



(EN)CORE Category 2: Elevated Dwelling

## Overview

(EN)Core derives its design philosophy from larger-scale commercial construction, where efficiency and flexibility are paramount. Each unit centres around a semi-prefab vertical service core, containing all the necessary mechanical equipment and fixtures for a high-performance, functional dwelling. Centralizing these modular systems ensures that they can be built efficiently and affordably, leaving more time, space and money for occupants to personalize their homes, now and in the future.

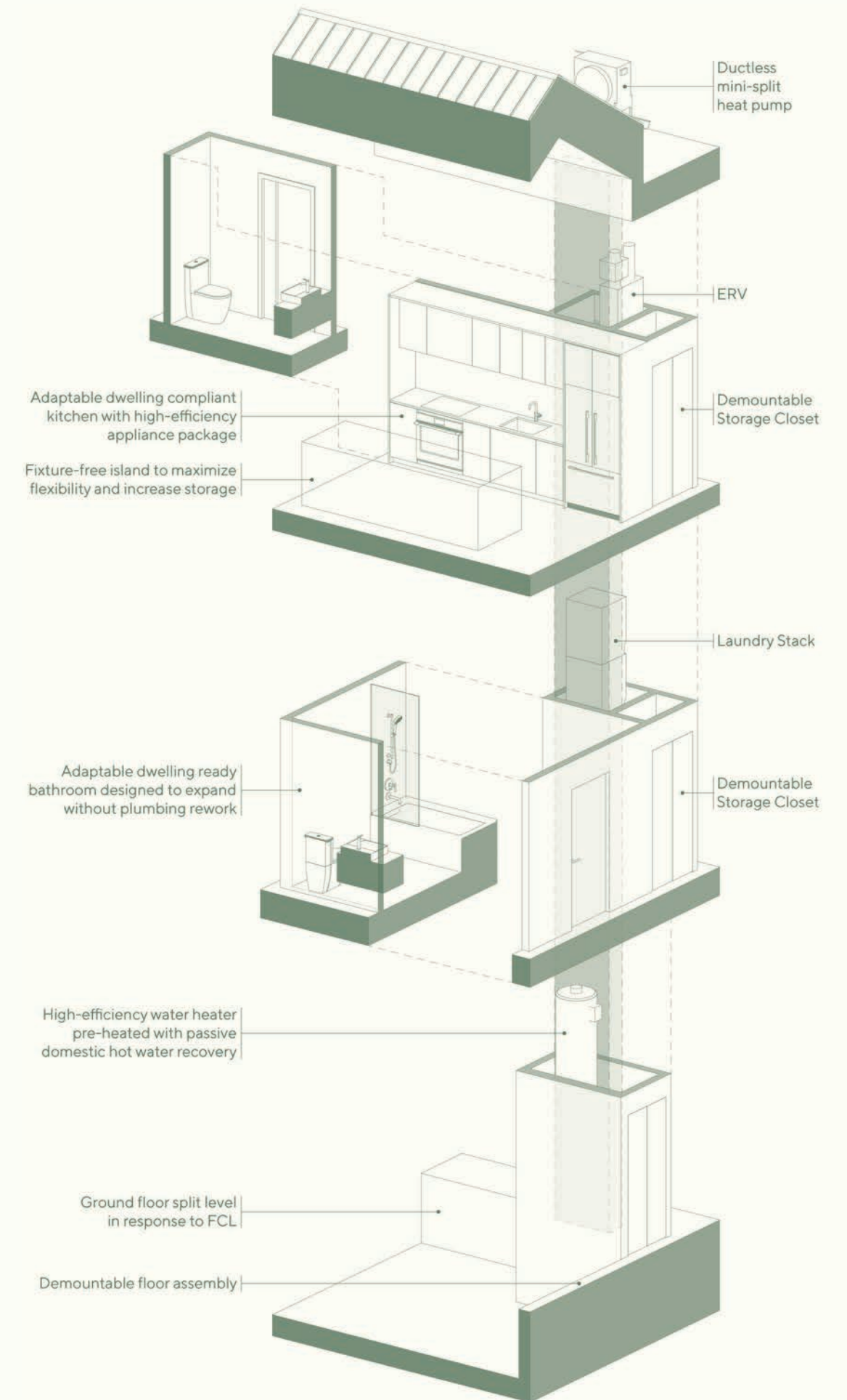
## Innovation & Creativity

With all the essentials neatly organized and packaged in the core, the rest of the home can take shape around the occupants' needs rather than those of the machines. The core establishes a practical division of space: providing access to support functions, such as bathrooms and laundry, without negatively impacting primary living spaces with unwanted adjacencies.

