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
  - Performace paths and AMMRs

COORDINATE

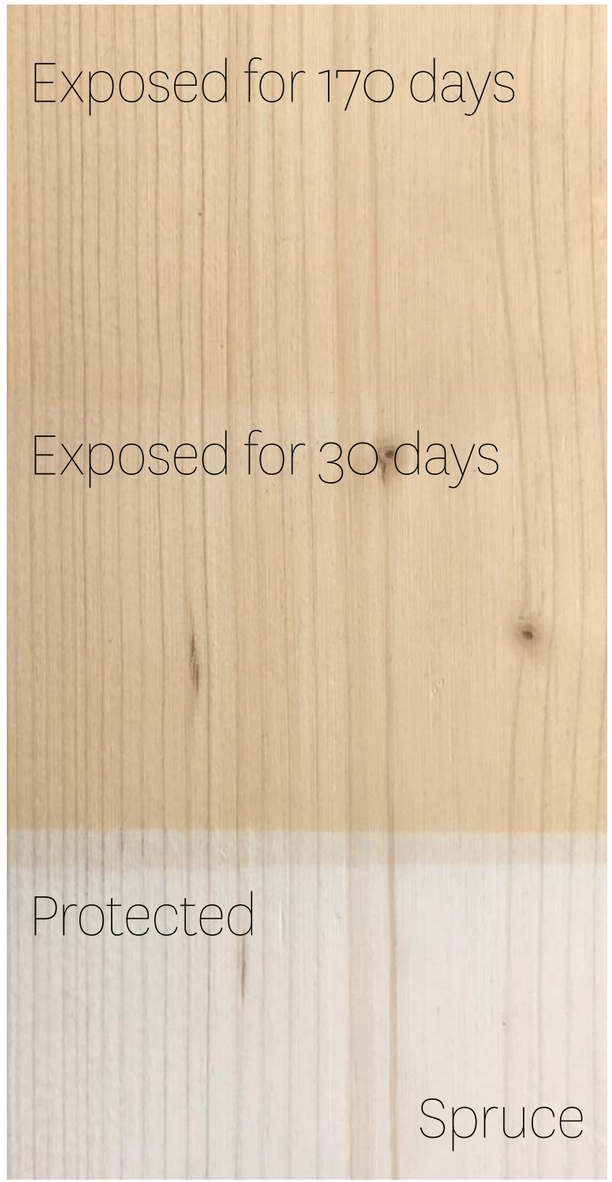
- Contractor / Supplier / Sub Involved Early
- Anticipate Extra Coordination
  - Regular Mass Timber Coordination Meetings
    - Architect
    - Structural Engineer
    - GC
    - Timber Supplier/Fabricator/Erector
    - Steel Fabricator
    - Fire Protection

SET EXPECTATIONS

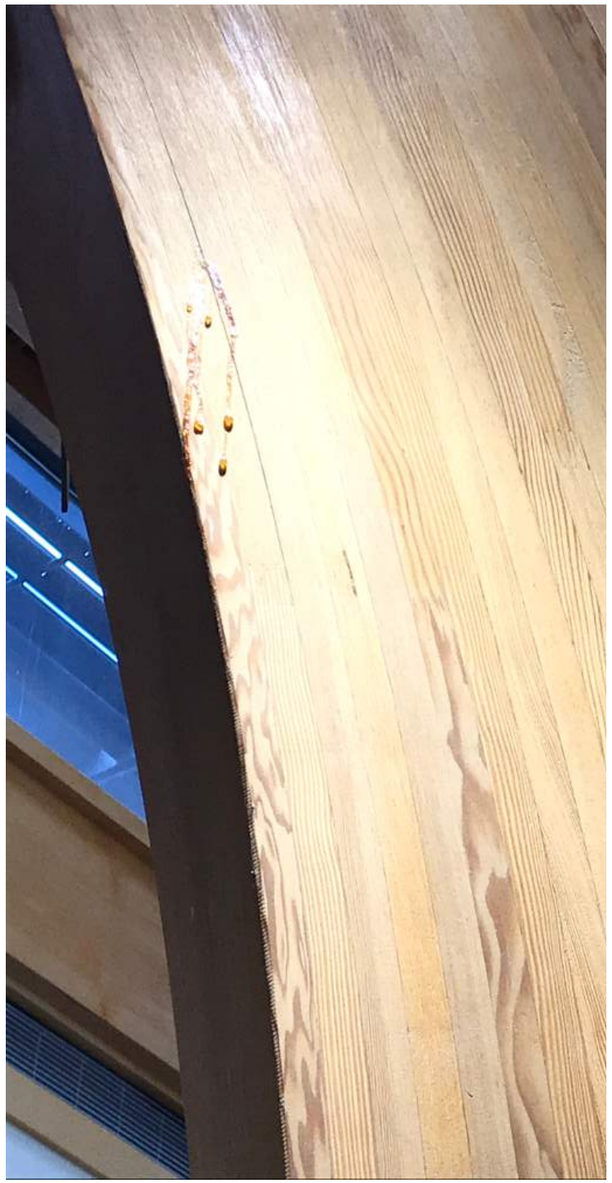
- Client Expectations
- Specifications

Client Expectation: natural material that changes over time

Wood "tans"



