

# double double

## Concept

The Double Double is home to four ground-oriented units with strong connections to outdoor spaces, both private and shared. The project takes advantage of well-known construction techniques to create something which feels familiar to the neighbourhood, while offering innovative design solutions for co-living in a rapidly growing family-oriented community.

In addition to the private covered porch and balcony connected to each unit, the project features a large shared backyard space. The landscape design addresses practical issues such as rainwater retention and biodiversity, while also supporting community activities and the health of local wildlife.



## Aesthetics

Consideration of scale and vernacular traditions were both critical in shaping the Double Double. Aligning with the character with of its single-family neighbours, the street elevation projects the appearance of a small cluster of detached houses. This lends a sense of friendliness to the project, bolstering density in the neighbourhood without disrupting the existing community.

Locally-sourced board and batten cladding delivers contemporary expression of a traditional building material. This provides a west coast modern aesthetic, while respecting the design language of the region.

## Innovation & Creativity

The arrangement of simple repeatable units on the site allows for clear organization, and variation where required by existing site conditions. Identity and a sense of place are provided through human-scale design elements, while repeatable floor plates offer decreased construction costs.

Generous living spaces provide flexible layouts, with abundant storage and opportunities for future accessibility adaptations. Direct grade access offers each family their own front door, and easy access to all of their favourite outdoor activities. The project massing is arranged to provide each unit with private outdoor space, as well as access to a large communal garden. Bulk storage within the family units is designed with durable materials which open directly onto the ground plane, ideal for year-round adventurers.

