



**MASSTAC**

Washington Mass Timber Accelerator

# Tall timber

MASS TIMBER HOUSING OPPORTUNITIES –  
UTILIZING LOCAL RESOURCES TO DELIVER HOUSING AT ALL SCALES

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This book series reflects the deep commitment and innovation of organizations dedicated to developing projects with mass timber across different typologies. We would like to thank the MASSTAC Housing Committee members and individuals for their participation and support.

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Acknowledgements

This book series was funded by the Washington State Department of Commerce, through the Innovation Cluster Accelerator Program.

Funding from the Washington State Department of Commerce is under grant number 25-78250-005.

The Washington Mass Timber Accelerator would like to express its gratitude for the generous funding provided by the Washington State Department of Commerce, which has enabled Washington's design, construction, and manufacturing industries to show the nation how we might sustainably address our housing crisis, at all scales, and across rural and urban landscapes.



# About the Washington Mass Timber Accelerator

The Washington Mass Timber Accelerator (MASSTAC) is a non-profit organization working to advance high quality, low-carbon construction through increased utilization of locally manufactured mass timber. With representation from Indigenous communities, government agencies, private industry, labor organizations, and forestry, we are the central hub of mass timber activity in the State of Washington.

## Our Mission

To sustainably and equitably accelerate the adoption of mass timber in construction, in Washington and nationally.

## Our Vision

Locally manufactured mass timber is driving cleaner, faster, safer construction and healthier, more beautiful buildings in Washington and beyond.

We envision a future where mass timber is not only a standard in construction but also a catalyst for economic growth, community development, and environmental stewardship. Where sustainable mass timber buildings provide healthy and inspired environments for living, working, learning, playing, and healing. Where reciprocal relationships between cities and forests, urban and rural communities, support social, environmental, and economic well-being for our region.

## Our Funders

Seed funding for MASSTAC was provided by the City of Seattle Office of Economic Development, and the Washington State Department of Commerce.

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# Foreword

Rico Quirindongo

DIRECTOR, OFFICE OF PLANNING  
& COMMUNITY DEVELOPMENT, CITY OF SEATTLE

From Vancouver, British Columbia to Portland, Oregon, Seattle, Washington and the Olympic Peninsula, the Pacific Northwest has deep roots in the timber industry. Timber production in the state of Washington has not only shaped our cities but has also been pivotal in defining the region's economic trajectory. The state's forests, particularly in the Olympic Peninsula and the Cascade Range, have long been a rich source of timber, which fueled the state's development into one of the nation's most prosperous regions.

And so, the timber industry in Washington was not just about extracting resources, it was about transformation. The rise of the timber industry put Washington on the map and contributed significantly to the establishment of the Pacific Northwest as an industrial hub during the early 20th century. Cities like Seattle grew rapidly due to the vast timber resources of the region. The iconic sawmills and logging camps that dotted the Puget Sound provided raw materials for much of the nation's infrastructure and built the foundation of the Pacific Northwest economy. Washington's timber industry, along with its proximity to the Pacific Ocean, also played a key role in the development of ports and transportation networks, which allowed timber products to be exported globally. The growth of the railroads, shipyards, and other transportation networks followed in the wake of intensive timber harvesting, creating a powerful industrial economy. As Seattle and the surrounding areas became the epicenter of timber production, the state's economy flourished. For decades, timber was the cornerstone of the region's prosperity.

However, as the world has grown more environmentally conscious in the last several decades, the traditional timber industry has faced many challenges. Unsustainable logging practices and deforestation concerns prompted a call for a different approach to the work. Today, the demand for timber remains

strong, and we are moving into a more sustainable relationship with the forests. Simultaneously, we are recognizing the power of wood to be used as a substitute for energy intensive and carbon-emitting structural materials.

This is where the new frontier of mass timber comes into play. Today, we find ourselves at a crossroads where the timber industry, once defined by traditional methods, is evolving into something even more revolutionary with the development of cross-laminated timber (CLT). Utilizing products such as CLT, mass timber construction is not just reshaping construction, but paving the way for a more sustainable, carbon-neutral future while creating jobs, spurring economic growth, and supporting the state's industrial and architectural innovations.

CLT is an engineered wood product that has been hailed as a breakthrough in sustainable building, offering a new way to utilize the region's rich forest resources while dramatically reducing carbon emissions from traditional construction. A shift to mass timber is critical for Washington's ambitious goals of achieving carbon neutrality in the coming decades.

Mass timber is not just a material; it represents a new vision for the state's future, combining the historical legacy of timber production with cutting-edge innovations in architecture and construction. As a renewable resource, mass timber is part of the solution to reducing the carbon footprint of our built environment. When sourced and produced sustainably, mass timber buildings can sequester carbon, locking away greenhouse gases that would otherwise contribute to climate change.

The Canyons, LSW Architects  
Photo: © Marcus Kauffman Photography

“ Utilizing products such as CLT, mass timber construction is not just reshaping construction, but paving the way for a more sustainable, carbon-neutral future while creating jobs, spurring economic growth, and supporting the state's industrial and architectural innovations. ”





The production of mass timber also uses far less energy than traditional construction materials like concrete and steel, making it a key component in Washington's transition to a carbon-neutral economy.

Beyond its environmental benefits, mass timber has the potential to invigorate the state's economy and provide a pathway to future job growth. From blue-collar construction industry jobs in the assembly and erection of mass timber buildings to white-collar jobs in architectural design and engineering of carbon-neutral buildings, the industry holds tremendous promise for diverse job creation. The growth of mass timber manufacturing could revitalize rural communities in the state's timber-producing regions, such as the Olympic Peninsula, creating opportunities for local manufacturing across the region. Investment in the development of mass timber production facilities and the necessary infrastructure to support the industry is critical to the state's economic future.

This investment will also help foster innovation in construction techniques. The ability to build mass timber skyscrapers, residential buildings, and even single-family homes represents a new era for the construction industry. For Seattle and its neighboring cities, mass timber offers a more efficient, sustainable way to build for the growing population. It opens new possibilities for housing production, from small accessory dwelling units (ADUs) to large-scale transit-oriented development (TOD) projects. Mass timber allows for faster construction timelines, which is essential in addressing the housing crisis that many cities across the U.S. are currently facing. Whether for mid-rise apartment buildings in Seattle or sustainable affordable housing projects in rural communities, mass timber provides a scalable solution that can meet the housing demands for urban and rural communities across the region.

What's more, the integration of mass timber into the design and construction of tall buildings, including mass timber towers, is breaking new ground in architectural design. Washington, a region known for its innovative architectural firms and design-driven approach to construction, is poised to lead this charge.

Mass timber provides a unique material aesthetic, warmth, and versatility that cannot be replicated with traditional construction materials. As architects and builders increasingly turn to mass timber, Washington could position itself at the forefront of a global movement toward sustainable building practices.

Investing in mass timber represents a chance to honor the region's timber roots while propelling the state toward a more sustainable, carbon-neutral future. Washington's timber industry has always been a powerful economic engine, and the mass timber sector offers the potential to continue that legacy while aligning with a green energy and materials strategy and a carbon neutral future. Supporting the emerging mass timber industry will strengthen our economy, reduce global carbon emissions, create green jobs, and improve the quality of life for residents in both urban and rural communities. Mass timber is part of the sustainable future that I want to see for myself, my family, and the diverse communities of which we are all a part.

This book outlines a vision for how we can invest in and see a sustainable vision forward, one that leans into our housing needs for the state and the region.

I am grateful to the leadership and investments of Washington Governor Bob Ferguson, Policy Director Sahar Fathi, Housing Senior Policy Advisor Nicholas Carr, City of Seattle Mayor Bruce Harrell, Office of Economic Development Director Markham McIntyre, Manufacturing and Maritime Strategic Advisor John Persak, and Washington Mass Timber Accelerator Executive Director Erica Spiritos. Their vision, their efforts, and their commitment in partnership with state, city, and industry leadership makes me hopeful for our collective future.



The Canyons, LSW Architects  
Photo: © Jeremy Bitterman Photography



# Introduction

## Stronger, Faster, Greener: Mass Timber Housing in Action

The mass timber industry is evolving rapidly, reshaping the way we think about building design and construction. Once a niche material, mass timber has rapidly gained acceptance across the architectural and construction industries, thanks to its remarkable versatility, sustainability, and economic advantages. With advancements in technology and updates to the International Building Code (IBC), including allowances for taller structures currently up to 18 stories, mass timber is poised to transform skylines and communities alike.

