



AMERICAN  
SUBCONTRACTORS  
ASSOCIATION  
METRO WASHINGTON  
*THE FIRST & FOUNDING CHAPTER OF ASA*

# PROJECT MANAGEMENT FUNDAMENTALS 1

## **Instructors:**

**Lou Wicklein – Kogok Corporation**

**Ameen Khouri – Shapiro and Duncan, Inc.**





# INSTRUCTOR INTRODUCTIONS

- Lou Wicklein – V.P. Education and Compliance – Kogok Sheet Metal
  - 51 years industry experience, 20 years at Kogok Sheet Metal
  - University of MD Civil Engineering
- Ameen Khouri – Project Executive – Shapiro and Duncan, Inc.
  - 16 years industry experience
  - University of MD Mechanical Engineering & Project Management
  - DBIA, LEEP AP BD+C



# PM FUNDAMENTALS 1 AGENDA

- Attendee Introductions
- Brief History of Project Management
  - Breakout Discussion #1 – 5 Minutes
- Fundamentals of Project Management
  - Breakout Discussion #2 – 10 Minutes
  - Return for discussion
  - 10 Minute Break
- Contracts
  - Breakout Discussion #3 – 10 Minutes
  - Return for discussion
  - 10 Minute Break
- Financial Controls
  - Breakout Discussion #4 – 10 Minutes
  - Return for discussion
  - 10 Minute Break
- Technology





# ATTENDEE INTRODUCTIONS

PLEASE TURN YOUR CAMERA AND MICROPHONE ON WHILE SPEAKING

- Name
- Title
- Company you work for
- What your company does
- Years of industry and or PM experience
- What would you like to get out of the program



# THE BRIEF HISTORY OF PROJECT MANAGEMENT

- Project management dates back to the pre-modern times of the “Master Builder.”
- Master Builder has generally referred to “the head of a construction project in the Middle Ages or Renaissance period.” Was usually an Architect.
- The 1950s marked the beginning of the modern project management era where core engineering fields come together to work as one.
- Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT) came into play.
- Project Managers are of critical important to any project. They’re directly responsible for the successful completion of major buildings, infrastructure, defense projects, hospitals, etc. Without Project Managers, society would suffer, as much needed services would not exist. It takes a special skill set to execute Project Management at a high level.

# WHAT IS YOUR DEFINITION OF A PROJECT MANAGER?

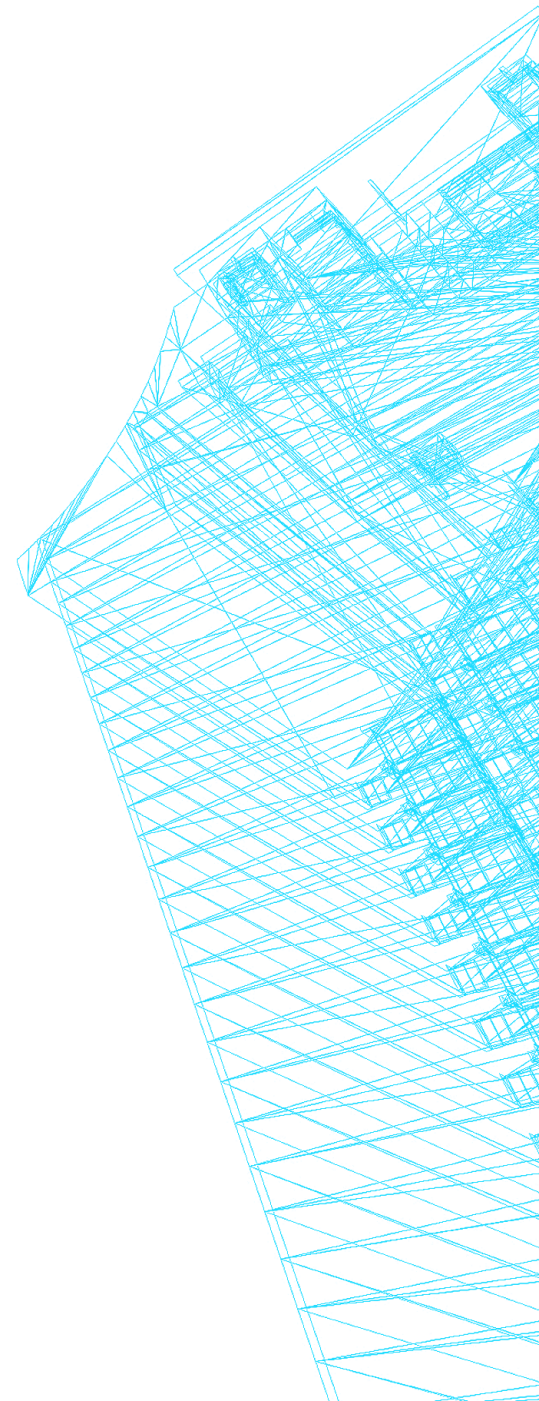
How does this apply to your specific trade and life?



# BREAKOUT #1 – 5 MINUTES

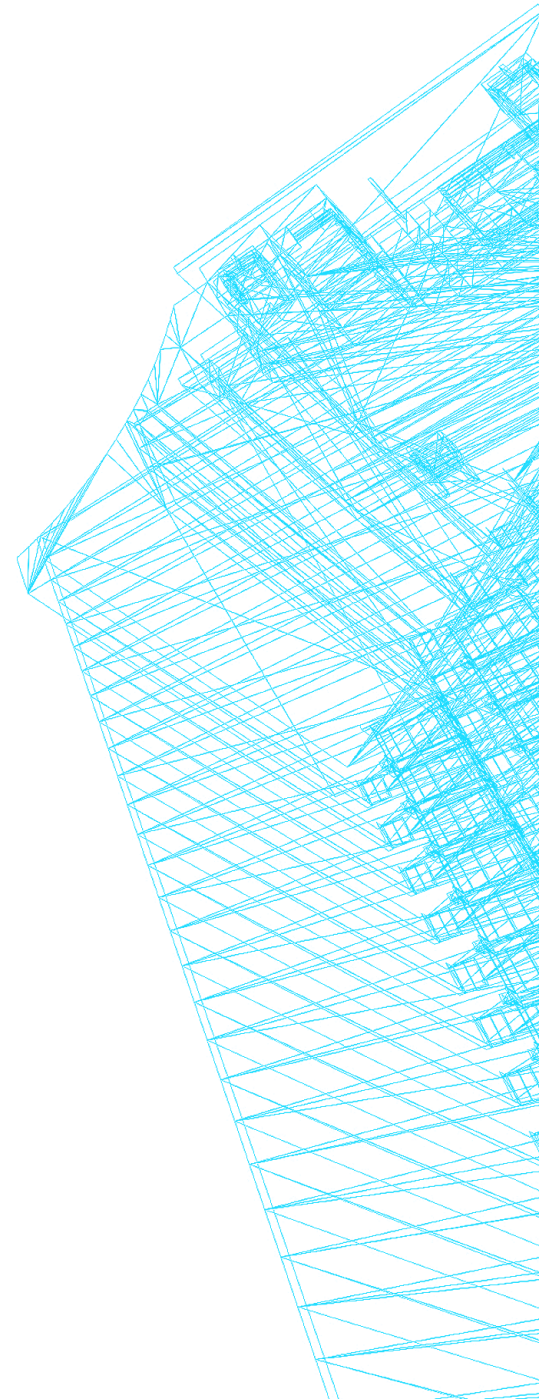
What is your definition of a project manager?

One representative from each team will report back for the group.



