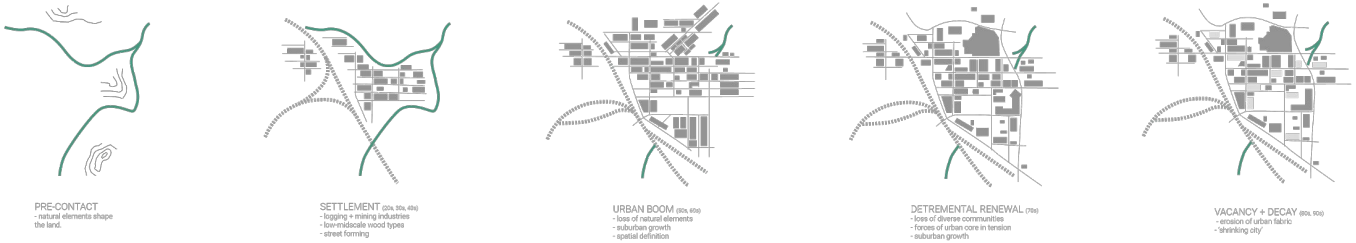
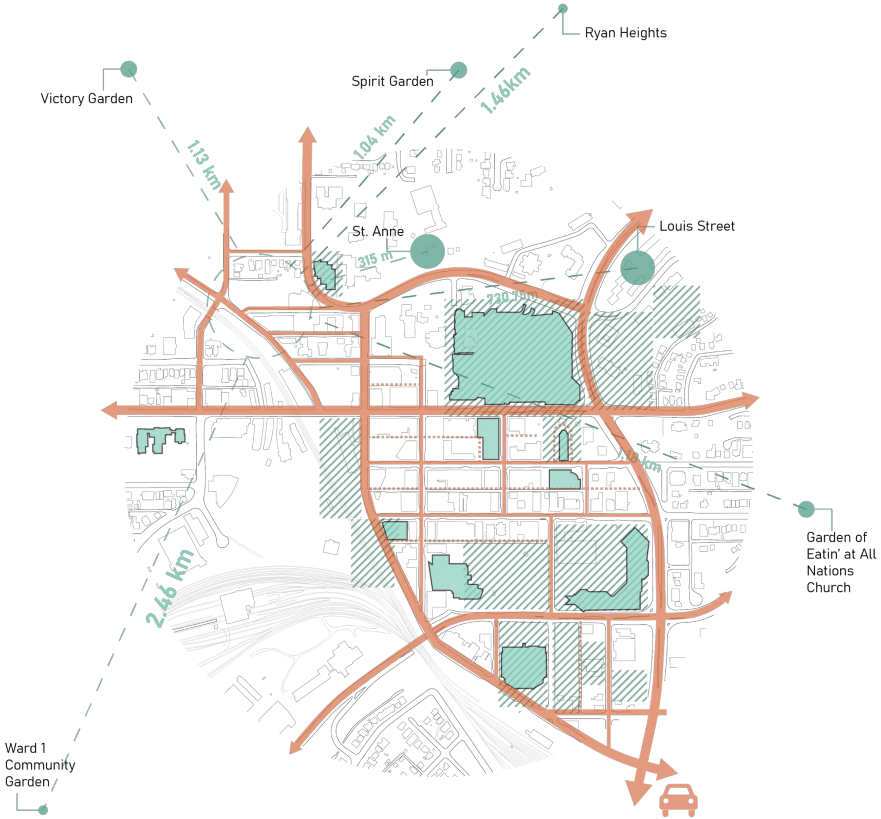
Historical Progression of Downtown



