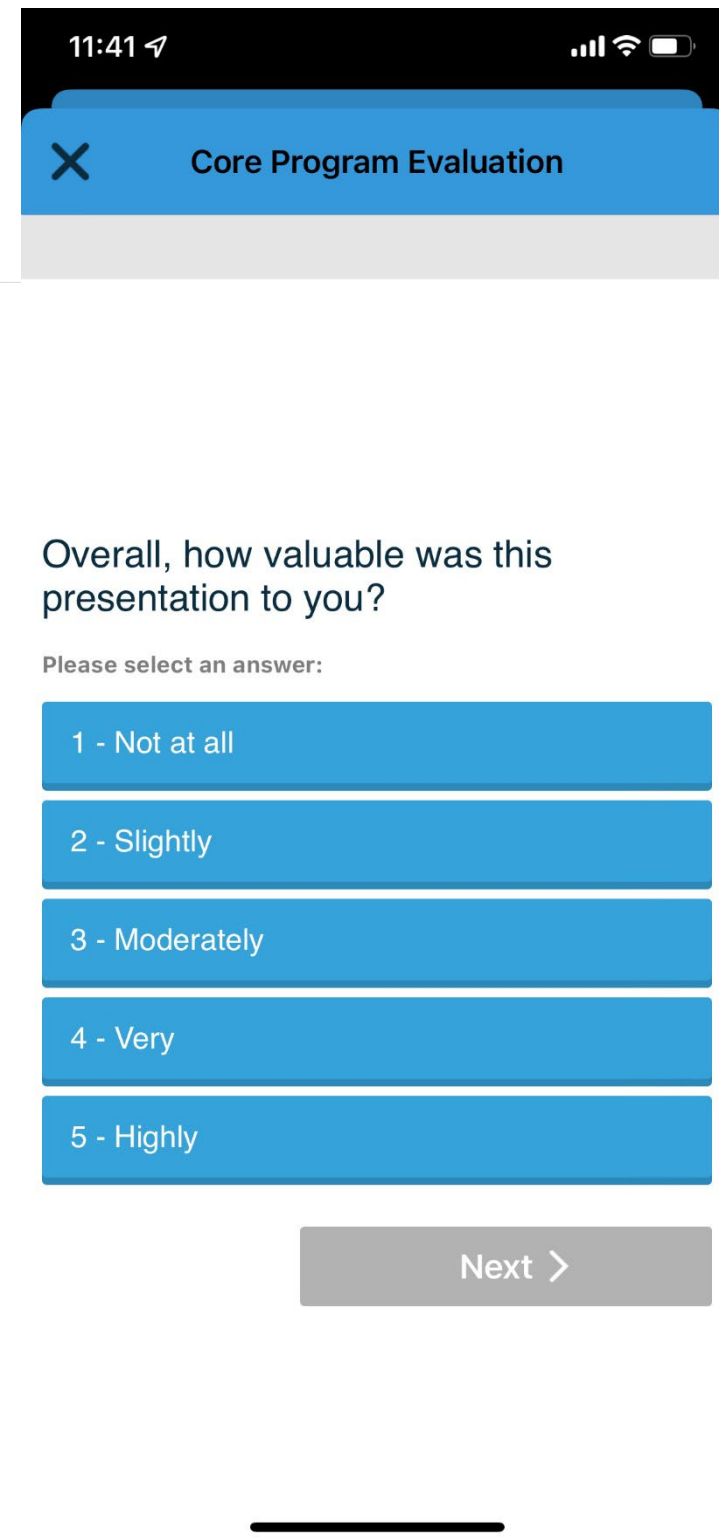
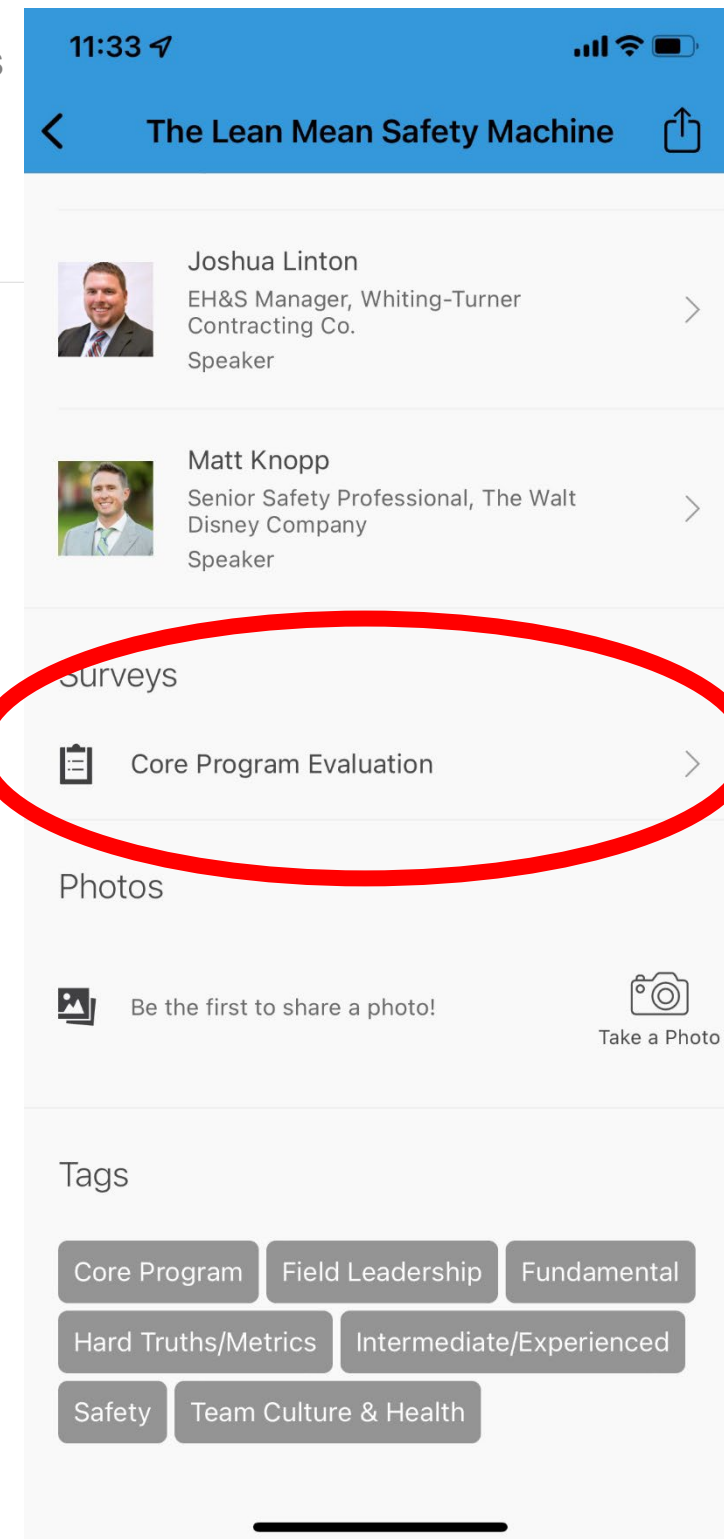


# Rate Presentations in the App

**Continuous improvement:** give presenters your feedback by taking the session evaluation!

1. Find the session under “schedule”
2. Click on it then scroll down
3. Click “core program evaluation”
4. Complete the 5-question evaluation

*This information will determine the top 5 presentation teams and the top Live Lab*







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**In the spirit of continuous improvement, we would like to remind you to complete this session's survey! We look forward to receiving your feedback.**





# Q&A and Contact Info



[tlord@pennstatehealth.psu.edu](mailto:tlord@pennstatehealth.psu.edu)





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Thank you for attending this presentation. Enjoy the rest of the 24<sup>th</sup> Annual LCI Congress!

