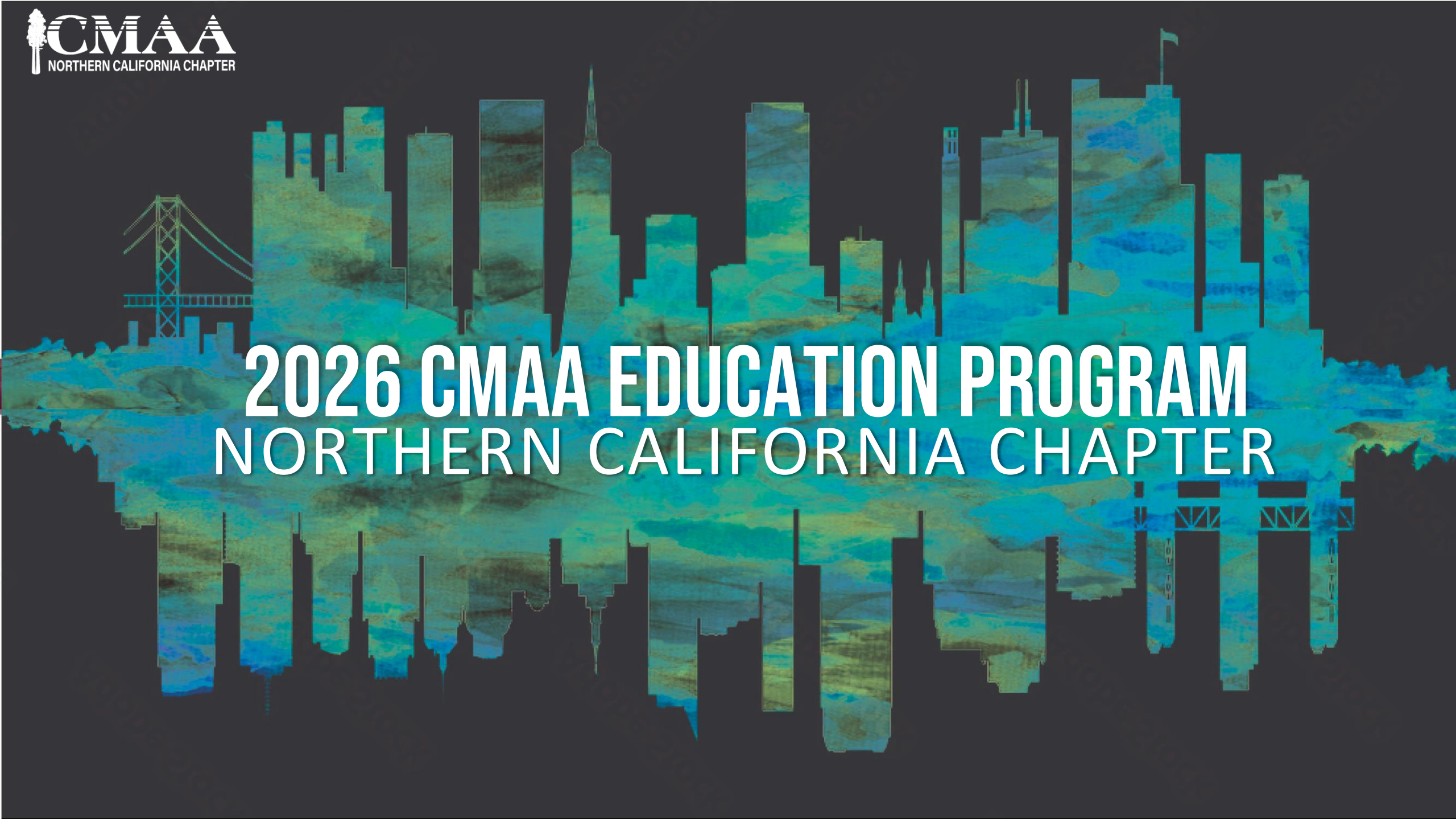
CMAA
NORTHERN CALIFORNIA CHAPTER



2026 CMAA EDUCATION PROGRAM
NORTHERN CALIFORNIA CHAPTER

CMAA NORTHERN CALIFORNIA CHAPTER

UPCOMING EVENTS

Young Professionals Paint, Sip & Trivia Night

Fri, Apr 17 | 4510 Hubbard St

In-Person Professional CM Course

Tue, Apr 21 | May Lee State Offi...

CMIT / YP Site Tour -Fresno State University: Affordabl…

Wed, Apr 22 | Fresno State: Stu...

Owners' Night, in association with ACEC Bay..

Thu, Apr 23 | MTC

Member Appreciation Event: TOPGOLF Burlingame

Thu, Apr 30 | Top Golf, Burlingame

Awards Gala and Industry Celebration

Thu, May 14 | BlackHawk Museum

EDUCATION WEBINAR - Reality Capture

Thu, May 21 | ZOOM Webinar

2026 Past Presidents Golf Tournament

Thu, Aug 27 | Chardonnay Golf ...

SPONSOR & BOOK YOUR HOTEL !!

CONTINUING EDUCATION **CREDIT**

A credit value is assigned to CMAA courses and seminars in units of Professional Development Hours (PDH), Learning Units (LU), and CCM Recertification Points. CMAA guarantees that course material meets the minimum requirements for a PDH, which is 60 minutes of instruction, or increments thereof.