# DEFINITION OF A PROJECT MANAGER:

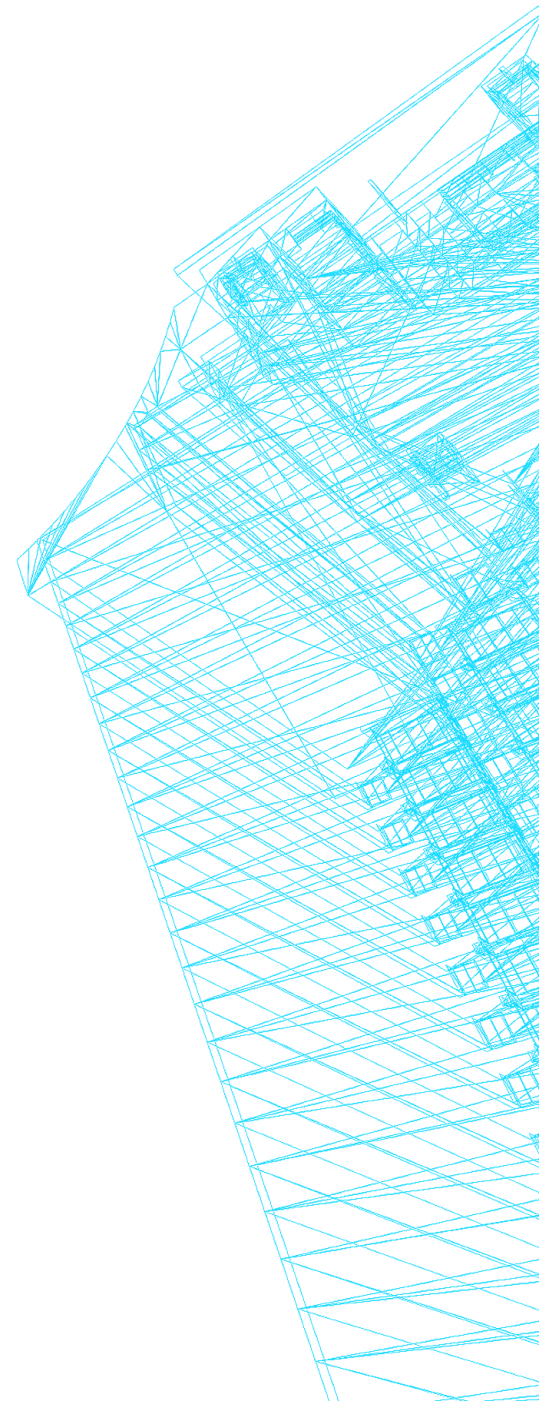
Project managers play **the lead role in planning, executing, monitoring, controlling, and closing out projects.** They are accountable for the entire project scope, communication, the project team and resources, the project budget, and the success or failure of the project.





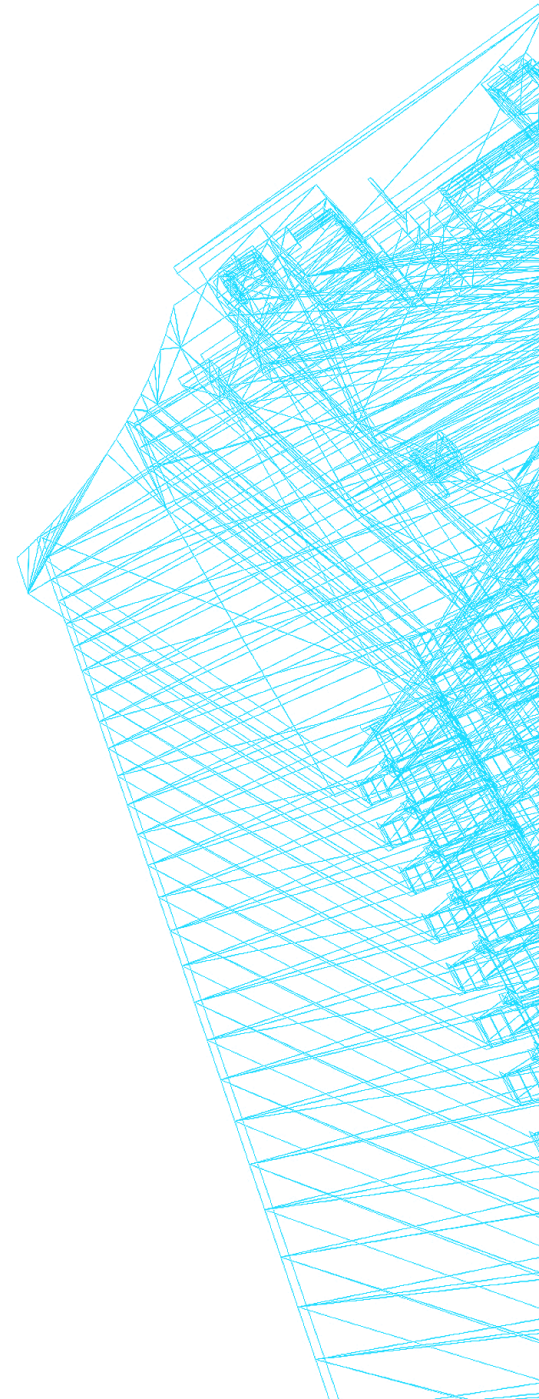
# FUNDAMENTALS OF PROJECT MANAGEMENT

- The big picture of the construction process:
  - Owner/Developer/Design Team/General Contractor/Subcontractors (all tiers)
- High level Project Management roles:
  - Leadership and team building
  - Communication – Especially during remote work – Internally and Externally
    - Ensuring you reach out to team members periodically throughout the day
  - Overall project health – contractually, financially, legally, schedule
  - Fiduciary – to act in the best interest of your firm, especially financially
  - Direct, personable communication with your field team and client
  - Planning and problem solving
  - Client management – building relationships for repeat business
  - Getting the job done on time!