Mass timber offers a compelling suite of benefits that make it a smart choice for developers, institutions, and private clients alike:

- **Revenue Generation:** Mass timber buildings offer opportunities for increased density, faster speed to market, and enhanced leasing velocity due to the beauty of exposed wood.
- **Streamlined Construction:** Harnessing the potential of prefabrication to reduce construction timelines, mass timber buildings are erected quickly, quietly, and with minimal waste generated on-site.
- **Carbon Reduction:** A renewable material sourced from sustainably managed forests, mass timber reduces reliance on high-carbon materials and stores carbon throughout its lifecycle.
- **Building Performance:** Mass timber buildings offer durability, thermal comfort with energy efficiency, fire-resistance, and higher indoor air quality due to a reduced reliance on finish materials.

- **Health and Wellness:** Mass timber buildings enhance occupant well-being by fostering connections to natural materials. Research links such environments to improved cognitive function, reduced stress levels, and overall psychological benefits.

The state of Washington has emerged as a leader in this movement, with forward-thinking policies that enable mass timber's use in taller buildings. However, broader adoption will require continued collaboration among architects, developers, policymakers, and builders as we co-create a better way to build.

This Mass Timber Housing look book celebrates the vast potential of mass timber in housing projects throughout the Pacific Northwest, showcasing examples across categories such as modular and custom single-family homes, accessory dwelling units (ADUs), cluster housing, townhome, low-rise and mid-rise developments, tall timber housing, and skyscrapers. These projects — both built and unbuilt — demonstrate the material's adaptability and its ability to meet diverse housing needs. While the focus is on Washington State, the lessons and inspiration drawn from these projects resonate across North America and beyond. The projects in this look book demonstrate what is possible.

**The next step is yours.**



CLT Townhome Building Kit, Green Canopy Node  
Photo: © Inside Spokane Photography

# Meet Washington's Mass Timber Manufacturers

## Cascade Joinery • Bellingham, WA

FABRICATOR



For 33 years, Cascade Joinery has been crafting timberwork for high-end, commercial, residential, and municipal buildings, in a vast range of architectural styles. Today, we're one of the Northwest's leading producers of structural and decorative crafted timberwork, providing creative solutions to complex structural challenges. We believe in Mass Timber, and we're devoted to, and passionate about, delivering on it. From design-phase consultation to fabrication and on-site installation, we're by your side to manifest the most ambitious Mass Timber projects.

**For more information, contact:** Allen Stoltzfus, Sales Engineer  
allen@cascadejoinery.com • [cascadejoinery.com](https://www.cascadejoinery.com)

## Composite Recycling Technology Center (CRTC)

MASS TIMBER PANELS (CLT)



The CRTC Building Innovation Center was established to provide mass timber-based housing solutions to rapidly deployable military housing, emphasizing durability and protection. With access to vast stands of rapidly growing coastal western hemlock on the Olympic Peninsula, CRTC-BIC is the first entity worldwide to utilize thermal modification to stabilize and enable this underutilized species in CLT. ACLT - Advanced Cross Laminated Timber, is a CLT product that uses thermal modification (TM) of the lamstock in place of kiln-dried lumber. The TM process imparts improved dimensional stability as well as increased resistance to mold and mildew attack. Sourcing our primary lumber supply from the Makah Tribe, we have expanded to provide tribal and other affordable single-family modular detached homes.

**For more information, contact:** Glenn Ellis Jr, Housing Business Manager  
(505) 274-9198 • gellis@crtc-wa.org • [compositerecycling.org](https://www.compositerecycling.org)

## Green Canopy Node • Seattle, WA

PREFABRICATED MASS TIMBER HOUSING



Green Canopy NODE builds sustainable housing using offsite and traditional methods. We service developers in Washington and Oregon to acquire, plan, and construct their low rise multifamily and multi-unit projects. We innovate construction methods and components to increase cost control, reduce timelines, and improve sustainability. Green Canopy NODE offers a catalog of mass timber modular houses, townhomes, and apartments that are pre-designed and customizable to deliver carbon negative housing for developers and neighborhoods.

**For more information, visit:** [greencanopynode.com](https://www.greencanopynode.com)



## Mercer Mass Timber • Spokane Valley, WA

COMPLETE MASS TIMBER STRUCTURES

As a global mass timber manufacturer with operations in Washington, we provide high-performance prefabricated solutions for residential construction at all scales. Our vertically integrated approach—combining digital design, off-site manufacturing, and construction services—reduces project risk, accelerates schedules, minimizes site disruption, and enhances energy performance. From modular homes to mid- and high-rise developments, we enable sustainable, innovative, and resilient housing solutions.

**For more information, contact:** clt@mercerint.com • [mercermasstimber.com](https://www.mercermasstimber.com)

## Tieton Cabin Co. • Tieton, WA

PREFABRICATED MASS TIMBER HOUSING



Tieton Cabin Company, located in Tieton, WA, builds ready-made, thoughtfully designed one and two bedroom small homes optimized for versatile functionality as guest accommodations, income properties, or personal retreats. Robustly built with Cross Laminated Timber, Rockwool installation, steel frames and premium fixtures for energy efficiency, durability and performance, their elegant simplicity offers modern, timeless warmth with essential features. IBC compliant and WA State L&I certified, these homes arrive complete and install in one day with minimal disruption, ready for immediate use.

**For more information, contact:** Alex Mondau, Director of Strategy • 509-673-1030  
alex@tietoncabinco.com • [tietoncabinco.com](https://www.tietoncabinco.com)

## Vaagen Timbers • Colville, WA

COMPLETE MASS TIMBER STRUCTURES



Vaagen Timbers is a leader in sustainable mass timber manufacturing, transforming small-diameter logs from forest restoration into premium glulam and cross-laminated timber (CLT) products. By sourcing wood from within 100 miles of their Colville, WA (USA) facility, they reduce emissions and support local economies. Their precision-engineered glulam beams offer exceptional strength and beauty, meeting stringent ANSI/APA standards. Choosing Vaagen Timbers means investing in resilient, low-carbon buildings while actively contributing to healthier forests and wildfire prevention. From Forest to Frame — with purpose.

**For more information, contact:** Joel D. Rohrs, Executive Vice President  
(206) 708-3260 • [vaagentimbers.com](https://www.vaagentimbers.com)



# Mass Timber in Washington

## Manufacturers Map

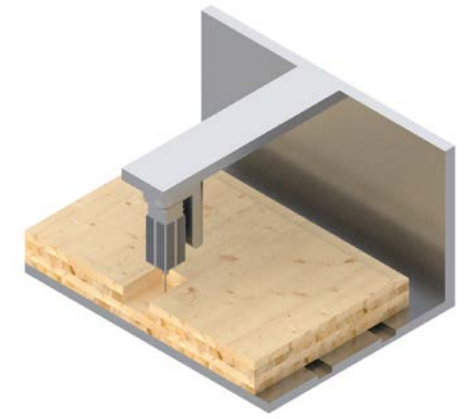


## Mass Timber Products

||| Glue Laminated Timber (Glulam)



+ Fabrication



≡ Mass Timber Panels (CLT, DLT, MPP)



▤ Prefab Mass Timber Housing



○ Connectors and Hardware



▣ Complete Mass Timber Structures







# Typology 7

## Tall Timber

### What is tall timber?

Multi-story multifamily residential buildings between 8 and 18 stories, meeting the definition of high-rise construction (which triggers additional fire and life safety requirements), while being permitted outright by the building code for mass timber (however often requiring concrete or steel elements for lateral stability). Tall timber provides increased urban density with elevators, shared amenities, and opportunities for a mix of uses along with housing.

