

Timber Town.



This project is an exploration into how a hybrid mass timber Post-and-Plate and steel construction system, combined with efficient residential layouts and thoughtful landscape integration, can create high-quality, community-oriented urban living environments that challenge conventional construction systems like the concrete tower-and-podium.

Timber Town envisions a vibrant, high-density neighbourhood that seamlessly integrates the natural beauty of Vancouver with the warmth and sustainability of mass timber construction. At its core, this project aims to create high-quality

living environments that foster deep connections - both to nature and to the community - through thoughtfully considered site planning, building design, and biophilic principles. Drawing from lessons learned in established mass timber projects, we employ a Post-and-Plate construction system, chosen for its speed, efficiency, and tighter column grids compatible with residential unit layouts. This method encourages vertical development over horizontal sprawl and the efficient footprint of each tower preserves more of

the ground plane for shared outdoor spaces. These open areas, inspired by the Tsawwassen First Nation's core values of gathering and maintaining connection with the lands, are conceived as extensions of the residents' living spaces and a way to connect the surrounding neighbourhood to Timber Town as well as to the adjacent forest and waterfront. The landscape is not an afterthought but a vital part of the neighbourhood, functioning as both a natural corridor and a public amenity, creating a development that feels cohesive, sustainable, and deeply rooted in its place.

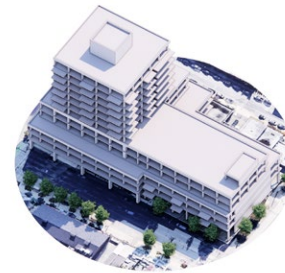




Compact, Simple, & Repetitive. This proposal challenges the conventional concrete tower-and-podium model that is increasingly common in Vancouver's cityscape. In the typical tower-and-podium model, the podium serves as a structural and mechanical transfer zone as well as access to on-site parking, often a costly and complex intermediary that supports the tower above. The ubiquitous use of concrete to facilitate this massing exacerbates the resource intensiveness of new developments.

In Timber Town, tall, compact mass timber towers meet the ground directly, giving back much of the ground floor to it's residents and the community.

Key reform to on-site parking requirements would allow a significant reduction to the building footprint and reliance on the use of concrete. By eliminating the podium, we reduce the building's footprint, and the tower instead rises from a compact base, supported by a straightforward, repetitive structural grid. Each tower utilizes the Post-and-Plate system to simplify construction and removes the need for costly structural and mechanical transfers.



Concrete Tower-Podium Construction

- carbon intensive concrete construction
- complex structural and mechanical transfers
- excavation and concrete required for on-site parking
- large building footprint
- minimal outdoor public space
- secondary beams require additional coordination

