



ADVENTURES

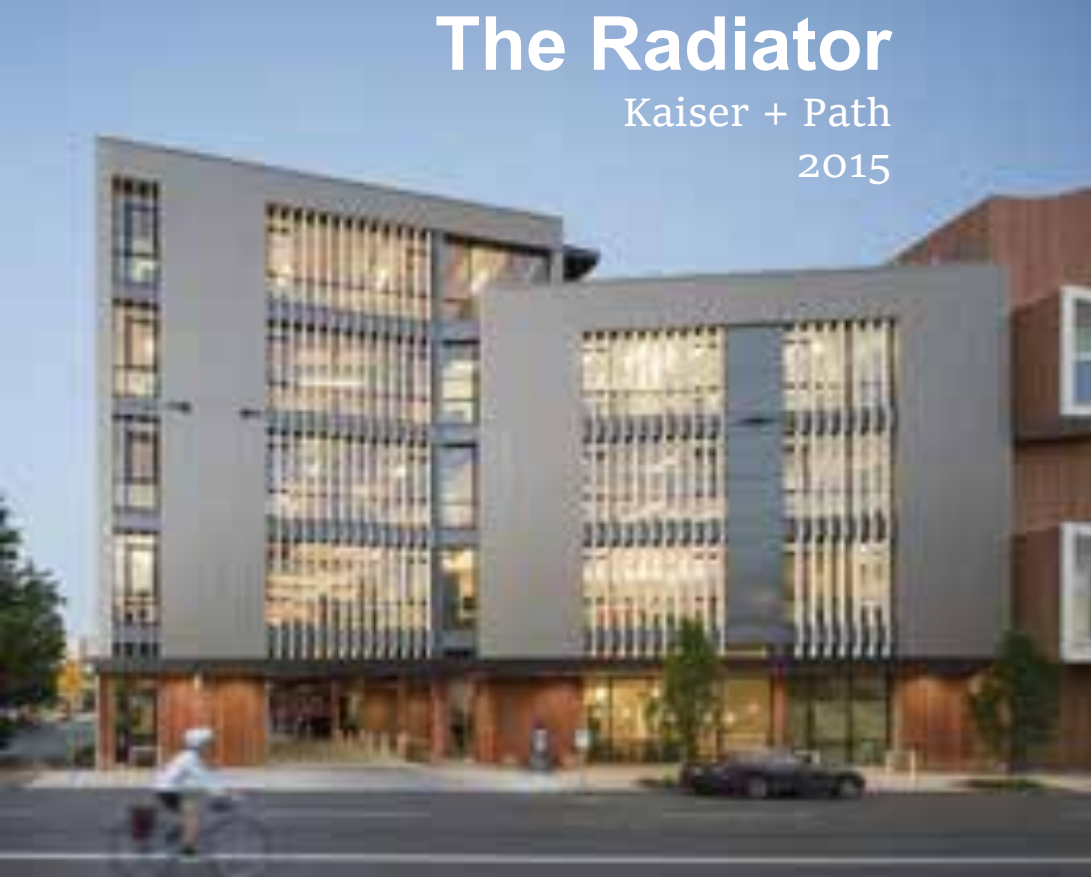
in Mass Timber and Light-Frame Hybrid Systems in Multi-Family Buildings: **THE CANYONS**

