No Cost Project Support for Design/Construct Firms

• Schools
• Mid-rise/multi-family
• Commercial
• Corporate
• Franchise
• Retail
• Institutional
• Recreational
• Healthcare

WoodWorks

www.woodworks.org
Cross Laminated Timber: Mass Timber

• Finished panels are planed, sanded, cut to size. Then openings are cut with precise CNC routers.

• Third party inspection at factory.

• Custom engineered for material efficiency.

• Custom designed for project.

• Each panel numbered, delivered & installed in predetermined sequence.
What is the appeal of CLT?

Sustainability
- Reduced Embodied Carbon
- Minimal waste production
- Highly Energy Efficient

Performance
- Disaster Resilient
- Good Fire Resistance
- High performing Acoustics
- Structural Flexibility

Construction Efficiency
- ~75% lighter than concrete
- Reduced construction time
- Pre-fabricated and Precise

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US CLT Handbook

1. Introduction
2. Manufacturing
3. Structural
4. Lateral
5. Connections
6. DOL and Creep
7. Vibration
8. Fire
9. Sound
10. Enclosure
11. Environmental
12. Lifting
Model Building Code Acceptance

2015 International Building Code
Model Building Code Acceptance

2015 International Building Code typically adopted January 2017

- Alaska – 2009 IBC
- Washington – 2015 IBC
- Oregon – 2012 IBC w/ 2015 CLT amendment
- Idaho – 2012 IBC
- Montana – 2012 IBC working on adding 2015 CLT amendment
2015 **Prescriptive** International Building Code – 5 stories of wood construction allowed

2015 **Performance** Based Design – using wood TALLER than 5 stories
Model Building Code History

1871 Great Chicago Fire
1889 Great Seattle Fire
1899 Height of Buildings Act
1906 Model N Ford
1910 Modified Heights of Buildings Act

2015 hybrid electric supercar
Still using heights and areas from Model N/T Ford era
2015 PROGRAM HIGHLIGHTS

Technical support for 220 projects that went to construction this year & technical support on an additional 488 projects that are still in design phase

43,300 practitioner education hours through Wood Solutions Fairs, workshops, webinars and other education events

Growth in Number of Direct Projects Supported

EDUCATIONAL OUTREACH TO SUPPORT PROJECT ASSISTANCE

5 Wood Solution Fairs for 1,919 design and building professionals

31,895 education hours delivered to 17,465 specifiers through 262 WoodWorks-hosted events

67 two- or three-hour lunch seminars for 1,807 attendees

24 workshops for 1,259 attendees

62 third-party event presentations: including the AIA National Conference and Architectural Record Innovations Conference

12 webinars presented to 10,557 practitioners, with an average of 880 attendees per month

92,000 specifiers added to the database—a total of 242,000 have opted-in to receive info

152 lunch & learns for 1,797 design and building professionals

2-day mass timber research workshop attended by 116 people
2015 PROGRAM HIGHLIGHTS

Supporting a Full Range of Projects

Projects by Building Type
- Multi-Family 69%
- Business 10%
- Educational 7%
- Assembly 6%
- Institutional 4%
- Mercantile 2%
- Utility / Misc 2%

Projects by Number of Stories

In 2015, 55 percent of the projects supported were taller than 3 stories, compared to 50 percent in 2014. The average height of a supported project was 3.3 stories, up from 2.7 in 2014.

- Five 24%
- One 22%
- Four 31%
- Three 15%
- Two 8%
Lead by Example

Oregon Executive Order 12-16 - 2012

• “Promoting wood products in commerce as a green building material, encouraging innovative uses of wood products and increasing markets for Oregon wood products”
• WoodWorks assisted on both WOU and OSU buildings

USDA Tall Wood Building Competition - 2015

• “showcase the safe application, practicality and sustainability of tall wood structures that uses mass timber, composite wood technologies and innovative building techniques. It was established to provide scientific as well as technical support to encourage and support the design and construction of tall wood demonstration projects within the U.S.”
• WoodWorks assisted on several submittals and the 2 winners
What is Cross Laminated Timber (CLT)?

Photo Credit: DR Johnson
Lead by Example - Western Oregon University
Monmouth, OR
Mahlum Architects

Image Credit: Western Oregon University and Mahlum Architects
2 story, 57,000 sf
Offices, classrooms, and gathering spaces

CLT utilized for floor plates and bearing/shaft walls

1st project to utilize US manufactured CLT
Project is currently under construction, anticipated completion fall 2016

WOU Richard Woodcock Education Center
Images: Andersen Construction & DR Johnson
Lead by Example – 475 West 18th 10-stories
Manhattan, NY
Shop Architects
Lead by Example – Framework 12-stories
Portland, OR
Lever Architecture
Lead by Example

Oregon BEST CLT Design Contest - 2016

• “Award's funding and research will speed use of CLT, a new building material that sequesters carbon and could breathe life into the Pacific Northwest timber industry”
• WoodWorks assisted on all three: Springfield Parking Garage, OSU National Center for Advanced Wood Products Manufacturing and Design, and Carbon 12 project

Washington House Bill HB-2380 - 2016

• “Funding to analyze cost effective options to procure high quality, sustainably built, energy efficient, and healthy classroom space to address the needs for K-3 classroom statewide”
• WoodWorks assisting on framework of WA Forterra leadership and the modular CLT schools for five school districts
Lead by Example – Carbon 12 8-stories
Portland, OR
Path Architecture
Lead by Example

Timber Innovation Act – U.S. Congress 2016

• “bipartisan legislation would open up new markets and create jobs for rural economies by providing research funding, technical assistance, and lower costs for the construction of tall wood buildings throughout the United States”

• WoodWorks assisting
Develop the Future

Significant amount of “Supply Side” organizations

- USDA USFS, American Forest Resource Council
- Softwood Lumber Board
- University Forestry Programs
- OFRI, OFIC, WFPA, Forterra, WWPA, FBN
- Logging organizations, manufacturing organizations

Need to support “Demand Side” opportunities

- WoodWorks
- American Wood Council
- Timber Innovation Act
Questions?

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