*Street View*

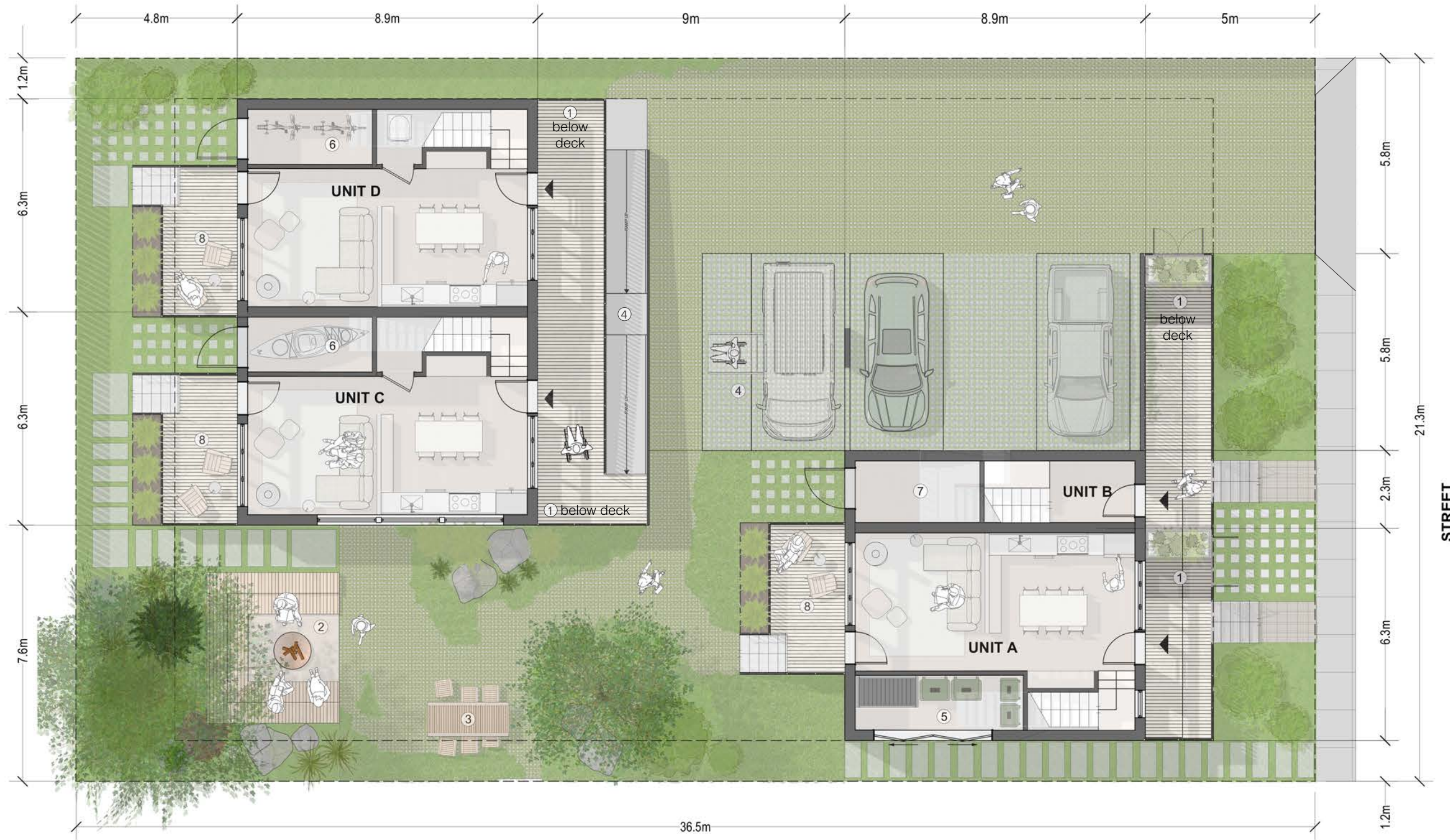


### Project Data

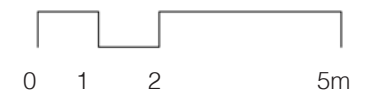
Dwelling Units	4
Total Gross Area	484 sm
Floor Area Ratio	0.63
Flood Construction Level	1.0m
Site Coverage	24%
Permeable Area	510 sm
Vehicle Parking Spaces	4
Bike Parking Spaces	8+
Maximum Height	11.0m
Front Yard Setback	5m
Rear Yard Setback	4.8m
Side Yard Setbacks	1.2m

### Legend

- 1 Bike storage
- 2 Communal fire pit
- 3 Outdoor eating area
- 4 Accessible parking stall & ramp
- 5 Garbage, Compost & Recycling
- 6 Bulk storage
- 7 Mechanical / Electrical
- 8 Private decks