Photo: Heartwood, atelierjones  
© Lara Swimmer Photography

### Why mass timber for this typology?

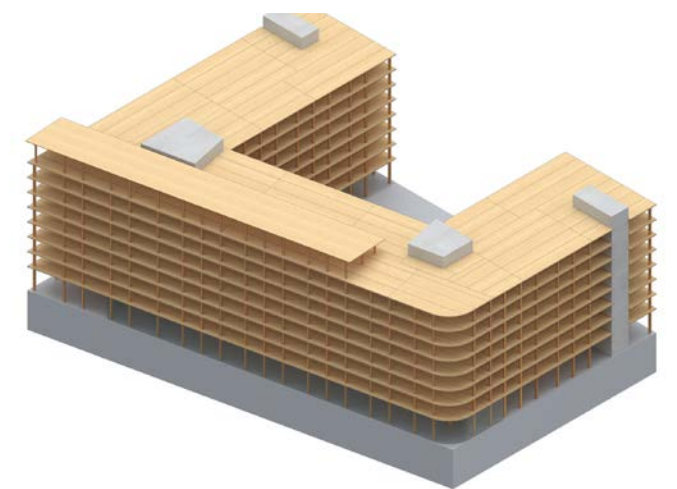
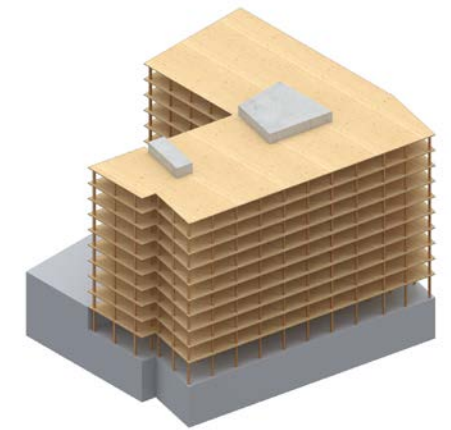
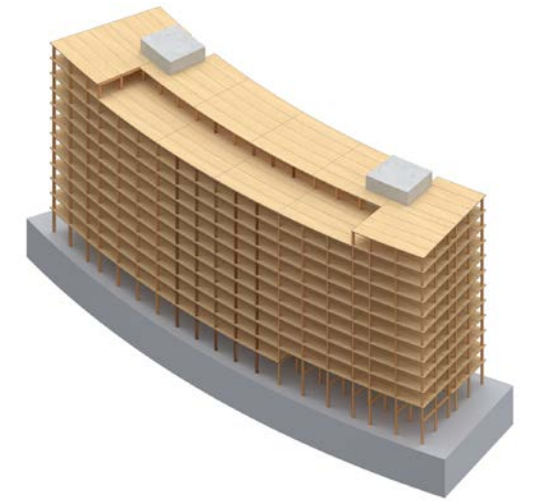
Of the many reasons to build with mass timber for 8-18 story projects the most common motivators are market differentiation, construction schedule compression, and reduced embodied carbon relative to concrete construction. Under the 2021 IBC, three new construction types (IV-C, IV-B, and IV-A) permit 8, 12, and 18 story timber towers respectively.

A new "missing middle" typology in the realm of building heights, these new codes allow developers to take advantage of zoning height allowances to increase the density of housing beyond what podium construction affords.

Mass Timber's precise prefabrication and simple connections make for structures that go up quickly, quietly, and cleanly. Combined with just-in-time delivery, mass timber construction can rise at a floor a week on a tight urban site with minimal disruptions to neighbors. These properties also mean that mass timber buildings can be deconstructed, with timber components remaining usable and retaining value after the lifetime of the building.

### What are the opportunities to scale?

As of January 2025, twenty-eight states have adopted code provisions for 8-18 story mass timber construction. As many cities are upzoning their core zones to promote density, 8-18 story projects are set to become a larger percentage of the construction market. Mass timber will become an increasingly integral part of this construction market as more states and jurisdictions regulate embodied carbon. Mass timber is poised to fill a gap in the urban housing market by encouraging infill development on tricky sites due to its lightweight structures, thin floor assemblies, and efficient structural spans that are optimal for residential units. Mass timber allows projects to fit more units in more floors than lightwood frame podium construction topped out at 7 or 8 stories or heavy concrete construction that requires more intensive foundations than an equivalent mass timber alternative. The economic increase in units allows projects to supply vital affordable or missing middle income housing to cities.

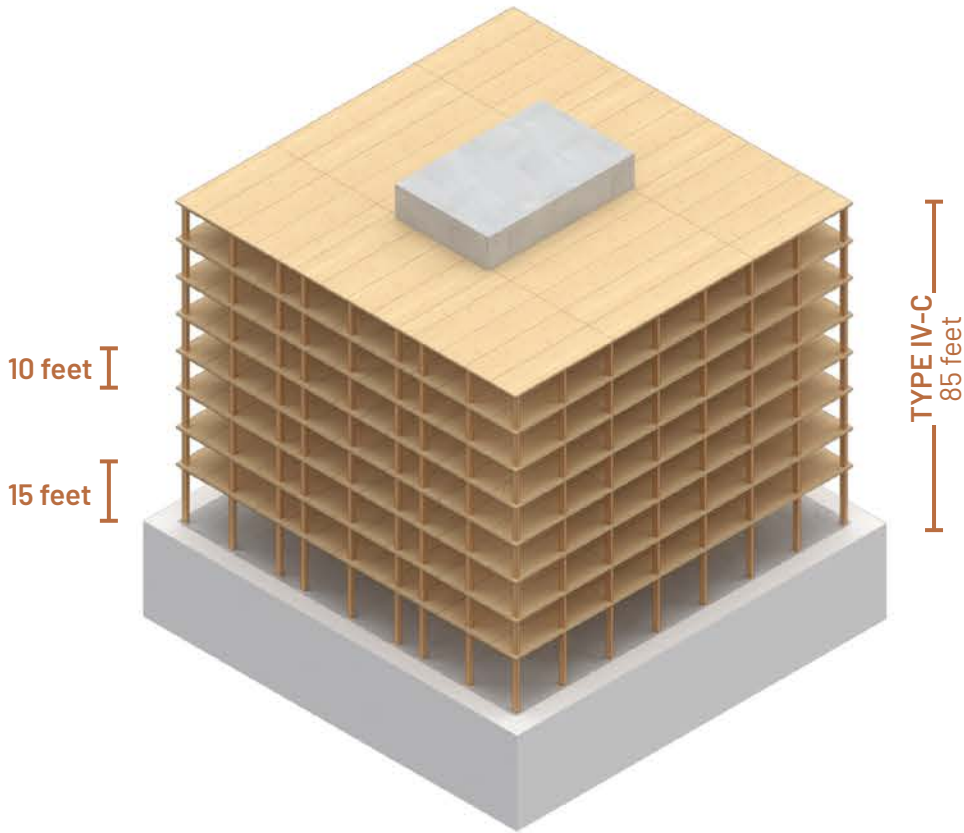


The Heartwood project's mass timber system can be replicated across various building types and scales. Diagrams courtesy of atelierjones.



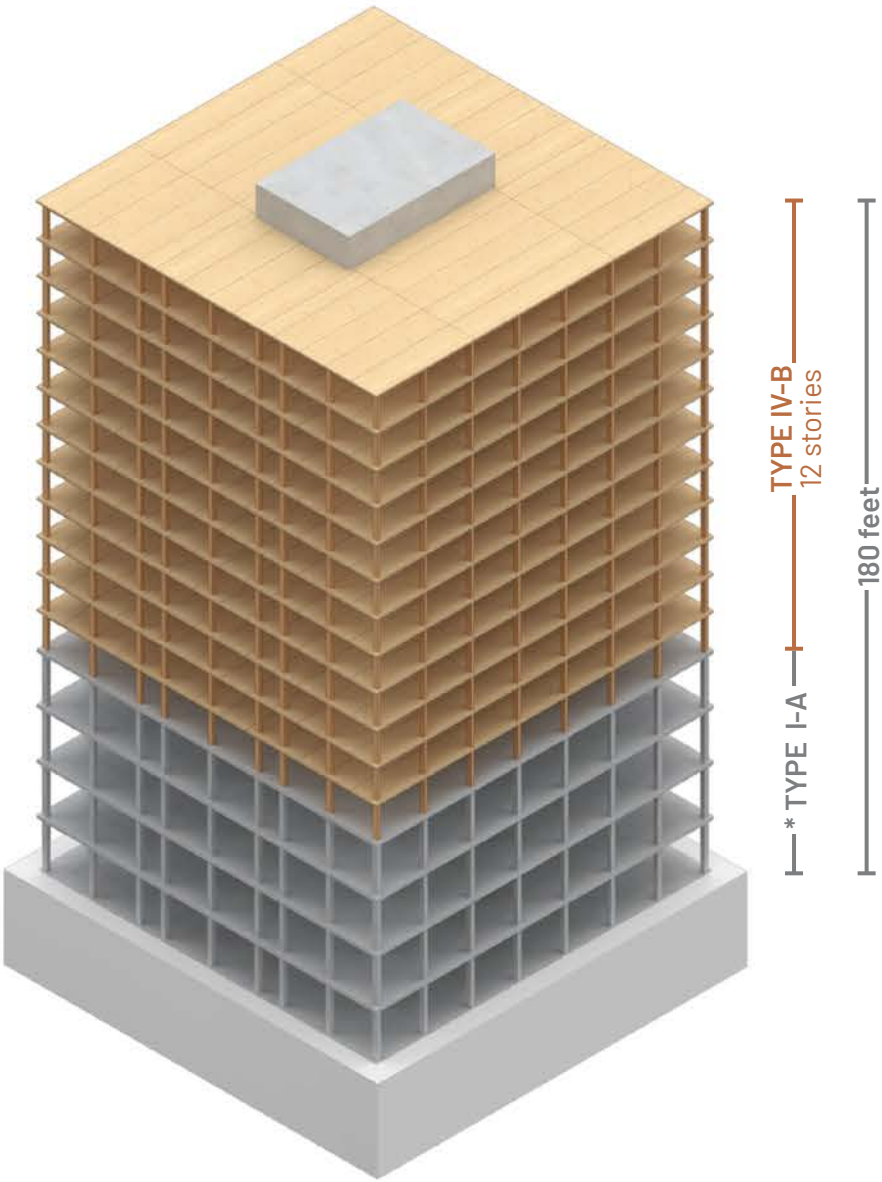
**IBC TYPE IV MASS TIMBER CONSTRUCTION**

\* Note that the use of podiums to achieve extra stories within the height limit of type IV-B and Type IV-A, varies by jurisdiction.



