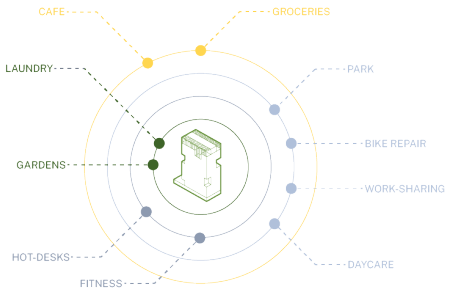
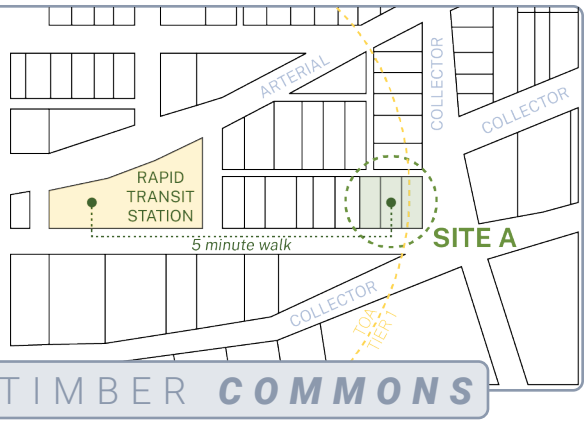
VIEW FROM SOUTH-EAST CORNER



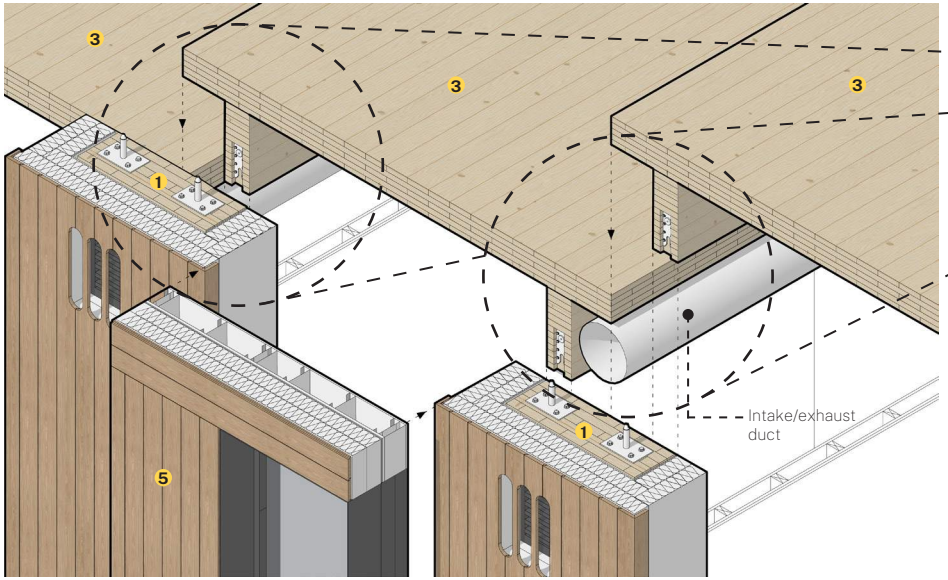
HIERARCHY OF COMMUNAL SPACES

The **Timber Commons** leverages an innovative, low-carbon construction system to deliver affordable housing with efficiency and adaptability. On Site A, the design responds to its context by maximizing density and eliminating parking, creating a visible timber landmark that capitalizes on transit access and the walkable fabric to reduce car reliance. Within, community is fostered through a hierarchy of shared spaces and services. Practical functions like laundry are paired with areas for gathering, play, and performance, cultivating a true vertical village. Built from a flexible kit of prefabricated mass timber components, every decision was guided by three objectives — **affordability**, **sustainability**, and **community**. The result is both a site-specific solution and a replicable framework that confronts the affordable housing and climate crises with a unified approach.