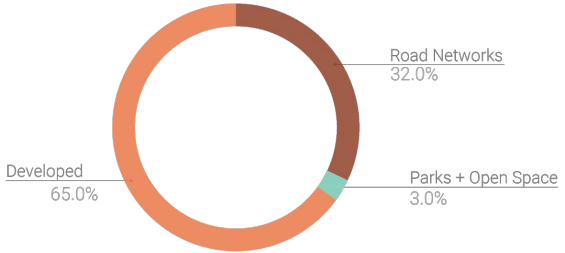
Green vs Grey Space

SITE ANALYSIS

Public Spaces vs Transportation Routes

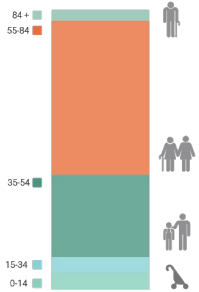


Developed Areas vs Open Space & Parks

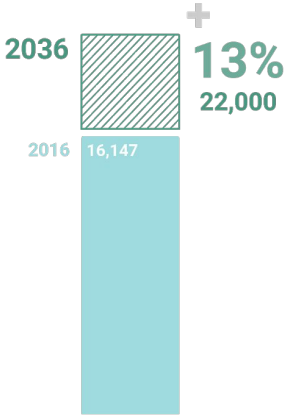


Demographics

Population By Age, Sudbury Downtown

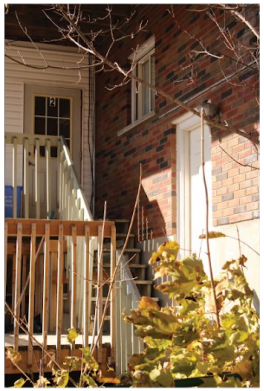


Greater Sudbury Population Growth

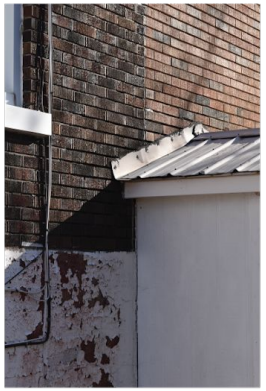


SITE ANALYSIS














Coal-fired Brick

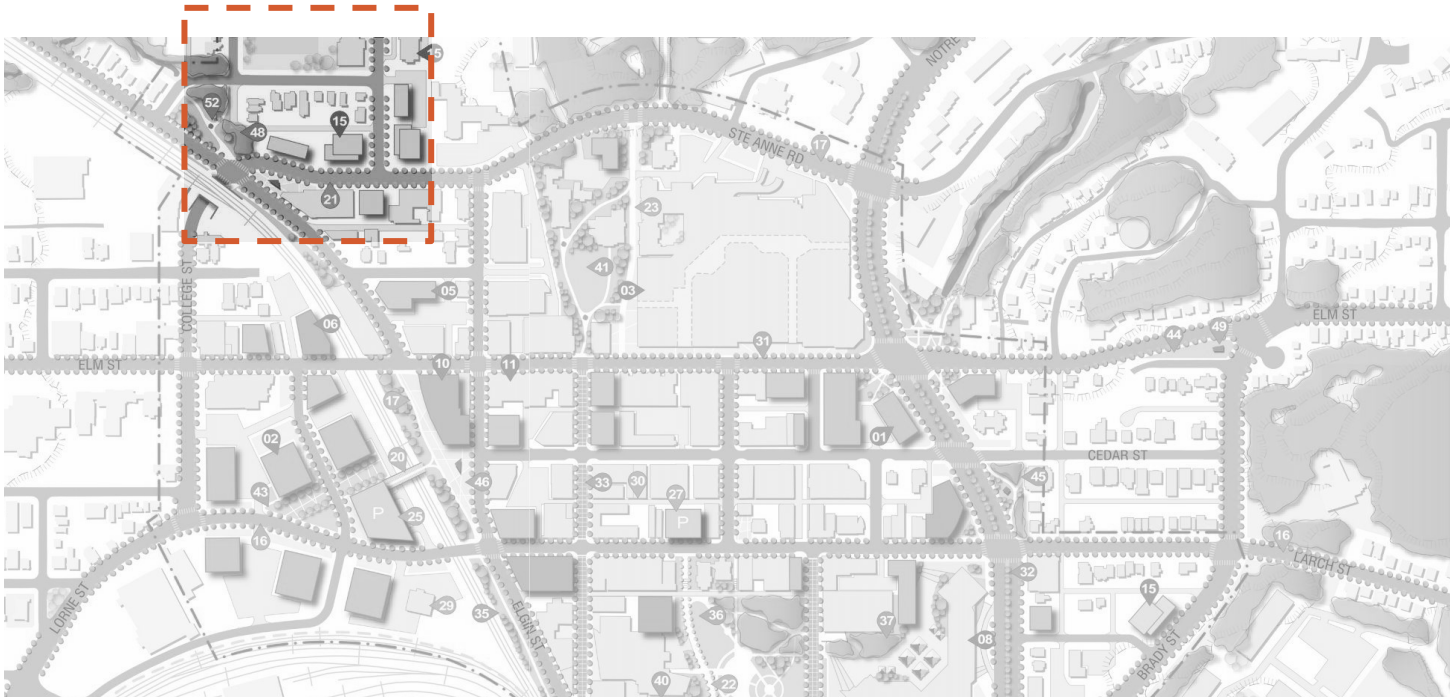
Corten Steel

Glass

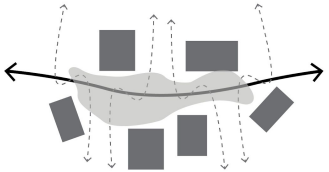
Steel Mesh

Green