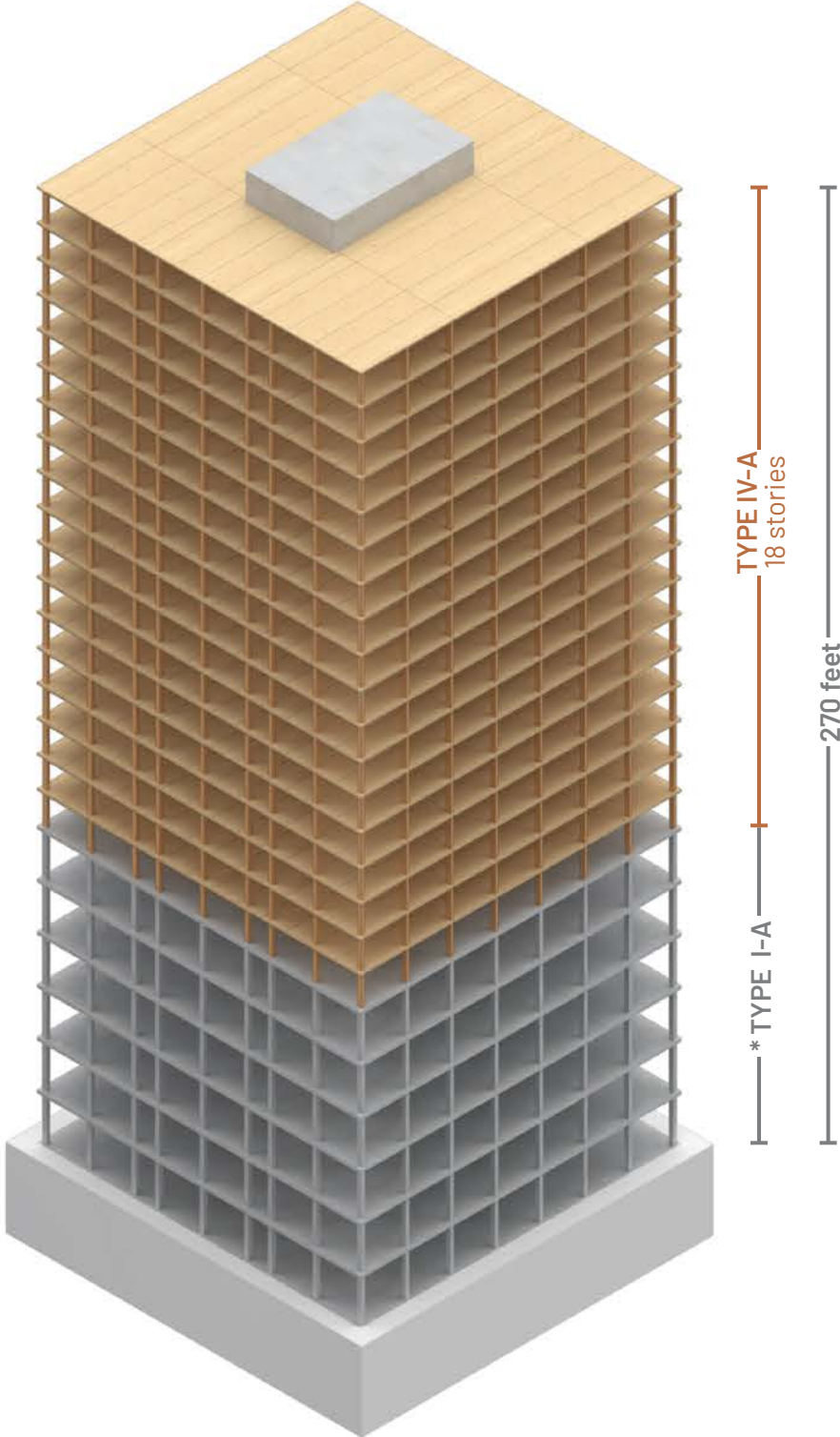
**TYPE IV-C**  
Residential Allowable stories / Height:  
8 stories / 85 feet

R-2 Total Allowable Building Area (varies with frontage):  
230,625 – 307,500 GSF



**TYPE IV-B**  
Residential Allowable stories / Height:  
12 stories / 180 feet

R-2 Total Allowable Building Area (varies with frontage):  
369,000 – 492,000 GSF



**TYPE IV-A**  
Residential Allowable stories / Height:  
18 stories / 270 feet

R-2 Total Allowable Building Area (varies with frontage):  
553,500 – 738,000 GSF

Diagrams courtesy of atelierjones





## Heartwood Apartments

Seattle, WA

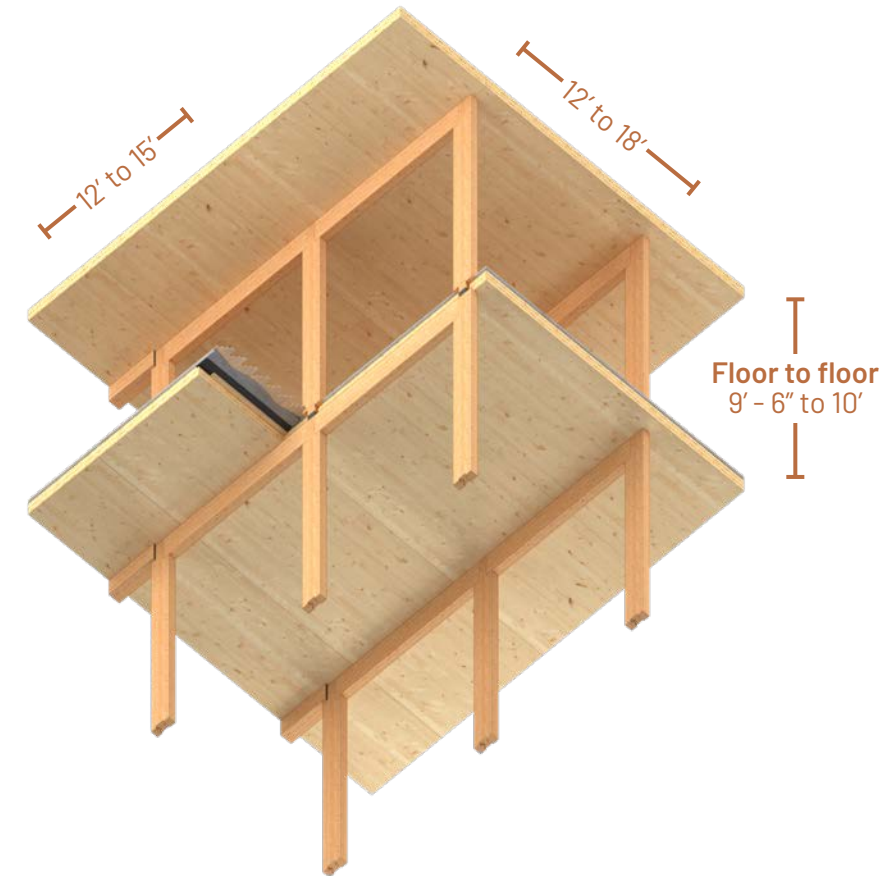
Heartwood is the first building in the U.S. completed as-of-right under the new Type-IV codes. Representing a significant development in tall timber construction, Heartwood provides not only "missing middle" workforce housing for Seattle, but a replicable model for future tall timber buildings across the country.

Located in the heart of Seattle's Capitol Hill neighborhood, the 67,500 SF 8-story building houses 126 units, averaging 400 SF per unit, with 113 studios and 13 one-bedrooms. Occupancy is targeted at 80-85% of Area Medium Income (AMI) and currently the building is 94% leased.