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



Carbon 12

Kaiser + Path
2018

 buildingcarbon12.com



Tallest Mass Timber Structure
in the United States.
...as of now





The Canyons

Kaiser + Path
Summer 2020

THE BIG PICTURE

CanyonsPDX

1 Level Below Grade









CanyonsPDX

First Canyons CLT Flies In



CanyonsPDX

3rd Floor CLT





CanyonsPDX

4th Floor CLT



CanyonsPDX

5th Floor CLT





CanyonsPDX

6th Floor CLT



CanyonsPDX

Scaffold and Wrap



CanyonsPDX

Full Wrap



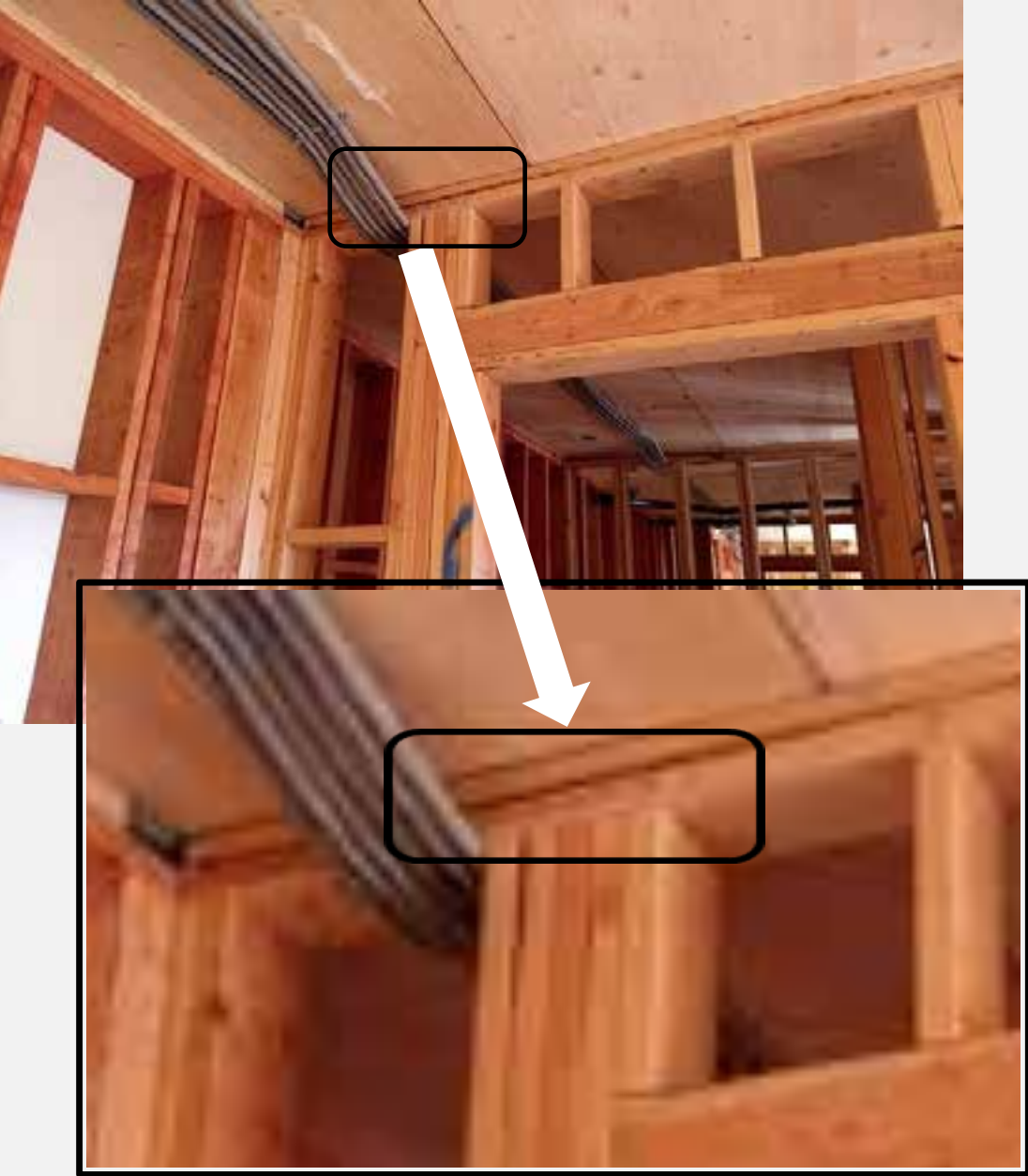
The Canyons

A FEW DETAILS



Anchor Bolts and Full Height Hold Downs

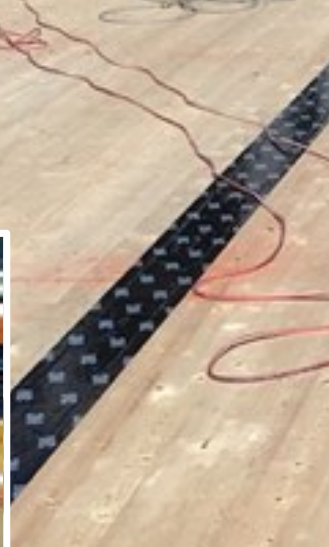




Prefabrication of Stud Packs



Moisture Concerns





