



# C PLEX

## Category 3: Ground Level Dwellings

### Guiding Concepts

C Plex presents four ground-oriented units clustered around a generous landscaped courtyard, encouraging a village lifestyle supported by shared space.

This is missing middle housing at its best: efficient use of land, utilizing conventional construction techniques, while increasing sociability, energy efficiency, and livability.

The scheme can accommodate fully accessible units and is compliant with BCBC and Step Code, with the ability to go beyond current requirements, such as Passivehouse, Net Zero, and rainwater and solar energy harvesting.

Ideal for families wanting a bit more room and storage space, the C Plex fits into established and new neighbourhoods alike.



## Aesthetics

C Plex's massing, materiality and sloped roofs are typical of West Coast Contemporary design, placed within a fresh and modern composition. The cedar cladding plays homage to the architectural styles prevalent in the Squamish Valley and can be sourced locally and recycled at the end of its life cycle.

Each unit is located in a separate mass, staggered and differentiated by subtle shifts in materiality of the upper floors. From the street, the C Plex gives the appearance of a cluster of small independent houses, aligning itself to the character of the predominantly single-family house neighbourhoods.

## Innovation & Creativity

The C-shaped multiplex building clusters four homes around a central courtyard with a large mature tree, serving as a social focal point for the homes. The units are thoughtfully designed to strike a balance between both privacy and community within the site while maintaining efficient functionality.

The modest floor plans accommodate a large, generous private balcony for each unit raised to the second level to allow open areas at grade for mature trees, gardens and amenities for families to build connection and community. Off the main courtyard a large bike room and indoor community area is provided, amenities that encourage shared activities between residents such as gardening, DIY repairs and recreation. A large bulk storage room is provided for each unit. Storage rooms are materially durable and accessed through an oversized outside door, making them ideal for large outdoor equipment.