Completed in 2024 • Website: [Heartwood](#)

Photo: © Flor Projects  
Heartwood structural diagrams courtesy of atelierjones

The primary building block for Heartwood's post-and-beam structure is its proprietary, two-hour rated all timber column and beam connection. This joint is ready for use in Type IV-C and IV-B construction, and provides the basis for a construction system that can be replicated across multiple building types, programs, and scales.



### POST & BEAM SYSTEM

One-way post-and-beam construction allows for maximum grid flexibility to fit more units on constrained sites.

### HEARTWOOD'S STRUCTURE

Hybrid mass timber post-and-beam superstructure with five-ply CLT floor panels supported by glulam beams and columns.



### PROJECT TEAM

Community Roots Housing  
OWNER

Skipstone  
DEVELOPER

atelierjones  
ARCHITECT

Blueline Group  
LANDSCAPE ARCHITECT

Swinerton  
CONTRACTOR

DCI Engineers  
STRUCTURAL & CIVIL ENGINEER

Kalesnikoff  
CLT

DR Johnson  
GLULAM

Freres  
MPP STAIR

Timberlab  
TIMBER TRADE PARTNER





## Carbon12

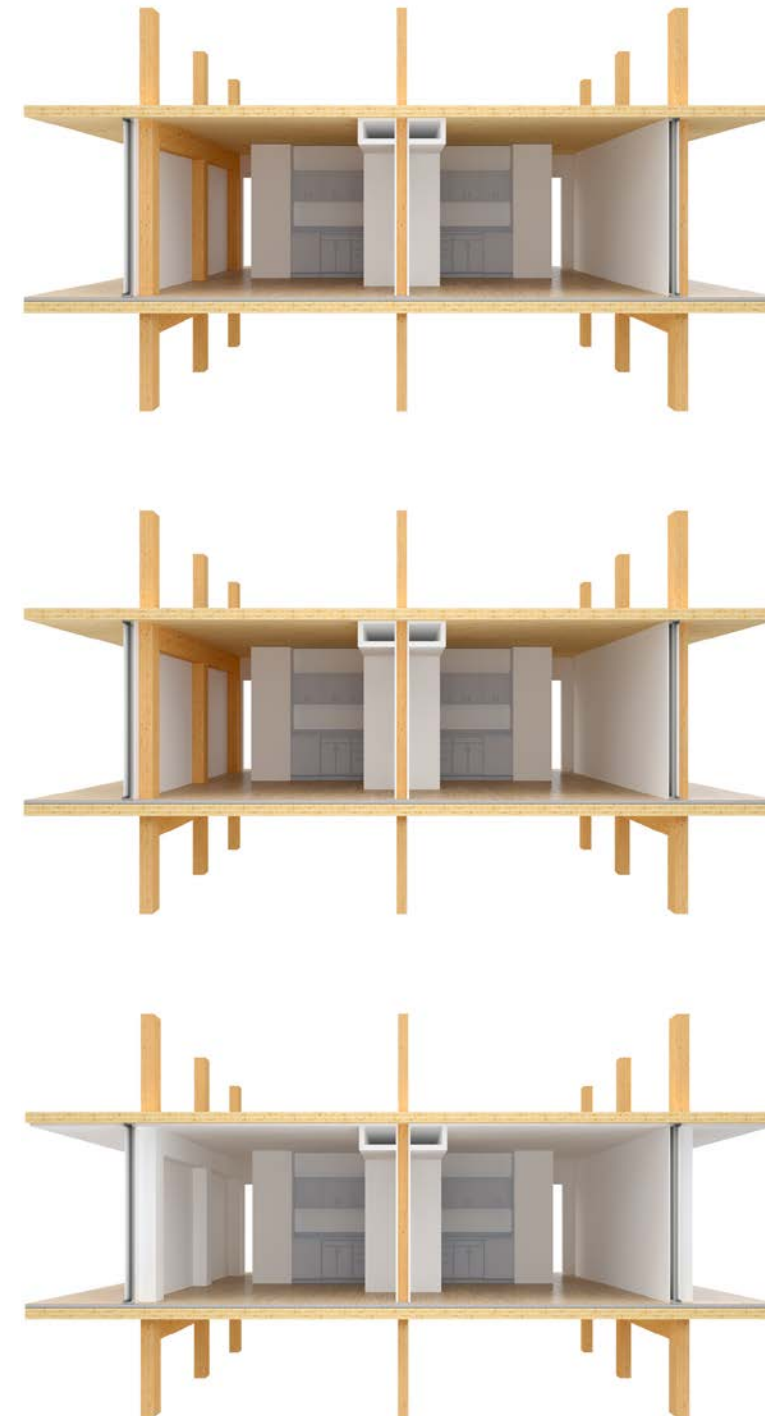
Portland, OR

Carbon12 sets a new standard for what's possible in sustainable development in the United States. At 85 feet tall and 8 stories high, Carbon12 is one of the tallest mass timber buildings in the country. Developed before the establishment of tall timber code provisions, the design team worked with city and state officials to re-examine restrictive codes limiting the height of wood buildings, making Carbon12 and future tall wood buildings possible in the US.

Carbon12 blends modern luxury with environmental stewardship. This sophisticated building integrates advanced technology and sustainability features. The innovative mass timber structure enhances its eco-friendly profile and provides a unique market advantage, enabling the 14 condominiums on Portland's east side to sell at a premium. This marked a significant shift, introducing a price point previously uncommon in that part of the city.

Website: [Carbon12](https://carbon12.com)

Photo: © Andrew Pogue Photography



### IBC TYPE IV MASS TIMBER CONSTRUCTION

#### TYPE IV-C

Mass Timber elements permitted to be unprotected.

#### TYPE IV-B

**Ceilings:** 100% exposed

*Or*

**Columns and walls:** 60% exposed

*Or*

**Combination of columns, walls, and ceilings:**  
See 2024 IBC 602.4.2.2.3.

#### TYPE IV-A

All mass timber elements to be protected to an 80 minute rating or greater.

#### PROJECT TEAM

Kaiser Group, Inc.  
DEVELOPER

LSW Architects, PC  
ARCHITECT

Munzing  
STRUCTURAL ENGINEER

Structurlam  
CLT

TYPE IV mass timber construction diagrams courtesy of atelierjones



# BCIT Student Housing

Burnaby, BC

With a growing student body, low vacancy in the surrounding cities, and lack of housing in the immediate vicinity of the campus, the British Columbia Institute of Technology (BCIT) has decided to significantly increase the supply of on-campus housing. With ambitious goals around carbon and energy, and aspirations of creating a living lab and demonstrating BCIT's innovative and progressive spirit, our team designed a mass timber building that utilizes modularity and prefabrication ensuring effective use of space and efficient construction: allowing the structure and facade installation to be completed in only six months.