CCM RECERTIFICATION POINTS PROVIDER

All courses approved by CMAA count toward CCM recertification points. For more information on recertification points, please click here.

CONTINUING EDUCATION AIA

CMAA is registered with the American Institute of Architects (AIA) as an approved CES provider of LUs. One educational contact hour equals one (1) LU. To receive LUs through CMAA, you must provide your AIA member number on all registration materials and attendance forms. www.aia.org

ENGINEERING RCEP REGISTERED CONTINUING EDUCATION PROGRAM

CMAA has met the standards and requirements of the Registered Continuing Education Program. Credit earned on completion of this program will be reported to RCEP. A certificate of completion will be issued to each participant. As such, it does not include content that may be deemed or construed to be an approval or endorsement by RCEP. www.rcep.net

LEARNING **OBJECTIVES**

1. How Prefabrication is defined and applied to a variety of project types in today's built industries
2. Cost Benefits / Schedule Benefits
3. Are there any types of markets where each of these systems are best suited or can they be used for any project type?
4. How would an Owner go about contracting for each of their systems and are they restrained by any of the various Project Delivery Methods available for today's projects?
5. Case studies for how these systems have been implemented

CMAA NORTHERN CALIFORNIA CHAPTER

GOLD SPONSOR

BLACH CONSTRUCTION

Thank You!

CMAA NORTHERN CALIFORNIA CHAPTER

SILVER SPONSOR

Thank You!


CMAA
NORTHERN
CALIFORNIA
CHAPTER
EDUCATION WEBINAR
PREFABRICATION: ELEMENTS, PANELIZATION, & VOLUMETRIC MODULAR

JAMES WOODBURY
Founder

MASSFRAME SOLUTIONS

KATIE ELLINGTON
Vice President

BLACH CONSTRUCTION

RANDALL THOMPSON
Preconstruction Executive

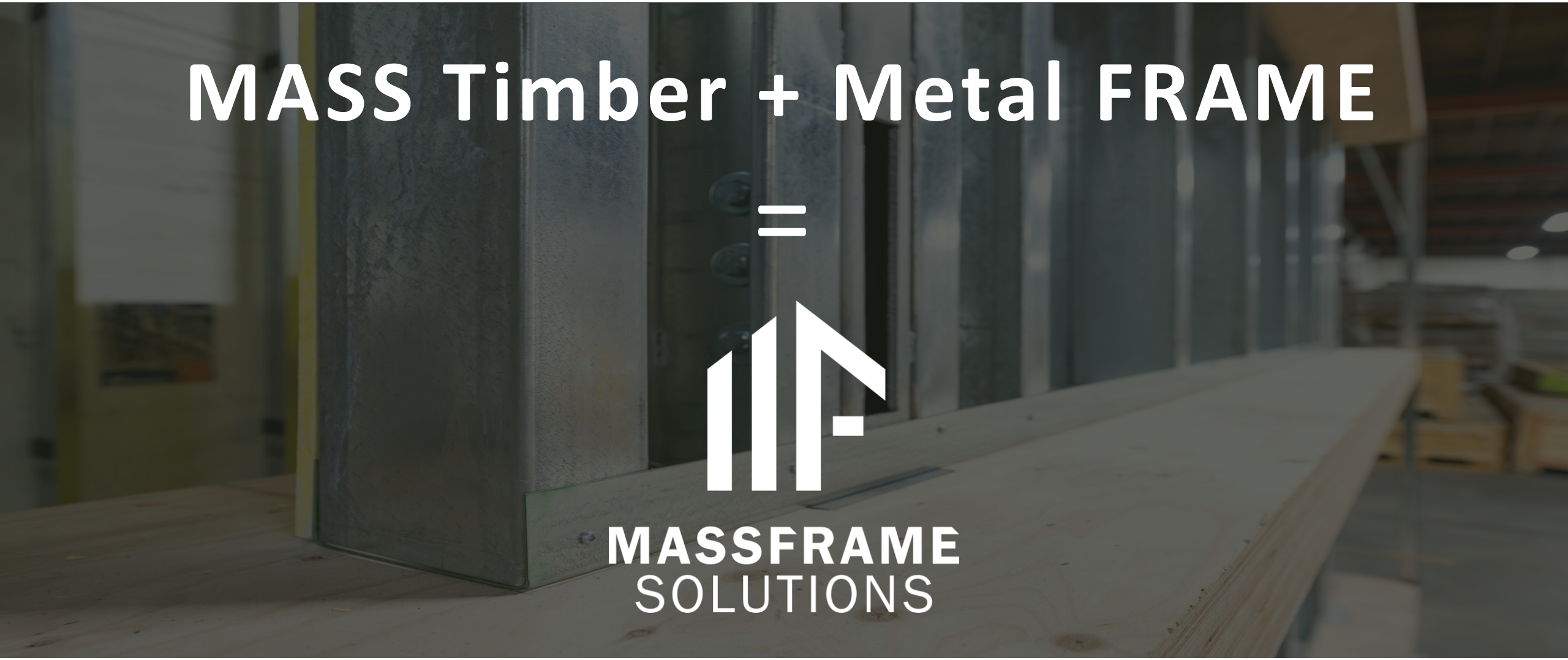
NIBBIPREFAB

MODERATOR

LAD DAWSON
CEO, Managing Partner
GUERDON MODULAR BUILDINGS

TONY MERENDA
Executive Director,
South Bay
KITCHELL

MassFrame Solutions Presentation


MASS Timber + Metal FRAME
=
MASSFRAME
SOLUTIONS

CALIFORNIA'S HOUSING SHORTAGE

- Total Existing CA Housing Units = 14.8M
- California Housing Unit Deficit = 3-4 Million
- 300,000 new units are needed per year to keep pace with population growth
- ~100,000 units are built per year
- 20-30% Short of Current Housing Demand
- We only produce 33% of what is needed yearly to maintain current deficits

WE HAVE A SOLUTION…

FRAMING THE FUTURE OF HOUSING

OUR MISSION

MassFrame's mission is to drive innovation and efficiency that ensures the delivery of high-quality, affordable housing.