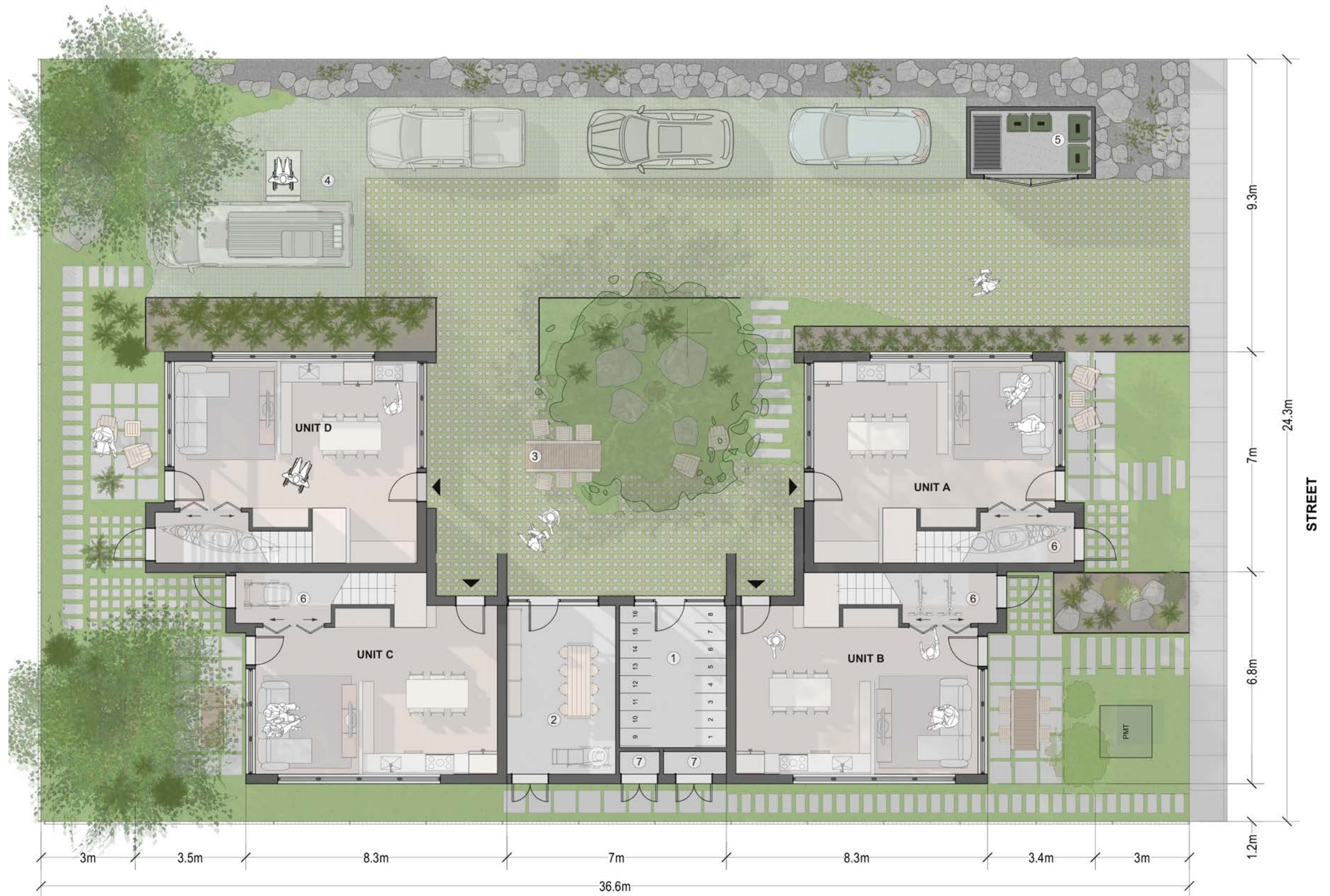
## Project Statistics

### Unit A, B, C, D

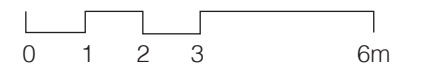
|             |        |
|-------------|--------|
| Total Area  | 160 sm |
| Bedrooms    | 4      |
| Bathrooms   | 2      |
| Car Stalls  | 1      |
| Bike Stalls | 4      |

### Legend

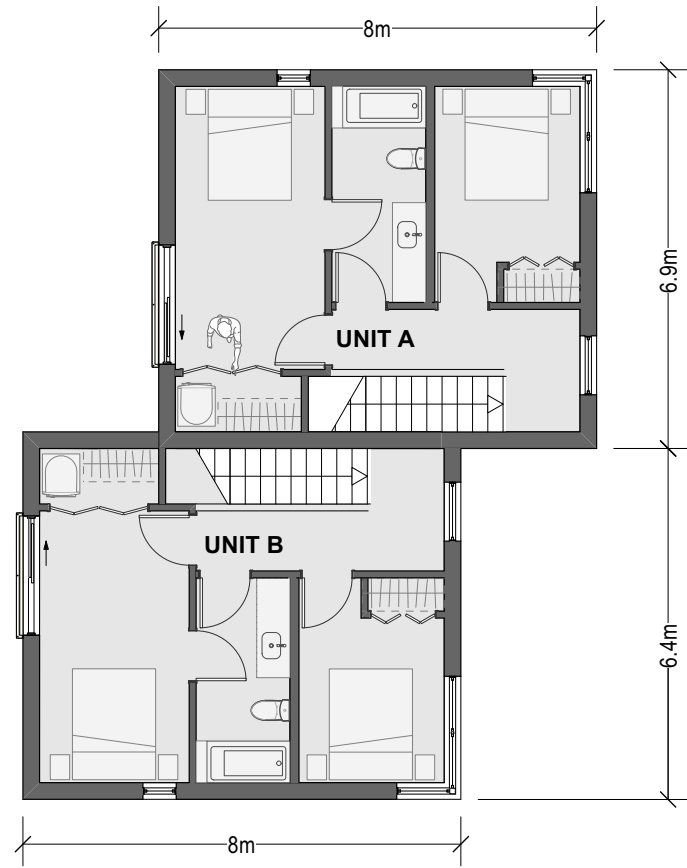
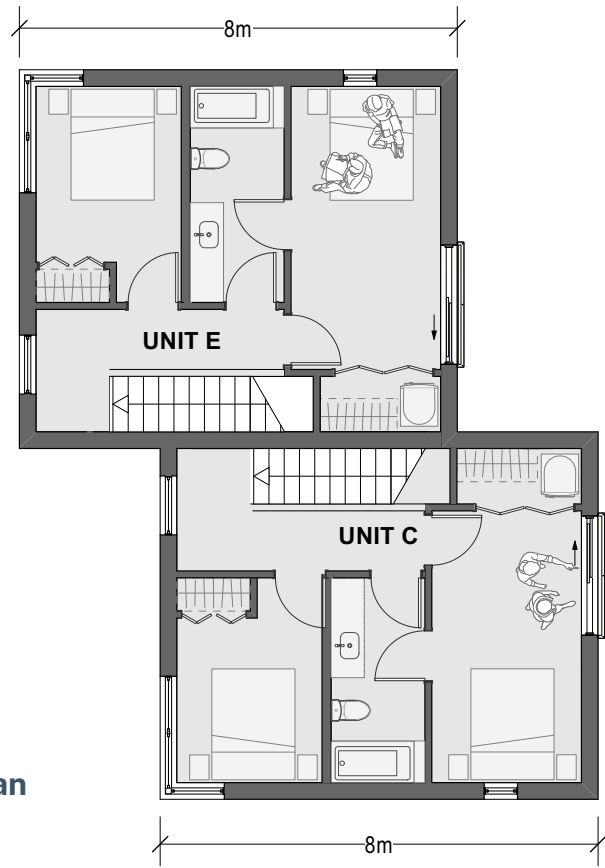
|   |                              |
|---|------------------------------|
| 1 | Bike storage                 |
| 2 | Community Room               |
| 3 | Outdoor eating area          |
| 4 | Accessible parking stall     |
| 5 | Garbage, Compost & Recycling |
| 6 | Bulk storage                 |
| 7 | Mechanical / Electrical      |