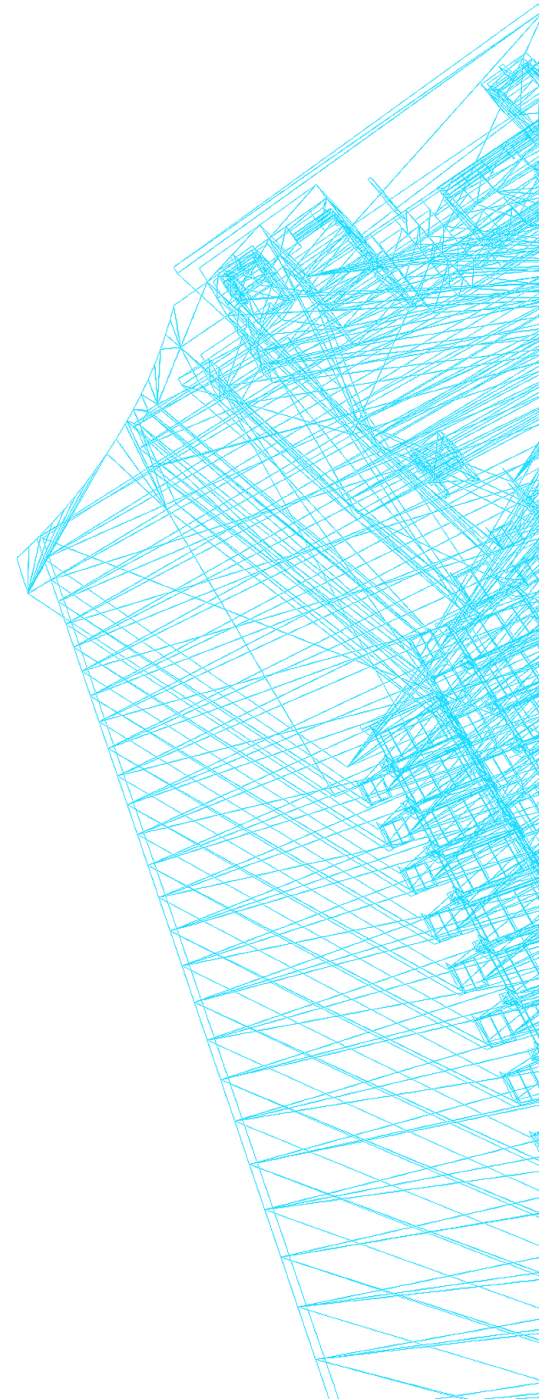
# A PROJECT MANAGER'S ROLE CONTINUED

- Common aspects of project management:
  - Know your jobsite and your team onsite.
  - Understand your scope. This is the risk you are assuming and it needs to be understood thoroughly. What do you owe and as importantly, what don't you owe?
  - Read your ENTIRE contract. Multiple times. Yes, even the boilerplate.
  - Project start up: Executed Contract, Subcontracts, Bonds, Certifications of Insurance, Schedule of Values, Jobsite Certifications (welding, drug tests, safety training), PCO Rates.
  - Submittals: Start with long lead items (major equipment) or material that will be needed for installation first. Ensure that submittals contain ample detail and comply with specifications.
  - Submittal Register: A list of all submittals you plan on sending to the client.
  - Specifications: Take time to read all relevant spec sections to your work. Specs are broken up into three sections: section 1 is general, section 2 details product data and section 3 stipulates execution.



# A PROJECT MANAGER'S ROLE CONTINUED

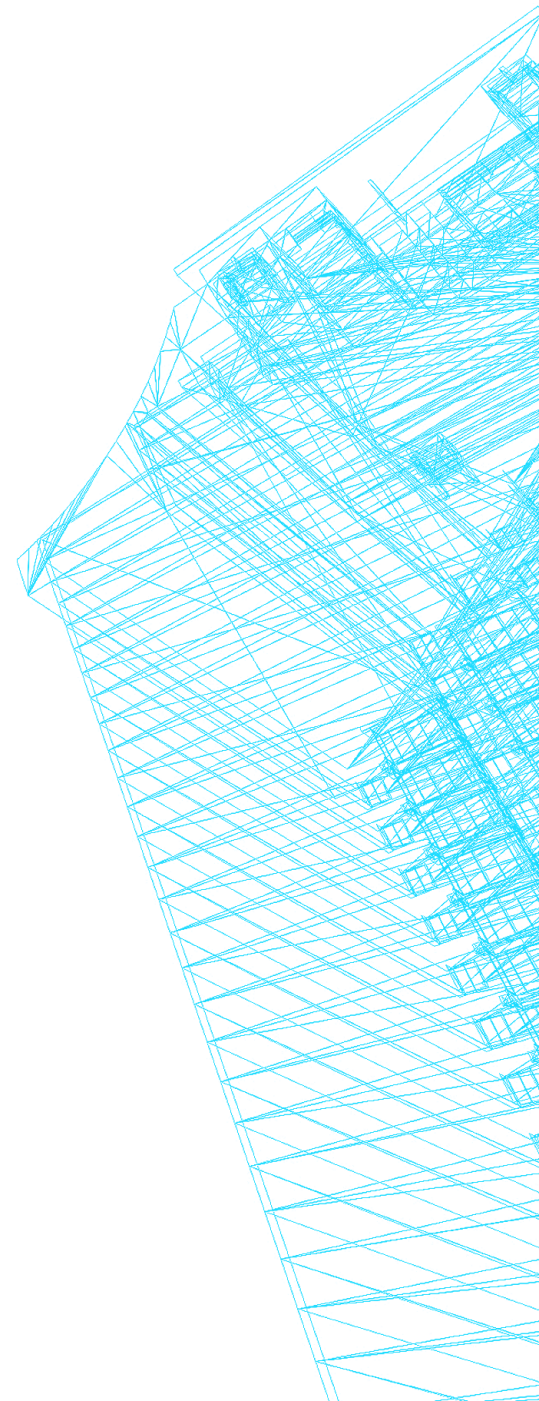
- Common aspects of project management:
  - Requests for Information (RFIs): Questions that you ask the client and design team. Writing RFIs is an art, the wording can put you in position to recover costs on errors and/or omissions.
  - Spending time early to review the contract documents and issuing RFIs is critical in ensuring productivity.
  - Coordination...Building Information Modeling - "BIM" (more on this later): Participate fully and provide ample detail.
  - Change Orders: Submit overwhelming detail of what's changed (marked up PDFs are excellent) with an in depth narrative. Make it so easy that a layman (Owner's rep) can understand it.
  - Project Closeout: Inspections, Certificate of Occupancy, As-Builts, Attic Stock, Commissioning, Owner Training.



# BREAKOUT #2 – 10 MINS

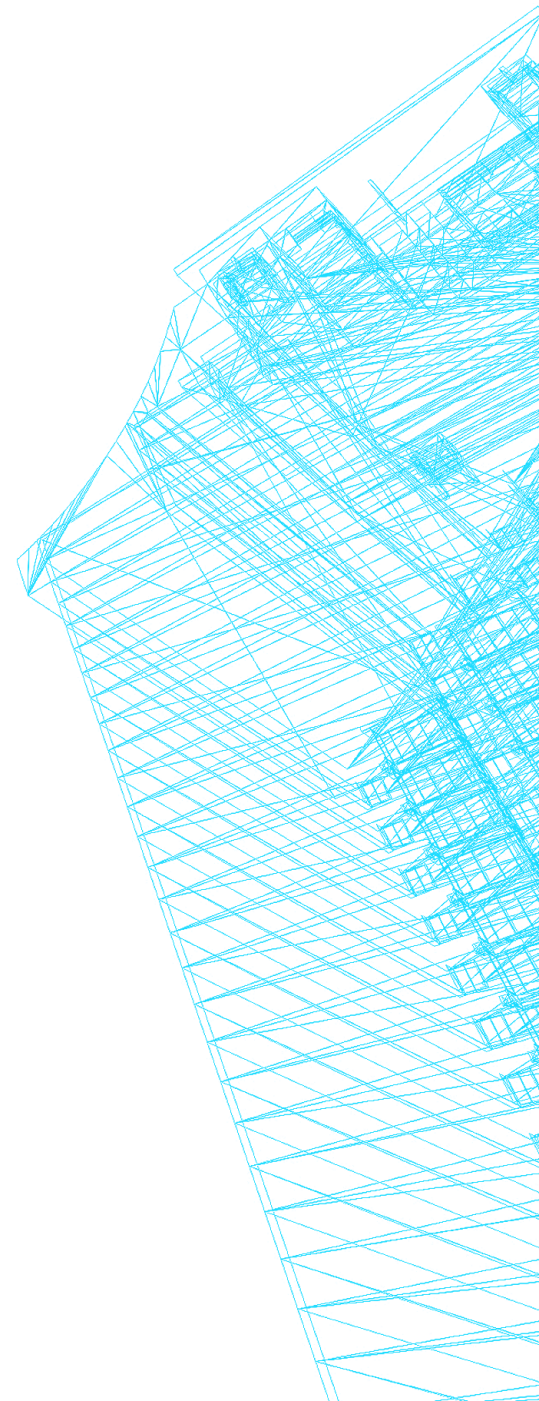
- What was your major takeaway(s) about the fundamentals of Project Management?
- Give an example of how you've used these fundamentals on one of your projects.

One representative from each team will report back for the group.