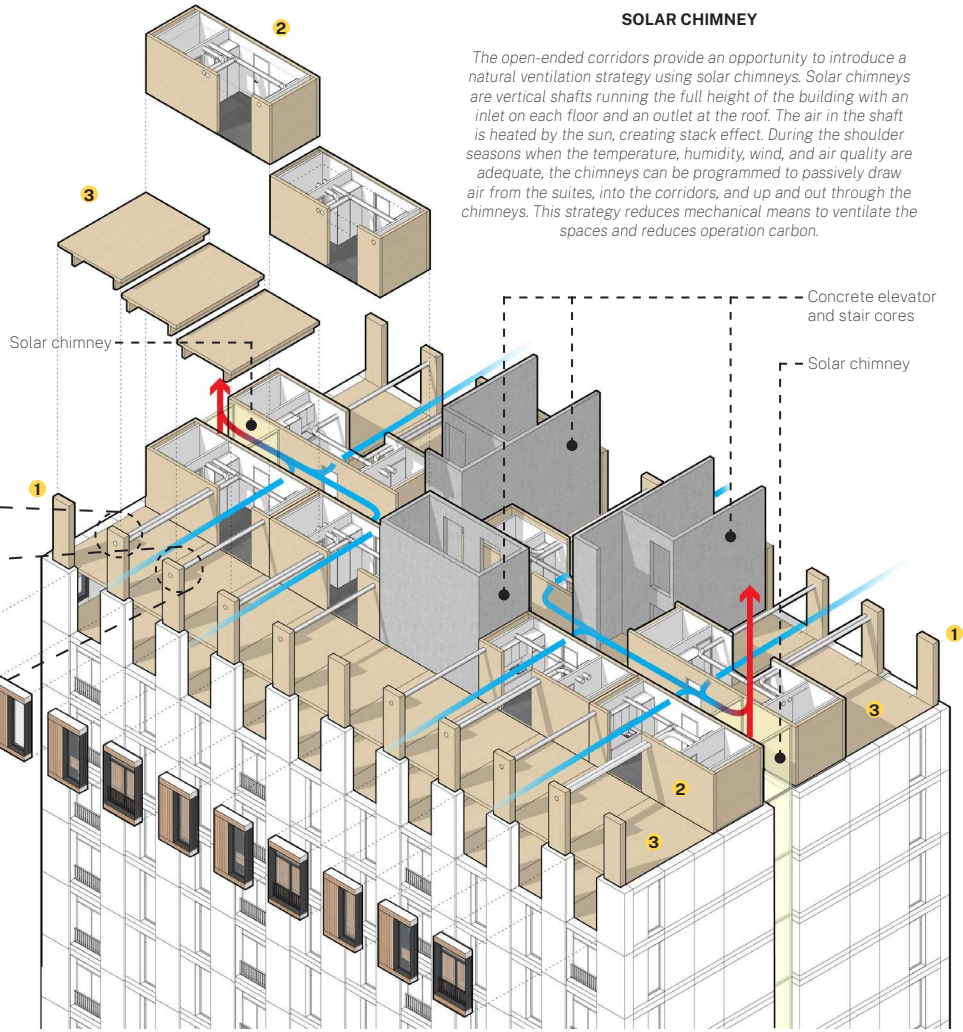
TIMBER **COMMONS**

The **Timber Commons** employs a rigorous **kit-of-parts** strategy that reduces cost and accelerates schedule through a high degree of standardization and systemization. **Prefabricated elements** comprise nearly the entire structure and façade, enabling a rapid and orderly construction sequence. Every space type has been assessed for maximum efficiency, leading to a hybrid system: kitchens and washrooms are produced as fully finished, stackable **volumetric modules**, while pre-assembled slab-and-beam cassettes, "wallumns," and envelope panels connect quickly on site to form the rest of the structure and enclosure. The slab cassettes create a deliberate double-beam condition, framing a ceiling channel for services while leaving the remaining underside uncluttered as a continuous wood finish. **All elements are carefully sized to avoid encapsulation**—ensuring that wood is celebrated not only as structure, but as a warm, visible expression throughout the building.



SOLAR CHIMNEY

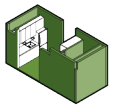
The open-ended corridors provide an opportunity to introduce a natural ventilation strategy using solar chimneys. Solar chimneys are vertical shafts running the full height of the building with an inlet on each floor and an outlet at the roof. The air in the shaft is heated by the sun, creating stack effect. During the shoulder seasons when the temperature, humidity, wind, and air quality are adequate, the chimneys can be programmed to passively draw air from the suites, into the corridors, and up and out through the chimneys. This strategy reduces mechanical means to ventilate the spaces and reduces operation carbon.