Spaces can be reconfigured with ease thanks to non-loadbearing walls, free of mechanical services. Walls can be moved and spaces reshaped to support the occupants' changing needs and desires.

The siting of the building and articulation of the units is designed to enhance access to light and air while contending with tight constraints from side setbacks.

Recessed balconies allow for more windows without adversely impacting limiting distance considerations. Rotating the units provides the opportunity for long views and increased privacy by creating an oblique relationship with neighbouring buildings. This remains true regardless of future developments nearby.



**Elevations, Unit Section & Limiting Distance Calculations**  
 as per BCBC 2024 9.10.14 Spatial Separation Between Buildings, Table 9.10.14.4.-A

Right Side Yard Elevation

Building Face per Unit	60.83 sm	
Limiting Distance	7.6 m	
	Permitted	Proposed
Area of Openings	100% - 60.83 sm	41% - 24.9 sm

Left Side Yard Elevation

Building Face per Unit	60.83 sm	
Limiting Distance	1.5 m	
	Permitted	Proposed
Area of Openings	16% - 9.73 sm	15.9% - 9.67 sm



## Elevations & Limiting Distance Calculations

as per BCBC 2024 9.10.14 Spatial Separation Between Buildings, Table 9.10.14.4.-A

### Front Yard Elevation

Building Face Unit 1	107.23 sm	
Limiting Distance	6.2 m	
	Permitted	Proposed
Area of Openings	39.8% - 42.68 sm	16.5% - 17.67 sm
Face per Unit 2,3,4	10.55 sm	
Limiting Distance	8.5 m	
	Permitted	Proposed
Area of Openings	100% - 10.55 sm	39.4% - 4.16 sm

### Rear Yard Elevation

Building Face per Unit	107.23 sm	
Limiting Distance	3.1 m	
	Permitted	Proposed
Area of Openings	20% - 21.46 sm	6.2% - 6.67 sm



## Aesthetics

Four distinct gabled volumes define the building, providing clear visual distinction for each unit and reducing the perceived mass of the building. Each gable encloses a unit's primary living spaces, while nooks created between them offer room for supporting functions and sheltered balconies. Minimal, platonic forms avoid overly complex and visually cluttered façades, and increase construction efficiency and energy performance.