**10 MINUTE BREAK**

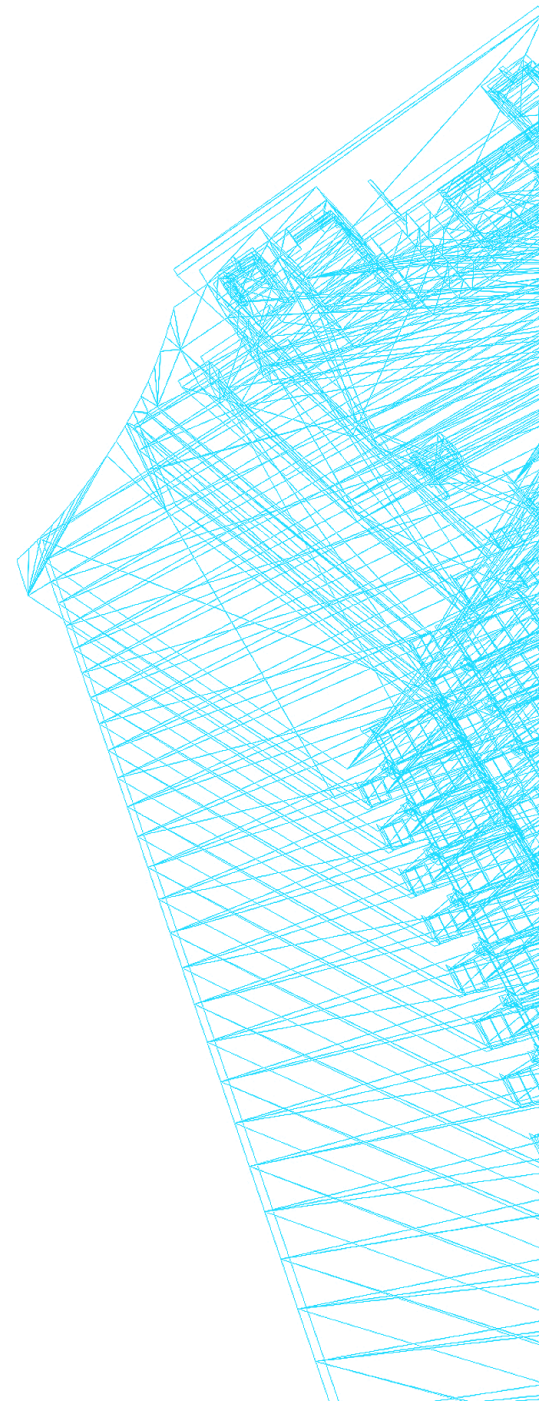


# CONTRACTS



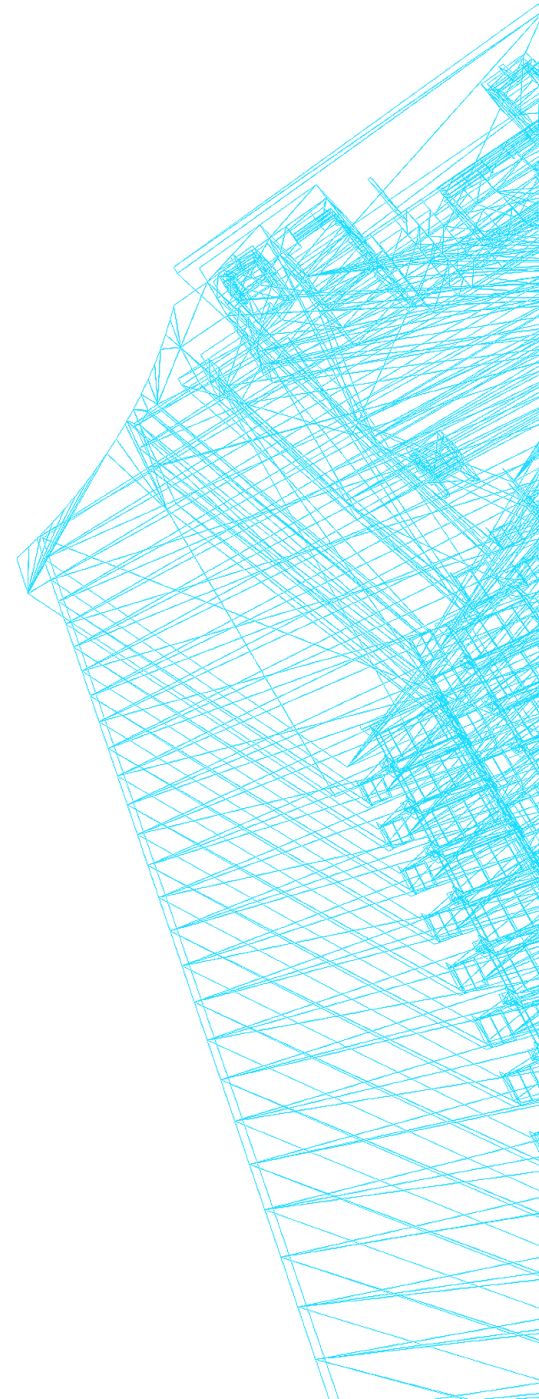
# CONTRACTS - MAJOR ELEMENTS

- Your contract is one of the major features of a project. READ IT ENTIRELY– NO EXCUSES.
- A contract contains multiple key sections:
  - General Terms and Conditions (Ts&Cs) – Sets the guidelines for all aspects of the project. Termination, Delays, Payment, Bonding, liens, etc.
  - Scope of Work – This is the GC or Owner transferring risk to your firm. What have you agreed to and what do you owe? Also referred to as Qualifications, Inclusions and Exclusions.
  - Exhibits – An exhibit can detail any major feature of the project’s requirements: safety, drug testing, jobsite logistics, etc.
  - Addendum – supplements to the contract that usually involve some sort of scope and or cost revisions.



# CONTRACTS - MAJOR ELEMENTS CONTINUED

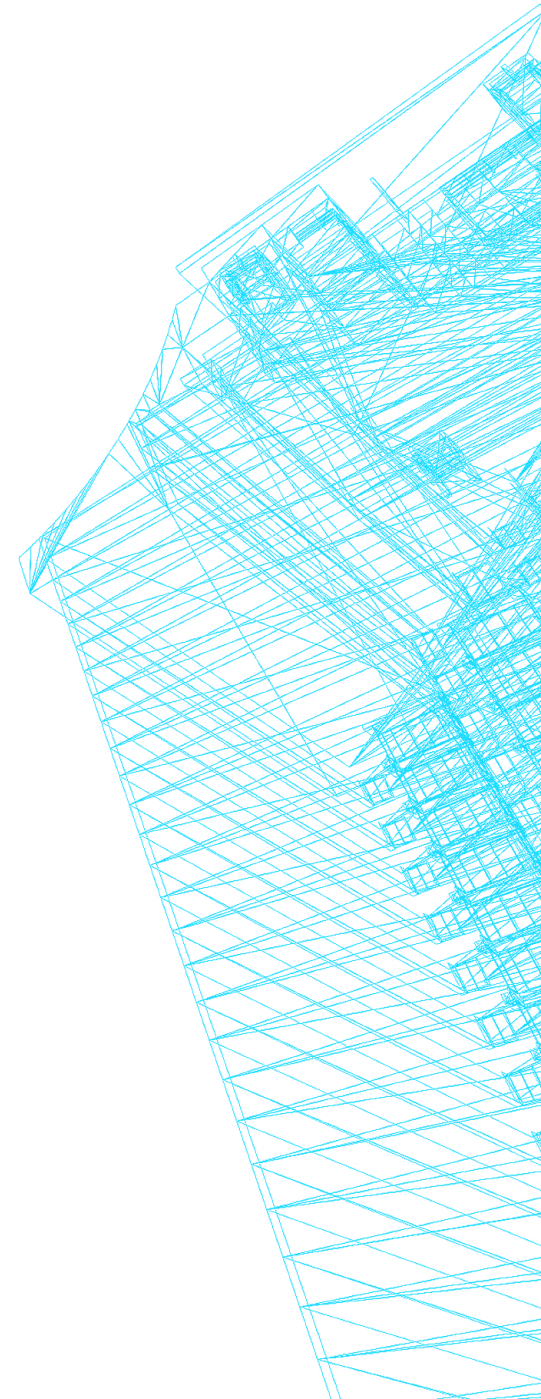
- Flow down clauses: Clauses and or requirements that the GC must abide by, and by default, all subcontract tiers can be held to.
- Because of this, it is critical that you ask the GC for a copy of their contract with the owner. Most GC's understand this and will comply with no issues, although some of the contract may be redacted.
- Examples:
  - Maximum amount of mark up allowed on change orders
  - Time required to give for notice of impacts
  - Buy America or American
  - MBE Goals