Wood has sap



Wood dries

Wood fades

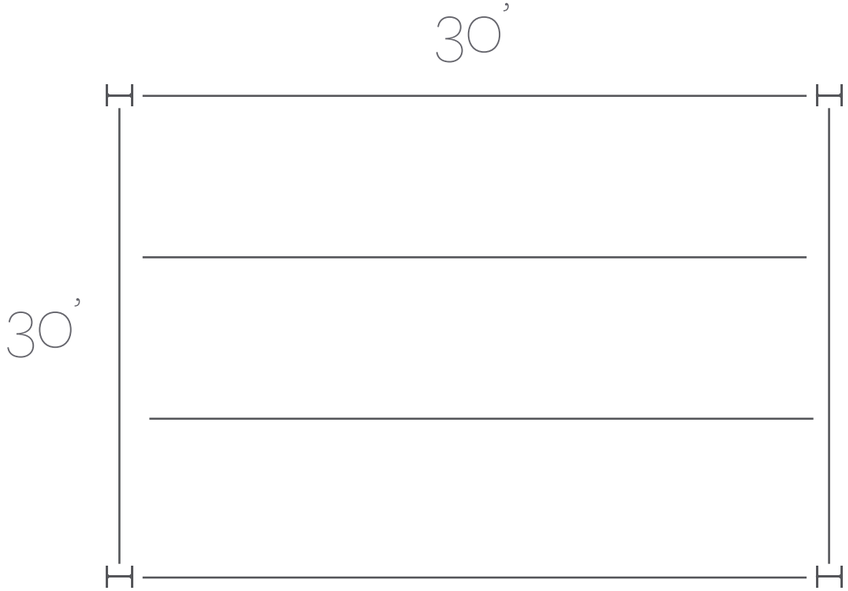
SET EXPECTATIONS

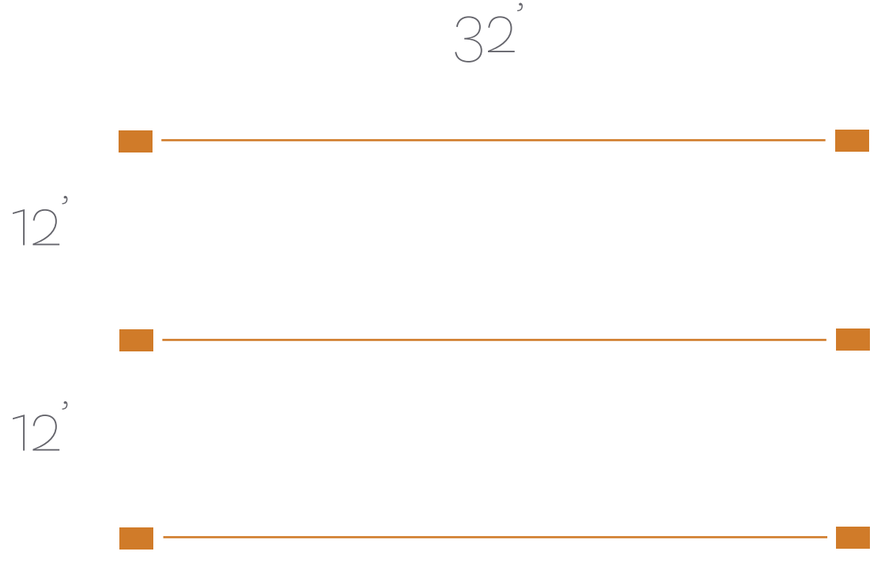
- Mass Timber Specification
- Water Management Plan
- Wood Finish
- Cleaning Protocols
- Shared Model / Clash Detection