1 EXTERIOR "WALLUMNS"
GLT exposed on one side, CNC'ed wood-to-wood connections and mechanical penetrations

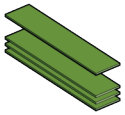
**can be pre-clad*

2 MODULAR "WET SPACE" VOLUMES
Volumetric CLT modules, beamless ceiling spaces allowing for mechanical distribution

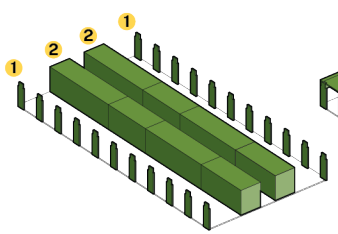


3 PRE-ASSEMBLED SLAB CASSETTES
5-ply CLT supported by pre-installed GLT beams, allowing for mechanical distribution between

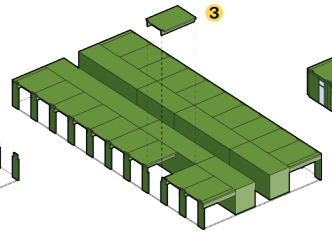
4 CORRIDOR SLABS
5-ply point-supported CLT, beamless corridor construction allowing for mechanical distribution



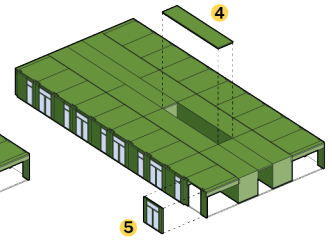
5 PRE-FAB CLADDING
Modular system, limited variety of panel types for efficiency



"Wet space" modules and exterior pre-clad "wallumns" affixed to structure below

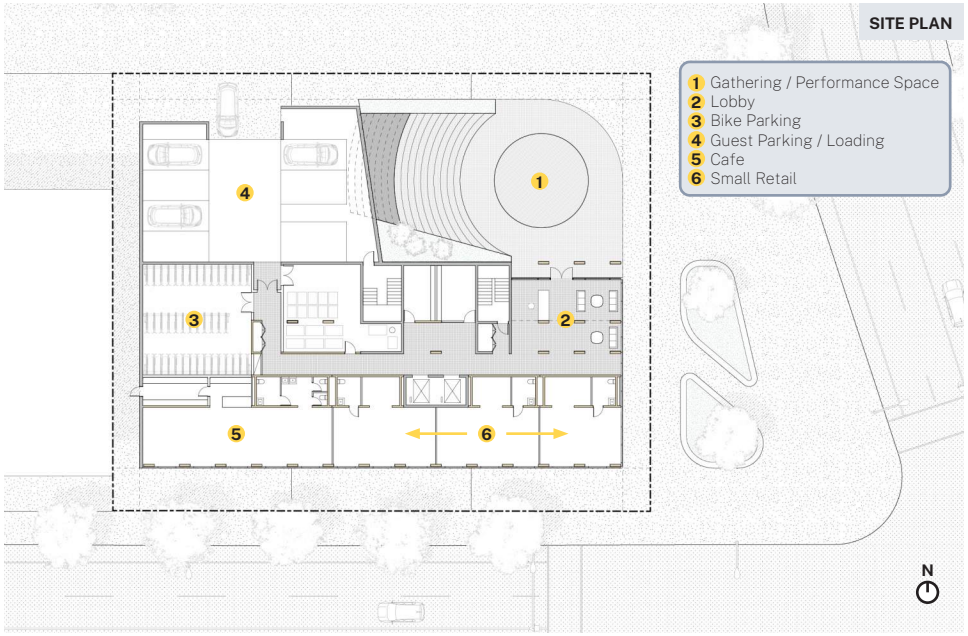


Slab-and-beam cassettes attached above



Pre-fab cladding modules inserted between wallumns to complete enclosure, corridor slabs attached to complete level

KIT **ASSEMBLY**



COST & SCHEDULE REDUCTIONS — Our approach combines mass timber elements such as prefabrication slab cassettes, factory-built modular wet spaces, and prefabricated exterior wall panels to reduce costs, shorten schedules, and increase construction certainty in comparison to concrete construction. By shifting critical work into controlled factory environments, we minimize risks tied to site conditions, improve quality, and allow parallel workflows. Mass timber's lighter weight reduces the need for concrete and rebar in foundations and footings, yielding roughly 5% savings below grade and another 5% from the first floor upward. Overall, we predict our strategy could achieve up to a **5% global cost reduction** and a **10% schedule saving**, due to the quality control and efficiencies in prefabrication.