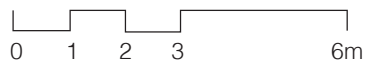
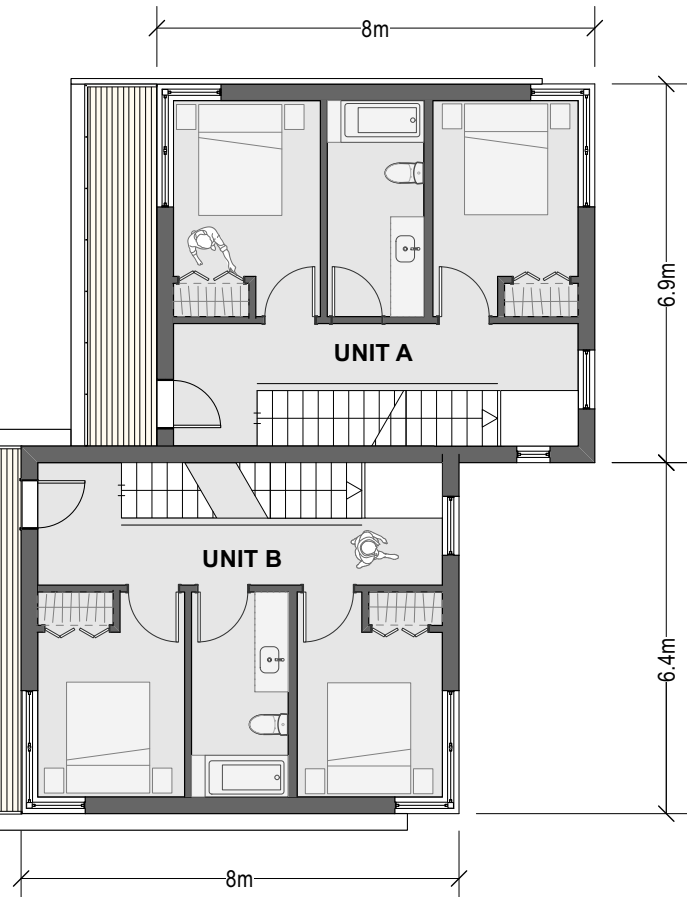
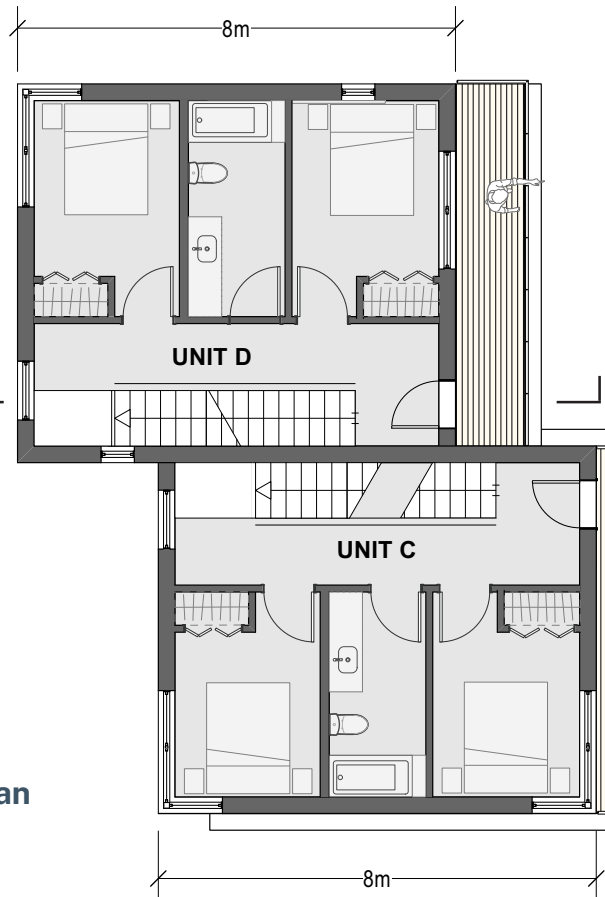
Site Plan