MINIMIZE FIBER

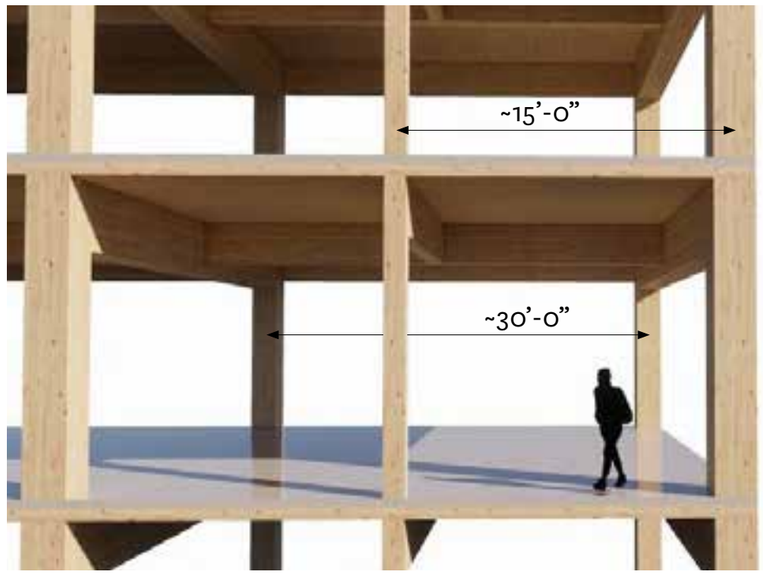
- Single Greatest Cost Factor

MINIMIZE FIBER: Bay Sizing

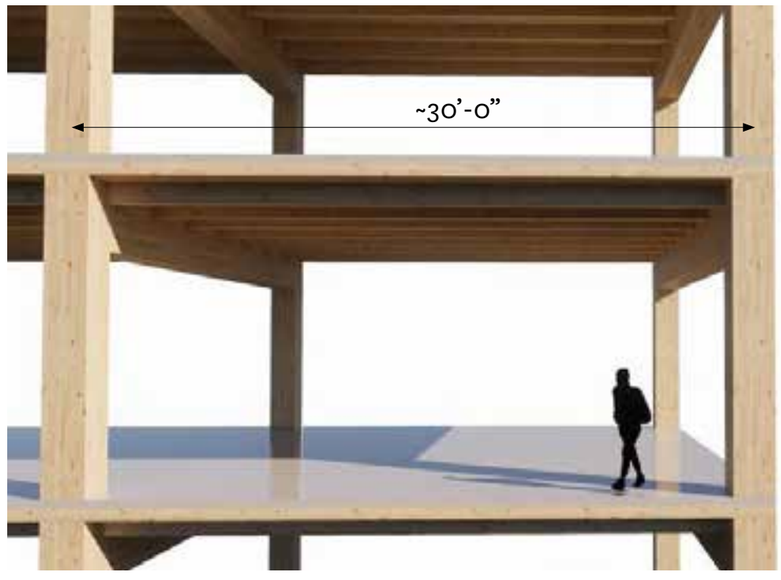




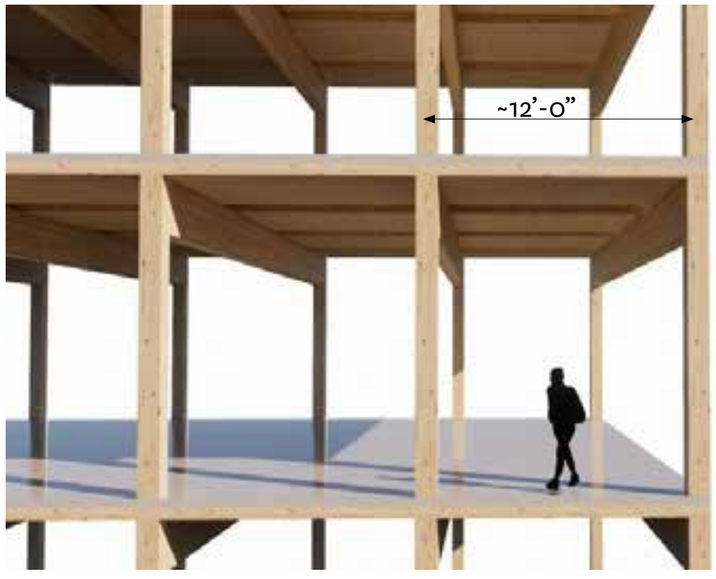
Most Wood Fiber



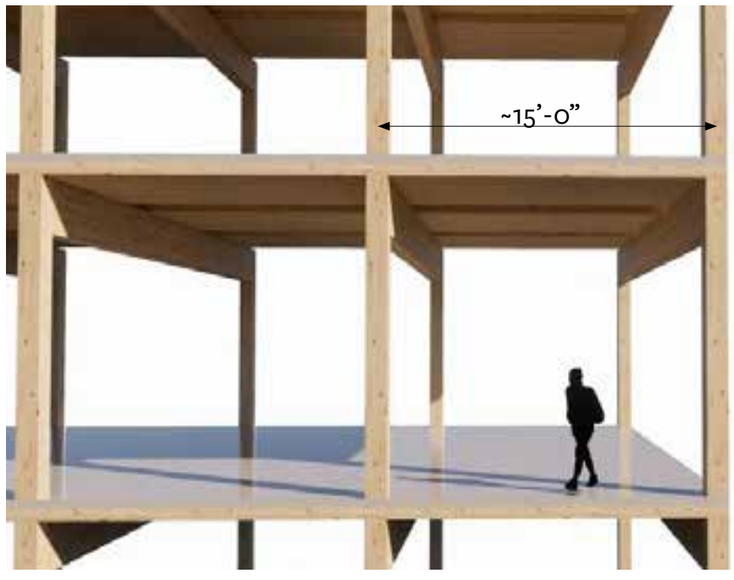
30’x30’, 15’ on Perimeter



30’x30’, Integral Joists



38’x12’ One-way



30’x15’ One-way

Least Wood Fiber