The Atrium





Unit Finishes

The Canyons

THE MONEY



COST

Material
Labor
General Conditions
Overhead
Contingency
Escalation

VALUE

Construction Duration
Loan Rates
Leasability
Leasing Rates
Value at Sale
Market Differentiation



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)



Building Value vs Building Cost.

The Canyons – CLT vs Light Framing



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
• <u>TOTAL BUILDING COST ADD</u>	<u>\$141,600</u>

Building Value vs Building Cost.

The Canyons – CLT vs Light Framing



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



Total Change to Light Framing

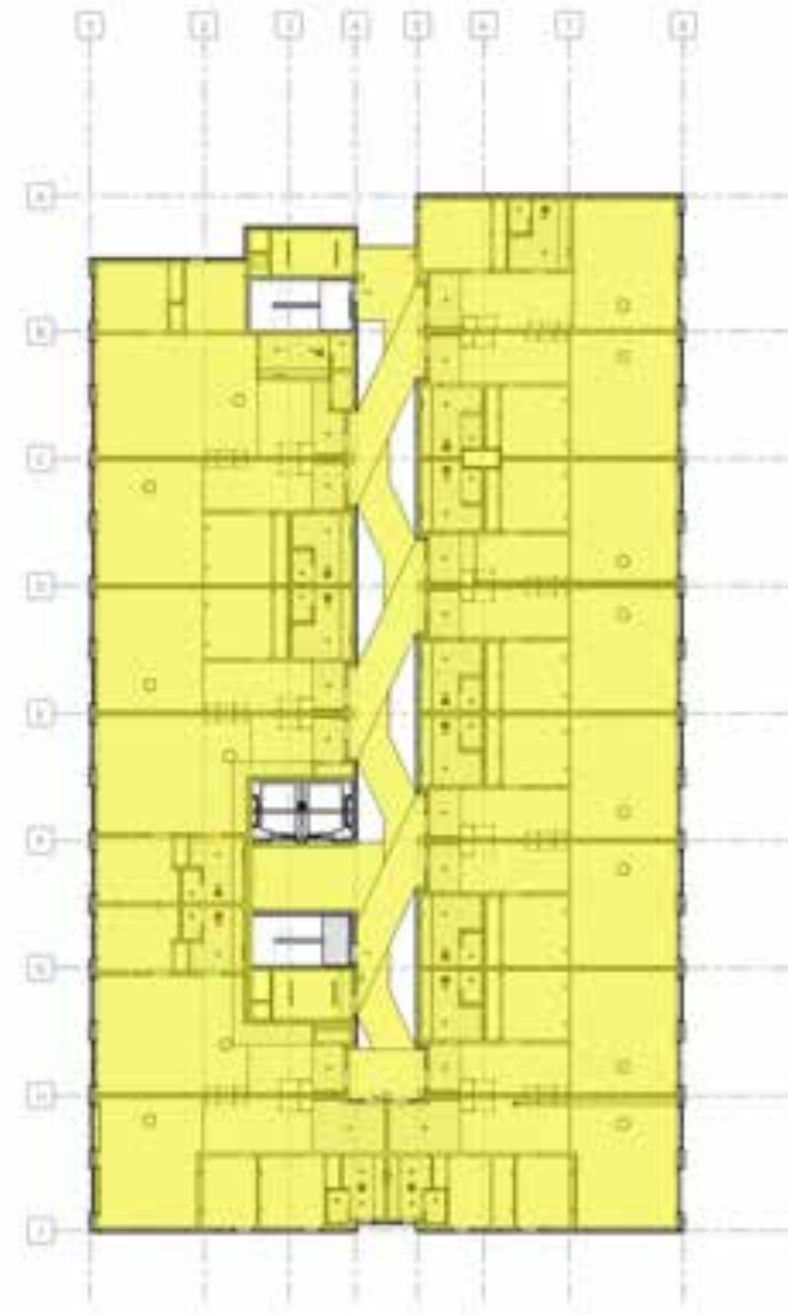
- **TOTAL BUILDING COST SAVINGS** **save \$278,600**

