The Designer’s Role in Anticipating and Addressing Construction Hurdles

Disclaimer: This presentation was developed by a third party and is not funded by WoodWorks or the Softwood Lumber Board
DESIGNER’S ROLE

- Rapport with Jurisdiction
- Coordinate
- Set Expectations
- Minimize Fiber
- Think Speed
- Think Tolerance
RAPPORT WITH JURISDICTION

- Mass timber is new to them too
- Communication early and often
- Construction types
- Ratings
- Tested assemblies/Engineering judgements
- Knowledge of future codes
- Concealed spaces
- Performance paths and AMMRs
• Contractor / Supplier / Sub Involved Early
• Anticipate Extra Coordination
• Regular Mass Timber Coordination Meetings
  • Architect
  • Structural Engineer
  • GC
  • Timber Supplier/Fabricator/Erector
  • Steel Fabricator
  • Fire Protection
SET EXPECTATIONS

- Client Expectations
- Specifications
Client Expectation: natural material that changes over time

Wood "tans"
Exposed for 170 days
Exposed for 30 days
Protected
Spruce

Wood has sap

Wood dries

Wood fades

Today
20 years ago
SET EXPECTATIONS

- Mass Timber Specification
- Water Management Plan
- Wood Finish
- Cleaning Protocols
- Shared Model / Clash Detection
MINIMIZE FIBER

- Single Greatest Cost Factor
MINIMIZE FIBER: Bay Sizing
Most Wood Fiber

30’x30’, 15’ on Perimeter

30’x30’, Integral Joists

38’x12’ One-way

30’x15’ One-way

Least Wood Fiber
THINK SPEED

- Lateral Systems
- Connections
- Envelope
### THINK SPEED: Lateral Systems

<table>
<thead>
<tr>
<th></th>
<th>steel BRB</th>
<th>concrete shear wall</th>
<th>framed shear wall</th>
<th>CMU shear wall</th>
<th>mass timber</th>
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</thead>
<tbody>
<tr>
<td><strong>speed</strong></td>
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<td>tolerance with mass timber</td>
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THINK SPEED: Connections
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Return to apply fire proofing
THINK SPEED: Connections
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Diagram details:
- Glulam Column Ref. Plan
- 2" Rein. Cong. Topping Slab Over Clt3 Floor Panels Ref. Plan
- Provide 4 3/4"Ø hole thru clt3 panel
- Grid
- Glulam Beam Ref. Plan
- Glulam Column Ref. Plan
- 3/8" Vert. and Top Plate
- 4" x 4" Pipe in 5 1/2"Ø hole thru glulam beam
THINK SPEED: Connections
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THINK SPEED: Connections

- FIRE SEALANT
- GL COLUMN ABOVE
- COLUMN SPLICE BASE PL
- GL BEAM
- STEEL PLATE BEAM HANGER
- GL COLUMN BELOW
THINK SPEED: Envelope

- Temporary roof
- Prefab
- Unitize
Connections between materials
THINK TOLERANCE
THINK TOLERANCE
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