Site and Ground Floor Plan



## Unit Types Data

### Unit A

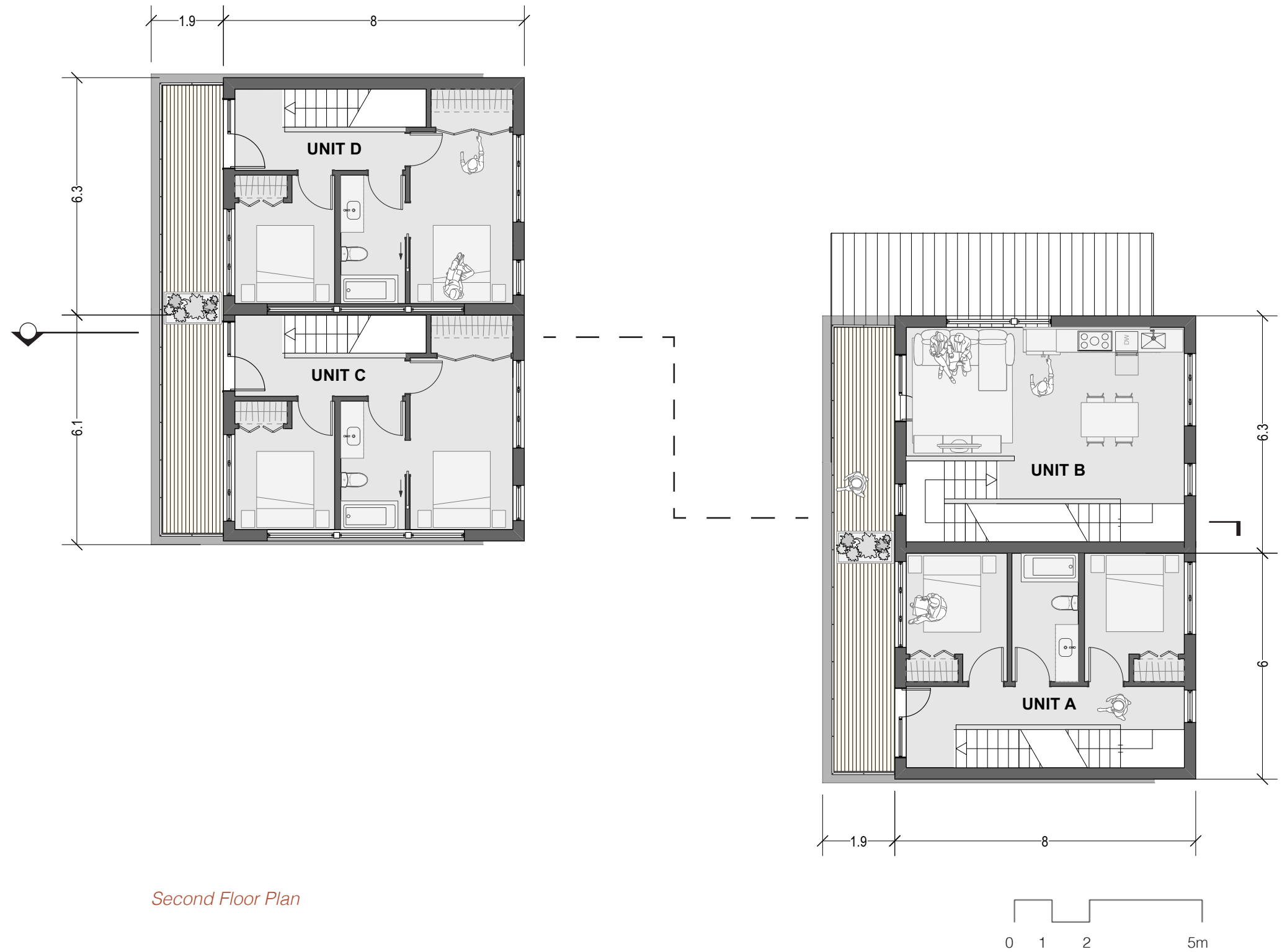
<b>Total Area</b>	155 sm
<b>Bedrooms</b>	4
<b>Bathrooms</b>	2
<b>Car Stalls</b>	1
<b>Bike Stalls</b>	2

### Unit B

<b>Total Area</b>	119 sm
<b>Bedrooms</b>	2
<b>Bathrooms</b>	1
<b>Car Stalls</b>	1
<b>Bike Stalls</b>	2

### Unit C + D

<b>Total Area</b>	105 sm
<b>Bedrooms</b>	2
<b>Bathrooms</b>	1
<b>Car Stalls</b>	1
<b>Bike Stalls</b>	2



Second Floor Plan

## Sustainability & Resilience

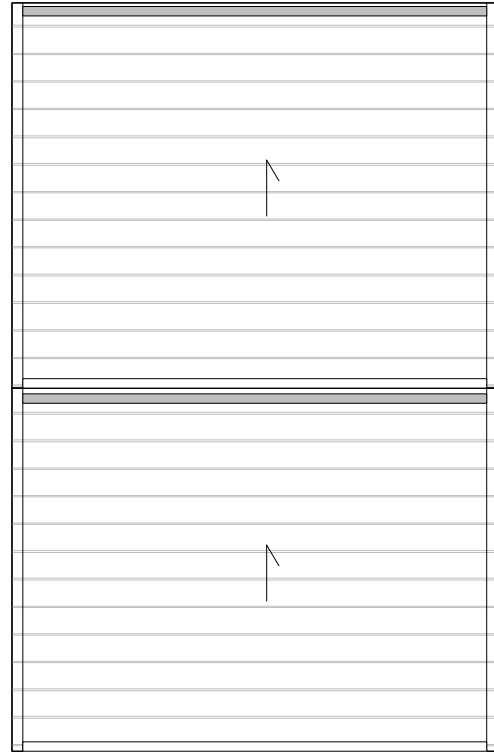
Double Double was designed for energy and material efficiency and highlights a well-considered site that encourages wildlife health and responsiveness to a changing climate. Double Double is compliant to Step Code 4 and adaptable to higher levels such as Step Code 5 or Passive House.

Operable windows and clerestory windows throughout allow for natural ventilation and passive cooling during heat events. Increased wall thicknesses accommodate a generous layer of insulation to lower energy requirements.