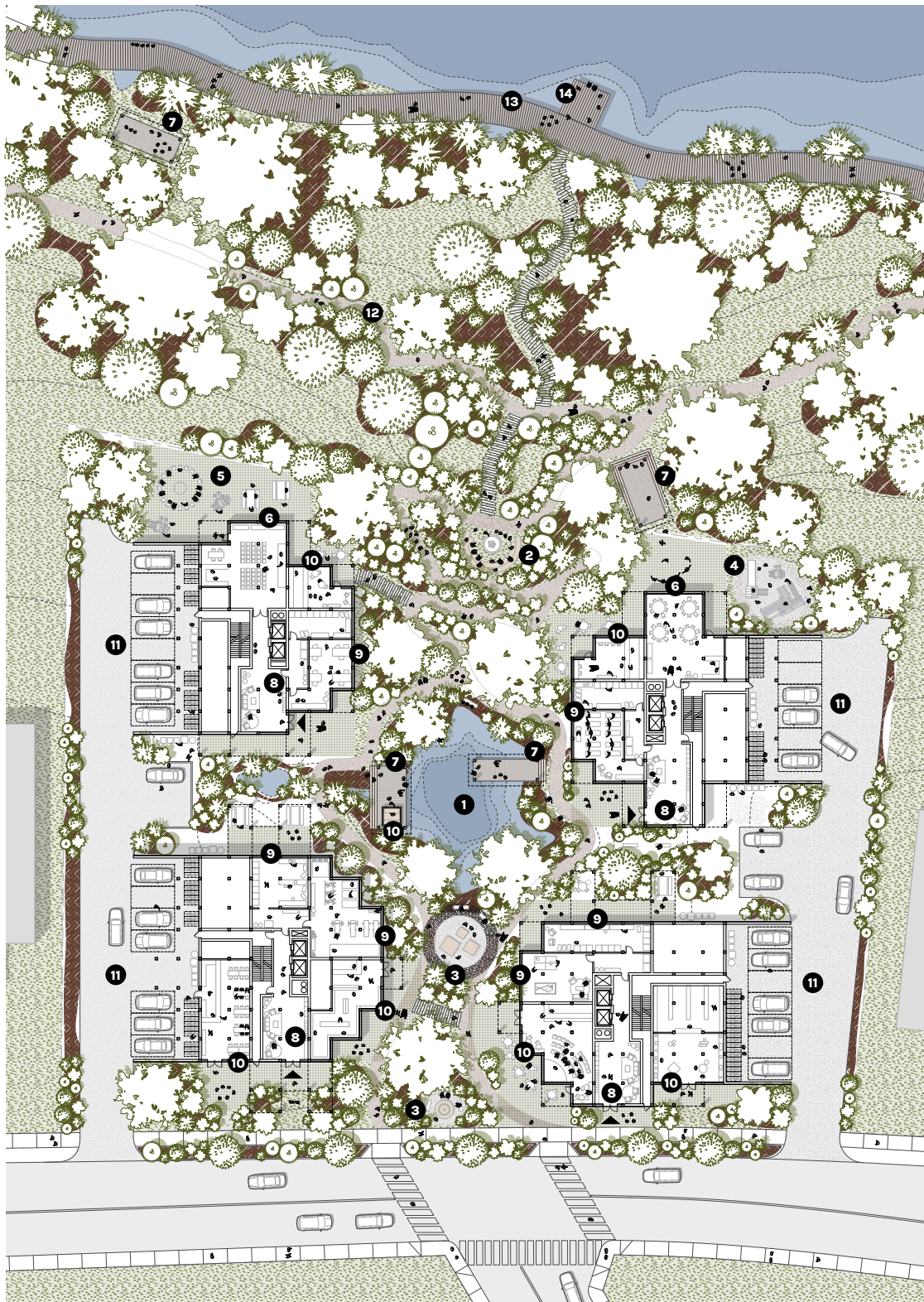


Hybrid Mass Timber & Steel Post-and-Plate Tower

- sustainably sourced mass timber
- simplified and repetitive structure, faster assembly
- limit on-site parking, employ contemporary solutions
- compact building footprint
- maximized outdoor public space and landscape
- flat plate allows for simplified MEP installation



Left: In the evening, the towers emit a warm glow. Amenities throughout the landscape offer people places to connect. Above: Balconies give each tower its distinctive exterior character, offering each home a generous extension of their indoor spaces.



Connection to Land. The efficient building footprints provides an opportunity to transform the site into community-oriented land with an abundance of natural amenities that create surprising, memorable, and joyful moments for rest, play, and discovery.

Inspired by the Tsawwassen First Nation's values of connection to land and water, a water collection pond anchors the heart of the site, storing rainwater for landscape irrigation and community amenity use. The site is bookended on the south residential zone by public art displays, and on the north by a communal fire pit

overlooking the adjacent natural area and public waterfront.

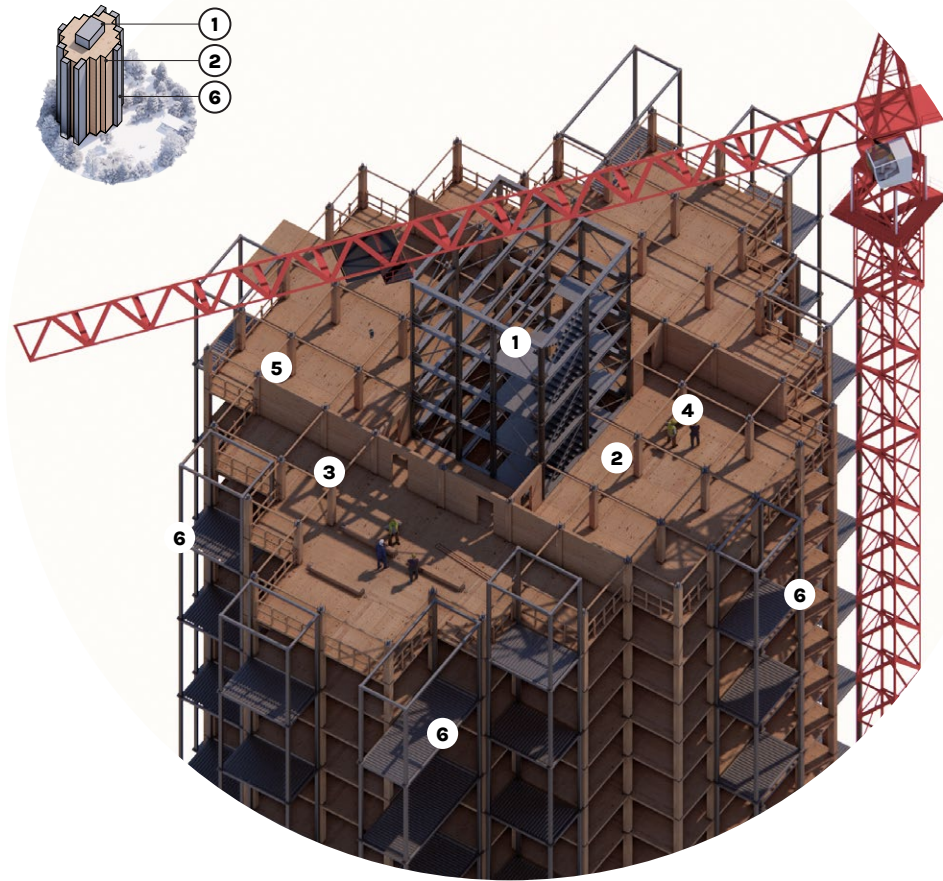
Small scale commercial spaces that are compatible with a tighter structural grid are mixed in throughout. We strongly believe diversifying allowable uses on the site creates a vibrant focal point for the larger neighbourhood.