# CONTRACTS - MAJOR ELEMENTS CONTINUED

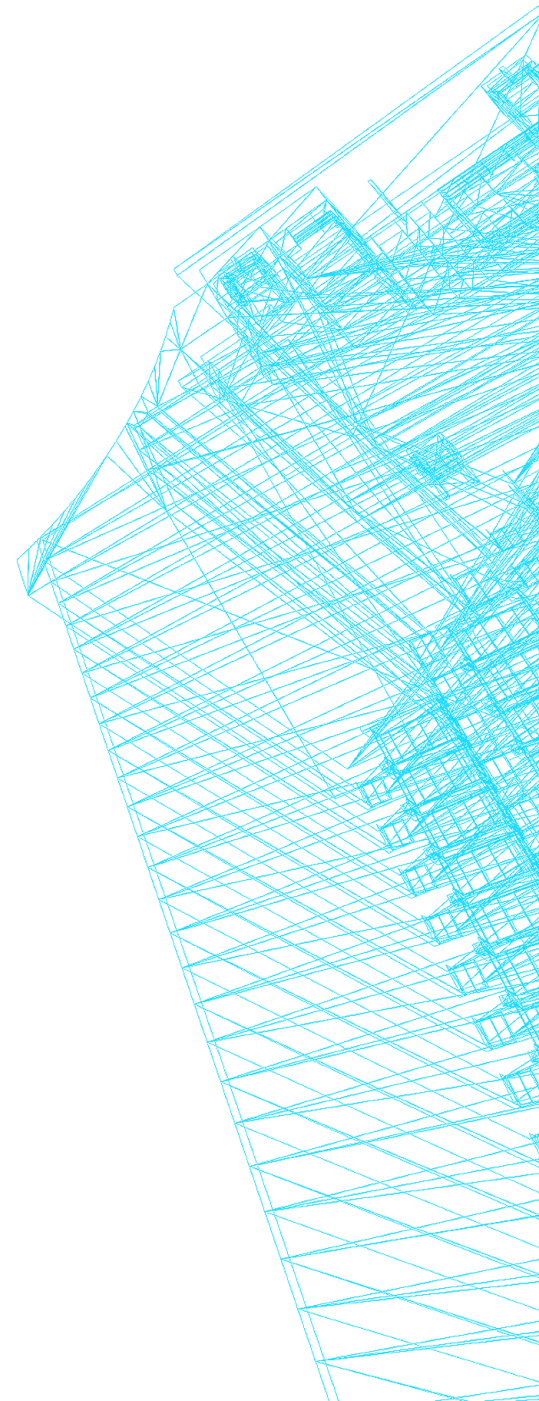
- Major Types of Contract Delivery Methods:
  - Design – Bid – Build : “Traditional” method of contracting. This includes the Owner hiring design consultants who produce a design, the design is then put out to bid, a winning contractor (General Contractor or Construction Manager) is selected and the project is built on a “lump sum” basis.
  - Design - Build: The Owner selects a “Design Builder” who performs both the design and construction of a project. This means that the contracting and designers are on the same contract. The job is conceptually estimated based on project requirements and the design team is held to that number usually under a guaranteed maximum price agreement. The Owner loses some control as the design team can make decisions that are cost effective but meet the Owner’s requirements.
  - Design – Assist: A new method being used by Owners to keep control of the project and force some skin in the game for Contractors to take on design risk. This is being done very poorly in the marketplace and requires effort and skill to pull off well.



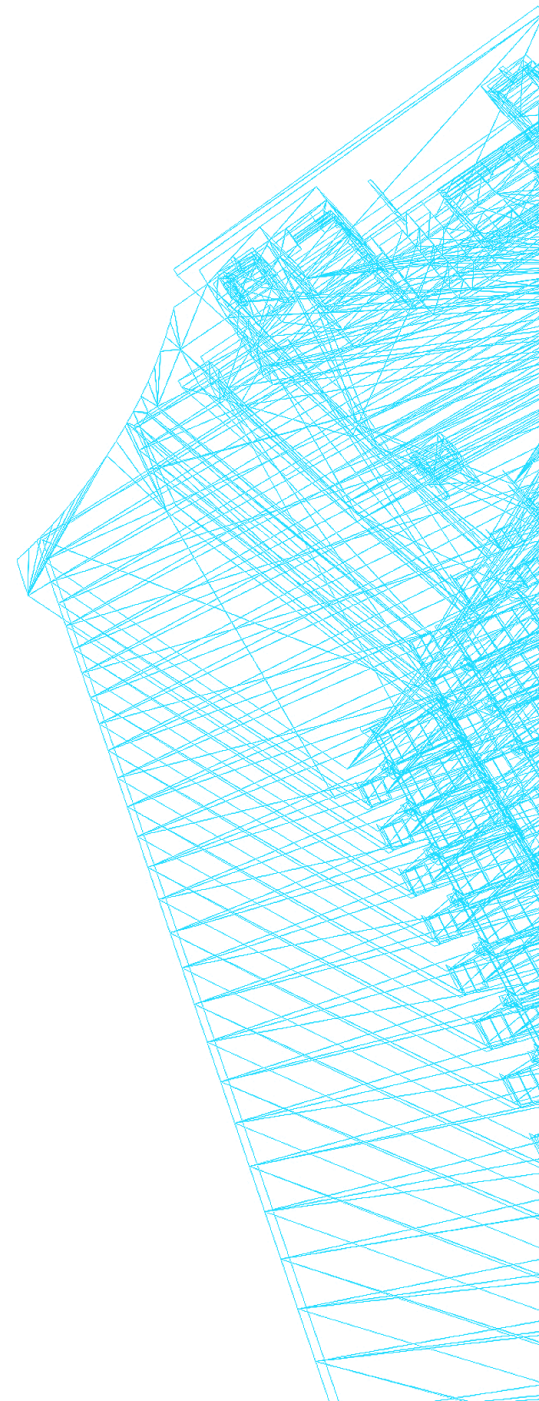
# BREAKOUT #3 – 10 MINS

- What are the major elements of a contract that a Project Manager should be aware about?
- Name one instance where you were hurt or helped by a contract clause on your project(s).