SITE ANALYSIS

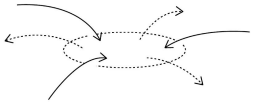


SITE ANALYSIS



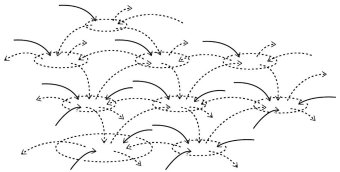
symbiosis
physical relationships

connect +
collect



symbiosis
invisible relationships

symbiosis
scaled

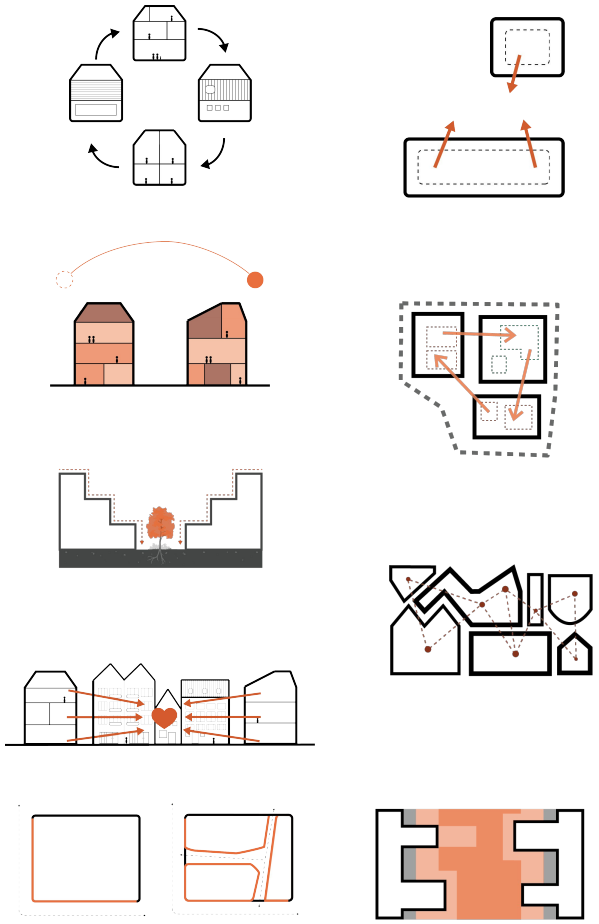


Symbiosis noun

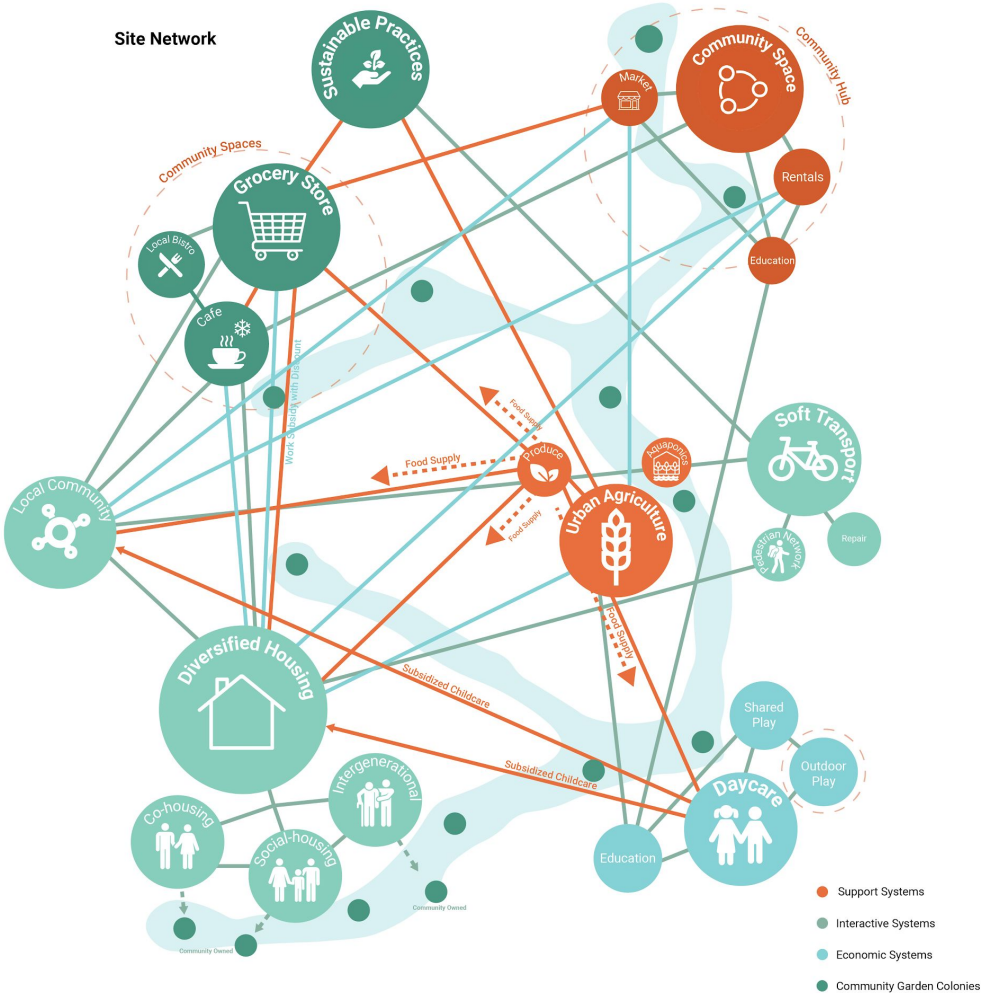
Definition of *Symbiosis*

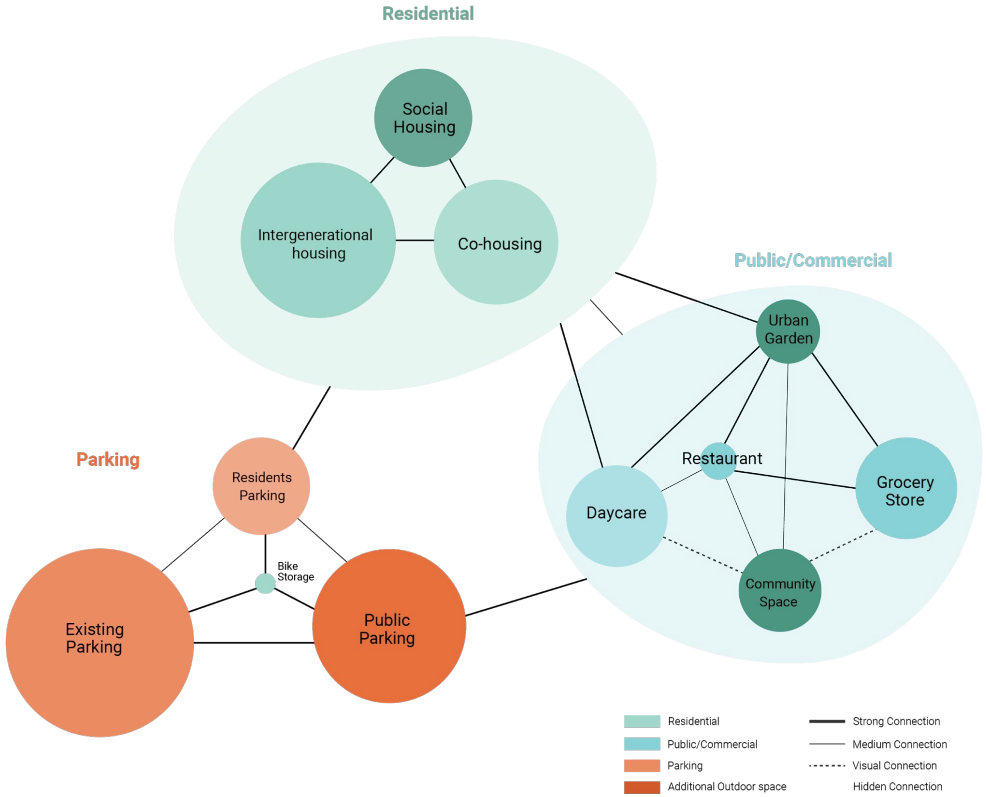
1: The living together in more or less intimate association or close union of two dissimilar organisms (as in parasitism or commensalism)

2: A cooperative relationship (as between two persons or groups)