## PROJECT TEAM

British Columbia Institute of  
Technology (BCIT)  
OWNER

Perkins&Will  
ARCHITECT

Hapa Collaborative  
LANDSCAPE ARCHITECTURE

Ledcor Construction  
CONTRACTOR

Fast + Epp  
STRUCTURAL ENGINEER

RDH Building Science  
ENVELOPE

Introba  
MECHANICAL ENGINEER

WSP  
ELECTRICAL ENGINEER

McElhanney  
CIVIL ENGINEER

GHL Consultants  
CODE CONSULTING

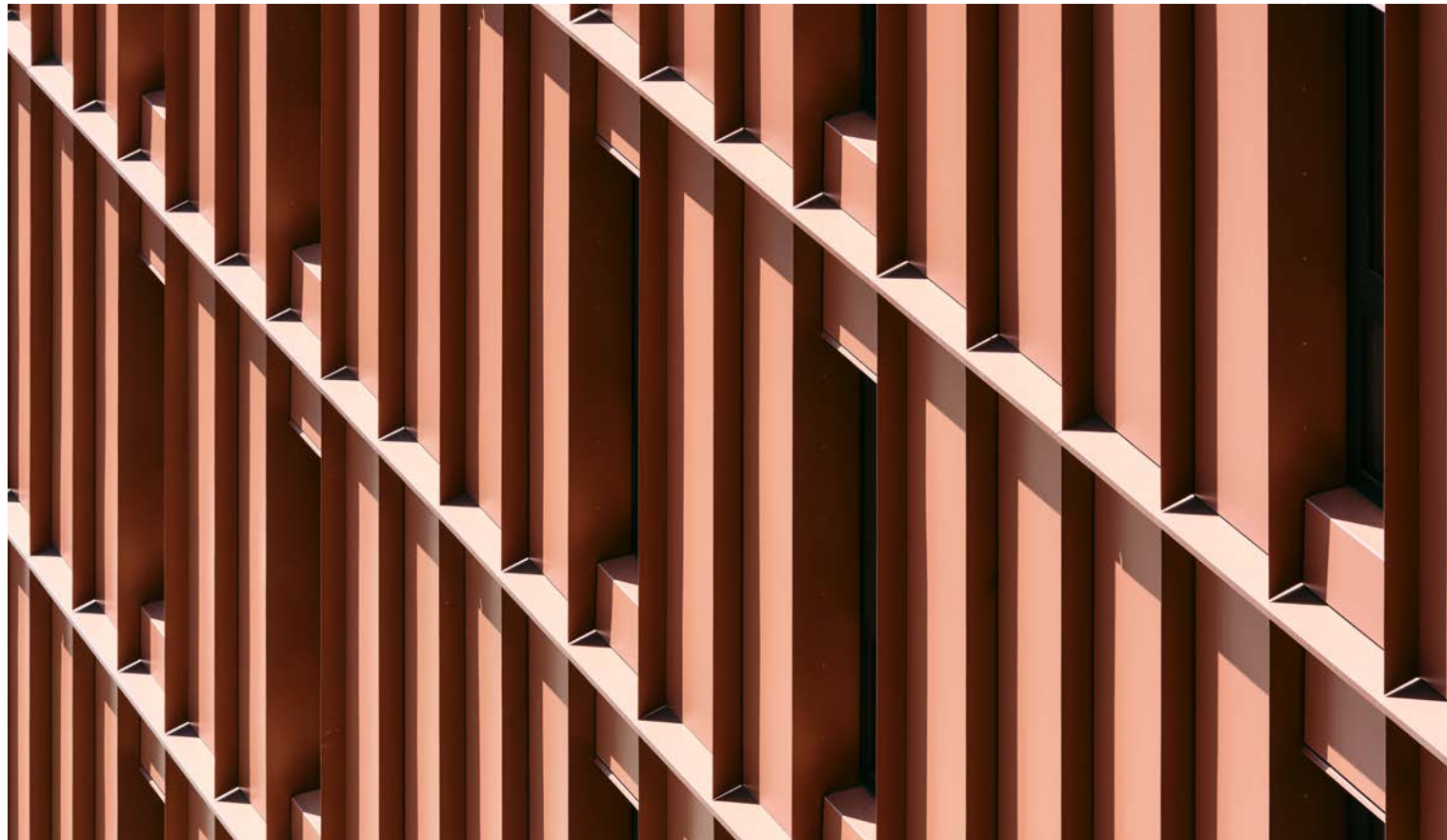
Kalesnikoff  
GLULAM & CLT

Seagate Mass Timber  
TIMBER TRADE PARTNER

The hybrid building structure features point supported cross laminated timber (CLT) floor slabs on hollow structural steel (HSS) columns. The 12-storey Tall Timber Student Housing project will add 469 beds—a mix of 190 single bed dorm rooms, 267 studio style apartments with their own kitchen and bathroom, and 12 accessible units. Shared student amenities and an outdoor commons space will help to enliven the campus environment and student experience.

Rendering courtesy of Perkins&Will  
Photos: © Andrew Latreille





## Modular Façade Assembly

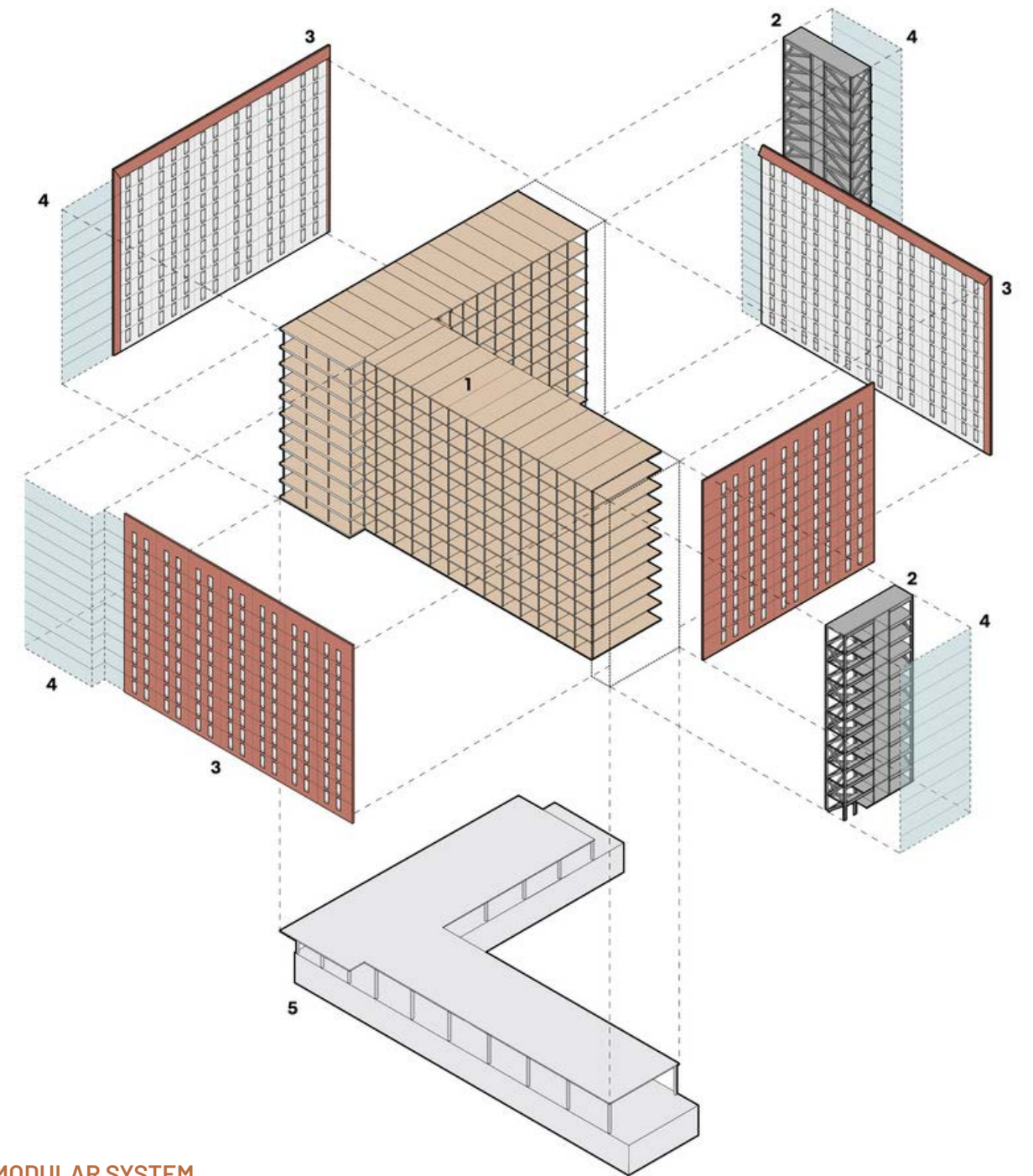
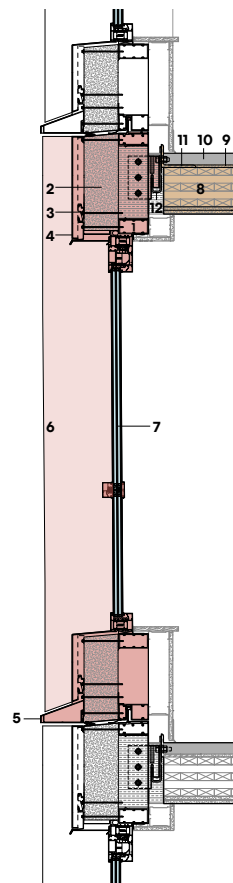


### Prefabricated Modular Façade Unit

1. Extruded aluminum framing
2. Insulated metal panel
3. Clips
4. Aluminum cladding
5. Extruded aluminum flashing
6. Aluminum fin
7. Triple-glazed window unit

### Mass Timber Structural Floor Assembly

8. 5-ply CLT
9. Acoustic membrane
10. Concrete topping
11. Steel edge angle
12. J-hook



## BCIT MODULAR SYSTEM

- 1 Cross laminated timber panels point supported with steel columns
- 2 Steel brace frame core
- 3 Modular pre-fabricated facade panel assembly
- 4 Unitized curtain wall
- 5 Cast-in-place (CIP) concrete base