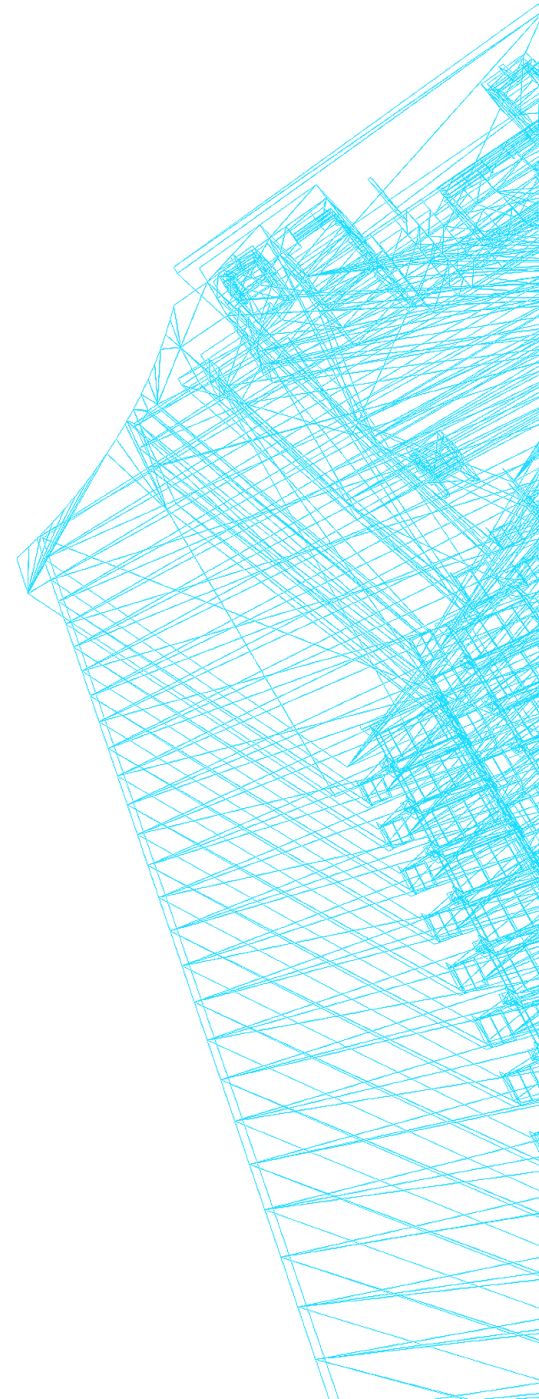
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**10 MINUTE BREAK**



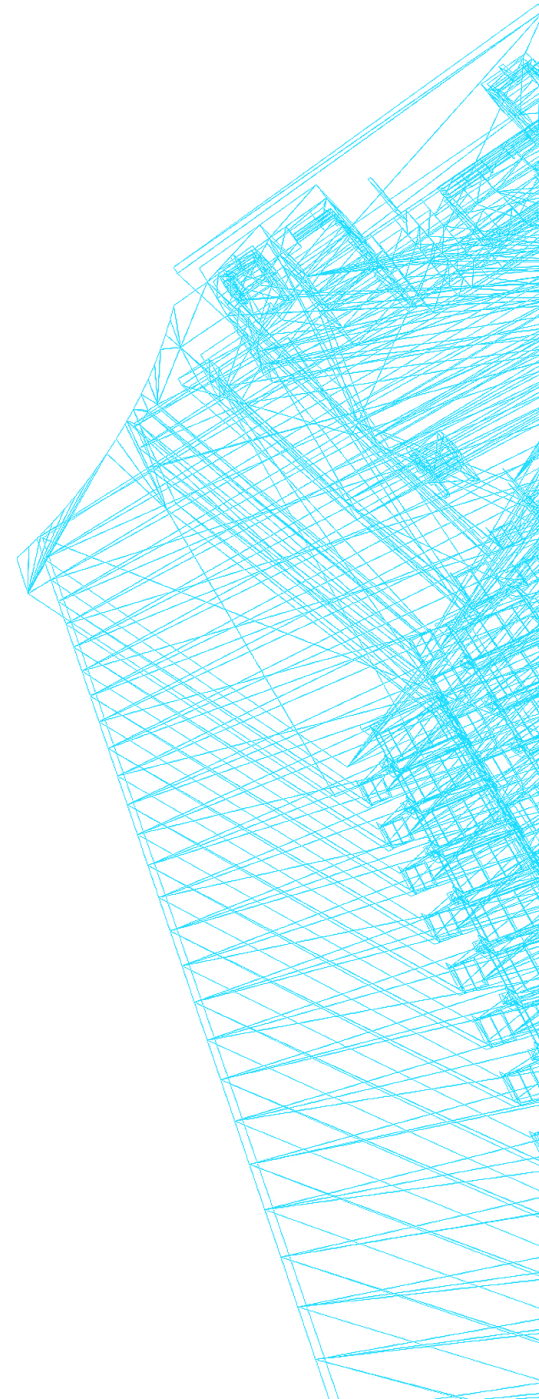
# FINANCIAL CONTROLS





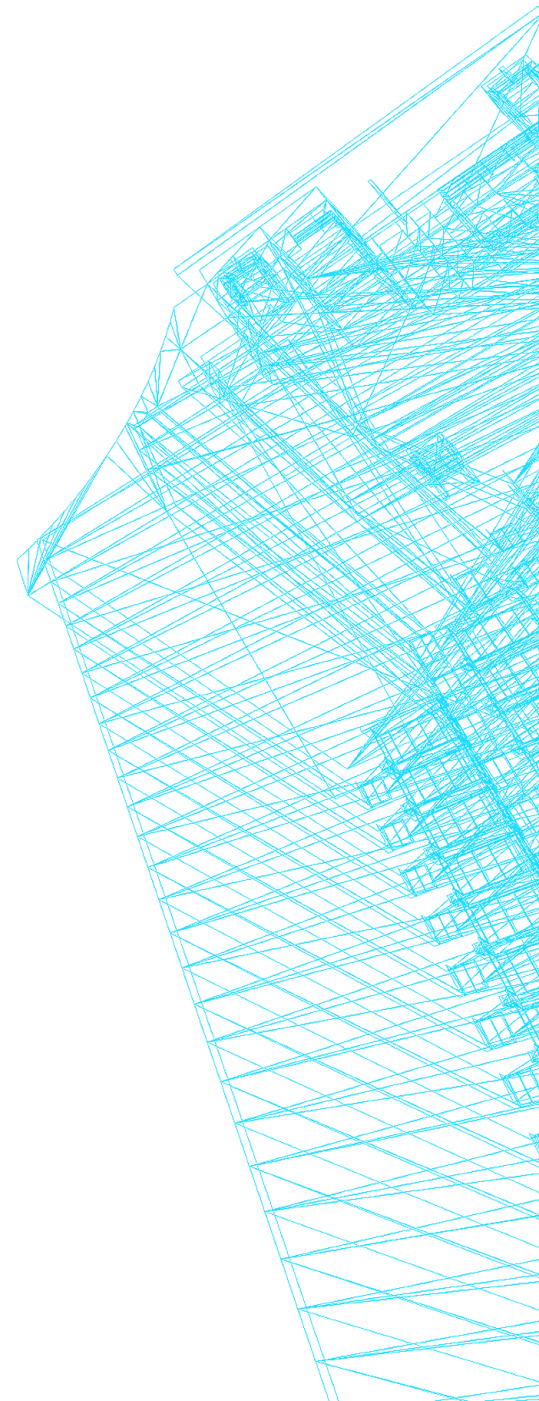
# FINANCIAL CONTROLS

- Ensuring the financial health of the project is a major responsibility of a Project Manager.
- Ownership is expecting you to keep an eye out on cost, billing, cash flow, invoices, payments and profitability.
- Each project begins with an estimate which translates into a budget. If you can, ask to assemble the budget from the estimate as a way to learn the job.
- Many firms utilize their own method of “Work in Progress” reporting. These reports are often created monthly to track the financial status of a project. By having a detailed budget, you can see how many hours were allotted to a specific area and monitor if you’re going to go over. You can also use this information to project where the job will finish.