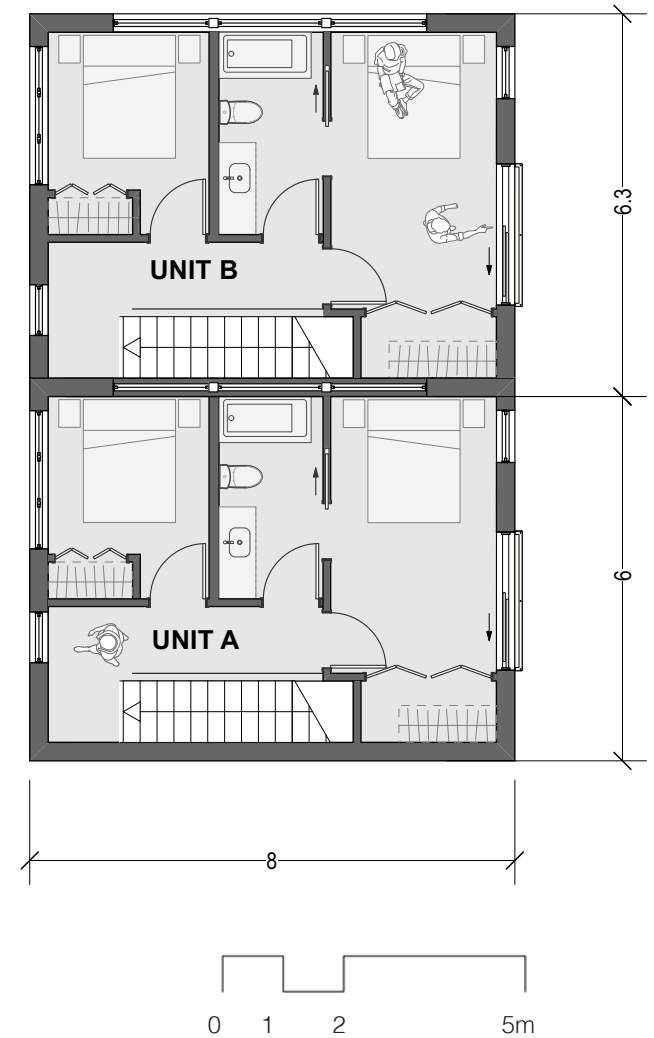
The site is landscaped with a high ratio of permeable surfaces to allow for water absorption, controlling the amount of water entering the sewer system and therefore helping to prevent flooding. The site is landscaped with opportunities for mature trees and extensive planting of local species, promoting wildlife and pollinators on site.

## Key Features

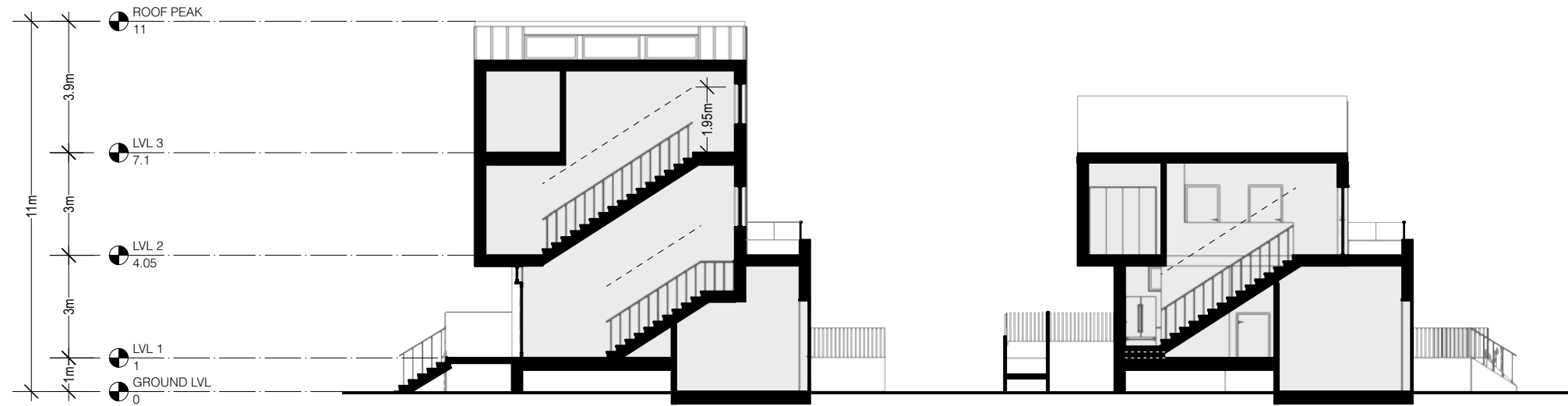
- simple massing results in an efficient form factor, reducing heat loss through the envelope
- increased wall thickness allowance leaves room for high performance, well insulated walls and roof, as well as flexible cladding options
- increased airtightness w/ ERV for each unit to maximize envelope performance
- high efficiency, low emissions systems that utilize clean energy through electrification
- wood structure and low carbon materials, along w/ solar ready roof, make for a Net Zero ready design
- dedicated mech. / elec. space allows for advanced metering for renewables
- The proposal is designed to accommodate an economical sprinkler system to comply with NFPA 13D.
- easy access to secure bike lockers under the elevated decks encourages active transportation, reducing dependency on cars