Residential amenities are all oriented to face the heart of the site and an abundance of community spaces are dispersed throughout: indoor and outdoor community rooms, walkways with seating, and covered outdoor pavilions.

Left: 1. Water collection pond / Water garden 2. Firepit 3. Public art 4. Playground 5. Outdoor community room 6. Indoor community room 7. Covered Outdoor Pavilion 8. Residential lobby 9. Residential amenities 10. Small-scale commercial spaces 11. Car share parking / service access 12. Waterfront trail 13. Boardwalk 14. Dock / Bank fishing area (11 to 14 are envisioned outside of site boundaries)

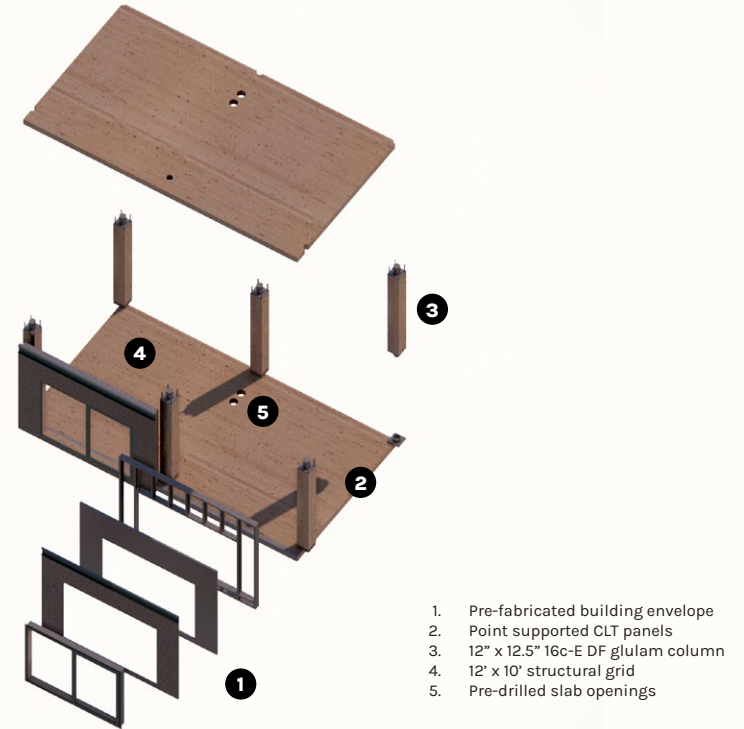
Post-and-Plate. Mass timber case studies reveal a preference for simplified structural systems. Inspired by the success of Brock Commons Tallwood House, this proposal leverages the Post-and-Plate system's compatibility with residential layouts - using a tighter column grid that aligns naturally with apartment room configurations. Each proposed tower avoids cantilevers, ensuring columns track uniformly from bottom to top. This approach establishes

a simple, consistent structural grid throughout the core. Variation is then introduced at the building perimeter, where exterior-facing corners and independent steel balcony systems are utilized to create layouts that feel generous and flexible while maintaining structural efficiency. The Post-and-Plate system enables thinner, more efficient floor assemblies that can provide uninterrupted wood ceilings that give interiors a warm, loft-like character.