Level 3 Plan

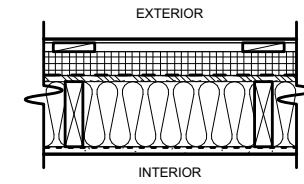


Level 2 Plan



Assembly Details

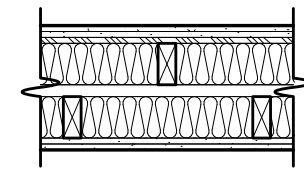
Exterior Wall



R22  
FRR: 1hr  
STC: N/A  
RSI: 4.6

- 5/16" Fiber Cement Siding
- 3 1/2"x3/4" Wood strapping @ 16" o.c.
- 2" R8 Mineral Wool Rigid Insulation
- Self-Adhered vapour permeable air barrier
- 1/2" Borate preservative treated Plywood sheathing
- 2x6 Wood studs @ 16" o.c. with R22 Batt Insulation
- 1/4" Polyethylene vapour barrier
- 5/8" Type X Gypsum wallboard

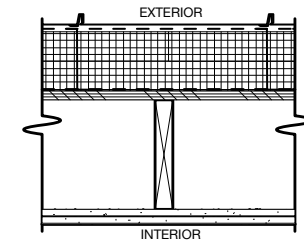
Demising Wall



FRR: 1hr  
STC: 65  
RSI: N/A

- 2 Layers 1/2" Type X Gypsum wallboard
- 1/2" Plywood sheathing
- 3 1/2"x3/4" Wood strapping @ 16" o.c.
- 2x4 Wood studs @ 16" o.c. with Acoustic Batt Insulation
- 1" Air Gap
- 2x4 Wood studs @ 16" o.c. with Acoustic Batt Insulation
- 2 Layers 1/2" Type X Gypsum wallboard

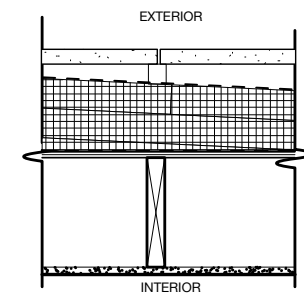
Metal Roof



R24  
FRR: N/A  
STC: N/A  
RSI: 5.02

- 24 ga. Pre-formed locking metal roof system
- 5" R28.5 Polyisocyanurate Insulation (R5.7/inch)
- HT self-adhered membrane
- 5/8" Plywood sheathing
- 2x10 Rafters @ 24" o.c.
- 2 Layers 5/8" Type X Gypsum wallboard