We are redefining the housing industry through manufacturing practices that seamlessly blend mass timber with non-combustible metal framing into hybrid building structures. By championing innovation and efficiency, we create exceptional experiences for our clients and stakeholders by eliminating waste and ushering in a more sustainable future for the housing industry.

HOUSING CONSTRUCTION METHODS
IBC & CBC BUILDING DEFINITION

- Housing has been primarily Building Type II, III, & V
- Type IV A, B & C were added in the 2019 code update
- Type IV (2016) – Building Elements are made of Heavy Timber
- Type IV (2019 & 2022) – Building Elements are made of:

  Mass Timber or Non-Combustible Materials

R-2 Occ.	Type II		Type III		Type IV	
	Metal Frame		Wood Frame		**MassFrame**	
	A	B	A	B	**B**	**C**
Stories	5	5	5	5	**12**	**8**
Height	85	75	85	75	**180**	**85**
Area	24,000	16,000	24,000	16,000	**123,000**	**76,875**

TYPE IV CONSTRUCTION

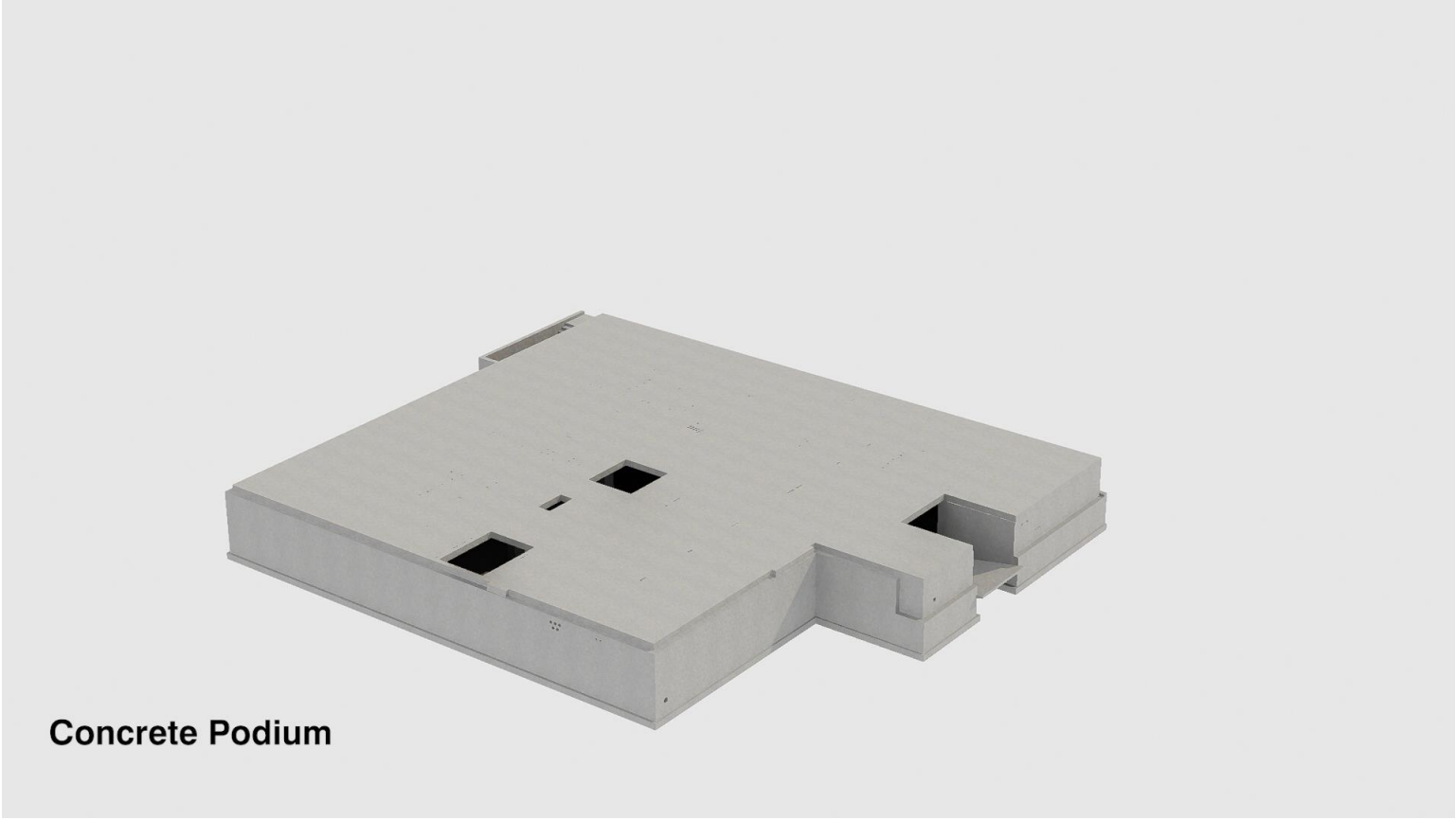
MassFrame Components

- Cold Formed Steel Wall Framing (CFS)