Roof and Third Floor Plan



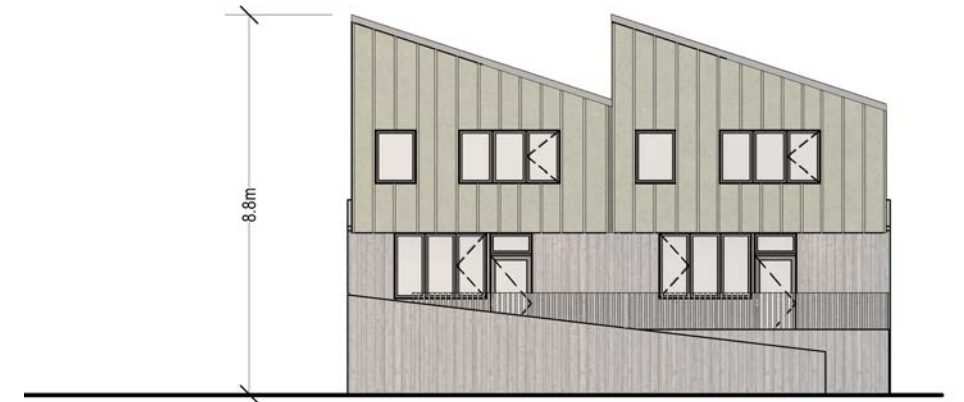
Building Elevations and Section



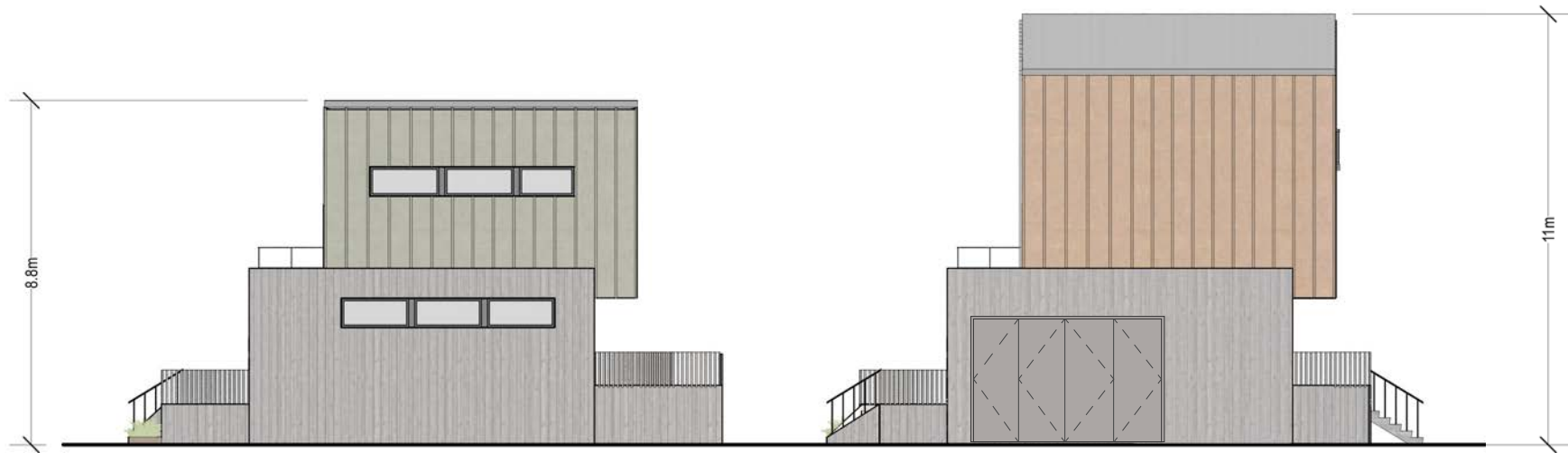
N-S Stair Section



West Elevation



North Elevation



East Elevation



South Elevation



## Accessibility & Universal Design

Squamish is home to a variety of people, not all of whom conform to one set of body standards and abilities. Double Double is designed with consideration for the updated BCBC 2024 requirements for accessibility in buildings, both effective and pending.

Interior living spaces are kept open and adaptable, minimizing the need for future retrofitting costs wherever possible. Kitchen layouts in particular are designed to be barrier-free, with plumbing kept to the perimeter of units, and generous clearances provided around furniture and fixtures.

Universal design principles apply to outdoor spaces as well. An accessible parking space is provided at grade, as well as a ramp which grants access to the ground floor of two units.



*Typical Ground Floor Living Room View*

## Affordability & Cost-Effectiveness Strategies

- High number of units that are comfortably livable but modest in scale
- Repetition and stacking of design features, along with modular dimensions and components throughout to lower material and labour costs
- Standardized design allows for site built or integrated off site and prefabricated approaches
- Locally sourced building materials and techniques lower risk and increase uptake