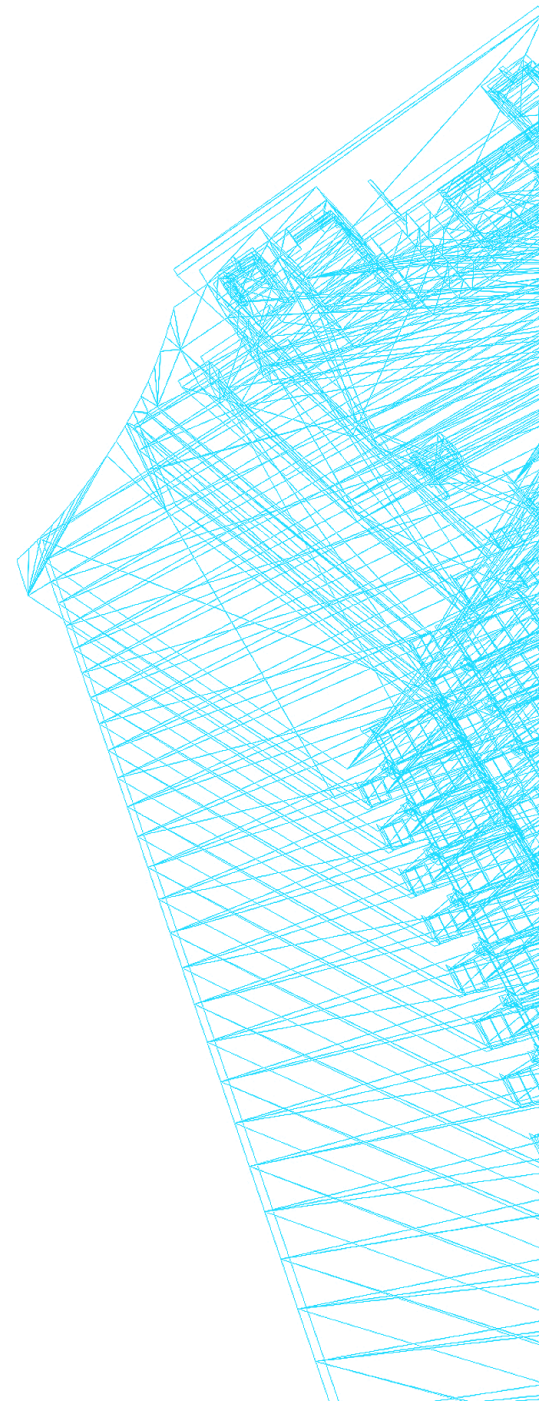
# FINANCIAL CONTROLS CONTINUED

- An important part of being a fiduciary is assembling a Schedule of Values (SOV) that promotes being cash flow positive. In essence, this means that you assign values to tasks at the beginning of a job that you can bill immediately so you are never spending more than what's coming in monthly.
- Requisitions (also known as Reqs, invoices or bills): Normally submitted monthly per the Owner's timeline. Missing a monthly req is a cardinal sin as a PM. The company is counting on you to keep the lights on!

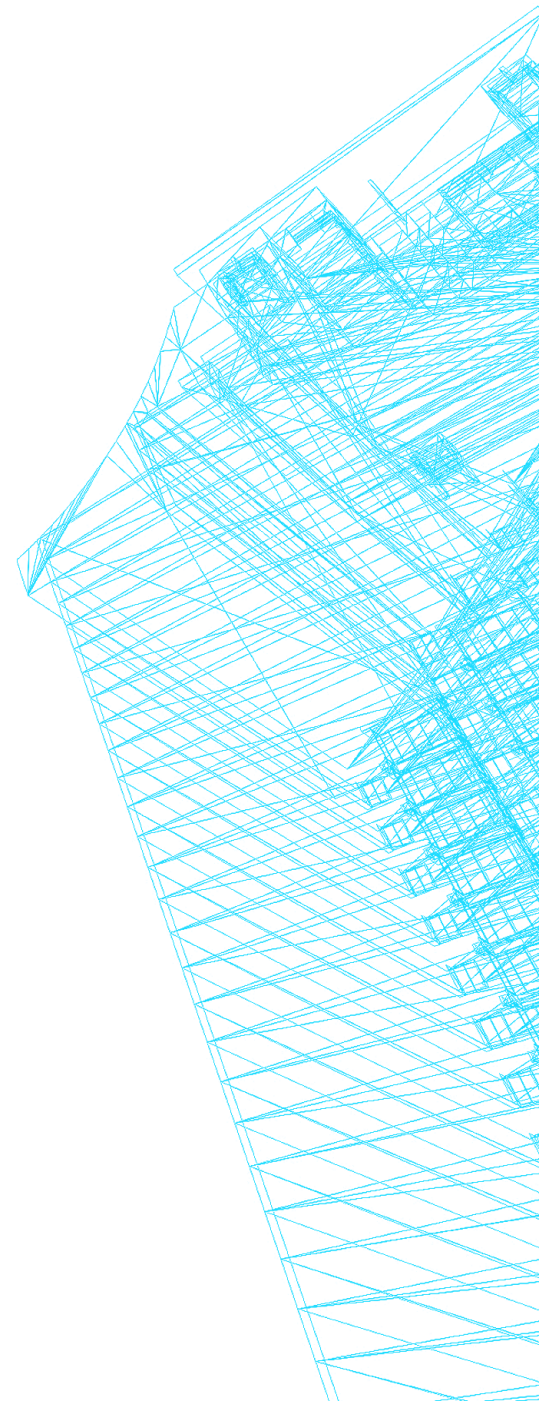


# FINANCIAL CONTROLS CONTINUED...AGAIN

- Pricing change orders and pursuing payment becomes a big deal on larger jobs. It's risky to perform sometimes millions of dollars of extra work and not being paid for years.
- Lien Rights – As a contractor, the most powerful tool we have in our belts to pursue money owed to us is what's known as a “mechanics lien.”
- Mechanics Lien - Legal documents that essentially reserve the rights of the filer to seek unpaid compensation. They are usually filed by contractors, subcontractors, or suppliers that never received payment for work that they performed or materials that they provided on the property.
- You are filing a claim in the court system saying you have financial rights to the physical property. The Owner may decide to take out a bond to cover the lien to protect their property.

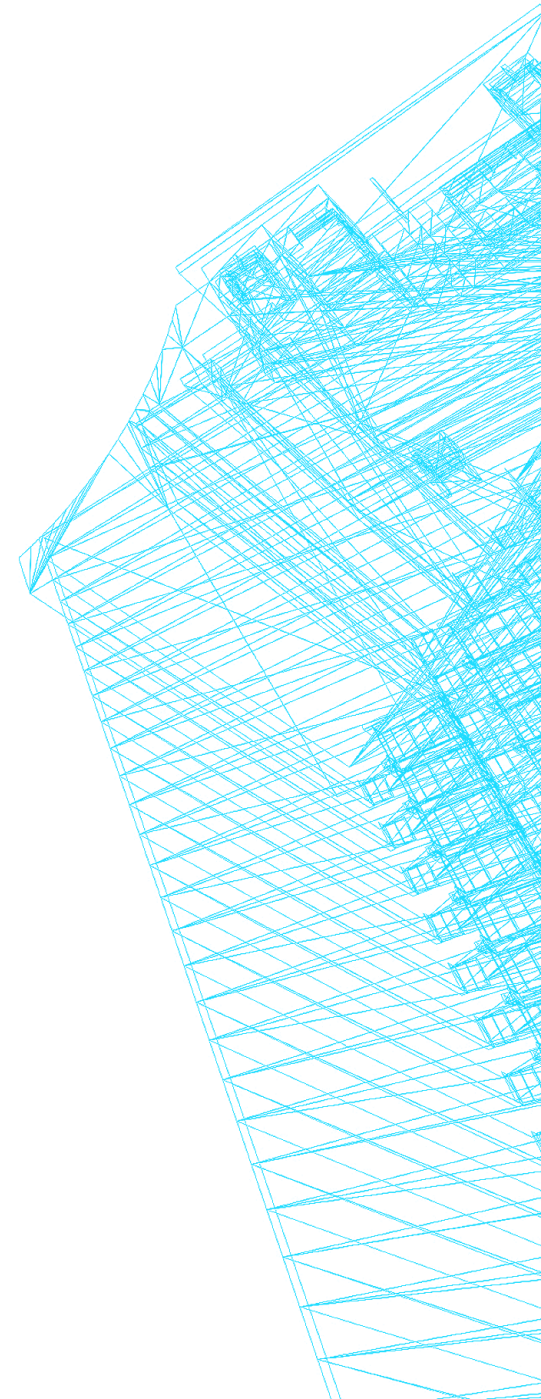


**10 MINUTE BREAK**





# TECHNOLOGY



Hospitals  
 Offices  
 Resorts  
 Retail  
 Residential  
 Education  
 Data Centers  
 Infrastructure  
 ...