  Non-Combustible Building Element

- Cross-Laminated Timber Floors (CLT)

  Mass Timber Building Element



MASSFRAME
SOLUTIONS

MASSFRAME SOLUTIONS

GOOD

Traditional Multi-Family Construction

2 Levels of Type I Concrete

5 Levels of Type III Wood Frame

Below 75’ High-Rise Limit

BETTER

Enhanced Multi-Family Construction

1 Level of Type IV Concrete

6 Levels of Type IV MassFrame

Below 75’ High-Rise Limit

Eliminate 3 Hour Occupancy Separations

Reduced Concrete & Carbon Footprint

Non-Combustible Construction

100% Prefabricated Solution

Reduced Project Cost & Schedule

BEST

Optimized Multi-Family Construction

1 Level of Type IV Concrete

7 Levels of Type IV MassFrame

Below 75’ High-Rise Limit

Eliminate 3 Hour Occupancy Separations

Reduced Concrete & Carbon Footprint

Non-Combustible Construction

100% Prefabricated Solution

Reduced Project Cost & Schedule

20% More Units per Project

Optimized Cost per Unit

MASSFRAME SOLUTIONS

COST

Hard Cost Benefits

On Par with Wood Frame

$20/sf Savings compared to Concrete

Reduced Foundation & Site Construction Costs

Reduced MEP Costs thru Prefab Systems

Soft Cost Benefits

Reduced Insurance Premiums

Reduced Construction Financing

Increased Sales Price for Exposed Ceilings

SCHEDULE

Parallel Off-Site Construction

1.5 – 2x Faster Install than Wood or Concrete

Accelerated Watertight Milestone

Early Start for Finish Trades

DESIGN

Increased Stories, Height & Area

Eliminate Occupancy Separations

Utilizes Existing Walls – No Design Restrictions

Extensive Exterior Skin Design Options

Design-Build Delivery Model for Prefab Systems

- Early Design Team Integration to Achieve Optimized Results
- Align project financial model with prefab cost structure
- Secure early fixed pricing to eliminate project variables
- Eliminating variables (risk) enhances 3rd party insurance and financing cost structure

Insurance Comparison Type III vs. Type IV

- Builder's Risk Premium – 45% Reduction

0.85% vs 0.59%

$119,000 or $1.19/sf Project Value

- Property Ins. Premium – 45% Reduction

$0.26 vs $0.18

$38k/yr Savings @ 5.0% CAP Rate

$760,000 or $7.60/sf Project Value

MassFrame Solutions
Alum Rock Workforce Housing
Builder's Risk Project Insurance Cost Summary - Estimates
8.25.2025

Builder's Risk	Traditional Frame	MassFrame
Policy Overview		
Estimated Building Values	$45,000,000	$45,000,000
Estimated Delay in Completion	$4,500,000	$4,500,000
Total Insurable Value	**$49,500,000**	**$49,500,000**
Project Term - Months	18	17
Builder's Risk Premium		
Estimated Hard Cost Premium	**$320,625**	**$221,053**
Estimated Soft Cost Premium	**$56,109**	**$38,684**
Terrorism	**$6,413**	**$4,421**
TOTAL	**$383,147**	**$264,158**
Estimated Total Project Duration Premium - % of CV	***0.85%***	***0.59%***

Operational Property	Annual Cost	Annual Cost
Estimated Building Values	$45,000,000	$45,000,000
Estimated Contents Values	$0	$0
Estimated Annual Rental Income	$4,500,000	$4,500,000
Total Insurable Value	**$49,500,000**	**$49,500,000**
Premium		
Estimated Property Premium	**$123,750**	**$86,625**
Terrorism	**$2,475**	**$1,733**
Estaimated Premium	**$126,225**	**$88,358**
Rate per $100 of Insurable Value	***$0.26***	***$0.18***

MASSFRAME SOLUTIONS

MassFrame Case Study
Alum Rock SD – Teacher/Workforce Housing

MASSFRAME DESIGN

3 levels of Type III B MassFrame

PROJECT BENEFITS

- 100% Prefabricated System
  - Reduce Watertight Milestone duration by 2 months
  - Prefabricate Exterior Panels with Windows, WRB & EIFS
    - Eliminate the use of scaffolding
    - Provide 20yr Tremco Material & Labor Waterproof Warranty
- Reduce Builders Risk & Property Insurance Costs by 45%
- Reduce Project Schedule by 2 Months
- Reduce Projected Property Maintenance by eliminating fire, water or pest damage
- Reduce Building Life Cycle Costs

MassFrame CASE STUDY
650 Divisadero - Affordable

CURRENT DESIGN

10 levels of Type I A Concrete

Building Weight = 5,270 tons

Carbon Footprint = +1M lbs of CO_2

MASSFRAME DESIGN

7 levels of Type IV B MassFrame

3 levels of Type I A Concrete

Building Weight = 2,520 tons

Carbon Footprint = - 900k lbs of CO_2

PROJECT BENEFITS

- Reduced Project Costs by ~$2M ($25/sf)
- Eliminate Concrete Columns & Shear Walls – 310sf/floor
    - Increase Rentable/Livable Area – 2,170sf
- Reduce Project Schedule by 2 Months
    - Prefinished Panelized Exterior Skin
- Reduce Building Weight +50% Structure Weight Reduction
    - Reduce Foundations, Shear Walls, Soil Improvements