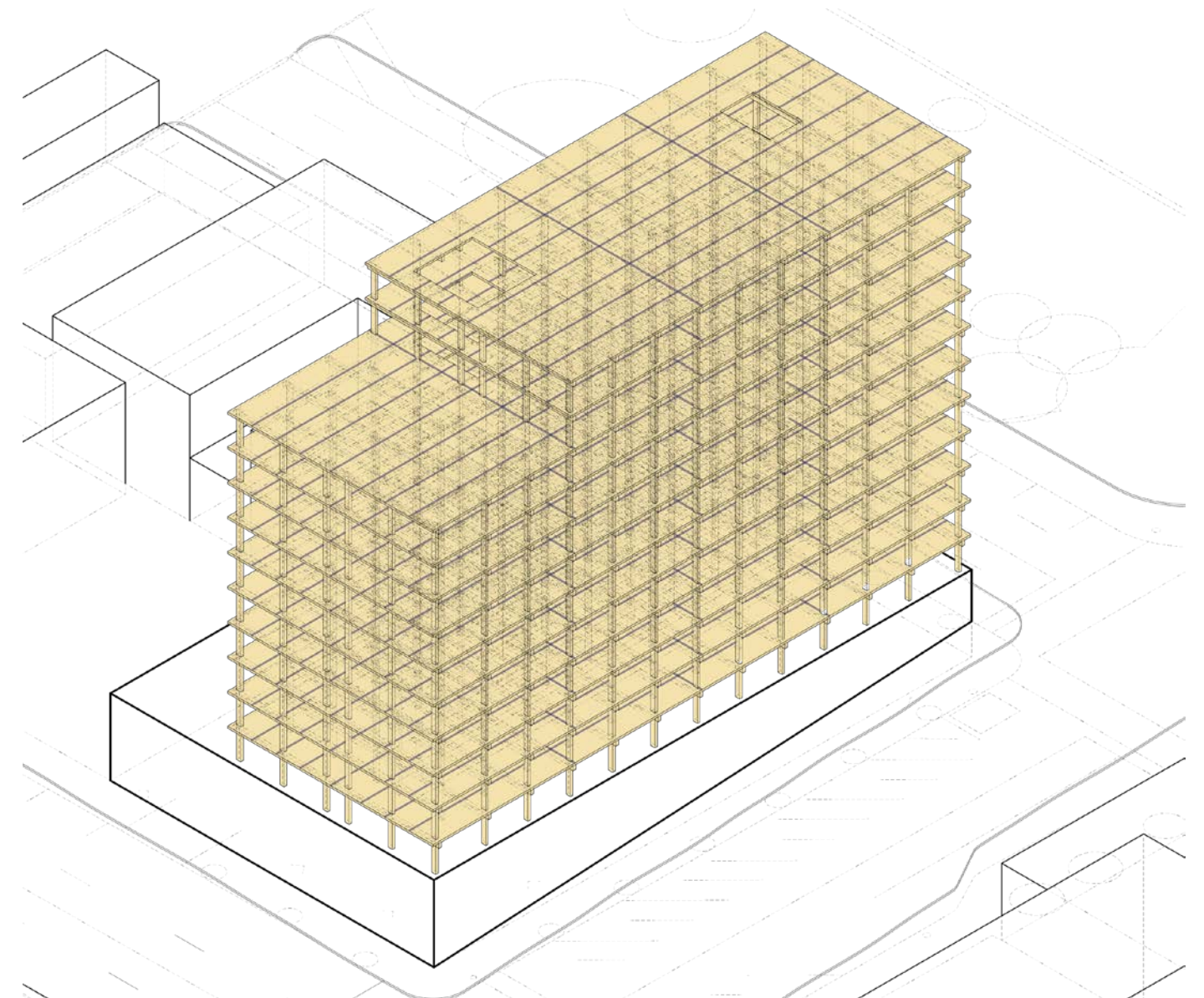




## High Rise on the High Plains

Spokane, WA

High Rise on the High Plains is a 12 story Mass Timber tower over a two-story concrete podium containing parking and retail. The tower contains 18,000 square feet of retail and amenity space and 228 units of mixed size for mixed income residents with a focus on workforce housing. The approach to this project was based on standardization and optimization of the recent innovations surrounding the adoption of the type IV- A,B, & C codes.



COMMERCIAL FOREST REQUIRED = **10.48 acres**

1 ACRE / 660 TREES =  
**6,916 trees**

TIME NEEDED FOR TREES TO  
REGROW =  
**8 minutes**

Number of trees and overall forestland  
needed to produce the project's mass  
timber elements.

### PROJECT TEAM

Great Expectations  
DEVELOPER

atelierjones  
ARCHITECT

DCI Engineers  
STRUCTURAL ENGINEER

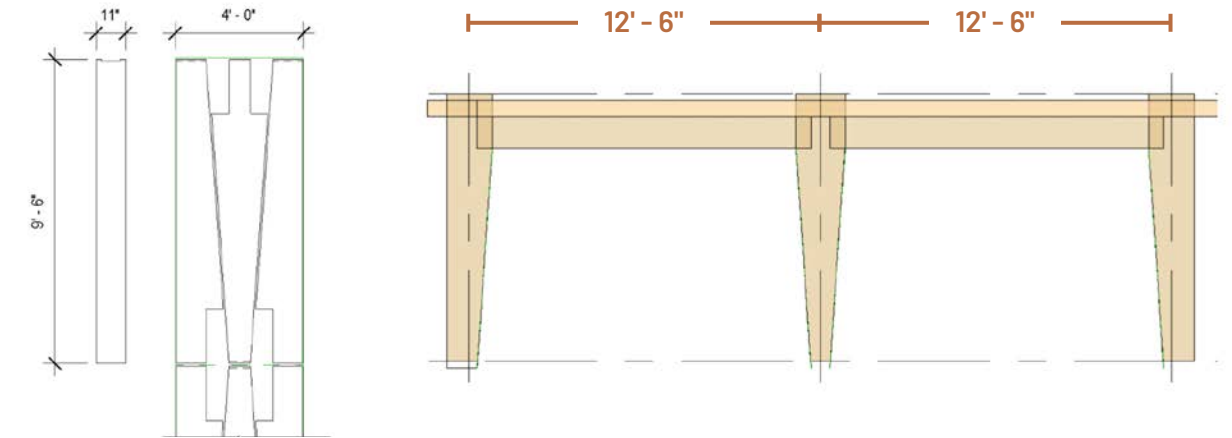
Rendering and diagrams courtesy of atelierjones





### STRUCTURAL SYSTEM

LVL structure is materially efficient and optimized for minimal waste using tapered columns that fit neatly on a standard panel dimension



## Silicon Valley Housing

Bay Area, CA

A mass timber housing study for a large Silicon Valley land owner, this project consists of over 1,000 units of housing with significant retail and amenity spaces over 850,000 square feet across 5 buildings and 2 sites. Learning from the innovations of early tall timber housing projects, this study sought to find increased efficiency and optimization in lower carbon housing. Utilizing a novel structural approach, the 12 story towers feature tapered laminated veneer lumber (LVL) columns designed to optimize wood fiber and machining time, with LVL beams and mass plywood panel floorplates. Exposing more wood with a simplified kit of parts and simplified details brings unit costs down and speeds construction timelines.

Rendering and diagram courtesy of atelierjones



### PROJECT TEAM

atelierjones  
ARCHITECT

Swinerton  
CONTRACTOR

DCI Engineers  
STRUCTURAL ENGINEER

Timberlab  
TIMBER TRADE PARTNER





## South Seattle Affordable Housing

Seattle, WA

A mass timber housing study for Seattle-based affordable housing non-profit, this project consists of 171 units of mixed sizes with community and amenity spaces over 150,000 square feet. Learning from the innovations of early tall timber housing projects, this study sought to find increased efficiency and optimization in lower carbon housing. Utilizing the structural system pioneered in Heartwood and achieving efficiency with a standardized grid and a similar kit of parts. Modular bathroom and kitchen wet cores integrate with the fast mass timber erection to reduce site waste and shorten construction schedules

Rendering and drawing courtesy of atelierjones



### PROJECT TEAM

atelierjones  
ARCHITECT

DCI Engineers  
STRUCTURAL ENGINEER

Swinerton  
CONTRACTOR

Typical Residential Level Plan, standardized structural grid spacing at 14' - 6" x 14' - 6".





## Harlem Mass Timber

New York City, NY

Included in the inaugural NYC Economic Development Council (NYEDC) Mass Timber Studio, 15-21 West 124th Street is a 7-story apartment building located in the heart of Harlem on a 10,000 square foot south-facing site overlooking Marcus Garvey Park. The project is approximately 50,000 GSF and includes 35 two- and three-bedroom units with ample amenity space. The site is directly adjacent to the Harlem branch of the New York Public Library to the east. The site is well-served with transit less than a 5-minute walk from multiple subway lines and adjacent to the 125th Street commercial core. The owner's Swiss heritage and strong desire to create a meaningful, lower-carbon project pushed him to transition away from a previous concrete design to embrace and execute an innovative legacy Mass Timber building that will shape Harlem, sequestering carbon for generations.