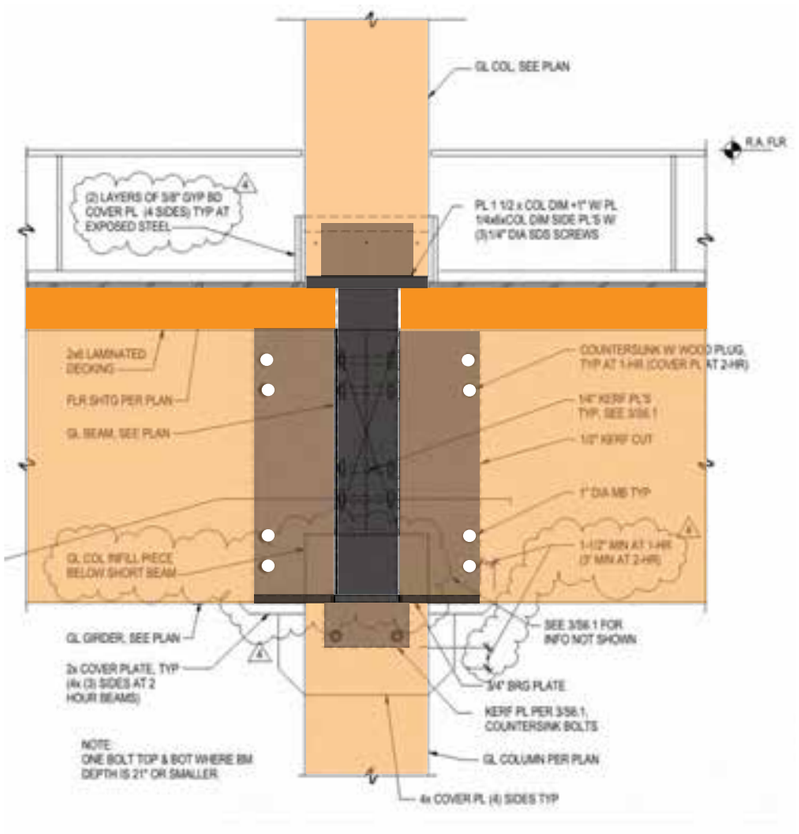
THINK SPEED

- Lateral Systems
- Connections
- Envelope

THINK SPEED: Lateral Systems

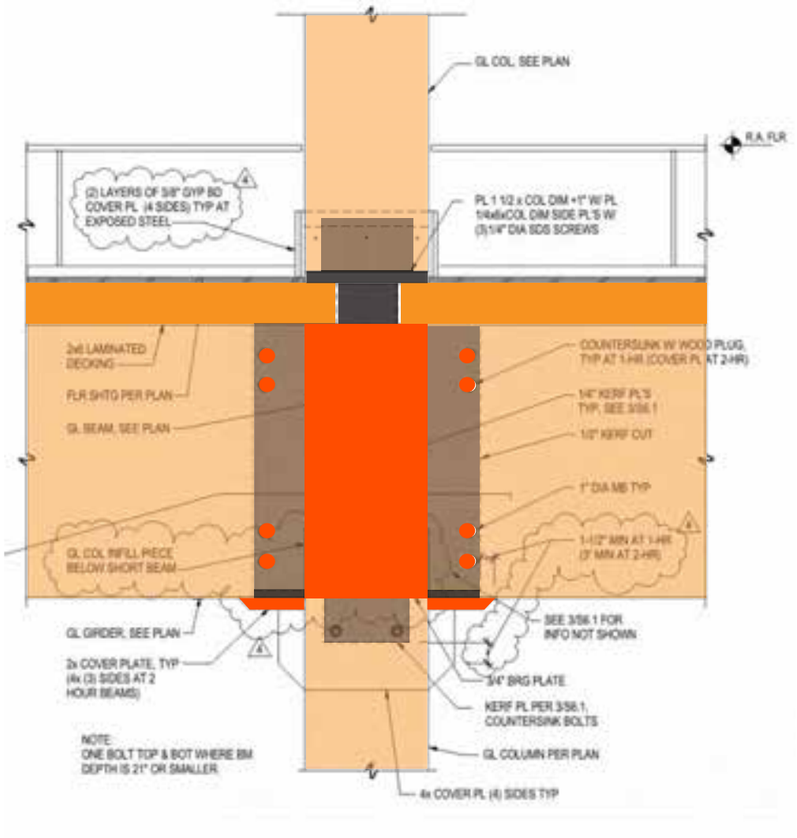
	steel BRB	concrete shear wall	framed shear wall	CMU shear wall	mass timber
speed	●●●●	○○○○	●●○○	●○○○	●●●●
cost	●●○○	○○○○	●●●●	●●○○	●●○○
tolerance with mass timber	●●○○	○○○○	●●●●	●●○○	●●●●
code/jurisdiction	●●●●	●●●●	●●●●	●●●●	○○○○