Value Lost

- Ceiling height reduced 6" or building height decreased by 30"
- Potential to loose 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

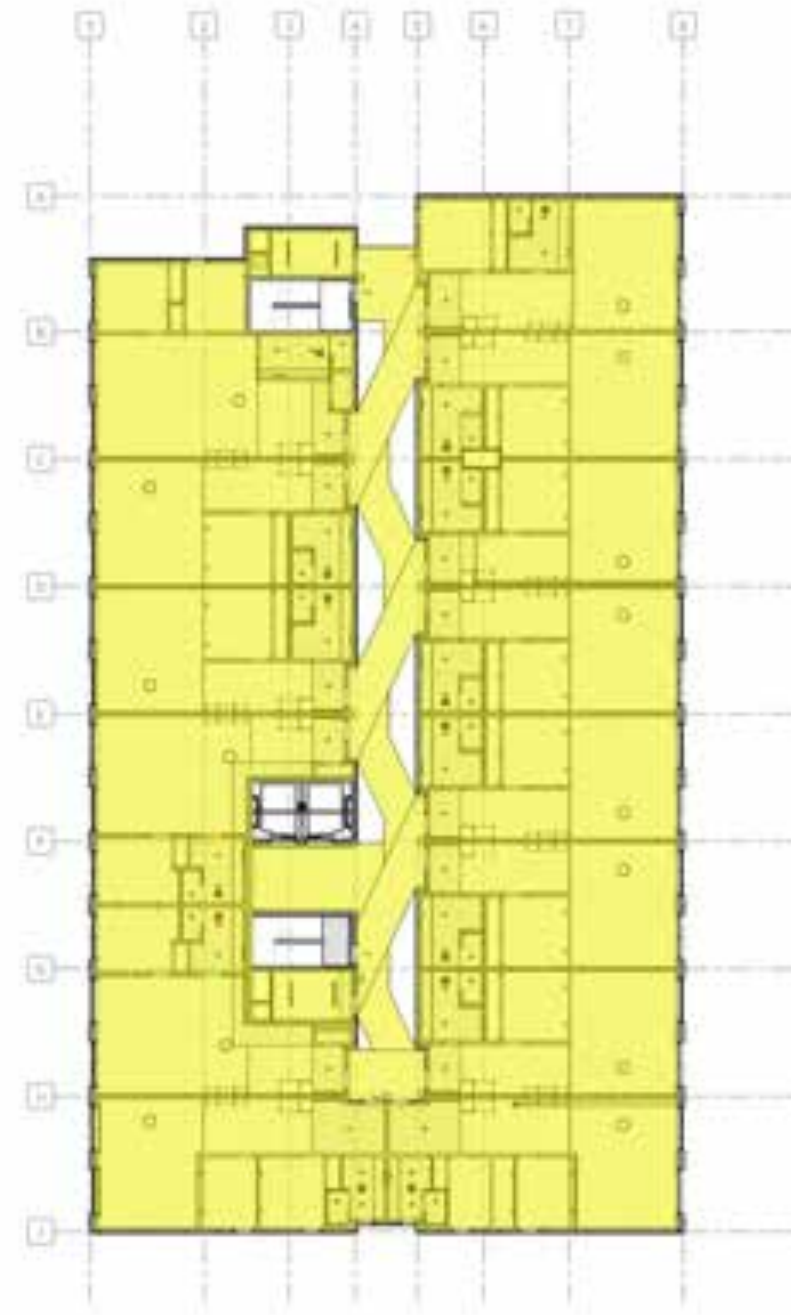
- TOTAL BUILDING COST SAVINGS **save \$278,600**