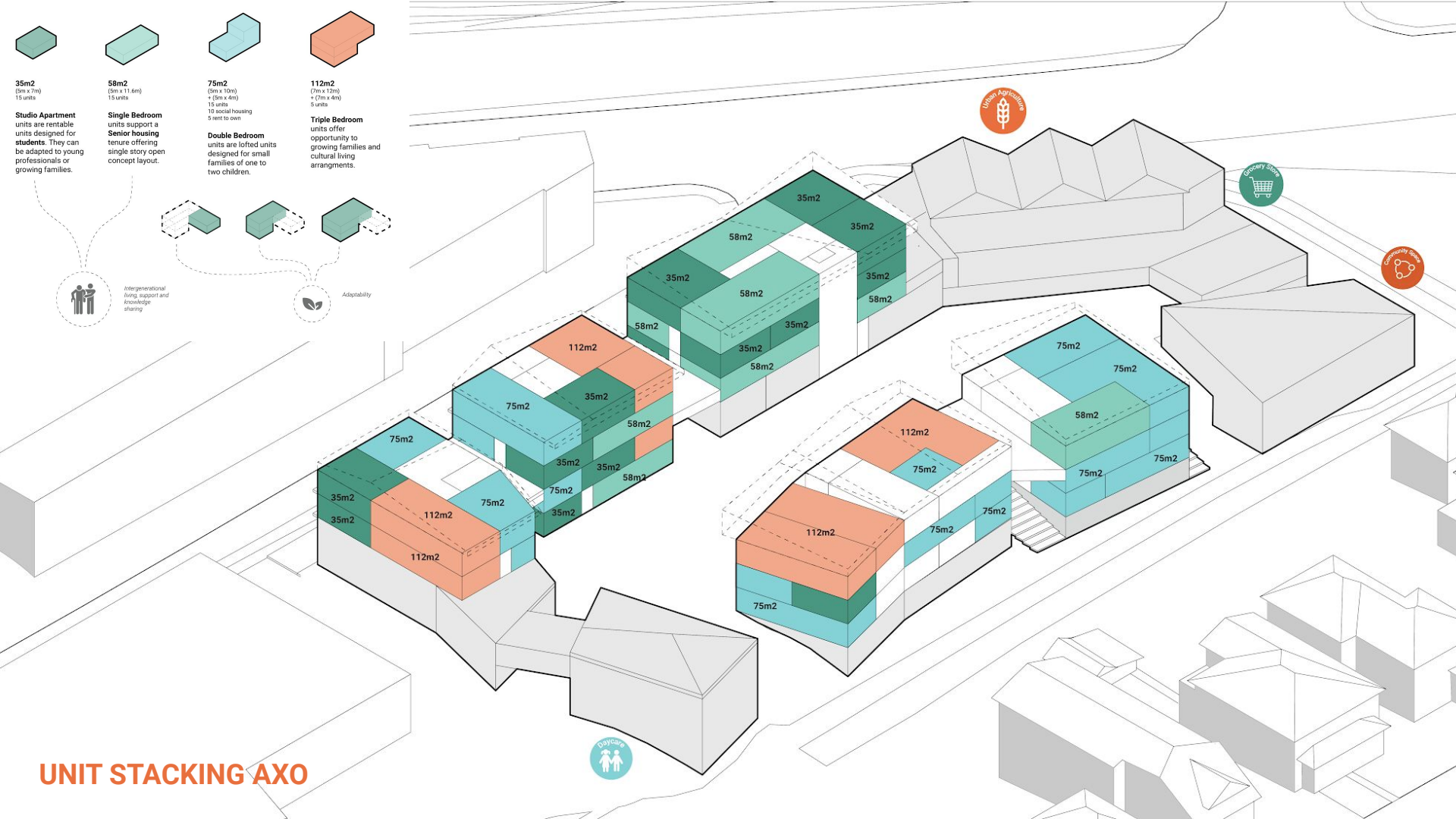


CONCEPT

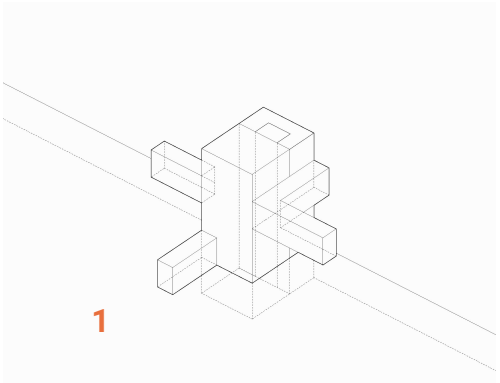

Site Network
Sustainable Practices
Community Space
Community Hub
Market
Rentals
Education
Community Spaces
Grocery Store
Local Bistro
Cafe
Work Space with Discount
Food Supply
Produce
Aquaponics
Soft Transport
Repair
Pedestrian Network
Local Community
Urban Agriculture
Diversified Housing
Subsidized Childcare
Shared Play
Outdoor Play
Daycare
Education
Intergenerational
Co-housing
Social-housing
Community Owned
Support Systems
Interactive Systems
Economic Systems
Community Garden Colonies

