

D.R. Johnson Wood Innovations

CLT Story to Date: Lessons Learned & the Challenges Ahead



D.R. Johnson

Est. 1951



STORY TO DATE:

Manufacturing APA/ANSI Certified CLT Panels



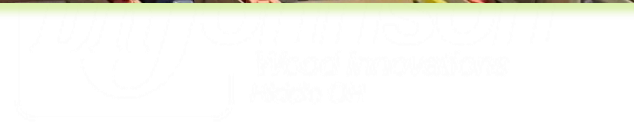
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STORY TO DATE:

Dedicated CLT Manufacturing/Fabrication Building



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STORY TO DATE:

Utilizing Proven Manufacturing Processes



STORY TO DATE:

Fabricating Panels/Beams to Tight Tolerances



STORY TO DATE:

CLT Panels To Fit Precisely Upon Arrival



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STORY TO DATE:

Transporting APA/ANSI Certified CLT Panels



STORY TO DATE:

Providing On-Site Installation Assistance



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STORY TO DATE:

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STORY TO DATE:

Culminating in our Biggest Project To Date

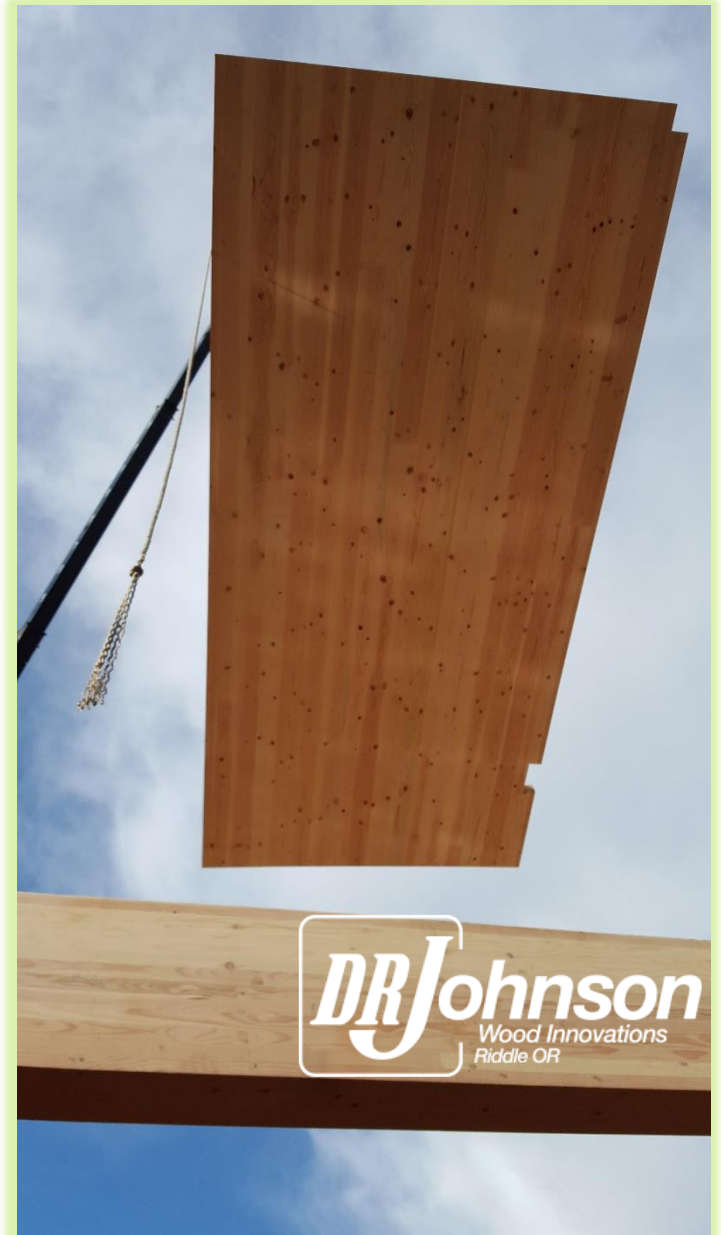
ALBINA YARD PROJECT

4-Story Mixed-Use Portland, OR



STORY TO DATE:

ALBINA YARD- CLT Panels (Floor) & Glulam Beams/Columns



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STORY TO DATE:

Project Pipeline- GREAT THINGS TO COME



Bay Area
Project
300,000+ Sq.' CLT

FrameWork
12 Story Mass
Timber Project
Portland, OR



LESSONS LEARNED:

Not Just a Materials Supplier



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LESSONS LEARNED:

PROJECT TEAM COLLABORATION

Architects/ Engineers/ Developers- Pre Construction



Attend Project Design Meetings

**Review Plan Sets at Various
Stages of Design**

**Provide Budgetary Cost
Estimates at each Stage of Design**

**Building Department Review/
Product Testing**



LESSONS LEARNED:

PROJECT TEAM COLLABORATION

Architects/General Contractors- Project Awarded

Contracts/ Payment Terms &
Performance Bonds



3-D Modeling- Collision Checks-
Panel/Beam Layouts

Product Testing

Shop Drawing Process



LESSONS LEARNED:

PROJECT TEAM COLLABORATION

Installers- Construction Begins

Now we Make the CLT Panels

Collaborate on Installation Schedule/
Panel Order

Collaborate on Staging & Off-
Loading Trucks



LESSONS LEARNED:

Technically Capable Workforce



LESSONS LEARNED:

Making CLT Marketable



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LESSONS LEARNED:

Product Testing-

FIRE TESTING



ASTM E119 TEST

2-Hour Rating Achieved

ASTM E84 TEST

**Class "A" Flame Spread Rating
achieved**

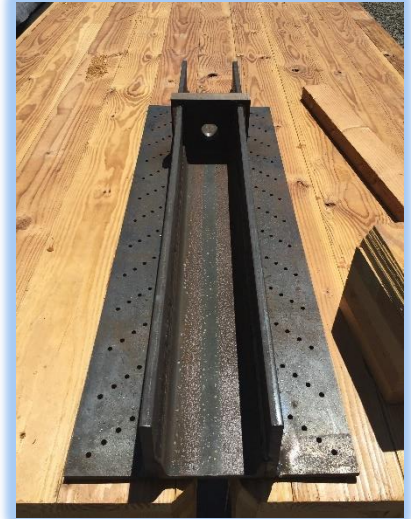


LESSONS LEARNED:

Product Testing- SEISMIC TESTING

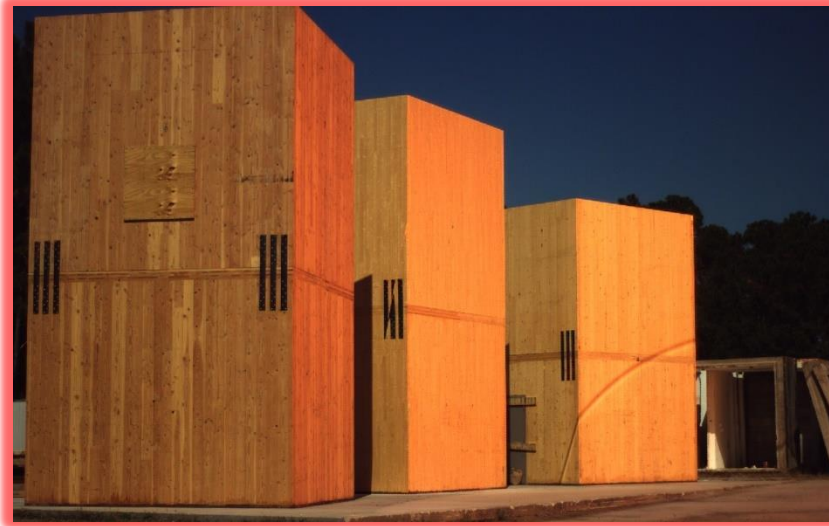


2-Story DRJ CLT & Glulam Beam Structure on a Shake Table in San Diego, CA

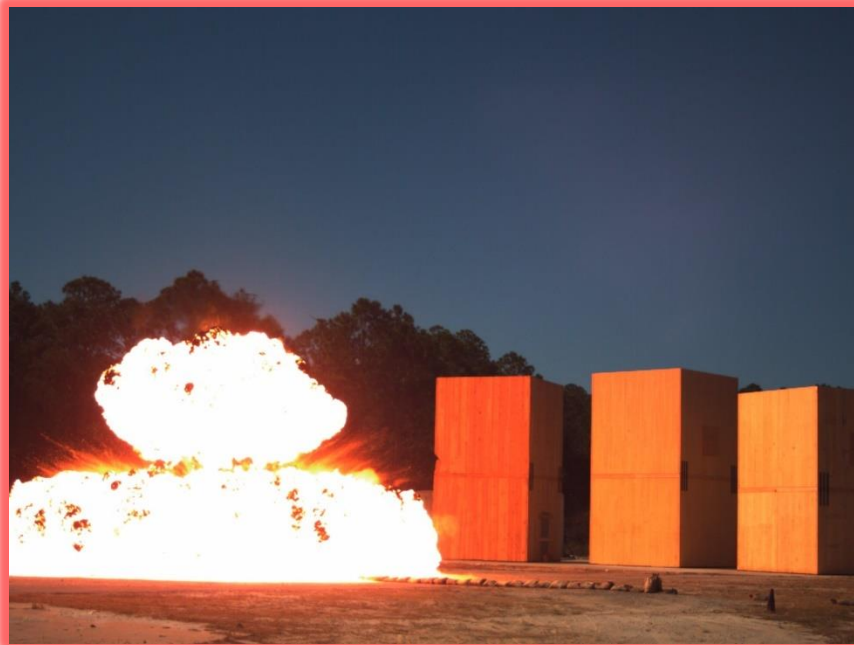


LESSONS LEARNED:

Product Testing- **BLAST TESTING**



**“Stand-Off” Rating
For use in
Government/Military
Project Applications**



LESSONS LEARNED:

Product Testing



Acoustical Testing: Ongoing
Wind Testing: Ongoing
Treated CLT: Ongoing
Multi-Species CLT: Ongoing



GOING FORWARD:

Collaboration & Standardization



