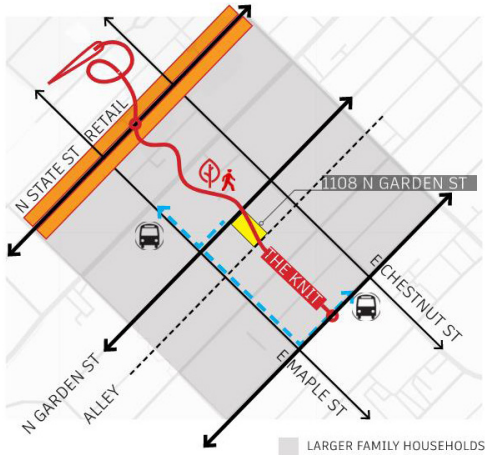


# (KNIT)SCAPE | UNLOCKING MISSING LINKS, BUILDING COMMUNITIES



Missing Middle housing types are readily adaptable to the needs of today's and tomorrow's changing social trends. By blending classic design with innovative systems, Bellingham communities have the opportunity to address shifting demographics and housing needs with residences that emphasize efficient use of space for outdoor amenities, live-work lifestyles, and family-oriented features. Dense and walkable environments offer more choices—in housing, transportation, and cultural opportunities—that are both well-designed and affordable, promoting a diverse, socially inclusive community.

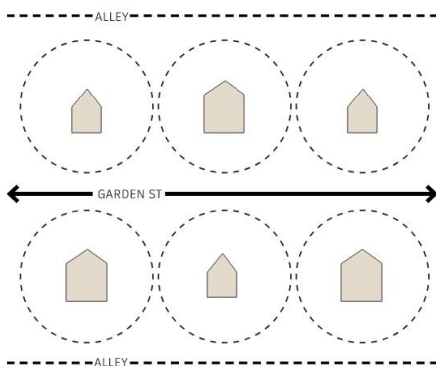
The KNITSCAPE consists of six compact through-block townhouses and two optional ADUs. It is located at 1108 N Garden Street on an 80' x 130' infill site in the Sehome neighborhood, known for its larger family households. The proposed design can also fit on Option 1: a large 80' x 300' lot.

## SITE SELECTION RATIONALE:

1. The site is conveniently located near key retail establishments and public transit. Additionally, the KNITSCAPE feature creates a mid-block connection between North State Street and Billy Frank Jr. Street, enhancing accessibility and providing amenities for future residents.
2. The site's dimensions allow for various unit types, supporting higher density closer to the 1.6 FAR limit for six dwelling units. Increasing density is vital for promoting walkability and affordability.

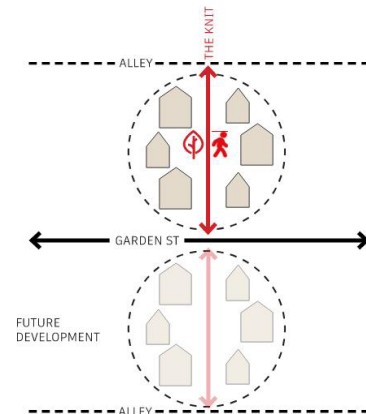
KNITSCAPE promotes urban connectivity by seamlessly linking streets and public spaces, encouraging walkability and active lifestyles. This typology creates mid-block pathways that provide alternative, tree-lined pedestrian access, reducing travel distances and improving accessibility. As future developments adopt the KNITSCAPE model, the neighborhood becomes increasingly walkable, fostering a stronger sense of community through casual interactions and greater foot traffic. It provides a walkable, tree-lined pedestrian corridor to access local retail on N State Street. These interconnected pathways also promote sustainable urban growth by reducing car dependency, enhancing air quality, and contributing to a vibrant, people-centered environment.

## KNITTING COMMUNITY BONDS | CRAFTING A WALKABLE AND INCLUSIVE NEIGHBORHOOD



**EXISTING:**  
Traditional single-family zoned neighborhood

- PROBLEMS:**
- Isolated & less walkable
  - Limits housing diversity and affordability
  - Urban Sprawl reduces population density which is crucial for local businesses and public transit
  - Environmental issues due to increased car dependency



**PROPOSED:**  
The KNITSCAPE promotes urban connectivity and encourages walkability and active lifestyles. It also increases housing diversity and affordability and addresses urban sprawl and environmental issues. When future developments adopt through-block access, the neighborhood becomes even more walkable, fostering a stronger sense of community.