EMBODIED CARBON REDUCTIONS — On average, mass timber provides a 30% reduction on embodied carbon in comparison to concrete. We project that the introduction of prefabricated and modular units could reduce the Embodied Carbon by an additional 5% (**35% total** over concrete) due to reduced waste on site and shipping logistics efficiencies.

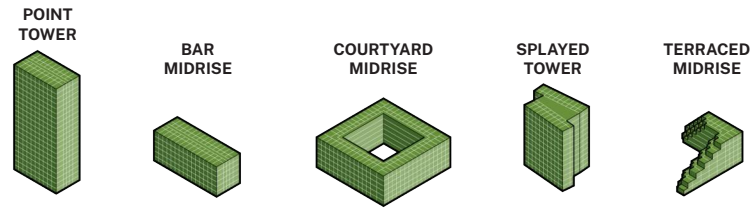
STATS	
FSR	4.90
Lot size (sq ft)	18,300
Building sq ft Above Grade	89582
Building efficiency (%)	85
non saleable/rentable (sq ft)	13437.3
saleable/rentable (sq ft)	76144.7
Total Stories above grade (#)	16
Total Stories (#)	16
Base floor (#)	1
Above 1st storey (#)	15
Stories below grade (#)	0
Units (#)	86
Bedrooms (#)	138
Amenity space (sq ft)	7,340
Non-residential (sq ft)	9,348

CONSTRUCTION COSTS

		Concrete		Submission	
	Sq ft	$/sq ft	Cost	$/sq ft	Cost
Below grade	0	$315	$0	$315	$0
Base floor	10,187	$360	$3,667,320	$362	$3,687,694
Above 1st storey	79,395	$405	$32,154,975	$384	$30,487,680
	Quantity	$/unit		$/unit	
Balconies	0	$25,000	$0	$25,000	$0
	Cost per	# Months	Cost	# Months	Cost
Schedule Costs	$50,000	16	$800,000	12	$600,000
TOTAL			**$36,622,295**		**$34,775,374**

EMBODIED CARBON

		Concrete		Submission	
	Sq ft	E. Carbon kg/sq ft	Total Carbon	E. Carbon kg/sq ft	Total Carbon
Total Building Sq ft	89582	6.69	**599215.79**	4.37	**391473.34**

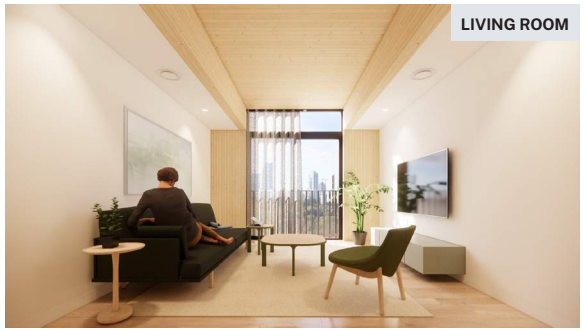


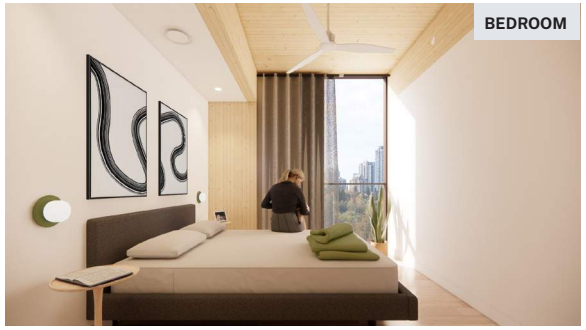
While we have opted for a point tower as a response to this project's site constraints, the modular system allows for assembly in varied typologies. Using the same cost- and time-effective kit of parts and sequencing, we can create radically different results that respond to context and need.