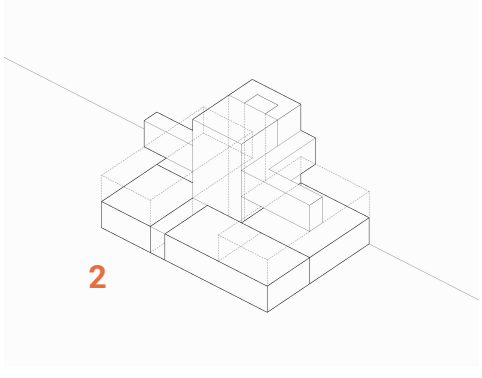


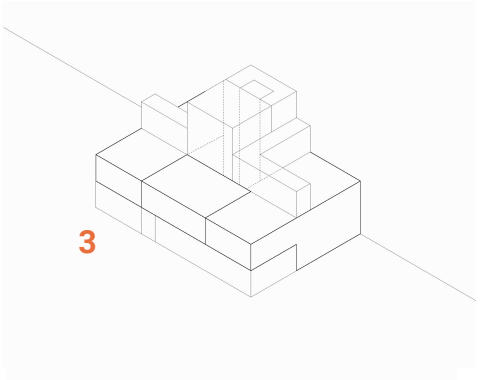
SPATIAL RELATIONSHIP DIAGRAM

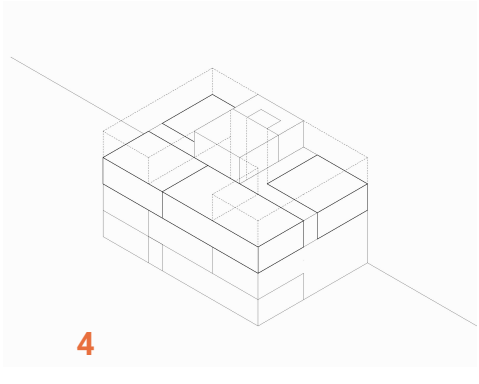


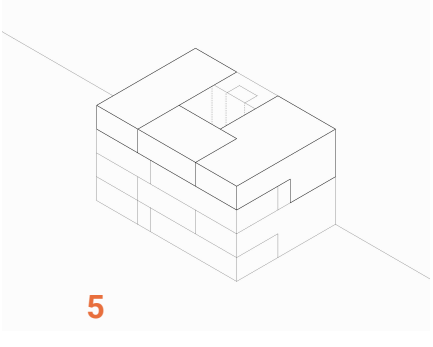
UNIT STACKING AXO

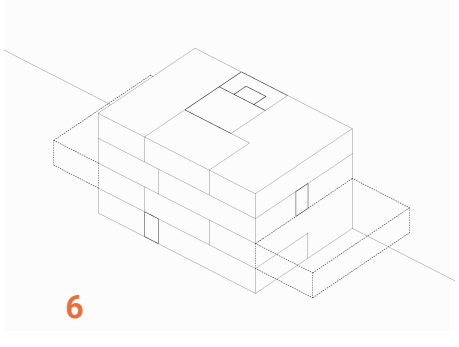












ACCESS DIAGRAMS

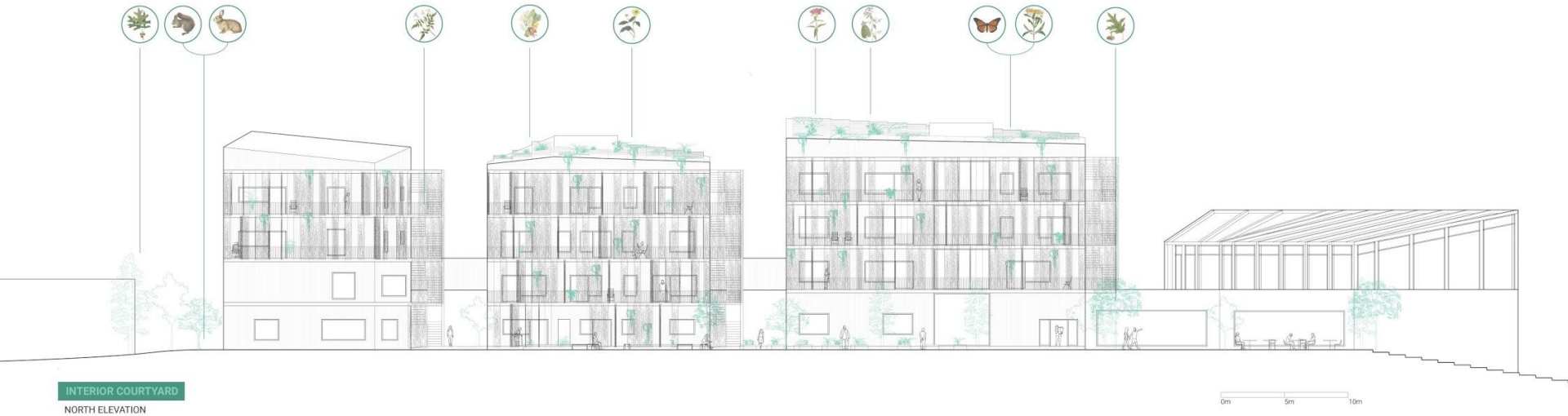
1:500 SITE PLAN

1:250 SITE PLAN

EVERGREEN STREET

SOUTH ELEVATION

SOUTH ELEVATION



NORTH COURTYARD ELEVATION

SYMBIOTIC PASSIVE INTEGRATION

WINTER SECTION

Water Management Strategies

1 Rain Water Storage

2 Grey water recycling

Landscaping Strategies

3 Deciduous

Deciduous trees permit winter light into lower units and courtyard.

