Utilizing Wood in Construction Supports Healthy Forests and Rural Economies

Janelle Leafblad, PE | Regional Director, WoodWorks | November 2020
Processing Chain
Engineered Timber

Source: The Wood from the Trees: The Use of Timber in Construction
Small Diameter Trees

Photos: WoodWorks
Mass Timber Products

- Glue Laminated Timber (GLT)
- Cross-Laminated Timber (CLT)
  - Solid sawn laminations
- Cross-Laminated Timber (CLT)
  - SCL laminations

Photos:
- StructureCraft
- LendLease
- Freres Lumber
- LEVER Architecture
Dowel-Laminated Timber (DLT)

Nail-Laminated Timber (NLT)

Decking

Photo: StructureCraft

Photo: Think Wood

Photo: Ema Peter

Photo: Bernard André Photography
Large Pre-fabricated Mass Timber Panels
Mass Timber Buildings
Tall Mass Timber Buildings

**TYPE IV-A**
- BUILDING HEIGHT: 270’
- ALLOWABLE BUILDING AREA: 972,000 SF
- AVERAGE AREA PER STORY: 54,000 SF

**TYPE IV-B**
- BUILDING HEIGHT: 180 FT
- ALLOWABLE BUILDING AREA: 648,000 SF
- AVERAGE AREA PER STORY: 54,000 SF

**TYPE IV-C**
- BUILDING HEIGHT: 85’
- ALLOWABLE BUILDING AREA: 405,000 SF
- AVERAGE AREA PER STORY: 45,000 SF

**IBC 2021**
Forest-to-Cities Climate Challenge
A Systemic Solution in Action

www.ForesttoCities.org
Circular Economy
Renewable Resource

Linear economy
- Raw materials
- Production
- Use
- Non-recyclable waste

Reuse economy
- Raw materials
- Recycling
- Production
- Use
- Non-recyclable waste

Circular economy
- Raw materials
- Production
- Recycling
- Use

Source: Government of the Netherlands
World Growth in Consumption of Raw Materials
1961-2017

Demand Has Multiplied ‘x’ Times (1961-2017)

Steel: 4.9
Cement: 12.7
Aluminum: 12.7
Plastics: 25.8
Wood: 1.6

Population Growth: 2.45

Demand for wood has only increased 1.6 times!
That’s less than the population growth of 2.45 times.

Source: An Introduction To The Circular Economy, Dovetail Partners, Inc.
https://dovetailinc.org/porfolio-detail.php?id=5edf6fb4cb3
Extractivism and its impacts

Source: Timber City Research Initiative, Gey Organschi Architecture
Forest Supply: Growth vs. Removals

(Billions of cubic feet per year)

Source: The Forest History Society
### Wood Products

Increase Forest Value & Support Rural Economies

<table>
<thead>
<tr>
<th></th>
<th>Jobs</th>
<th>Annual Payroll</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood Products</td>
<td>434,900</td>
<td>$ 21 Billion</td>
</tr>
<tr>
<td>Forestry &amp; Logging</td>
<td>145,900</td>
<td>$ 3 Billion</td>
</tr>
<tr>
<td>Total Employment</td>
<td>580,800</td>
<td>$ 24 Billion</td>
</tr>
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[Download State info:](https://www.awc.org/publicpolicy/statefactsheets)
Private Working Forests

Privately Owned Timberland by State

Download State info:
https://nafoalliance.org/
Wildland Urban Interface (WUI)
International WUI Code

• Check w/ local AHJ for adoptions and modifications of WUI codes
• Defensible space
• Exterior Building Envelope
• Exterior Walls
Fire Performance

Combustibility

Fire Protection Systems

Fire Resistance

Flame Spread Classification
Questions?

Janelle Leafblad, PE
Regional Director, WoodWorks
janelle.leafblad@woodworks.org
(415) 310-8549