MassFrame CASE STUDY
Fremont Apartments – Market Rate

CURRENT DESIGN

2 levels of Type I A Concrete

5 levels of Type III B Wood Frame

MASSFRAME DESIGN

7 levels of Type IV B MassFrame

Option to Add 1 Floor 20% More Units

PROJECT BENEFITS

- At Least 2 Month Schedule Savings
  - 1 Month Savings for Structure Top-Out Milestone
  - 1 Additional Month for Building Watertight Milestone
- Eliminate 3 Hour Building Separations – Treat Building as 1 structure not 3
- Convert Building to Non-Combustible Construction
  - Reduce Builder's Risk & Long-Term Insurance Premiums
- Option to Add 1 Floor, Increase Unit Count by 20% & Optimize Cost per Unit

MASSFRAME
SOLUTIONS

MASSFRAME
SOLUTIONS

Blach Presentation

Buildings Evolved with Folia

Prefabrication for TK-12 schools done right

FOLIA

Built by BLACH CONSTRUCTION

Topics for Today

- What is Prefab?
- When does Prefab make sense?
- Prefab done right
- Prefab + Pre-engineered: The Folia Solution
- Benefits of Folia
- Case Studies

What is Prefab?

FOLIA

Built by BLACH CONSTRUCTION

What is Prefab?

Let’s Understand

- Difference between prefab and modular
- Goals are the same, tactics are different
- Components vs rooms fabricated offsite
- Customization vs standardization

Prefab Done Right

FOLIA

Built by BLACH CONSTRUCTION

When does Prefab make sense?

- Significant schedule demands
- Cost is a major factor
- Logistical constraints (noise + space)
- Large spans or customized spaces required

Preplanning is Key!

- Early design-build integration is a MUST
- Significant preconstruction effort
- Shift in construction lifecycle
- VD&C plays a critical role
- Proactive coordination with AHJs & inspections

Prefab + Pre-Engineered = Folia!

FOLIA

Built by BLACH CONSTRUCTION

Considerations for Success

- 24 buildings delivered
- A long-term design-build partnership
- Lessons learned across projects
- Design-Build or Lease-Leaseback
- DSA Pre-Check Approval
- 10–25% cost savings vs traditional
- Folia ecosystem across building types