THINK SPEED: Connections



Clay Creative
Mackenzie

THINK SPEED: Connections



Return to apply fire proofing

Clay Creative
Mackenzie

THINK SPEED: Connections

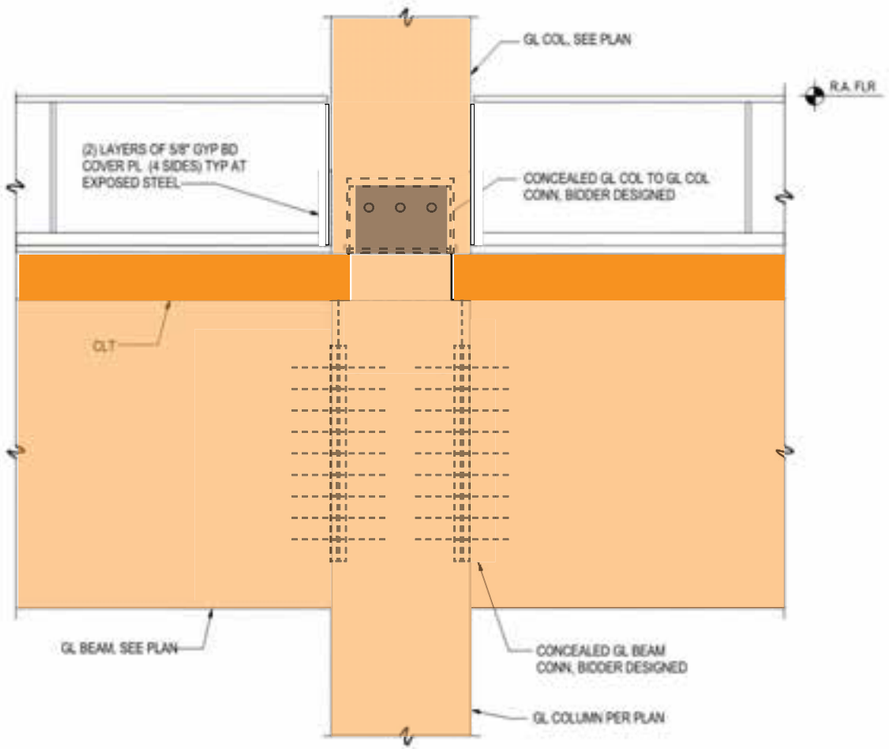
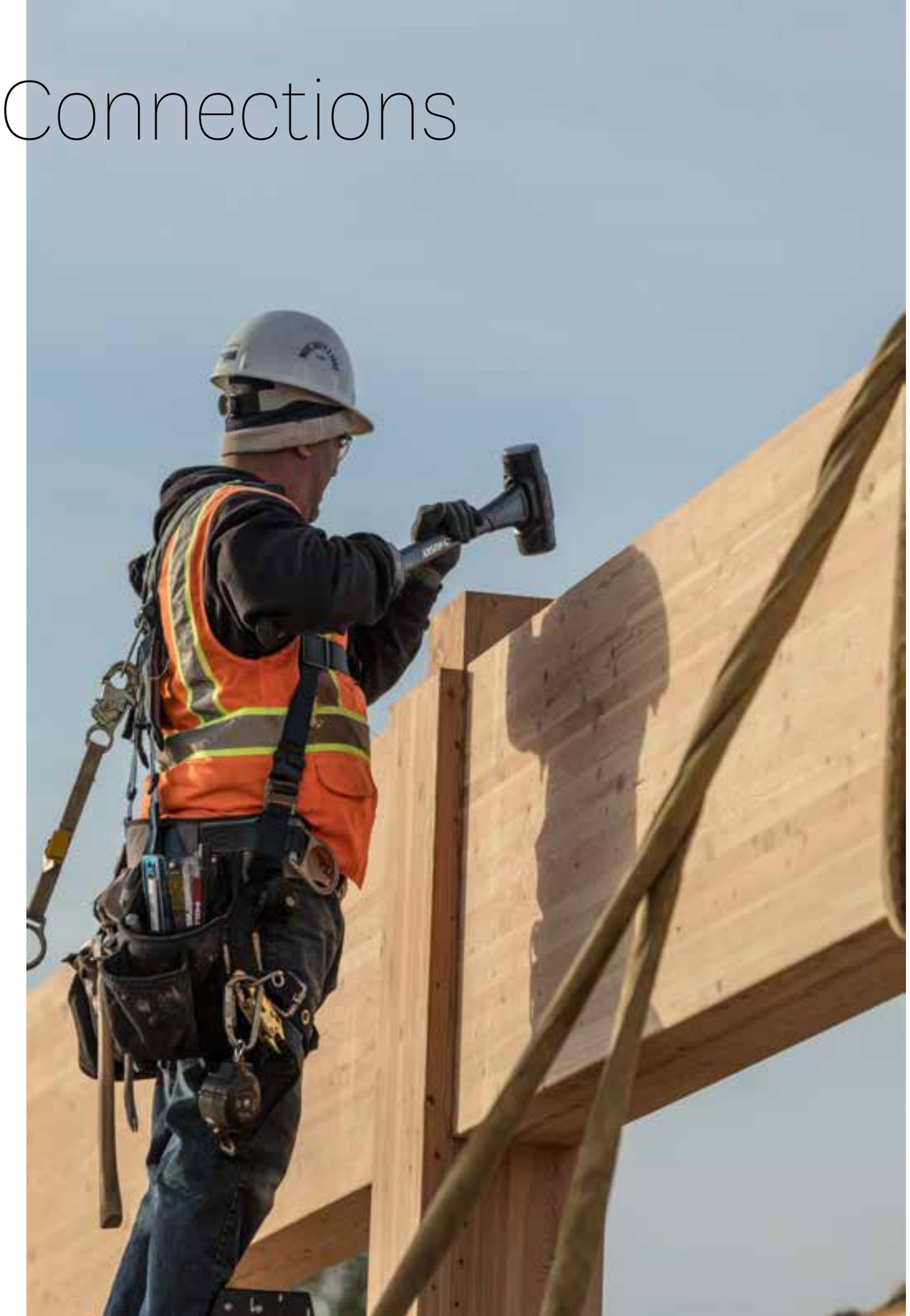