4 NNW + NE Windbreaks

Coniferous plantings and Northern Buildings create effective windbreaks reducing cooling of building envelope, energy savings of 15 - 20%

Solar Strategies

5 High Thermal Inertia

Thermally Massive Heavy timber (CLT)

Solar Orientation

All buildings oriented with 15 degrees south with elongated forms to maximize solar heating

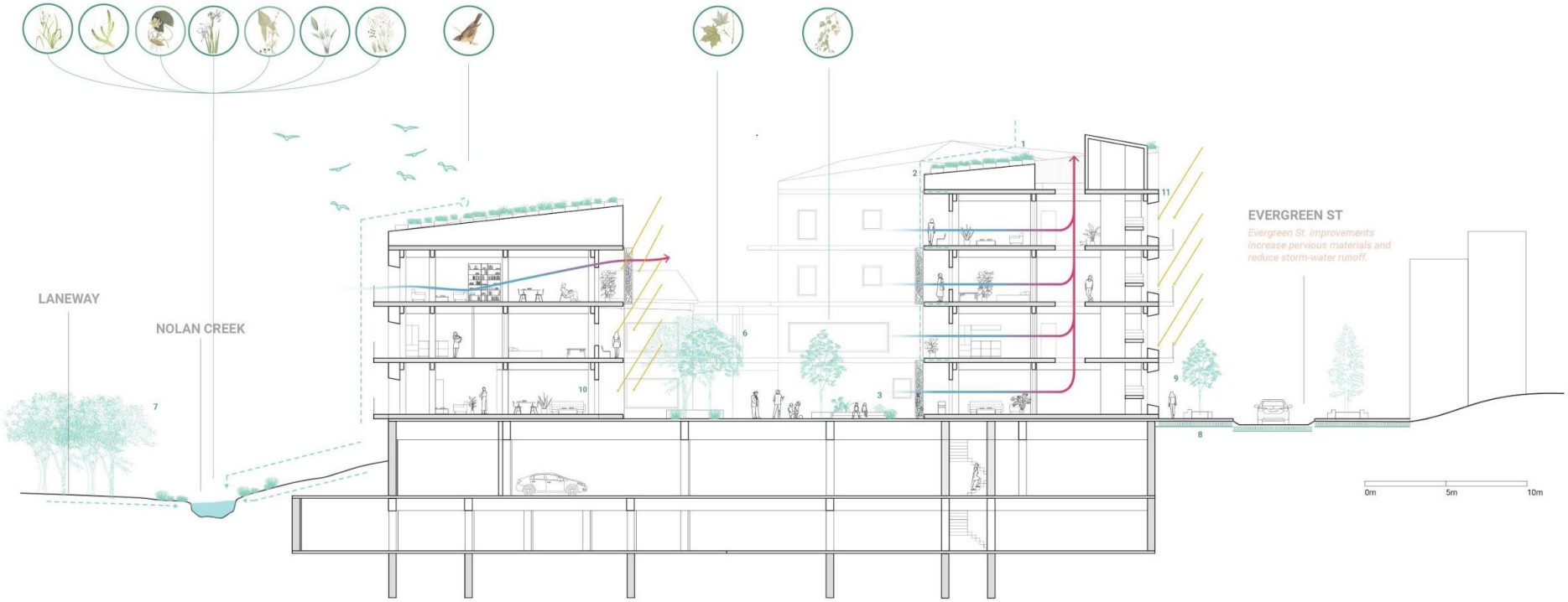
Heating Strategies

6 Passive Solar Heating

Lower winter angles permits sunlight deep into units for passive heating

7 Extensive green roof

Extensive green roofing provides added insulation helping retain the building's heat.