Detailed Design

Structural Analysis

Human Analysis

Solar Analysis

Clash Detection

Quantity Takeoff

# BIM

(Building Information Modeling)

is used for:

Marketing

Logistics

4D Simulation

Facilities Management

Procurement

Virtual Reality

Mixed Reality

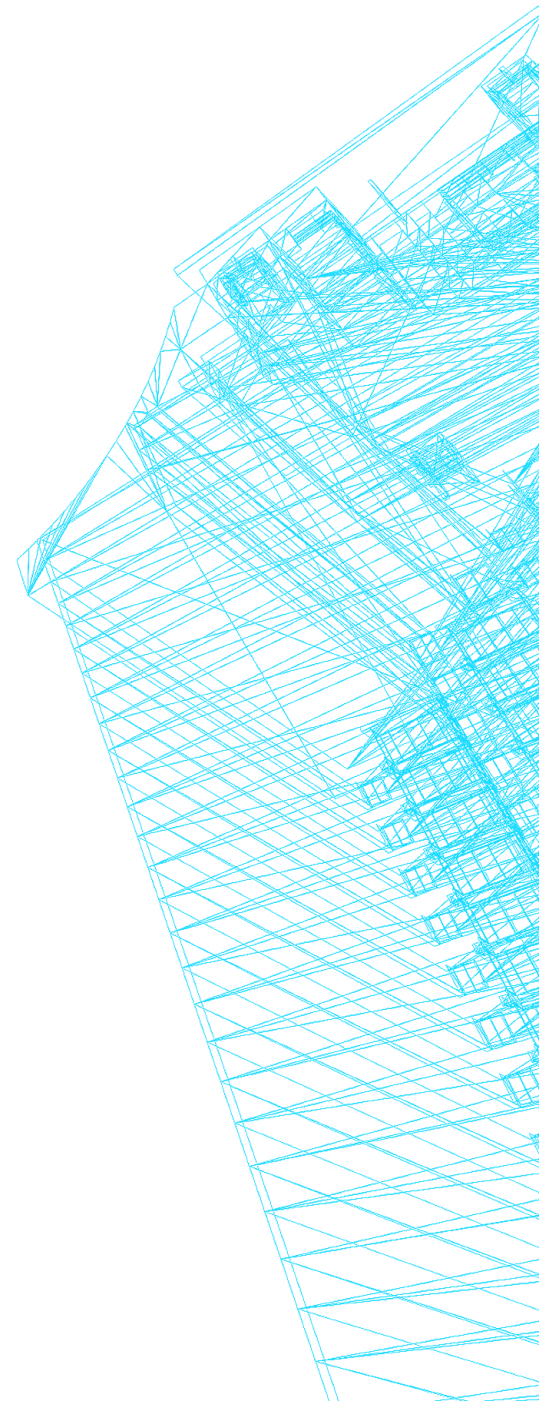
Augmented Reality

Lower costs	Faster delivery
33%	50%
Lower emissions	Improvement in exports
50%	50%



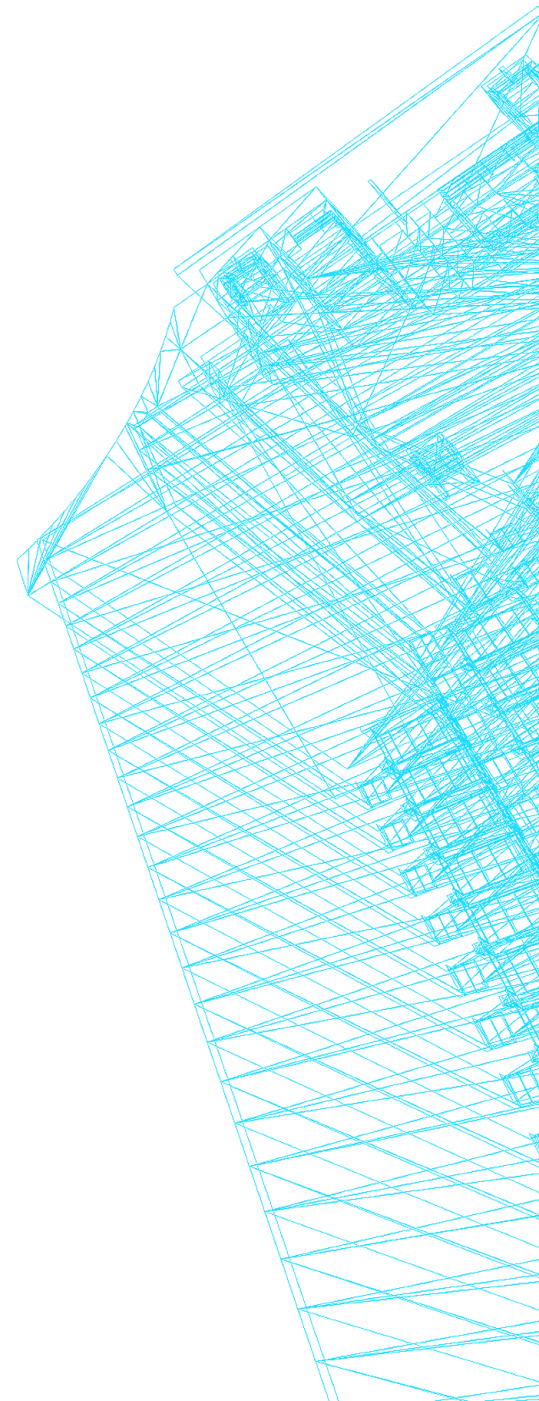
# TECHNOLOGY

- Over the last 10-15 years, the role of technology in project management has changed drastically.
- Almost all major projects now require Building Information Modeling (BIM) as a planning tool and deliverable.
- When used correctly, BIM can be a major asset in conceptualizing, identifying and resolving problems before they manifest. However, this requires ALL trades to be engaged in the process and submit accurately and timely information up front.
- A major fallacy of the BIM process is that it's supposed to catch everything and have an answer. The truth is that we don't get enough participation from the design team down to AV contractor for this to be true. We still struggle in crowded spaces and have to make field alterations.



# TECHNOLOGY CONTINUED

- Software used to support BIM: Most designers work in Revit to create the model but Auto Desk is still popular. The model itself is sent as a .NWD file and Navisworks is used to view it and “fly through”. Becoming accustomed to the software will be very beneficial when working to conceptualize solutions or work with your teams.
- Other than modeling, cloud based Project Management software has become very prevalent. Procore, Kahua, BIM360 and Prolog are all big players.
- This software makes viewing drawings, sending RFIs, transmitting files very easy. But a new trend has emerged where people rely on software for communication and it’s causing a lot of issues on jobs. Never rely on the software for critical communication and ALWAYS pick up the phone and call. You can then follow up with an email.







# Summary

- A Project Manager is a leader who is tasked with the over all health of a project.
- Ownership considers you to be the authority and ensure that the project is in good shape financially and from a progress standpoint.
- If issues present themselves, you need to be on top of them and provide timely notice to all involved parties.
- You are the face of your company to the client and how you conduct yourself matters.
- Communication is essential, there's no such thing as over communicating.
- Develop a strong relationship with your personnel onsite and let them know you are engaged and willing to help whenever needed.



# Questions/Takeaways?