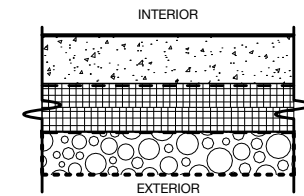
Roof Deck



R24  
FRR: N/A  
STC: N/A  
RSI: 4.9

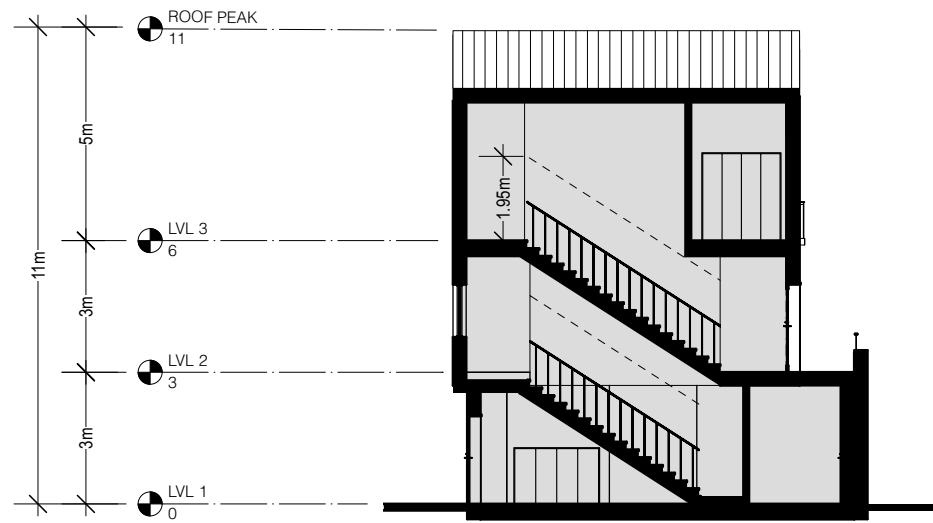
- 1 1/4" Hydrapressed concrete pavers on pedestals
- 5" R28.5 Polyisocyanurate insulation (R5.7/inch) (2 layers, joints staggered)
- Modified bitumen roofing membrane
- 1/2" Pressure-treated plywood sheathing
- 2x10 rafters @ 24" o.c.
- 5/8" Type X Gypsum wall board

Slab on Grade



R14  
FRR: N/A  
STC: N/A  
RSI: 3.5

- 4" Reinforced concrete slab
- 15mm Polyethylene vapour barrier
- 2 Layers 2" XPS rigid insulation
- 4" Clear crush gravel fill, no fines



*N-S Stair Section*



*South Elevation*



*North Elevation*



*East Elevation*



*West Elevation*

## Sustainability

C Plex is designed for energy efficiency in mind and highlights the importance of a well-landscaped site to encourage the health of wildlife and adapt to changing conditions due to climate change such as flooding and hotter temperatures.



### ① Flooding

Rainwater garden built along the side yard, away from the building. Composed of local rocks, soil and plants built to slow down and hold rainwater, allowing it to soak into the ground. Helps reduce the volume of water entering the sewer system and prevents flooding

② High ratio of permeable surfaces on site for water absorption

### ③ Planting

Landscaped with an opportunity for mature trees and extensive planting for natural shading and evaporative cooling

④ Abundance of planting that is varied and local to promote pollinators, birds and other wildlife on site

### ⑤ Ventilation

Operable windows and clerestory windows throughout for natural ventilation and cooling.

### ⑥ Materiality

Fabricated with locally and responsibly sourced wood that can be fully recycled

### ⑦ Energy Consumption

Ample wall thicknesses to accommodate additional insulation and lower energy requirements for heating and cooling

### Fire Suppression

The proposal is designed to accommodate a sprinkler system to comply with NFPA 13R, and includes space for a dedicated water meter / pump room

## Accessibility Features

The C Plex is designed to be fully compliant with BCBC regulations and is designed with consideration of universal accessibility.

All four units have fully accessible ground floor living spaces including kitchen, dining and living spaces to accommodate guests of all abilities. These units are designed to minimize future retrofit costs to accommodate accessibility on all floors. An oversized accessible parking space is provided, and interior stairs can be fitted with lifts.

Importantly, all community spaces are fully barrier-free in order to allow for use by all people regardless of physical ability.