SYMBIOTIC PASSIVE INTEGRATION

SUMMER SECTION

Water Management Strategies

1 Collection Area (Roofs Direct Rainwater)

2 Catchment
Reduction of storm-water runoff and creation of animal habitats.

3 Primary Filtration (Rain Gardens)

4 Rain Water Storage

5 Grey water recycling

Landscaping Strategies

6 Native Landscaping

7 Bioswales

8 Streetscape
Evergreen st. Improvements increase pervious materials and educe storm-water runoff.

9 Walkability
Promotion of biking and walking to reduce carbon emissions.

Solar Strategies

10 High Thermal Inertia
Thermally Massive Heavy timber (CLT)

Solar Orientation
All buildings oriented with 15 degrees south with elongated forms to maximize solar heating

11 Solar Shading
Semi-recessed balconies protect from unwanted summer sun

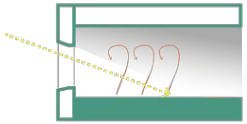
Cooling Strategies

Natural Ventilation + Operable Windows

12 Stack Ventilation

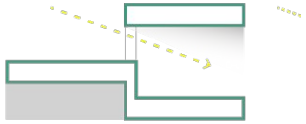
13 Cross Ventilation

14 Solar Chimney
Single oriented units



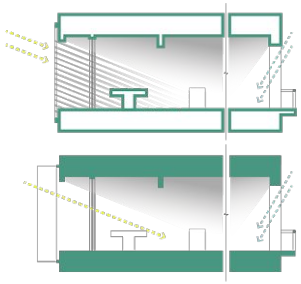
(COLLECT) *Symbiotic tempered living environments*

Solar exposure harnesses the heat generated by the sun, using heavy timber's thermal mass store it during the day and distribute it in the evening.



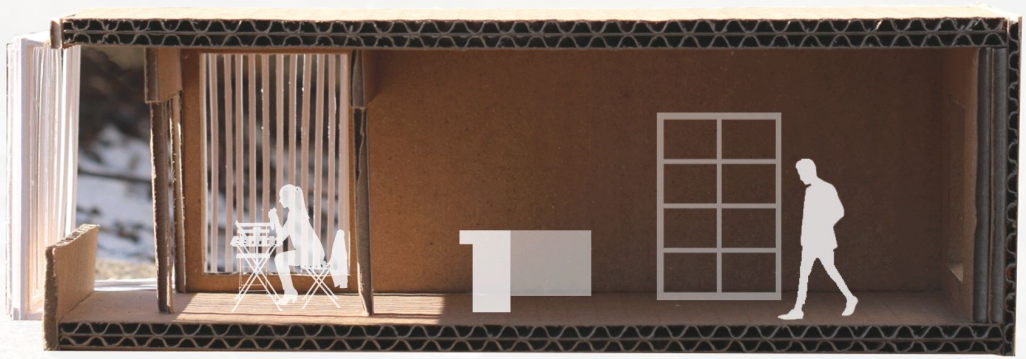
(INDIRECT CONNECT) *Ambient lighting + terrace connections*

East and West orientations permit light, diffused through terrace gardens, visually connecting semi-private living room spaces with semi-public shared terraces.



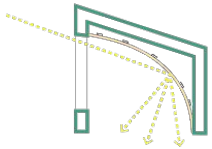
(CONTRASTING) *Play of Brilliance + shared balconies*

Dynamic lighting paints the shared balconies and adjacent private sun spaces of each unit. The lighting acts to engage the occupant with their surrounding and is customizable by the individual through a series of operable screens.



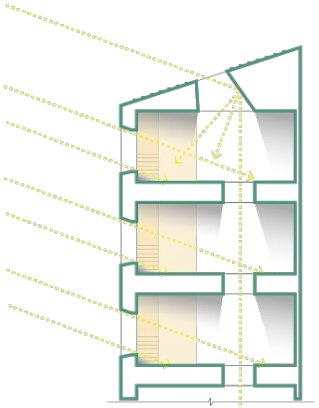
Winter

Solstice 12:00



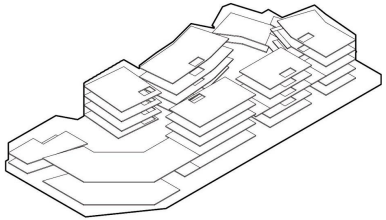
(REDIRECT) *Ambient lighting*

Throughout the program natural light is used to provide ambient light to otherwise dark spaces acting in a relationship of give and take.

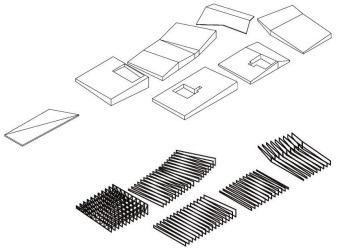


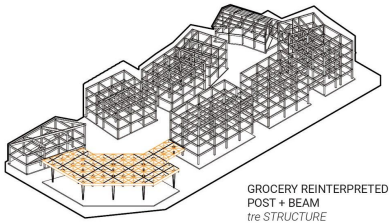
(CONNECT) *Ambient + Focal Glow lighting*

The pairing of ambient top lighting and focal side lighting bring together a diverse set of parts naturally illuminating each building's shared communal spaces and vertical accesses types.