BLACH CONSTRUCTION

Design-build Partnership with Option for Program AOR

QUATTROCCHI KWOK ARCHITECTS

GPLA®
Structural Engineers and Builders

Benefits of Folia

FOLIA

Built by BLACH CONSTRUCTION

A Proven, Flexible Solution

24 built, 1 in construction, 6 in precon

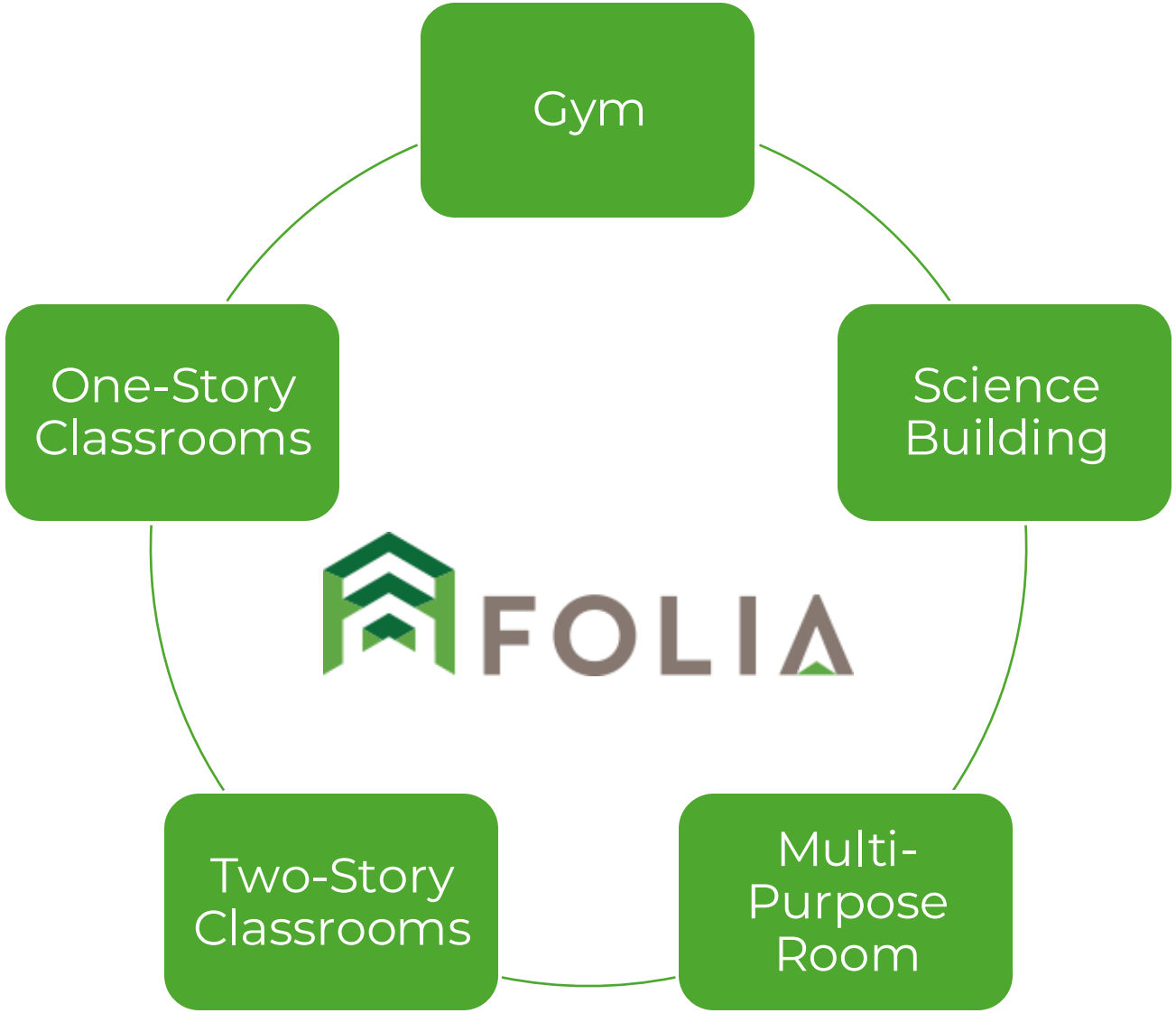
Benefits of Folia

Cost. Schedule. Quality. Pick 3.

- Cost predictability and savings
- Onsite schedule compression
- Less disruption to occupied sites
- High-quality learning environments
- Long-term flexibility

Folia Ecosystem

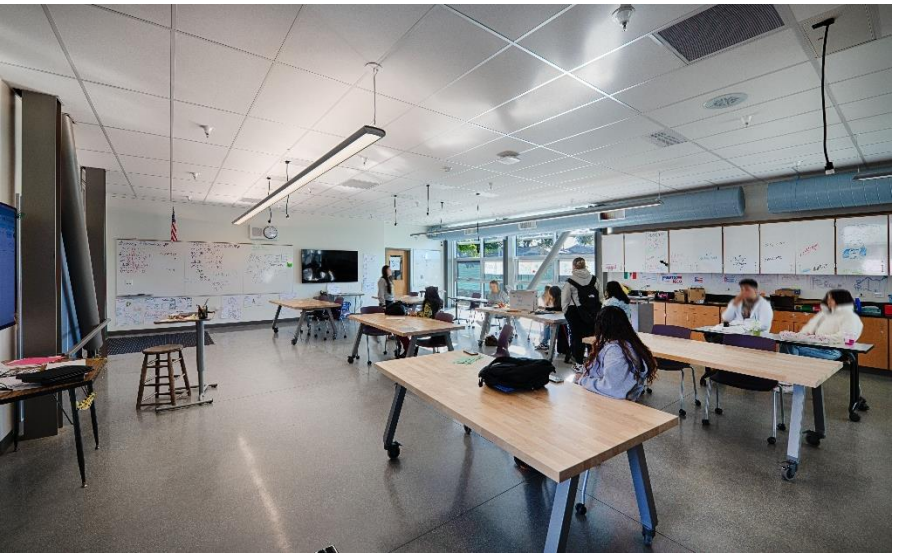
Learn.
Experiment.
Gather. Play.
All with the Folia Ecosystem.



Case Studies

FOLIA

Built by BLACH CONSTRUCTION



Milpitas Innovation Campus

Milpitas Unified School District

Key Features:

- (6) Two-Story Folia Buildings
- Returned unused funds back to Owner
- Building construction in 9 months
- PC Structures with interior customization
- Diverse Programming
- Admin, STEAM, Art, Recording Studio, E-Sports Lab

Piner High School 2-story Classroom

Santa Rosa City Schools

Key Features:

- Two-Story Folia Building
- Occupied campus with tight logistics
- Schedule the main driver
- 15 Months from award to completion, including design, permitting, and construction

Folia Ecosystem – LASD San Antonio Campus

THANK YOU!

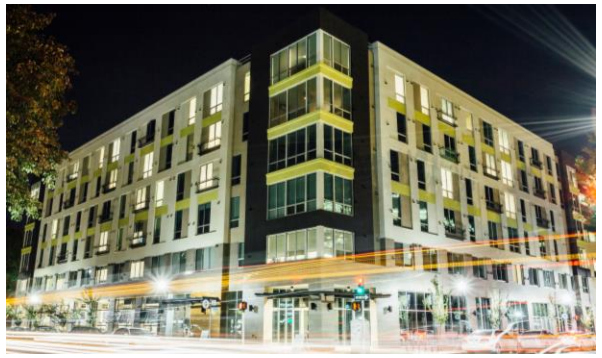
FOLIA

Built by BLACH CONSTRUCTION

Guerdon/Nibbi
Presentation

25 YEARS

225+ SUCCESSFUL PROJECTS



70+ BONDED PROJECTS

0 BOND CLAIMS

MODULAR

GUERDON

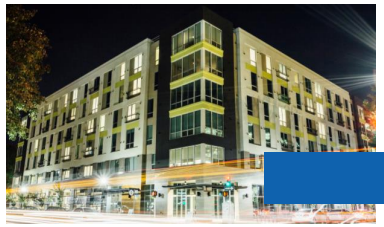
LEADERS IN MODULAR

DONE RIGHT

DELIVERING ON THE PROMISE:

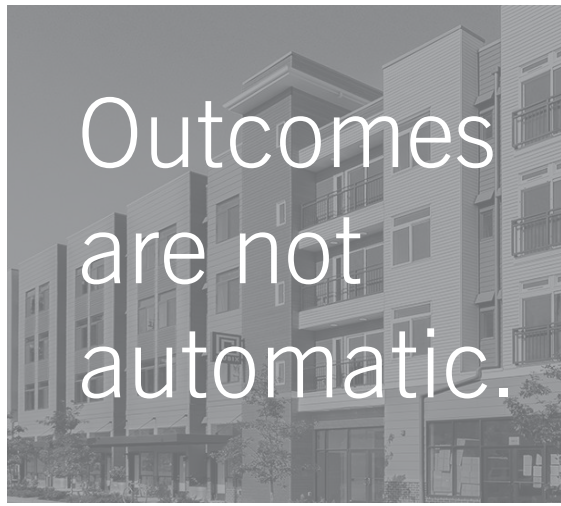
How Developers Capture The True Benefits Of Modular





Modular is the KEY to Affordable Housing for high-cost sites, prevailing wages & tight schedules.

- **FASTER SCHEDULES**
- **BETTER QUALITY**
- **LOWER COSTS**
- **REDUCED RISK**

RETHINK THE METHOD

Modular Requires a Different Approach

ANALYZE THE: Total Value Proposition

- Move beyond cost per square foot
- Focus on total cost per living unit
- Maximize factory work scope
- Challenge high subcontractor bids
- Account for schedule & financing impact

CHOOSE: Partners, Not Prices

- Factory selection is strategic
- Modular succeeds as a system
- Experience wins
- Align GC + key trades early
- The weakest link determines the outcome


nibbi prefab
GUERDON
LEADERS IN MODULAR
OPEN
LATE

Randall Thompson

EDUCATION: California Polytechnic State University, San Luis Obispo
B.S. in Architectural Engineering / Construction Management Minor

BACKGROUND: Nibbi Brothers General Contractors, San Francisco, CA
Preconstruction Executive, NibbiPrefab

+20 Years Construction Management

+10 Years Volumetric Modular Design, Manufacturing & Construction

nibbi prefab

nibbi

Third generation, family owned and operated general contractor based in San Francisco. With 75 years of experience, Nibbi is the Bay Area's premier builder of multi-family residential, waterfront, seismic / historic retrofit and commercial construction projects.

nibbi prefab

nibbi *prefab*

A division of Nibbi Brothers General Contractors, Nibbi *Prefab* works directly with clients, design teams, modular manufacturers, and Nibbi operations staff to ensure the successful design, procurement, and construction of its modular construction projects.

nibbi *prefab*

nibbi prefab
GC

GUERDON
Factory

EAH HOUSING
A roof is just the beginning
Developer

ktgy
Architect

PrefabLogic™
Construction Reimagined
Design

330 DISTEL CIRCLE

LOS ALTOS, CA

90 UNITS / 113 MODULES

GROUND BREAK	JUNE 2025
FACTORY PRODUCTION	SEPT 2025
CRANE INSTALL	DEC 2025
CONTRACT DELIVERY	JAN 2027
TARGET COMPLETION	Q3 2026