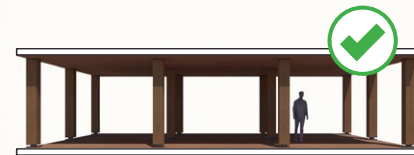


The balconies are conceived as pre-fabricated, modularized steel frame units that are self-supporting and tied back to the building at discrete points. The intent of de-coupling the balcony structure from the mass timber building is to reduce construction complexities typical of cantilevered structures and have more control at potential thermal bridging points. The independent structure also allows pre-fabrication to occur in tandem and for flexibility in phasing the balcony installation.

1. Steel frame building core
2. Point supported CLT panels
3. 12" x 12.5" 16c-E DF glulam column
4. 12' x 10' structural grid
5. CLT shear wall
6. Balcony steel frame independent from mass timber structure



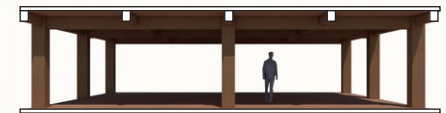
1. Pre-fabricated building envelope
2. Point supported CLT panels
3. 12" x 12.5" 16c-E DF glulam column
4. 12' x 10' structural grid
5. Pre-drilled slab openings



Post-and-Plate*

7" thick 5ply E1 CLT deck
12" x 12.5" 16c-E DF glulam column

Total structural depth: 6.9"



Post-and-Beam*

3.5" thick 3 ply E1 CLT deck
8.5" x 10" 24f-E DF glulam purlin
8.5" x 14.5" 24f-E DF glulam girder
14.5" x 15" 16c-E DF glulam column

Total structural depth: 18.3"

Compared to Post-and-Beam systems, Post-and-Plate construction uses fewer structural members, allowing for faster build times and reduced material complexity. This efficiency makes it possible to fit more floors within the same building envelope without sacrificing desirable ceiling heights which is key for sites with stringent zoning constraints. Additionally, the flat plate slab simplifies MEP installation by eliminating the need to route services beneath secondary beams.

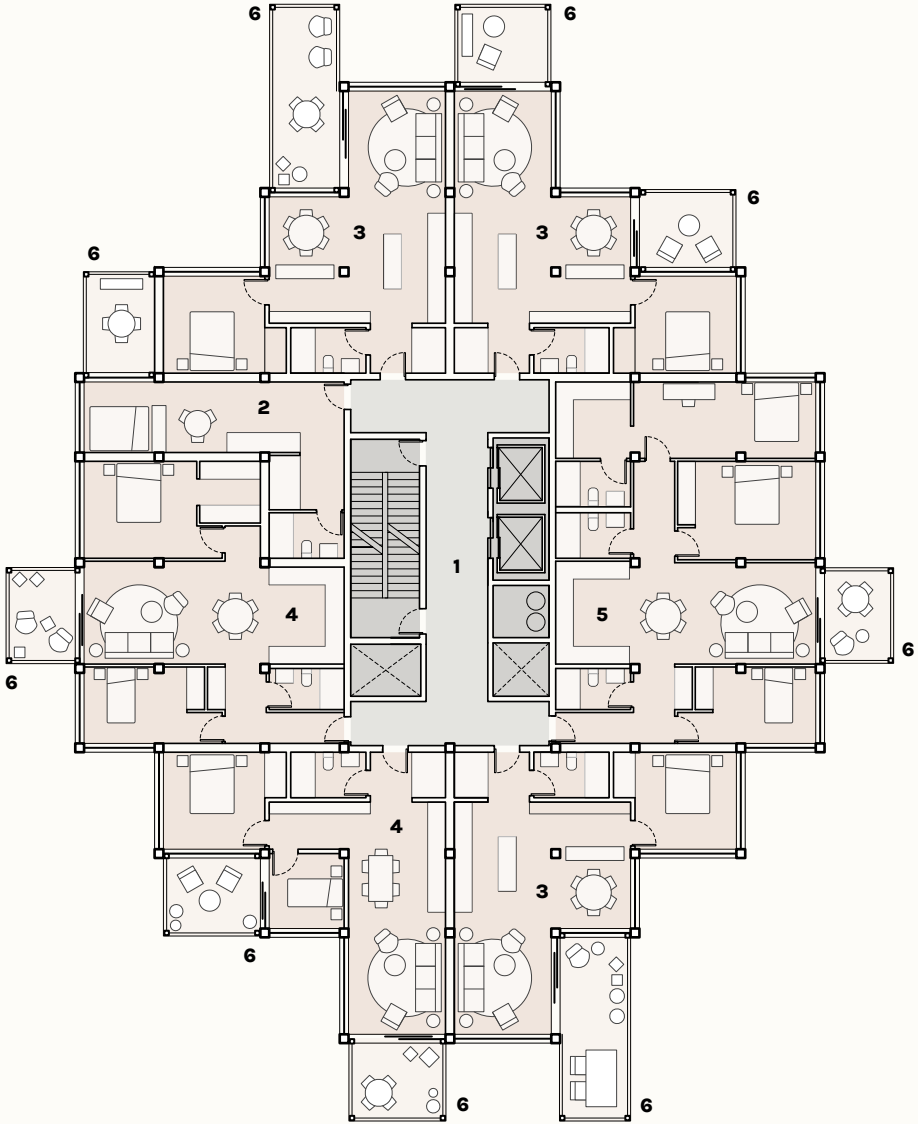
High Density Living. Surrounded by nature, each mass timber tower is designed to maximize exposure to natural light and provide expansive views of the City, water, and open landscape below. The tower's 'serrated' facade increases the number of corner windows, giving every living unit a panoramic view of its surroundings. This design enhances airflow and brings ample daylight into each room - a significant advantage over conventional 'shoebox' apartments. This greater access to daylight and fresh air can reduce occupants' reliance on electrical and mechanical systems, lowering energy consumption over the building's lifespan. Steel-framed balconies, independent of the mass timber structure and thermally broken from the enclosure, are located at the tower's perimeter. Conceived as 'backyards in the sky,' these generously sized terraces function as outdoor living rooms and spacious extensions of the interior. By staggering the terraces both horizontally and vertically, each outdoor space achieves a double-height ceiling. The simple and repetitive Post-and-Plate structural grid offers the flexibility to create varied yet straightforward unit layouts to accommodate diverse contemporary living arrangements.