## SITE PLAN



## SEHOME DEMOGRAPHY | HOUSEHOLD SIZE & UNIT MIX

The unit size and mix are informed by Sehome household size demography. Our project is located within a neighborhood with larger household sizes, generally meaning more children. To maximize adaptability for housing needs, we explored different scenarios for potential use cases:

**TYPE 1:** A 2.5-story, 1,850 SF home that offers a 4 bed, 3.5 bath layout targeting larger families with a flexible program for remote-workin parents.



**TYPE 2:** A 1.5-story, 1,300 SF home that offers a 3 bed, 3 bath layout targeting medium-sized households, also with a flexible program for remote-working parents.



**Optional 1)** Households have the opportunity to acquire an ADU for aging parents or to invest in rental income.  
**Optional 2)** Surface parking for the residence with direct access from the alley.

## AFFORDABILITY & CONSTRUCTABILITY

Economically, KNITSCAPE contribute to the growing demand for a greater variety of housing choices in walkable communities. Missing Middle housing types offer a comfortable level of density, walkability, amenities, and choice in environments that can accommodate the changing needs of people of all ages and abilities over time.

KNITSCAPE takes an “efficiency-first” approach to decarbonization through an airtight and highly-insulated envelope. The structure is stick-built timber, an affordable and low-carbon structural system. The walls are balloon-framed to prevent thermal bridging at the floors, and the building is wrapped in a continuous layer of wood fiberboard insulation. The exterior of the building is finished in natural materials like brick, wood and metal, and the interior with low-VOC finishes. Windows are typically double-glazed, as triple-glazing does not provide a realistic payback on its embodied carbon through operational carbon savings.

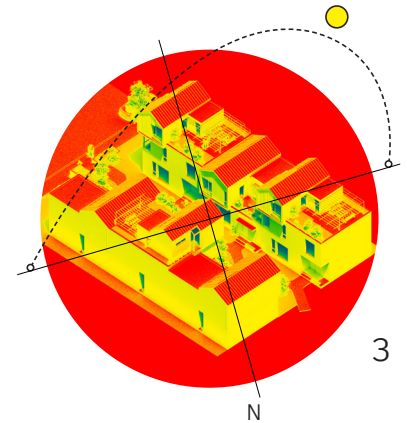
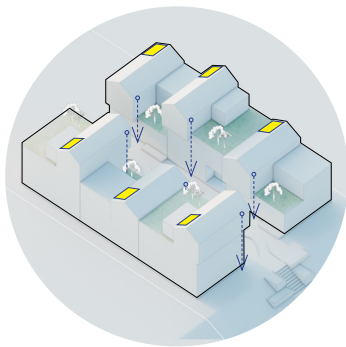
The project’s materiality is thoughtfully curated to balance aesthetics, sustainability, and constructability. Two tones of brick with subtle color variation define the primary exterior material, providing both durability and a timeless aesthetic. The use of natural wood accents on the façade further softens the visual impact, adding warmth and texture. These aging materials not only enhance the building’s tactile qualities that provoke human senses but also allow it to harmonize and blend in with the natural and man-made context and promote sustainability and longevity through the use of organic, weather-resilient elements.

The standing seam rolled-form metal roof that wraps around the cantilevered massing complements this palette, providing long-lasting protection and the potential for rainwater harvesting. This carefully selected material combination optimizes affordability and ease of construction, leveraging standardized sizes and installation methods to streamline the building process. Moreover, these materials require minimal maintenance, reducing long-term costs for homeowners. By prioritizing locally sourced, low-embodied energy materials, the project demonstrates a commitment to reducing its carbon footprint while creating homes that are both beautiful and environmentally responsible.

## SUSTAINABILITY & RESILIENCE

Environmentally, missing middle housing is a tool for improving and maximizing previously developed areas, utilizing existing infrastructure and resources, building on existing assets, and providing the opportunity to retrofit the built environment in our communities with more efficient systems.

KNITSCAPE is designed to provide for healthy and low-carbon urban living. Built to the **Passive House** standard, it prioritizes decarbonized energy sources and low-carbon materials. By combining urban infill with climate-responsive building techniques, the KNITSCAPE(s) are a vision of the cities we need to build in the global north if we are to avert the worst of the climate crisis. The KNITSCAPE is heated and cooled with high efficiency air-source heat pumps that provide cooling in the summer and heating in the winter. Heat pumps at KNITSCAPE use low-GWP non-HFC refrigerants. Ventilation in the kitchen and bathroom is sufficient to provide the necessary number of air changes, and exhaust air is processed through an energy recovery systems.



1. Harvesting sun by installing photovoltaic (PV) panels , and collecting rain water for landscaping
2. Using indigenous low-maintenance meadow landscaping
3. Sun study: the 20' wide corridor through the site welcomes natural light into living spaces.