EAH HOUSING

A roof is just the beginning

nlbbl prefab

QUERDON

DELIVERING MODULAR

1 Early Team Integration

2 Design for Efficiencies

3 Lessons Learned

4 Improve & Repeat

EARLY TEAM INTEGRATION

Coordination is Key, Do it Early & Often

Factory & GC Involvement & Collaboration in Design Stage is Critical

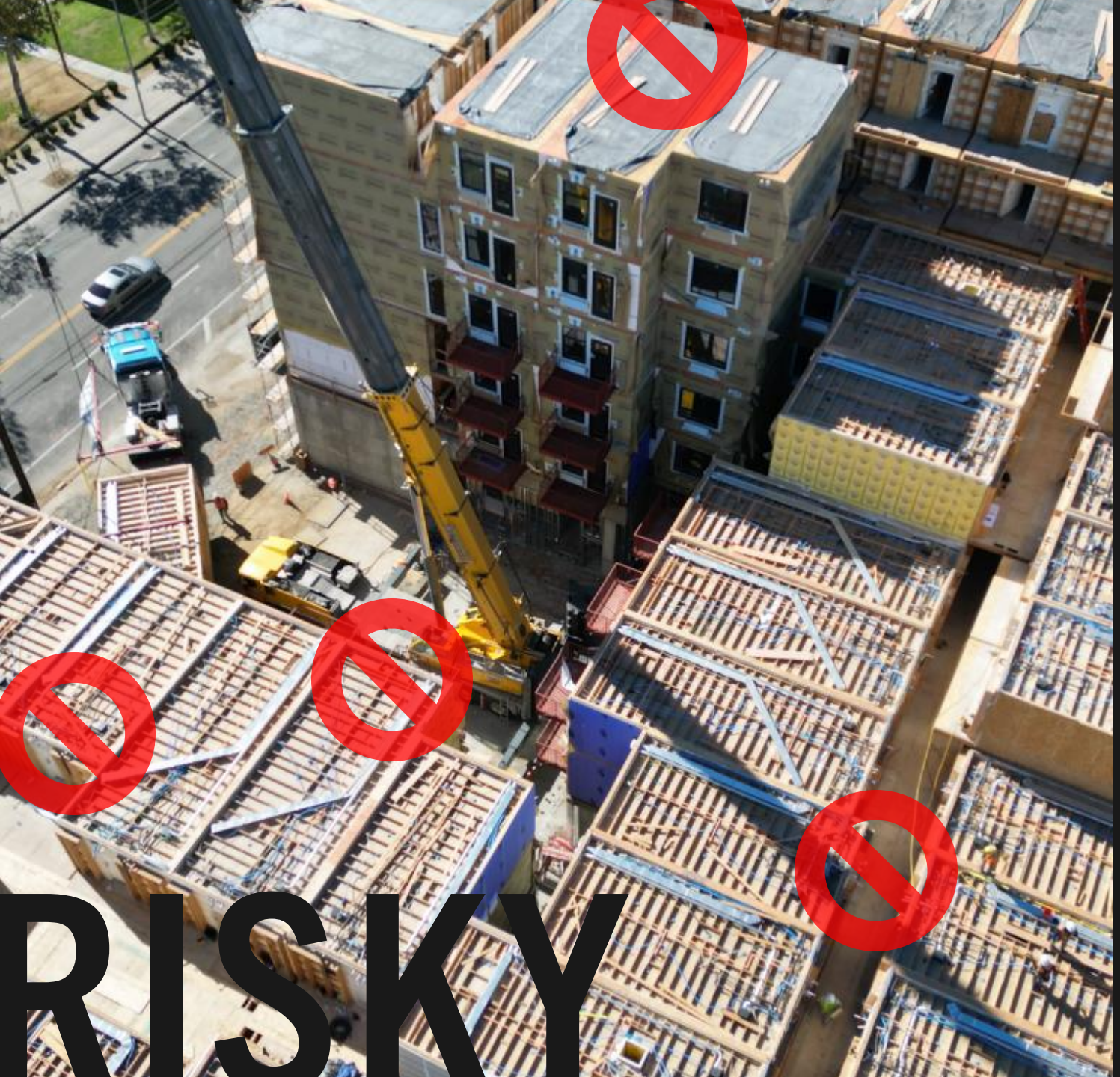
Select a GC who embraces modular technology and commits to learning and improvement.

Choose a factory with comprehensive modular construction expertise

Both should maintain a presence from design through completion.

Quality is engineered early – not inspected late.

nibbi prefab



DON'T LET THIS HAPPEN

Weather protection isn't optional –

it's essential for maintaining the quality and integrity of factory-built components.

RISKS:
Preventable & Manageable

DESIGN FOR EFFICIENCIES

Factory & GC Involvement & Collaboration in Design Stage is Critical

- Value Engineering starts with design
- Standardize assemblies to improve consistency
- Designed for Modular vs Optimized for Modular
- Design for total project construction budget

Cost efficiency is a process – not a bid result.

nibbi prefab

Lessons Learned

- Clear factory + GC scope alignment
- Subcontractor coordination and planning
- Look For Critical Alignment Points
- Modular to Site Scope interface
- Shift scope to factory where it makes sense

ACCOUNTABILITY: Clearly defined responsibility at each stage; Factory, Transporter, Set Sub-contractor, GC, Roofing Contractor.

Speed comes from discipline – not acceleration.

nibbi prefab

IMPROVE & REPEAT

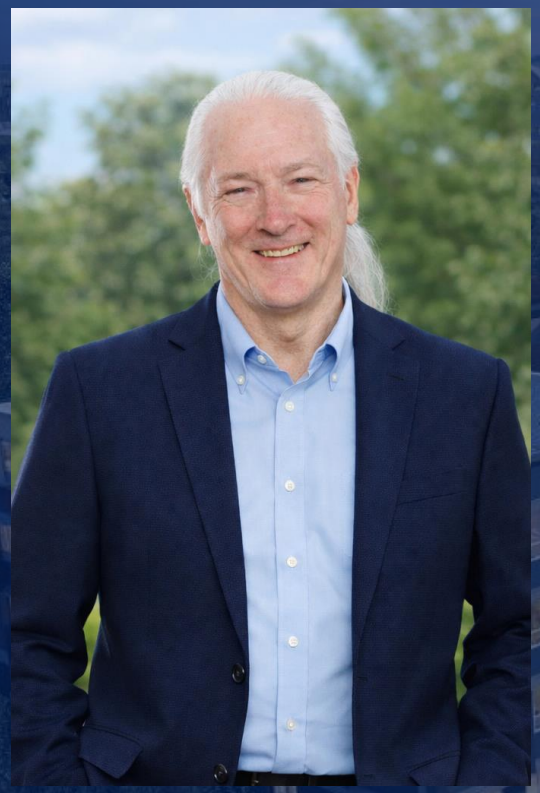
Benefits are gained through process, accountability, and lessons learned.

- Have a multi project team outlook
- Speed & cost efficiencies are enhanced with project team repetition
- Capture Lessons Learned
- Implement Continuous improvement, Refine project after project
- Don’t quit after the learning curve

Risk is reduced through structure – not optimism.

nibbi prefab

DELIVERING MODULAR



Lad Dawson
Founder,
Guerdon

Randall Thompson
Preconstruction Executive,
nibbi prefab

GET A COPY OF THE

PRESENTATION


Q&A