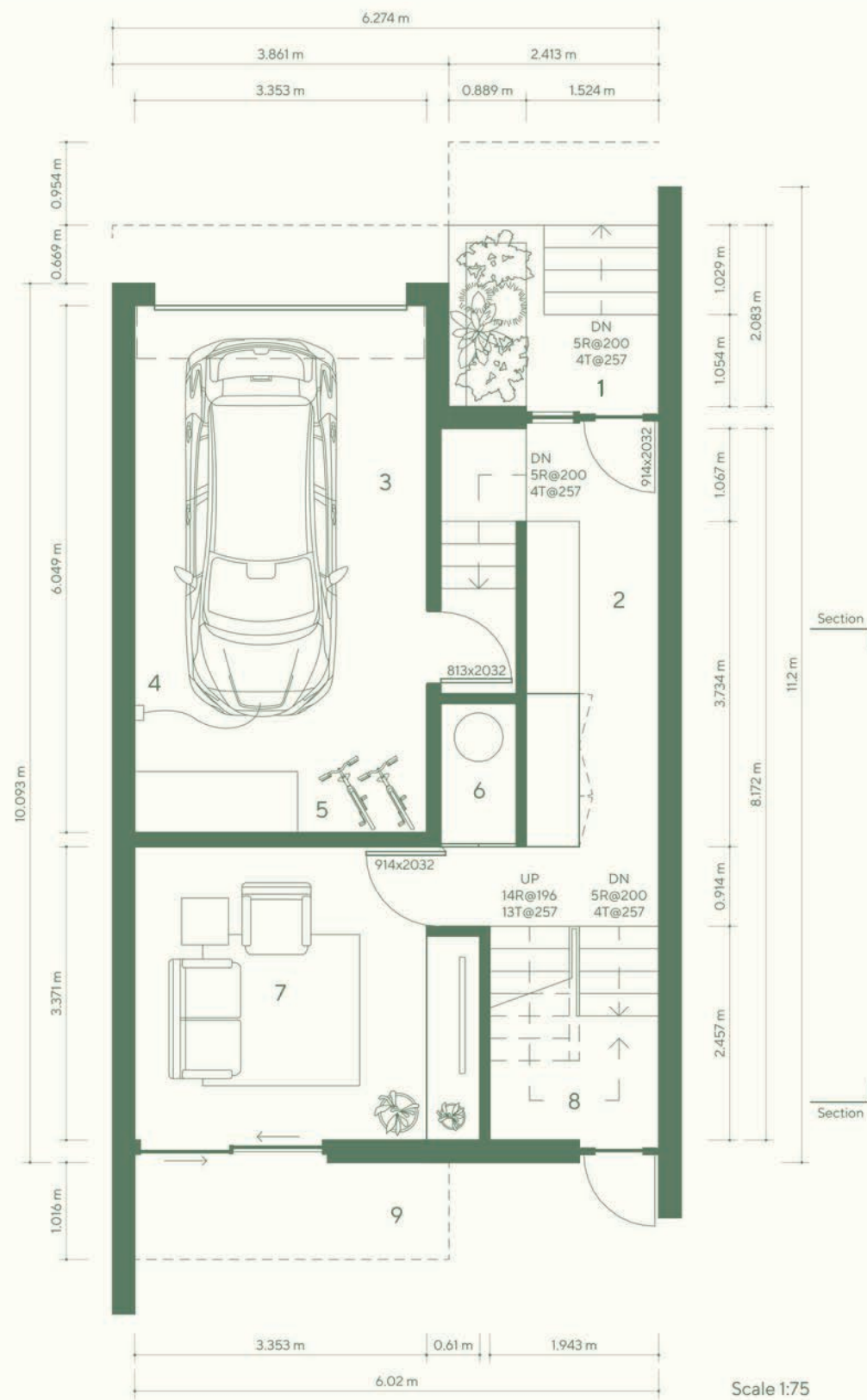
A reduced material palette of concrete, fiber cement and metal is straightforward and ro-

bust. Increasingly, these hard-wearing and fire-resistant materials are part of the local vernacular and speak to a distinctly Pacific North West architectural style. Concrete foundations and fin walls ensure flood hazard resilience while neatly dividing exterior spaces into private gardens. Fiber cement provides an understated and cost-effective solution for the supporting volumes, while standing-seam and mini-reveal metal panels clad the projecting gables with texture and colour.



## Level 1 Unit Plan

1. Covered Entry Steps
2. Entry with Bench & Closet
3. Garage
4. EV Charger, Level 2 3.3kW
5. Bike Storage
6. Mechanical (DHW)
7. Garden Room (Demountable Flex Space)
8. Back Door to Garden
9. Private Garden



## Sustainability & Resilience

The first floor's split-level design is an adaptation of the elevated dwelling that enables practical access at grade while still providing living space above the flood construction level. The concrete floor ensures maximum resilience in case of flooding, and provides an extremely durable and hard-wearing foyer for Squamish adventurers and their required gear.

Depending on the needs of the people living in the home, the ground floor living space can