HOUSING ***TYPOLOGIES***

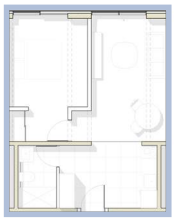
TYPICAL FLOOR PLAN 1

TYPICAL FLOOR PLAN 2

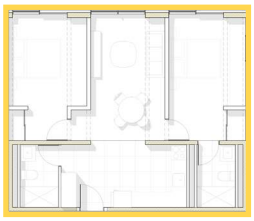




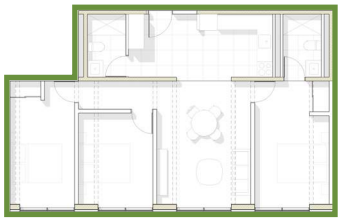
Using the **standard grid module** of 3.05m by 7.6m, we designed 1-, 2-, and 3-bedroom units that assemble into complete floor plates in varied configurations. **Mass timber elements remain exposed**, providing the biophilic warmth of natural wood. Kitchen/washroom modules align with service cores, opening the perimeter to light and air in all living and bedroom spaces. Each home incorporates a Juliet balcony, while private balconies are deliberately omitted. Instead, **exterior space is consolidated into shared terraces**, fostering social connection and ensuring equitable access to outdoor amenity for all residents.



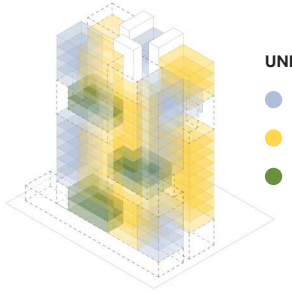
TYPICAL 1-BEDROOM UNIT
530 sq. ft.



TYPICAL 2-BEDROOM UNIT
785 sq. ft.



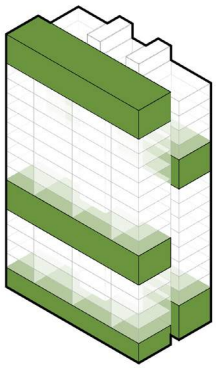
TYPICAL 3-BEDROOM UNIT
990 sq. ft.