On lush, double-height balconies, residents can enjoy the outdoors surrounded by greenery and mountain views. The steel-supported balcony, system tied back to the mass timber superstructure, creates spacious outdoor living rooms that blur the line between interior and exterior.



Connection to daylight and nature is a priority. The apartments emphasize outdoor living, with interiors that open onto generous balconies. Building corners are designed to maximize views and bring daylight into each room.



1. Steel frame building core
2. Studio unit
3. 1 Bedroom unit
4. 2 Bedroom unit
5. 3 Bedroom unit
6. Steel frame balcony system

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Building (on) a Legacy. As more existing neighbourhoods undergo densification, mass timber construction sites offer the benefits of being cleaner and quieter, with reduced construction timelines. Timber Town aims to be a great neighbour - bringing value by reinforcing a sense of place and prioritizing a sustainable approach in both the buildings and the land. We also believe in balancing risk without sacrificing priorities of quality, dignified housing: Structural systems should be straightforward and floor plates compact while designing to maximize light, air, and access to nature. Initially, costs for mass timber high rise construction may be higher than it's concrete equivalent, especially in the early stages of the industry's growth. To alleviate financial roadblocks, we believe that mass timber projects that provide significant public amenities as Community Amenity Contributions, such as in Timber Town's aims, should receive subsidy and investment at both the local and federal levels.



Construction Costs

	Square footage	Concrete		Timber Town	
		\$/sq ft	Cost	\$/sq ft	Cost
Below grade		\$315	\$0	\$299	\$0
Base floor	23,250	\$360	\$8,370,000	\$403	\$9,369,750
Above 1st storey	255,555	\$385	\$98,388,675	\$431	\$110,144,205
	Quantity	\$/unit		\$/unit	
Balconies	176	\$25,000	\$4,400,000	\$15,000	\$2,640,000
	Cost / Month	# Months	Cost	# Months	Cost
Schedule Costs (Monthly Overhead)	\$50,000	36	\$1,800,000	27	\$1,350,000
		TOTAL	\$112,958,675		\$123,503,955

Embodied Carbon (based on the Fast + Epp Bay Design Tool)

	Sq ft	Concrete		Timber Town	
		Embodied Carbon kg/sq ft	Total Carbon	Embodied Carbon kg/sq ft	Total Carbon
Total Building Sq Footage	278,805	6.69	1,864,932	3.55	989,758

While timber construction may at present be costlier than it's concrete equivalent, the inherent benefits of timber such as reduction in the amount of embodied carbon and improvements in construction timeline (25% reduction assumed based on industry studies) are key considerations particularly when material and labour costs for timber construction are projected to reduce alongside industry growth. For Timber Town, there was also an assumed reduction in costs for the de-coupled balconies due to efficiencies in pre-fabricating off-site and simplifying installation.



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