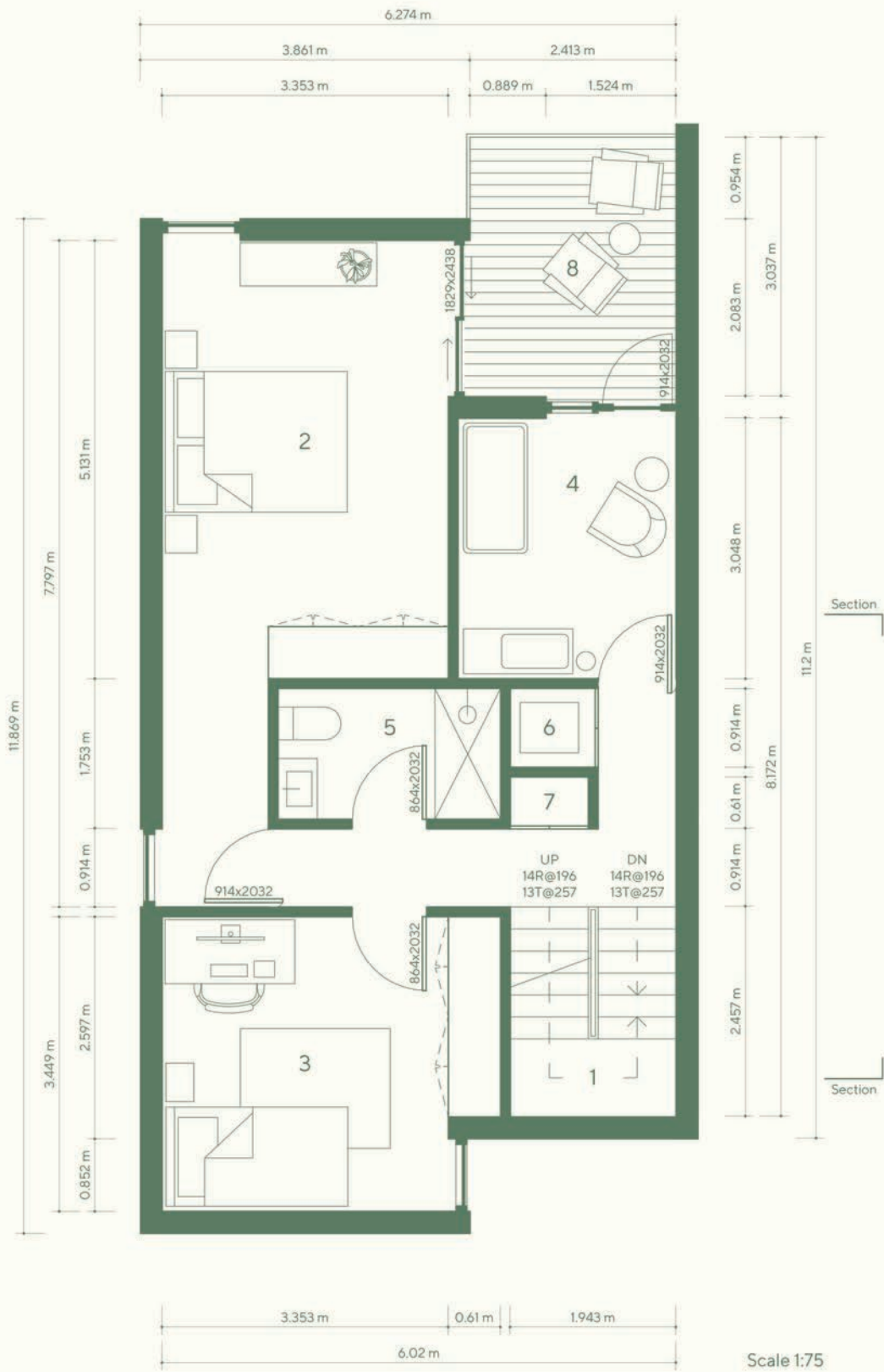
be easily removed to expand the garage without needing to modify the building's structure or mechanical systems.

Omitting the living space would also permit the design to be implemented with higher flood construction levels, such as is required in downtown or Brackendale, without much difficulty. On lots without a flood hazard, the split level could be reduced or eliminated, creating further construction cost savings.



### Level 2 Unit Plan.

1. Stair
2. Primary Bedroom
3. Secondary Bedroom
4. Flex / Bedroom / Den
5. Full Bathroom
6. Laundry
7. Storage Closet
8. Covered Deck Accessible from Primary & Flex



### Affordability & Cost Effectiveness

(EN)Core prioritizes unencumbered, flexible livable space, supported by highly efficient amenities. The design understands that more amenities is not always better for the needs of the inhabitants.

Space is always at a premium. Even a seemingly generous three-bedroom house can become a one-bedroom house if the residents are part of the ever-expanding cohort of fully remote workers. There's always a need for sanctuary and the ability to define a variety of discrete spaces in a home, like an office or