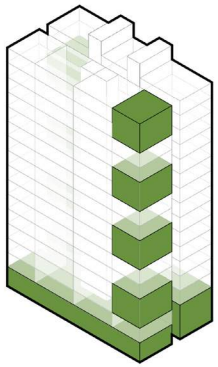
UNIT MIX

- 1-BEDROOM UNITS
- 2-BEDROOM UNITS
- 3-BEDROOM UNITS

PRIVATE ***LIVING***

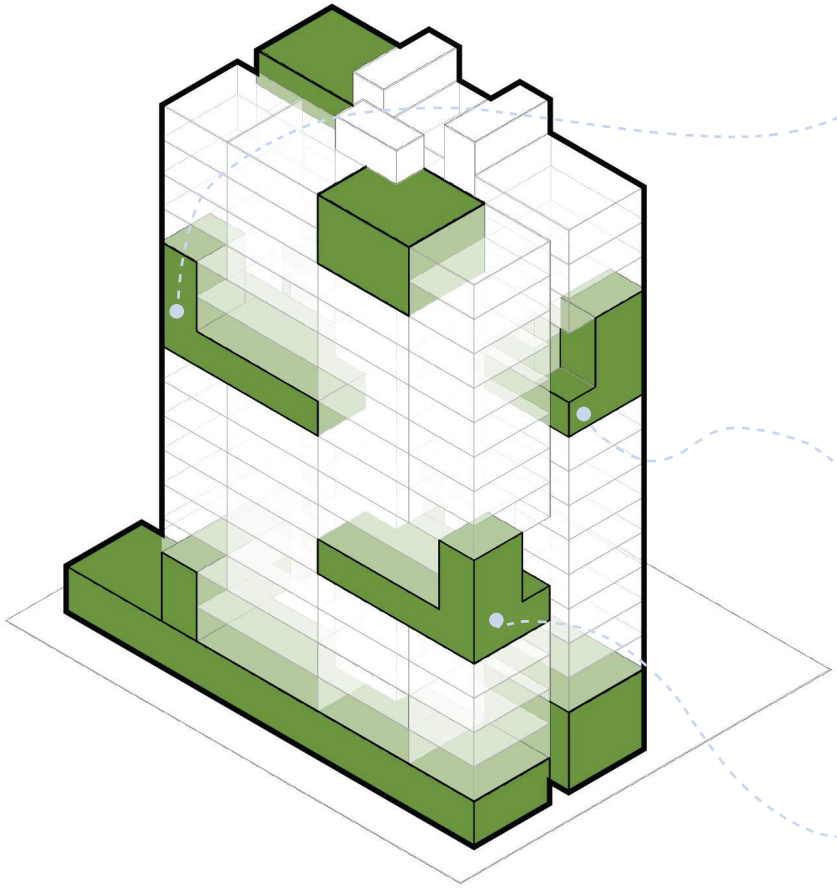


COMMUNAL SPACES DISTRIBUTION
Alternative 1

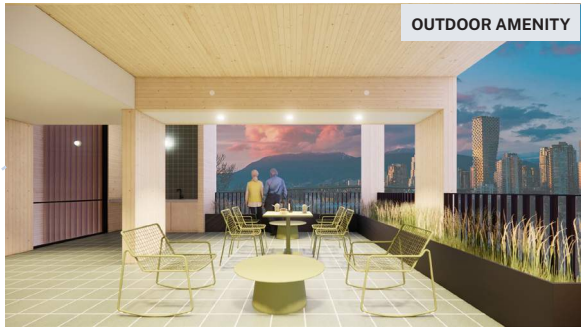


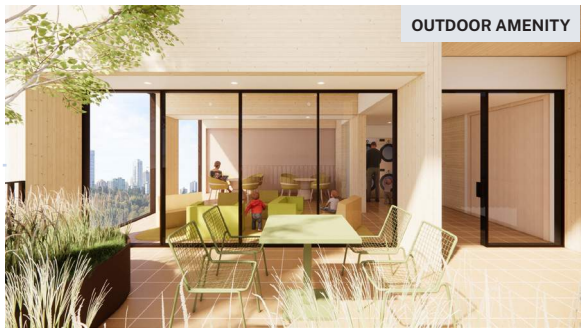
COMMUNAL SPACES DISTRIBUTION
Alternative 2

Generous communal spaces are the heart of the **Timber Commons**. Using the same modular grid, the system supports both interior and exterior gathering areas that can be arranged in many configurations. In this design, **amenities are distributed** vertically in six zones, each pairing interior and exterior functions. These zones combine pragmatic uses, such as laundry, with spaces dedicated to socializing, recreation, and play. Together, they create a true **vertical village**, offering variety from floor to floor and encouraging frequent, casual encounters between neighbors. The richness of these shared environments allows unit floorplans to be efficiently compressed and private balconies to be eliminated, helping reduce per-unit costs. From the outside, these common spaces are expressed as luminous openings within the otherwise ordered grid of the façade, celebrating the **social life at the core of the project**.



COMMUNAL SPACES DISTRIBUTION





COMMUNAL SPACE OPTIONS

BARBECUE & KITCHEN
A communal indoor and outdoor space with a kitchenette, grills, and tables. Neighbors can cook, share meals, and build connections through food in this shared cooking and dining space.

DOG WASH & HOTDESK
A pet-friendly hub combining a dog wash station and flexible hotdesks, supporting pet and pet-owner needs while offering residents a place to work or rest.

PARTY & GAME ROOM
A playful gathering space with tables, various games, and a bathroom. A lively shared space for celebrations, casual fun, and bonding with friends and neighbours alike.

LAUNDRY & WORK STATIONS
A functional laundry space paired with working stations, allowing residents to read, study, or work productively while waiting for their laundry cycle to complete.

LAUNDRY & TABLE TENNIS
A social space where laundry meets leisure, encouraging neighbourly interaction and fun as residents complete their everyday household chores.

COMMUNAL ***LIVING***

While the modular system establishes a **replicable framework** adaptable to many sites, it is equally important that it allow **bespoke responses to each context**. At **Site A**, this meant shaping a tall urban form tight to the prominent corner, creating **a density-appropriate landmark** visible from multiple view corridors while clearing a sheltered area for ground-level connection. Along the north and west edges, **stepped performance terraces** and an **elevated gathering space** animate the public realm while concealing servicing and bike parking. The roof restores green space otherwise lost to the footprint, providing allotment gardens and terraces for residents. **Cladding** becomes another site-specific gesture: a **prefabricated wood system** that celebrates BC's timber industry, reduces embodied carbon, and weathers gracefully into a silvered patina. Though fire-treated to European precedent standards, this system would currently challenge BC's building code, positioning the project as both **a model and a provocation for regulatory evolution**.

WOOD CLADDING WEATHERING

SITE-SPECIFIC ***FEATURES***