Image: MiTiCon

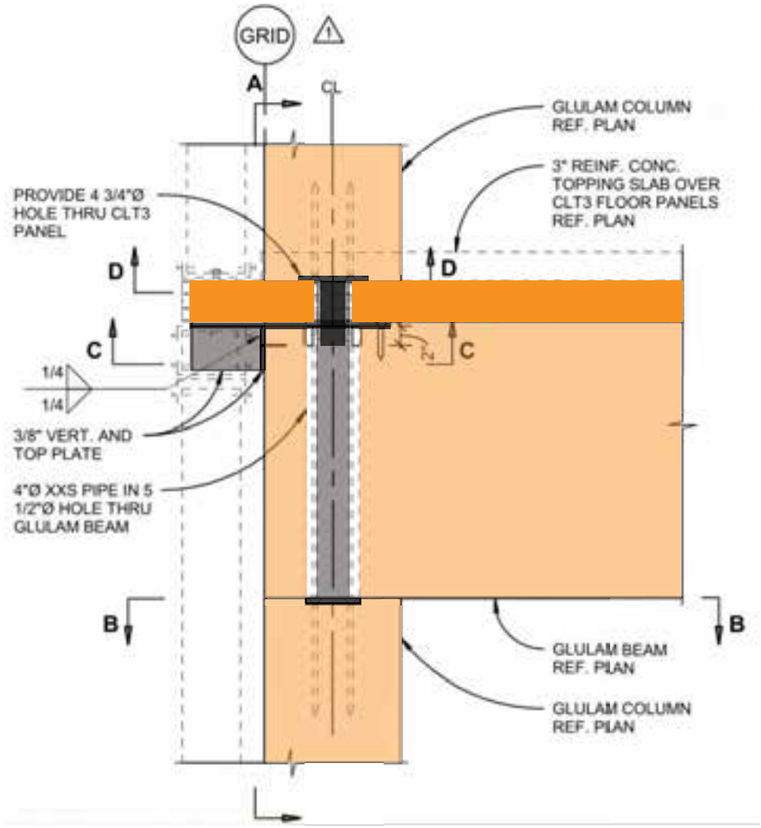
First Tech

THINK SPEED: Connections

THINK SPEED: Connections



THINK SPEED: Connections



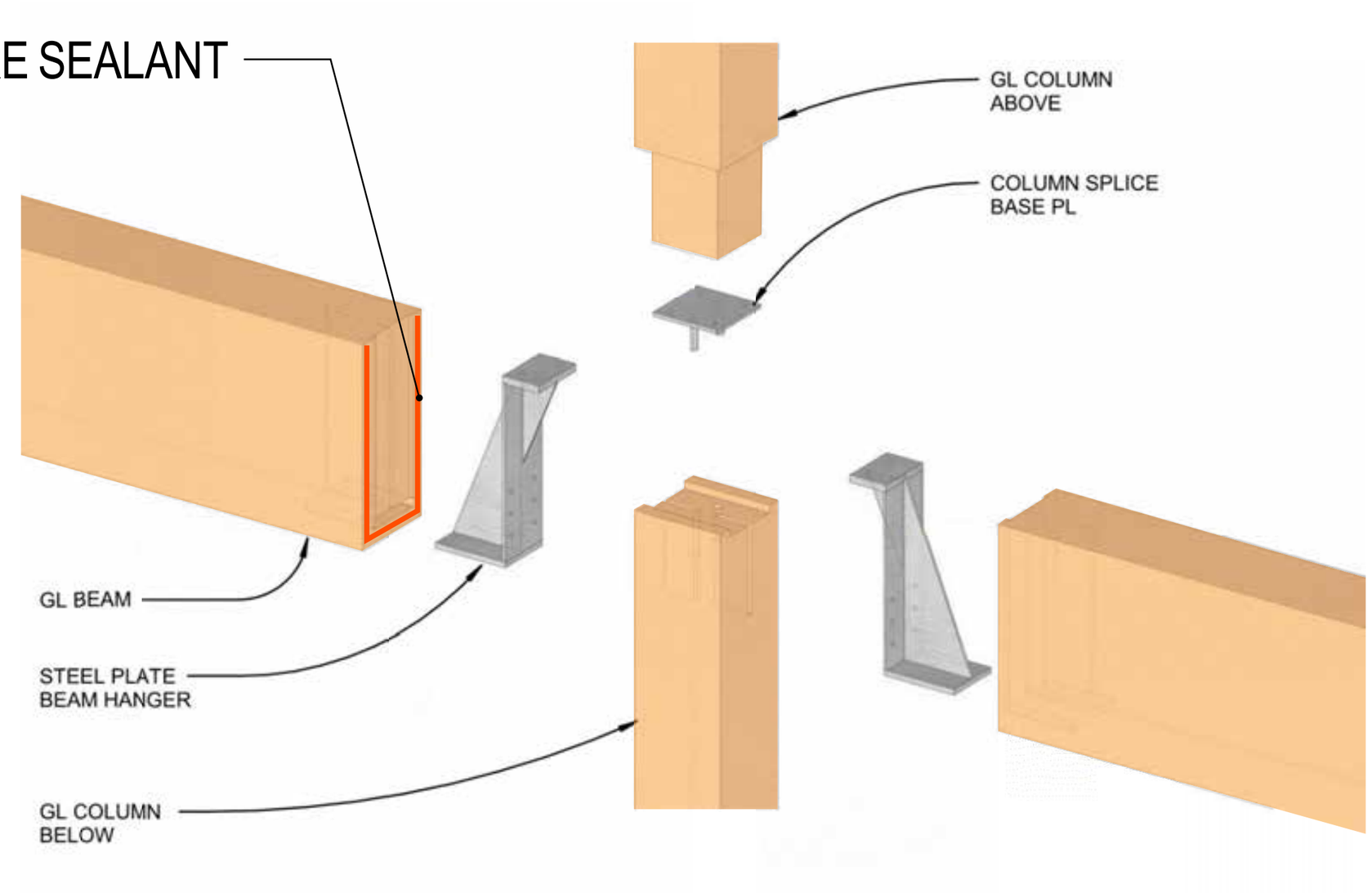
THINK SPEED: Connections

District Office

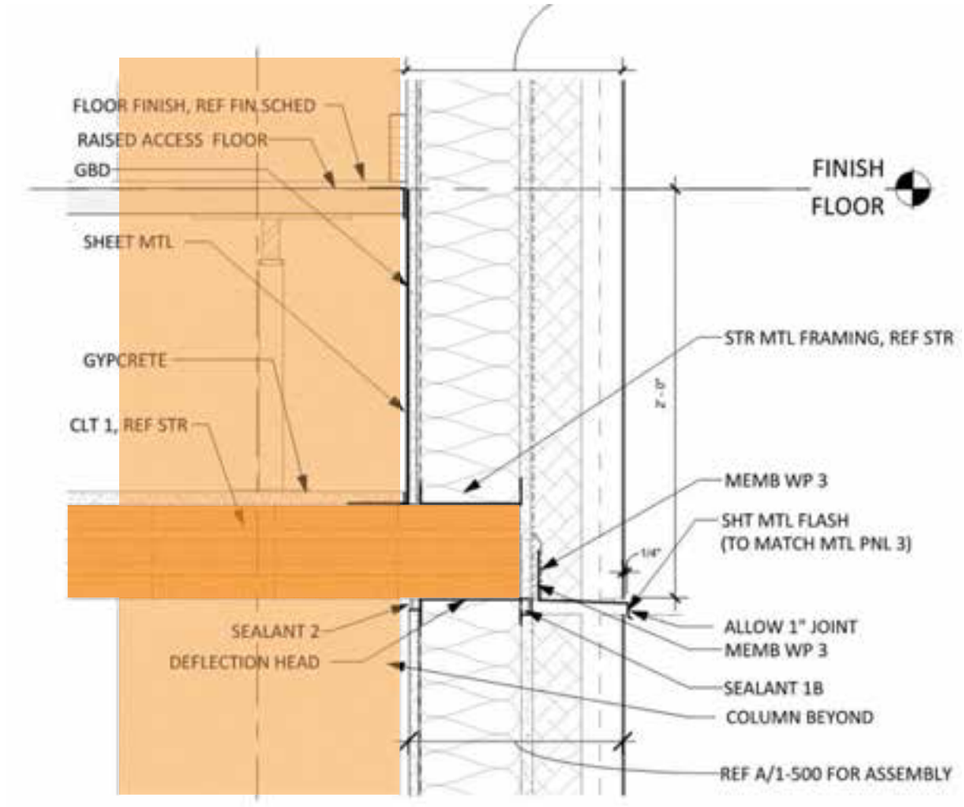
THINK SPEED: Connections

District Office

THINK SPEED: Connections