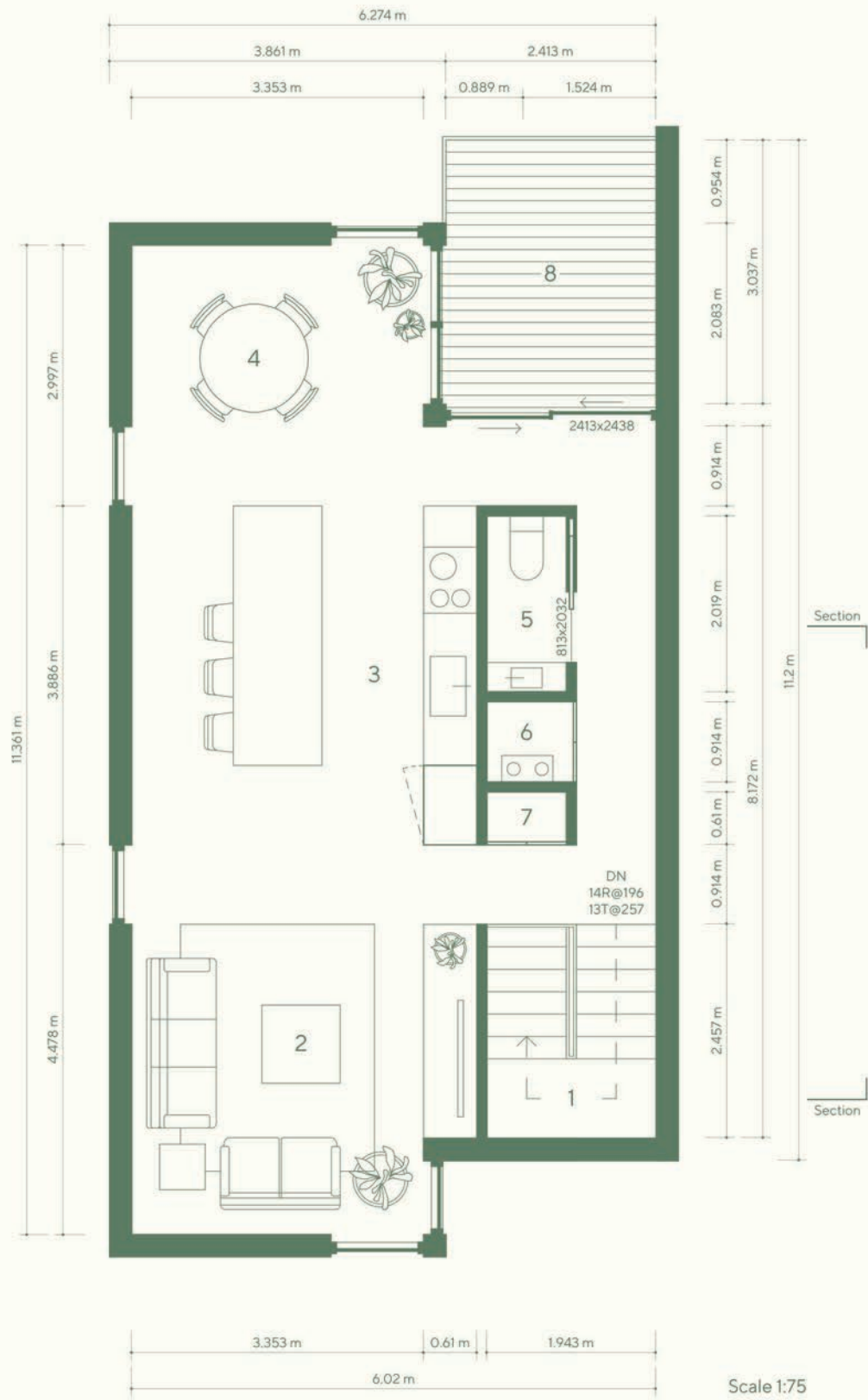
child's play area. By centralizing the core, a variety of rooms and zones can be easily configured to make the best use of the available space and provide convenient access to the various spaces contained within the core.

The tradeoff of this system is a lower bathroom count. But occupants gain more living space; better flexibility and adaptability of that living space; and the cost savings associated with not having to build multiple bathrooms and co-ordinate the decentralized plumbing.



### Level 3 Unit Plan

1. Stair
2. Living
3. Kitchen
4. Dining
5. Half Bathroom
6. Mechanical (ERV)
7. Storage Closet
8. Deck



## Project Data

OCP Land Use	Residential
DPA Consideration	2, 3, 11
Zoning	R-1
Applicable Code	BCBC 2024
Building Classification	Division B, Part 9, Group C
BC Energy Step Code	Step 4
Flood Construction Level	1 m
Fire Protection	Sprinklered, NFPA 13R

Site Dimensions	21.3 m x 36.5 m
Site Area	777.45 sm

## Setbacks & Building Height

	Permitted	Proposed
Front	3 m	4 m
Sides	1.2 m	7.45 m / 1.48 m
Rear	3 m	3 m
Height	11 m	10.9 m