Website: [Mass Timber in Harlem](#)

Rendering and diagram courtesy of atelierjones

### 3-PLY CLT FLOORS

97.4 kg CO<sub>2</sub> per m<sup>2</sup> above podium

### CONCRETE CORES

33.3 kg CO<sub>2</sub> per m<sup>2</sup> above podium

### CFS LIGHT-GAUGE METAL WALLS

41.3 kg CO<sub>2</sub> per m<sup>2</sup> above podium

### STRUCTURE

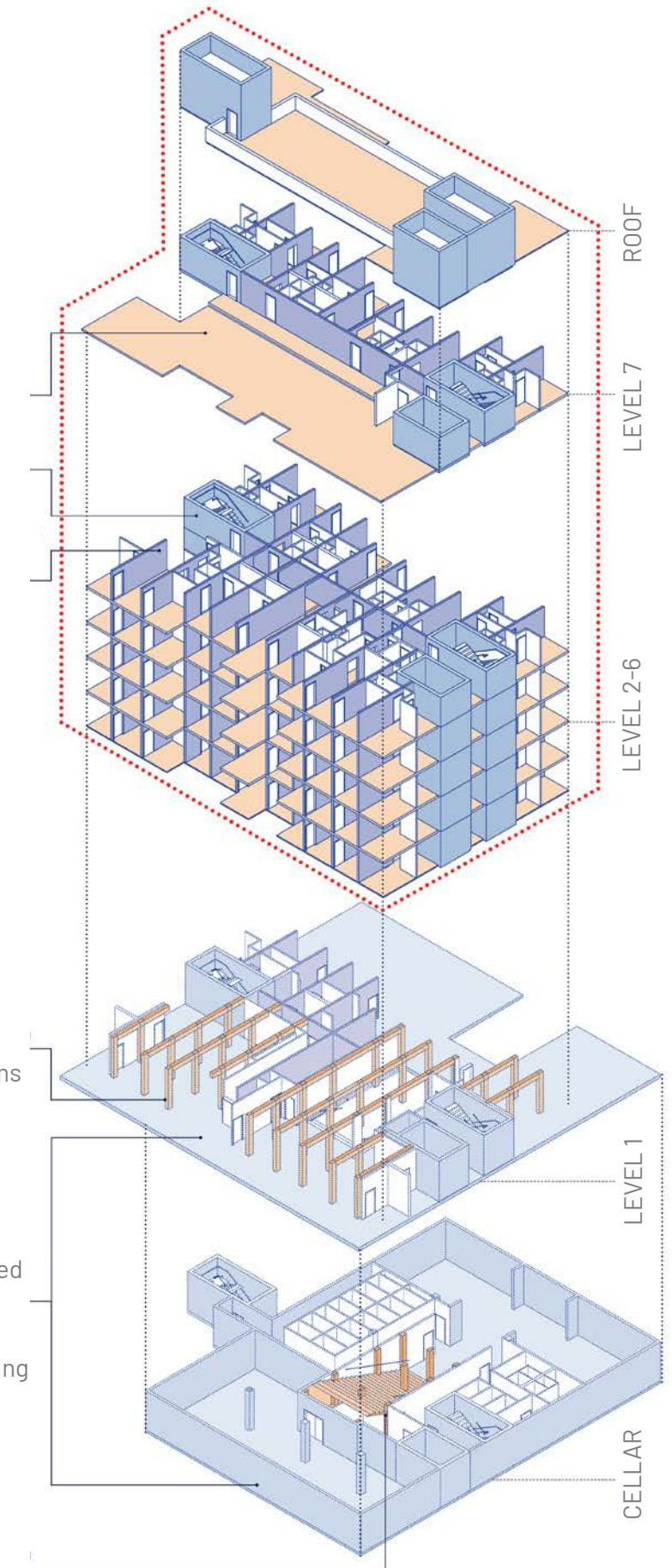
Glulam column and beams

### STRUCTURE

Podium and cellar omitted in comparisons on the right to normalize data outside the Whole Building Life Cycle Analysis

### STRUCTURE

Glulam column and beams



### PROJECT TEAM

Magna & York  
DEVELOPER

Sage&Coombe Architects  
ARCHITECT OF RECORD

atelierjones  
DESIGN ARCHITECT

Swinerton  
CONTRACTOR

DCI Engineers  
STRUCTURAL ENGINEER

Timberlab  
TIMBER TRADE PARTNER





## Tall with Timber

Seattle, WA

Tall with Timber is a 12-story design and feasibility study showcasing the commercial potential of mass timber for mid-rise urban development. Set in Seattle's Belltown neighborhood, the project integrates glulam beams and columns with CLT floor panels and a concrete core to meet seismic, fire, and acoustic codes. Designed as a Type IV-B structure, it allows exposed timber while meeting stringent life-safety standards. The mixed-use program – retail, office, and serviced apartments or hotel – demonstrates how prefabricated hybrid systems can reduce embodied carbon, shorten construction schedules, and offer unique market differentiation through sustainability and warm, natural aesthetics. Structural and architectural diagrams reveal efficient post-and-beam framing, CLT spans, and integrated façade assemblies. As one of the first tall timber cost and design case studies in the U.S., Tall with Timber sets a precedent for code evolution and positions mass timber as a viable, scalable solution for CRE developers targeting high-performance, future-forward buildings.

Website: [A Seattle Mass Timber Tower Case Study](#)

Renderings courtesy of Matthias Olt



### PROJECT TEAM

USDA Forest Service / Softwood  
Lumber Board  
SPONSOR

Heartland  
DEVELOPER

DLR Group, Matthias Olt (Arcadis)  
ARCHITECT

Martha Schwartz Partners  
LANDSCAPE ARCHITECT

Fast + Epp  
STRUCTURAL ENGINEER

Swinerton  
CONTRACTOR

StructureCraft  
CLT

WoodWorks  
TIMBER TRADE PARTNER





## Re:Treat

Prototype designed for universal adaption across U.S. cities

Re:Treat is a 17 story residential mass timber prototype designed under the 2024 IBC for broad adaptation across U.S. cities. It combines a 12-story Type IV-B exposed mass timber tower with a five-story Type I-A concrete podium. Located in a transitional urban neighborhood, the project delivers a nature-inspired, biophilic living experience through the sensory qualities of exposed glulam and CLT. Its rhythmic façade features prefabricated aluminum and glass panels, wood-accented interiors, and customizable window-to-wall ratios.

Website: [Transferrable, Flexible, Economical MTC Hybrids](#)

The podium's ground level includes retail frontage and a media wall supporting community vitality and safety. Levels 2–4 are wrapped in aluminum mesh, while level 5 remains open for visual permeability. A landscaped terrace and rooftop pool on level 6 link podium and tower, enhancing resident wellness. With 179 units in an L-shaped, day-light-optimized plan, Re:Treat sets a replicable standard for sustainable, design-forward, mid- and high-rise mass timber housing in the evolving cores of American cities.

Renderings courtesy of Matthias Olt / Arcadis



### PROJECT TEAM

Swinerton  
DEVELOPER

Matthias Olt (Arcadis)  
ARCHITECT

Swinerton  
CONTRACTOR

KL&A  
STRUCTURAL & CIVIL ENGINEER

TimberLab  
TIMBER TRADE PARTNER





## Sandy Pine

Portland, OR

Inspired by modern and eco-chic design, Sandy Pine is set to occupy an entire city block in Southeast Portland. The mixed-use mass timber high-rise contains 274 dwelling units, with split-level retail at the ground floor. In addition to activated courtyards and connections to outdoor spaces, the building offers a gym, residential lounge, and shared workspace for residents. Two subterranean floors hold 174 stalls of parking, a bike room, and residential storage. The Type IV-B high-rise is designed as a point-supported CLT framing system with fully-exposed mass timber on the ceilings except at corridors and bathrooms.

Renderings courtesy of Ankrom Moisan



### PROJECT TEAM

SolTerra  
DEVELOPER

Ankrom Moisan  
ARCHITECT OF RECORD

Lever Architects  
DESIGN ARCHITECT

Holmes US  
STRUCTURAL ENGINEER

PAE  
MEP ENGINEER

Swinerton  
CONTRACTOR

Timberlab  
TIMBER TRADE PARTNER





### SANDY PINE STRUCTURE

11 stories of mass timber housing sit on a one-story concrete podium. Two-story mass timber townhomes fill out the city block.



### POINT-SUPPORTED FRAMING

CLT spans in two directions to bear directly on columns allowing for a fully exposed, flat timber soffit.







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