ADVENTURES

in Mass Timber and Light-Frame Hybrid Systems in Multi-Family Buildings: THE CANYONS

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

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The Radiator
Kaiser + Path
2015
Tallest Mass Timber Structure in the United States. …as of now

Carbon 12
Kaiser + Path
2018

buildingcarbon12.com
The Canyons
Kaiser + Path
Summer 2020

THE BIG PICTURE
2nd Floor PT Podium
2nd Floor Wall Framing
6th Floor CLT
Roof CLT
The Canyons
A FEW DETAILS
Anchor Bolts and Full Height Hold Downs
Prefabrication of Stud Packs
Moisture Concerns
Building Value vs Building Cost.

The Canyons – CLT vs Light Framing
Building Value vs Building Cost.

The Canyons – CLT vs Light Framing

Base Design – All CLT floor

- 5 ply 139V CLT panels at 10’ spans
- 5 ply 175E CLT panels at 20’ spans
- Drywall soffits where required to provide horizontal MEP chases (highlighted areas)
Partial Change to Light Framing

- Delete 139V CLT at 10’ spans: save $320,000
- Savings in Plumbing: save $49,600
- I-Joist framing at all 10’ spans: add $223,200
- Additional soffits (frame/gwb/paint): add $179,200
- 3 weeks added general conditions: add $48,800
- SUB TOTAL ADD: $81,600
- 3 weeks added carrying costs: add $60,000
- TOTAL BUILDING COST ADD: $141,600

Building Value vs Building Cost.

The Canyons – CLT vs Light Framing

SOURCE: KGI Internal
Total Change to Light Framing

- Delete all CLT  
  save $1,194,500
- Savings in Plumbing  
  save $49,600
- I-Joist framing throughout  
  add $440,500
- Additional soffits (frame/gwb/paint)  
  add $344,000
- 5 weeks added general conditions  
  add $81,000

• SUB TOTAL BUILDING COST SAVINGS  $378,600
• 5 weeks added carrying cost  
  add $100,000

• TOTAL BUILDING COST SAVINGS  $278,600

Building Value vs Building Cost.

The Canyons – CLT vs Light Framing

SOURCE: KGI Internal
Total Change to Light Framing

- **TOTAL BUILDING COST SAVINGS** save $278,600

Value Lost

- Ceiling height reduced 6” or building height decreased by 30”
- Potential to lose a floor. We are at max height limit.
- Loss of exposed wood ceilings.
- Lower lease rates
- Market differentiation

Building Value vs Building Cost.

The Canyons – CLT vs Light Framing
Total Change to Light Framing

- **TOTAL BUILDING COST SAVINGS** save $278,600

Value Lost

- $0.12 / sf apartment lease reduction (3 ½%)
- $7,668 / monthly gross rental income reduction
- $92,255 / year gross rental income reduction

Building Value vs Building Cost.

The Canyons – CLT vs Light Framing

SOURCE: KGI Internal
Total Change to Light Framing

- **TOTAL BUILDING COST SAVINGS** save $278,600

Value Lost

- $0.12 / sf apartment lease reduction (3 ½%)
- $7,668 / monthly gross rental income reduction
- $92,225 / year gross rental income reduction
- **$1,752,843 value loss at sale** (5.0% cap, year 0)

Building Value vs Building Cost.

The Canyons – CLT vs Light Framing

SOURCE: KGI Internal
Building Value vs Building Cost.

The Canyons – **CLT WINS !!**
A Drag Race: CLT vs PT Concrete

L2 Post-Tension Concrete Slab
Day 1

The Canyons
Portland, OR

L4 Cross-Laminated Timber Panels & Light Frame Walls
Day 1

Kaiser+PATH
thank you

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Come Build With Us
www.kaiserpath.com

Interested in The Canyons
www.thecanyonspdx.com

It’s Built for Speed . . .
Watch the Concrete vs CLT Drag Race:
www.kaiserpath.com/why-wood