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



Total Change to Light Framing

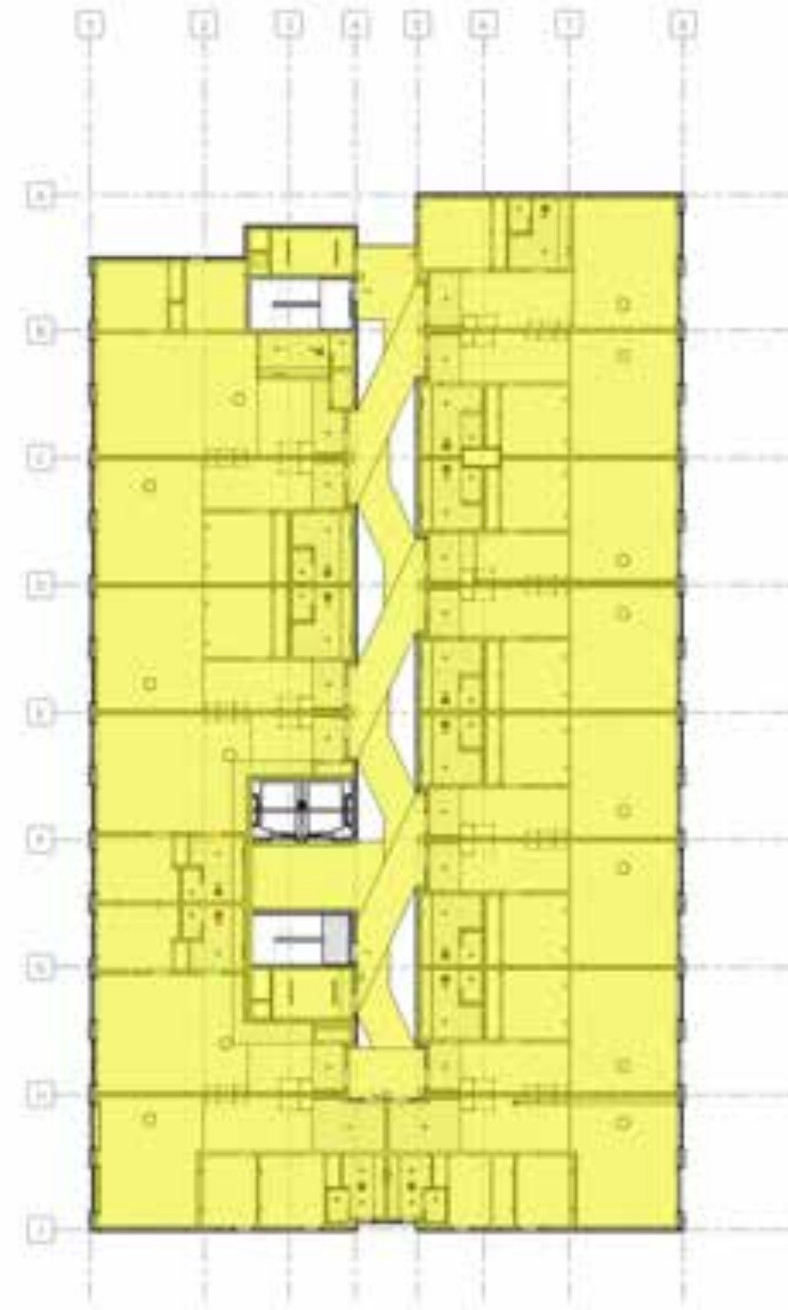
- TOTAL BUILDING COST SAVINGS save \$278,600

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





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



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