Outdoor spaces are designed to balance accessibility and permeability through a mix of paving materials from grass block pavers to cast concrete surfaces.

## Affordability & Cost Effectiveness Strategy

- Standardized design with repeating conditions and dimensions throughout
- Utilizing simplified massing to enable either conventional construction, panelized construction, or prefabricated / off site construction
- Maximum number of units on site that are comfortably livable but modest in scale
- Locally sourced materials, components, and building traditions
- Household savings through strong community networks and resource sharing
- Alternative tenure such as a community land trust (CLT) can achieve deeper affordability over time and provide long term stewardship

## Project Statistics

|                                 |              |
|---------------------------------|--------------|
| <b>Height</b>                   | <b>11m</b>   |
| <b>Number of Units</b>          | <b>4</b>     |
| <b>Gross Floor Area</b>         | <b>679sm</b> |
| <b>Floor Area Ratio</b>         | <b>0.76</b>  |
| <b>Flood Construction Level</b> | <b>0m</b>    |
| <b>Site Coverage</b>            | <b>33%</b>   |
| <b>Permeable Area</b>           | <b>597sm</b> |
| <b>Vehicle Parking Spaces</b>   | <b>4</b>     |
| <b>Front Setback</b>            | <b>3m</b>    |
| <b>Rear Setback</b>             | <b>3m</b>    |
| <b>Side Setback 1</b>           | <b>1.2m</b>  |
| <b>Side Setback 2</b>           | <b>9.3m</b>  |

## Project Cost

| Tenure / Development Model                    | Conventional For Profit Strata Redevelopment | For Profit Affordable Rental | Not-For-Profit Dedicated Rental by Owner + Partners   |
|---|--|------------------------------|---|
| <b>Gross Floor Area</b>                       | 679sm  | 679sm                        | 679sm   |
| <b>Construction Materials + Labour</b>        | \$2,155,998                                  | \$2,155,998                  | \$2,155,998   |
| <b>Utility connections (varies with site)</b> | \$30,000                                     | \$30,000                     | \$30,000  |
| <b>Total Construction Hard Cost</b>           | \$2,185,998                                  | \$2,185,998                  | \$2,185,998   |
| <b>Soft Costs</b>                             | \$437,200                                    | \$394,212                    | \$394,212   |
| <b>Development Cost Charges</b>               | \$42,988                                     | exempt                       | exempt  |
| <b>Total Development Cost</b>                 | \$4,852,183                                  | \$4,766,207                  | \$4,766,207   |
| <b>Cost per Square Metre</b>                  | \$7,146/sm                                   | \$7,019/sm                   | \$7,019/sm  |
| <b>Cost per Unit</b>                          | \$1,213,046                                  | \$1,191,552                  | \$1,191,552   |
| <b>Land Cost</b>                              | \$1,287,874                                  | \$1,287,874                  | \$0   |
| <b>Total Development Cost Including Land</b>  | \$6,140,057                                  | \$6,054,081                  | \$4,766,207   |
| <b>Cost per Square Metre Including Land</b>   | \$9,043/sm                                   | \$8,816/sm                   | \$7,019/sm  |
| <b>Cost per Unit Including Land</b>           | \$1,535,014                                  | \$1,513,520                  | \$1,191,552   |
| <b>Affordability</b>                          | <b>None</b>                                  | <b>Medium term</b>           | <b>Affordability deepens over time, in perpetuity</b> |

## Costing Assumptions

1. Hard cost per/sm are based on Altus Group 2024 Canadian Cost Guide, Private Sector, Wood Framed Residential, 3 Storey Stacked Townhouse, Vancouver, medium-high level of finish, \$290/sf (\$3175/sm)
2. Soft costs are estimated at 20% of hard cost, based on BC Ministry of Housing's SSMUH and TOA Scenarios in British Columbia report and includes pre-development costs, consultant fees, permit application fees, topographical surveying, environmental reports, legal fees, engineering fees, and notification signage.
3. Development Cost Charges are calculated per District Of Squamish Bylaw No. 2911, 2022.
4. Land Purchase Cost is based on current (as of October 2024) properties for sale that are of a comparable size and in the specified neighbourhoods, with high development potential.



Kitchen + Dining





Living Room