- Investment in community-building lowers household budgets overall through sharing of resources and social support networks

## Construction Cost Estimate

Tenure / Development Model	Conventional For Profit Strata Redevelopment
Dwelling Units	4
Site Area (21.3m x 36.5m)	777
Gross Floor Area (sm)	484
Construction Materials + Labour	\$1,536,823
Utility connections (varies with site)	\$25,000
Total Construction Hard Cost	\$1,561,823
Soft Costs	\$312,365
Development Cost Charges	\$42,988
Total Development Cost	\$3,478,999
Cost per Square Metre	\$7,188
Average Cost per Unit	\$869,750
Land Purchase Cost	\$1,393,606
Total Development Cost Incl. Land	\$4,872,605
Cost per Square Metre Incl. Land	\$10,067/sm
Cost per Unit Incl. Land	\$1,218,151



Rear Isometric View

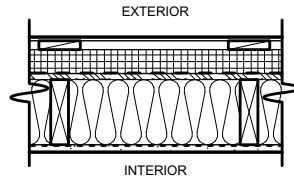
## Construction Cost Assumptions

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.



## Assembly Details

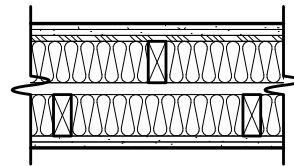
### Exterior Wall



R22 / FRR: 1hr / 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

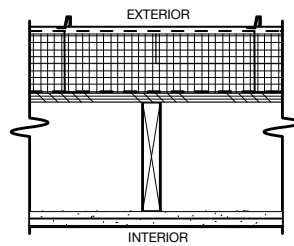
### Demising Wall



FRR: 1hr / STC: 65

- 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

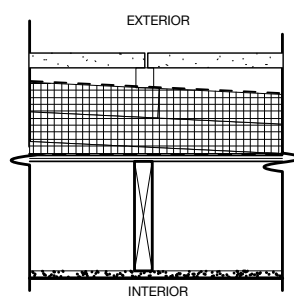
### Metal Roof



R24 / 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

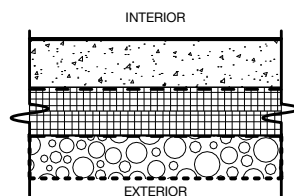
### Roof Deck



R24 / 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 / RSI: 3.5

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



Typical Ground Floor Dining Room & Kitchen View