THINK SPEED: Envelope



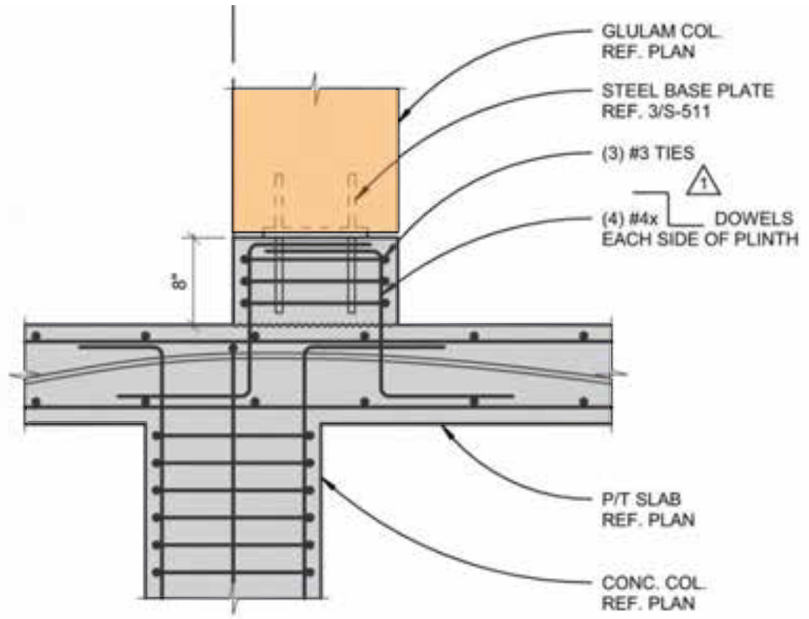
- Temporary roof
- Prefab
- Unitize

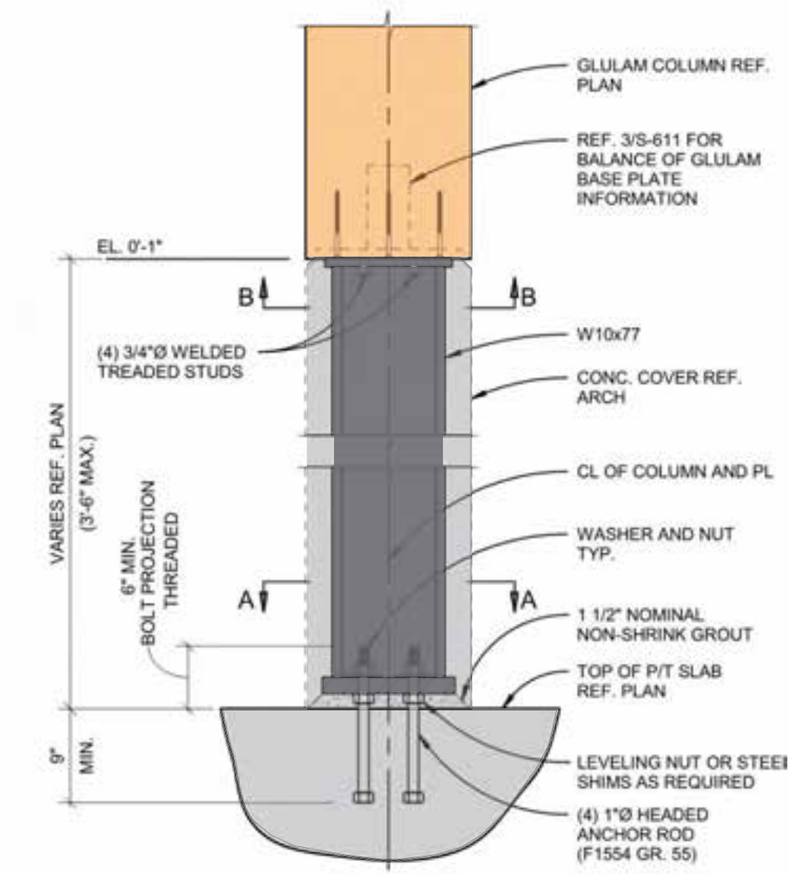
THINK TOLERANCE

- Connections between materials

THINK TOLERANCE

THINK TOLERANCE





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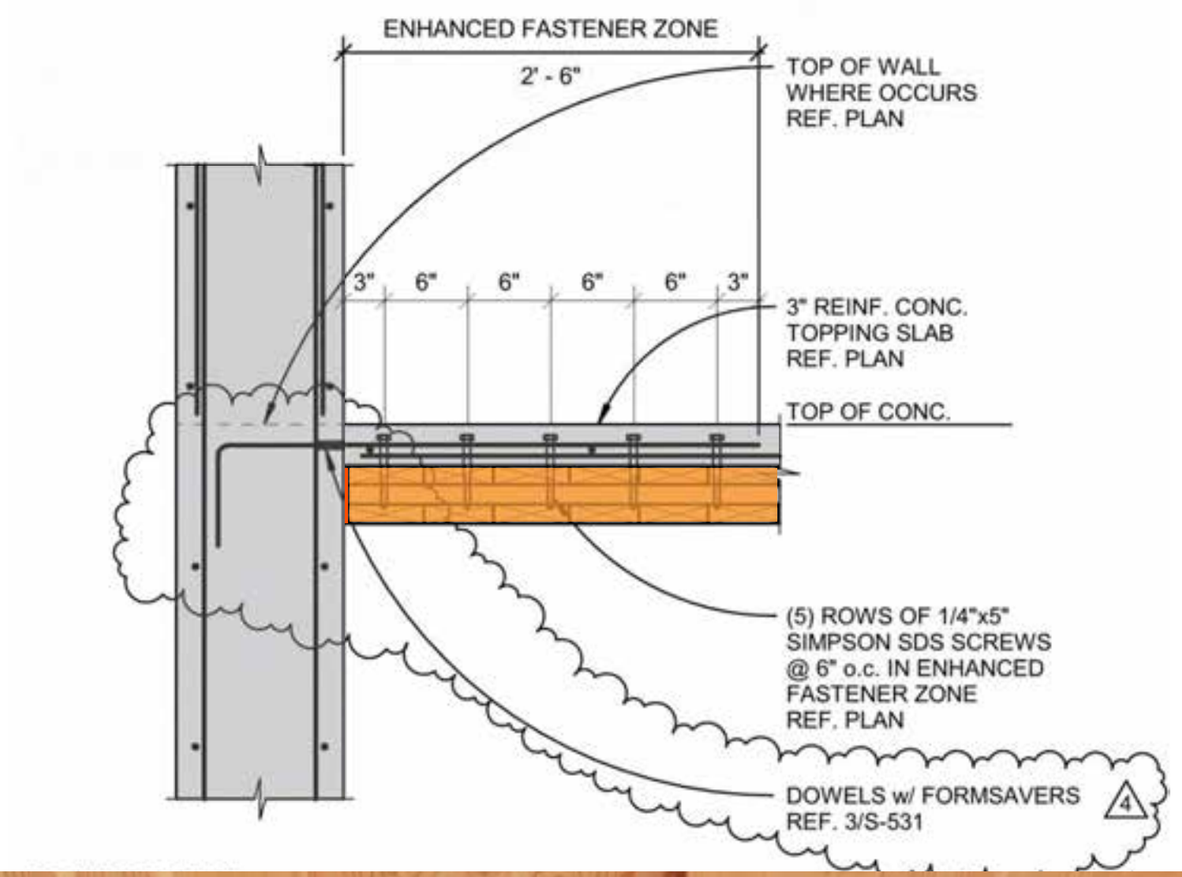