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## COMMENTS ON THE CURRENT LAND USE CODES

### 1. Maximizing FAR in Larger Lots by increasing the number of dwelling units:

The number of dwelling units can increase based on lot size to optimize density and affordability within the defined FAR. This strategy incentivizes developers to invest in middle housing, leading to more diverse and attainable housing options for the community. Please see below example:

Option 1: 80'x300' lot size

Max. FAR 1.6 , Max Dwelling Units: 6

$1.6 \times 80 \times 300 = 38,400$  SF

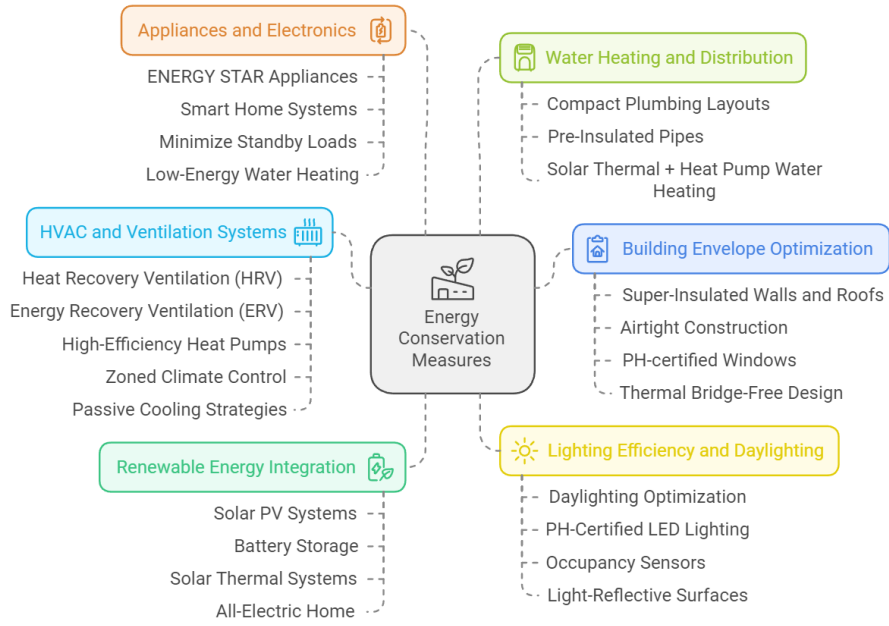
Average unit size=  $38,400 / 6 = 6,400$  SF (not feasible!)

### 2. Promoting a mixed-use neighborhood:

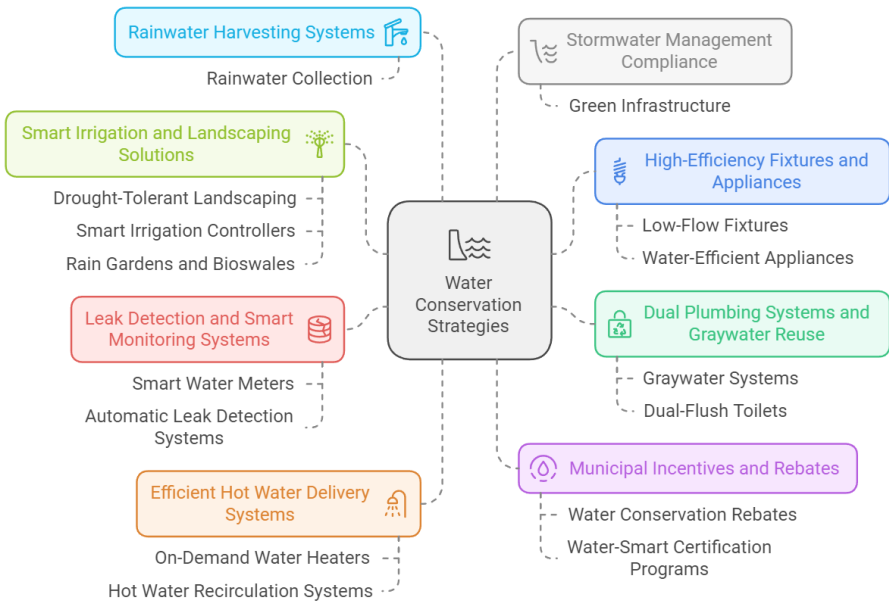
The street-facing units' ground level could be utilized for small businesses with active storefronts, fostering interaction between residents and the community. This design approach enhances the neighborhood's vibrancy, making it more walkable and providing opportunities for small businesses to thrive in a convenient, mixed-use environment. It also introduces a new housing typology, allowing small business owners to live and work nearby, supporting both local commerce and community engagement.

# SUMMARY OF SUSTAINABILITY MEASURES

## Energy Conservation Measures



## Water Conservation Measures



## Waste Management Strategies