## Area Summary

	Permitted	Proposed
Lot Coverage	0.5 (388.73 sm)	0.40 (312.21 sm)
Permeable	0.3 (233.24 sm)	0.34 (266.16 sm)
Floor Area Ratio	N/A	1.03
Total Floor Area	-	803.5 sm
Garage	-	97.59 sm
Level 1	-	166.86 sm
Level 2	-	269.28 sm
Level 3	-	269.28 sm
Floor Area / Unit	220 sm	192.89 sm
Private Usable	0.1 (19.29 sm)	31 - 38.35 sm
Open Space		

## Parking Spaces

	Permitted	Proposed
Vehicle Space	4 (1 / Unit)	4 (1 / Unit)
Class A Bicycle	-	8 (2 / unit)

All Vehicle Spaces to be Provided with Energized Outlet, Level 2, Min. 3.3 kW

## Unit Summary

Bedrooms	4
Bathrooms	1.5

## Construction Estimate (as per AGCCG)

Building Type	Row Townhouse
Cost Range	\$1991 - \$3,121/sm (\$185 - 290/sf)
Area for Costing	692.14 sm

Hard Cost Estimated	\$1,378,050.74 - \$2,160,168.94
Soft Cost Estimate (25%)	\$344,512.69 - \$540,042.24
Project Subtotal	\$1,722,563.43 - \$2,700,211.18
GST	\$86,128.17 - \$135,010.56
<b>Total Project Budget</b>	<b>\$1,808,691.60 - \$2,835,221.73</b>
<b>Project Budget per Unit</b>	<b>\$452,172.90 - \$708,805.43</b>

## Accessibility & Universal Design

Special consideration has been given to the design and layout of core components. Both the kitchen and full bathroom are adaptable dwelling ready. The inherent flexibility of the building system means that increased accessibility requirements can be met without needing to modify any of the building systems.

Space can be redefined through the simple reconfiguration of service-free, non-load-bearing interior partitions and demountable

building components, such as the storage closets, which provide a 1.5m deep by 1.9m wide stair landing when removed. The front porch is sized so that the planter box could be replaced with a vertical lift platform and the internal stair can accommodate a stair lift.

Unit 4 (the leftmost unit) on the following plans shows how an adaptive retrofit could look.



Site Plan & Level 1  
Scale 1:150



# Energy Efficiency Specifications

## Building Assembly Summary

Gabled Roof RSI 5.291 (R30)  
 - Standing Seam Metal Panel  
 9.5mm Entanglement Mesh  
 - Vapour Permeable Roofing Membrane  
 2x4 Strapping  
 - Parallel Chord Truss (Ref Structural)  
 203mm Mineral Wool Batt Insulation  
 - 6 MIL Poly Vapour Barrier  
 2x4 Service Cavity  
 12.7mm Gypsum Wallboard

Flat Roof RSI 7.03 (R40)  
 - 2-Ply SBS Roofing Membrane  
 6.4mm Asphaltic Cover Board  
 178mm Polyiso Insulation Board  
 - SA Air-Vapour Barrier Base Sheet  
 241mm TJI Framing (Ref Structural)  
 12.7mm Gypsum Wallboard

Exterior Wall RSI 4.478 (R26)  
 - Fiber-cement or Metal Panel  
 38mm Rainscreen  
 50mm Rigid Mineral Wool Insulation  
 - Vapour Permeable AWB  
 12.7mm Exterior Plywood Sheathing  
 2x6 Wood Framing with Mineral Wool Batt  
 - 6 MIL Poly Vapour Barrier  
 12.7mm Gypsum Wallboard

Slab on Grade RSI 5.6 (R31.8)  
 - Floor Finish  
 102mm Concrete Slab  
 - 6 MIL Poly Vapour Barrier  
 152mm XPS Insulation

Windows  $\leq$  USI 1.22  
 Doors RSI 0.98

### Mechanical Equipment

Heating/Cooling Ductless Mini-Split  
 Domestic Hot Water UEF-0.93  
 Ventilation ERV  
 Domestic Hot Water Recovery System

Note that these building assemblies are design to comfortably exceed the perscriptive requirements of BCBC 2024 Step Code in Squamish. Based on project budget the performance of these assemblies could be refined through energy modelling and value engineering.