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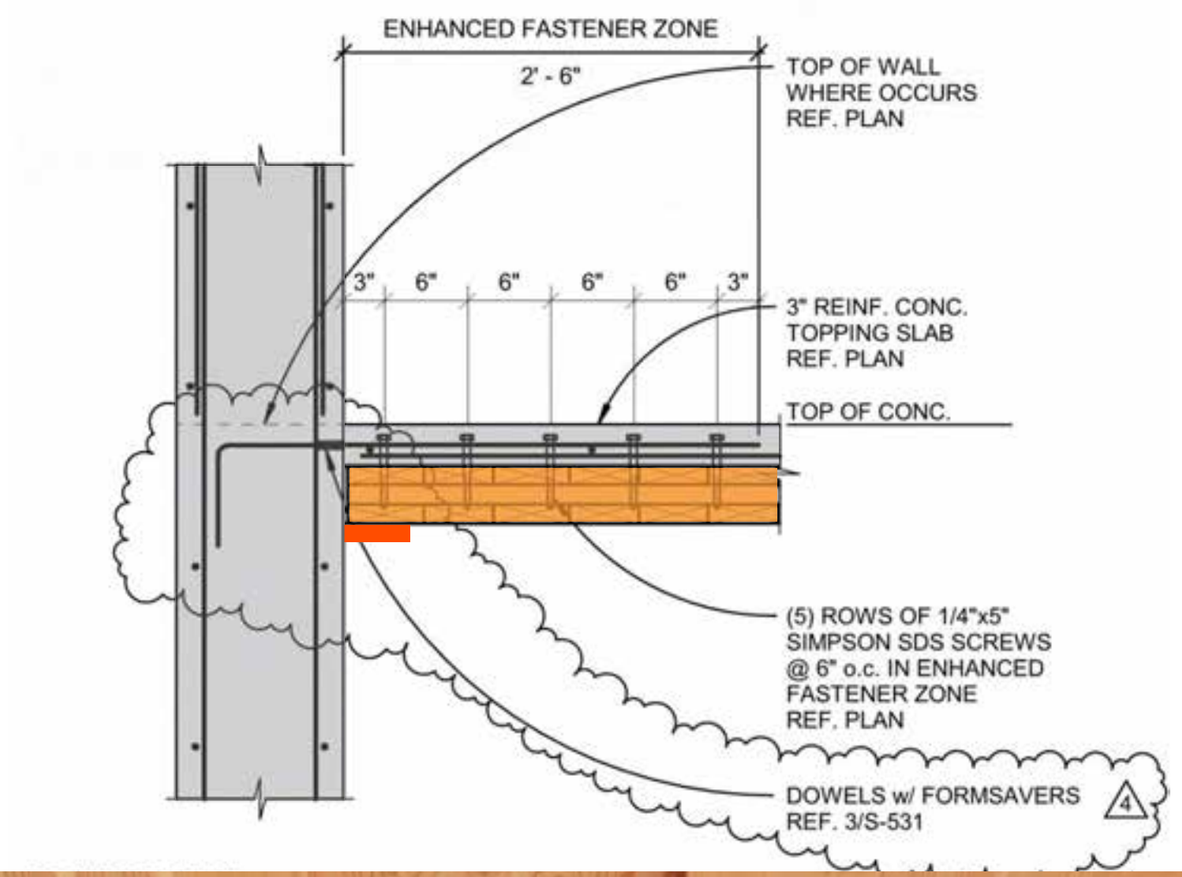

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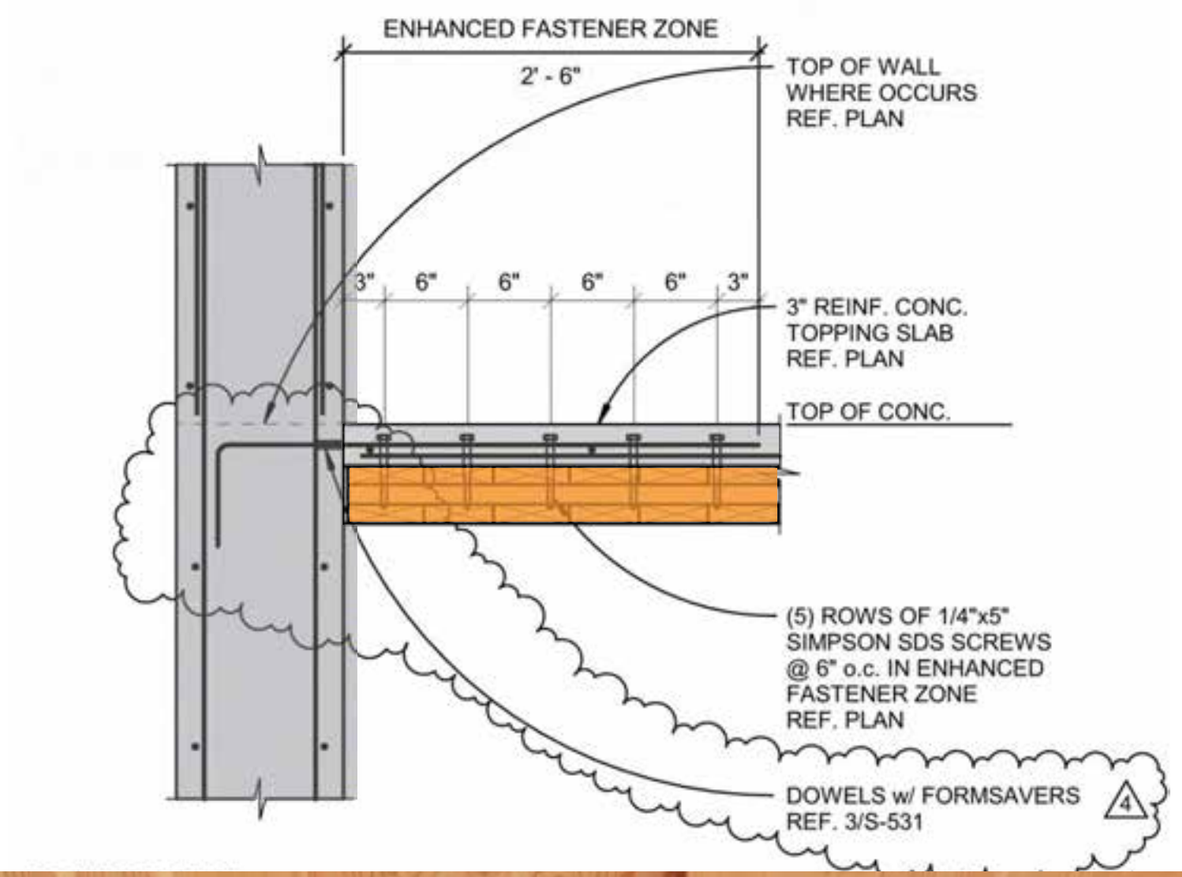

HACKER

Scott Barton-Smith AIA LEED BD+C
Associate Principal
sbartonsmith@hackerarchitects.com
hackerarchitects.com