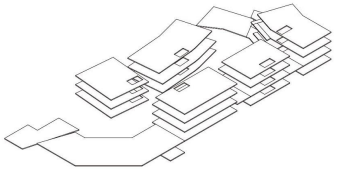
SHEAR STABILIZATION
CLT FLOORS

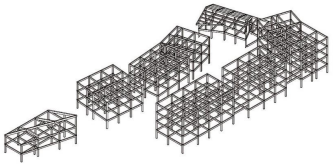


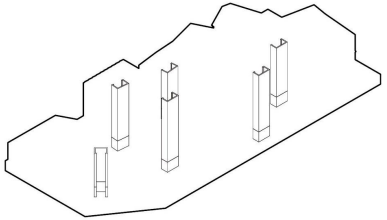


X & Y SHEAR STABILIZATION
GLULAM POST + BEAM

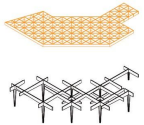
GROCERY REINTERPRETED
POST + BEAM
tre STRUCTURE

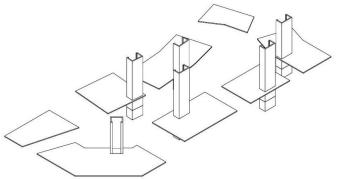






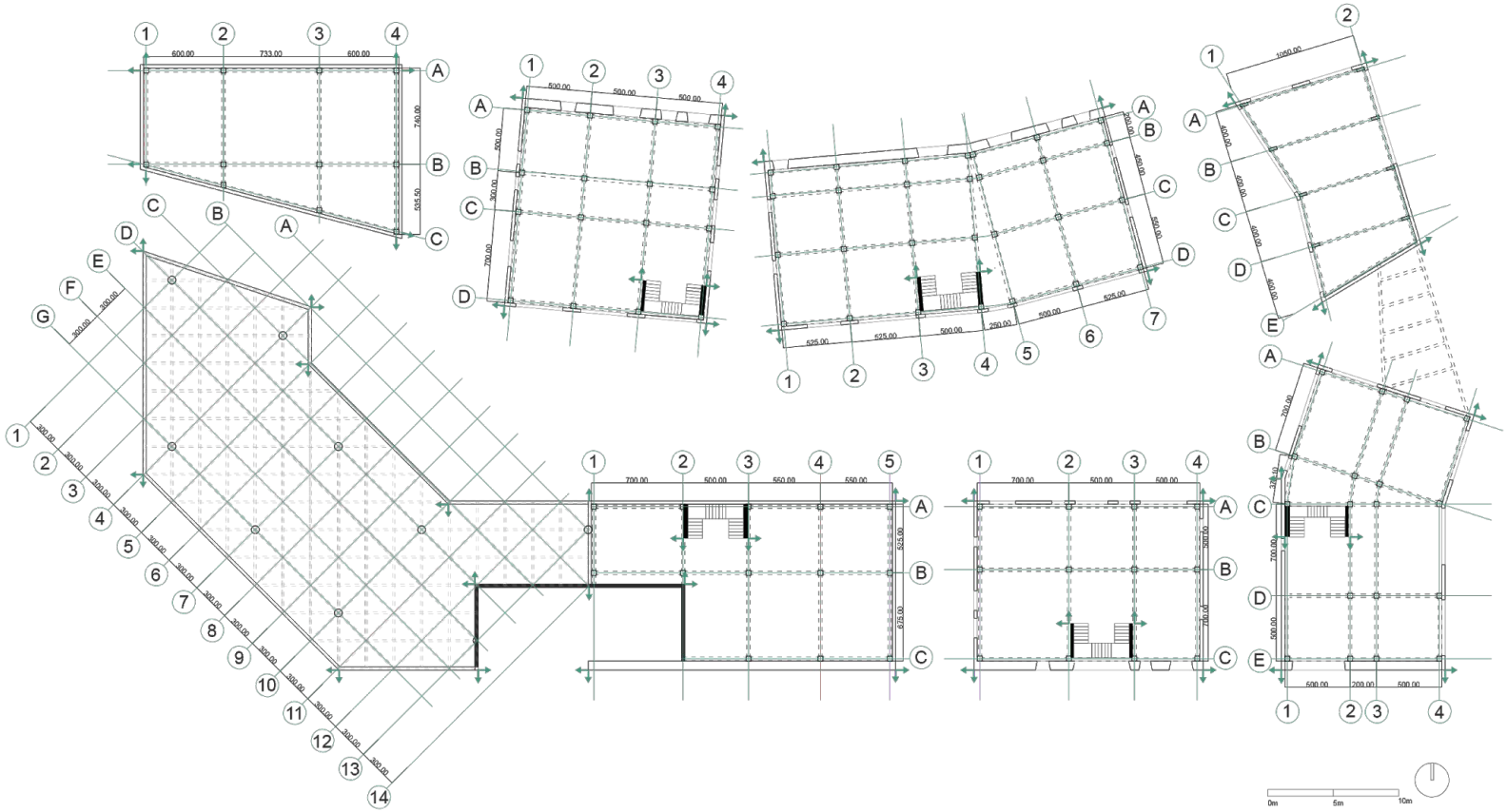
Z SHEAR STABILIZATION
CLT CORES
+
CONCRETE AT P2





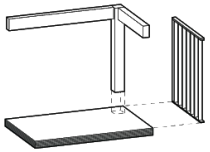
LATERAL STABILITY DIAGRAMS

STRUCTURAL AXO

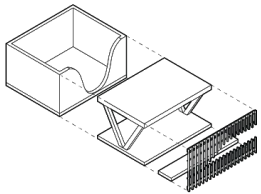


STRUCTURAL GROUND PLAN

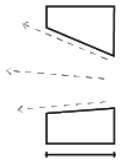
ALBINA YARD



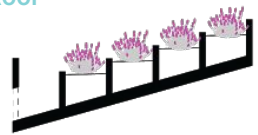
FREEBOOTER

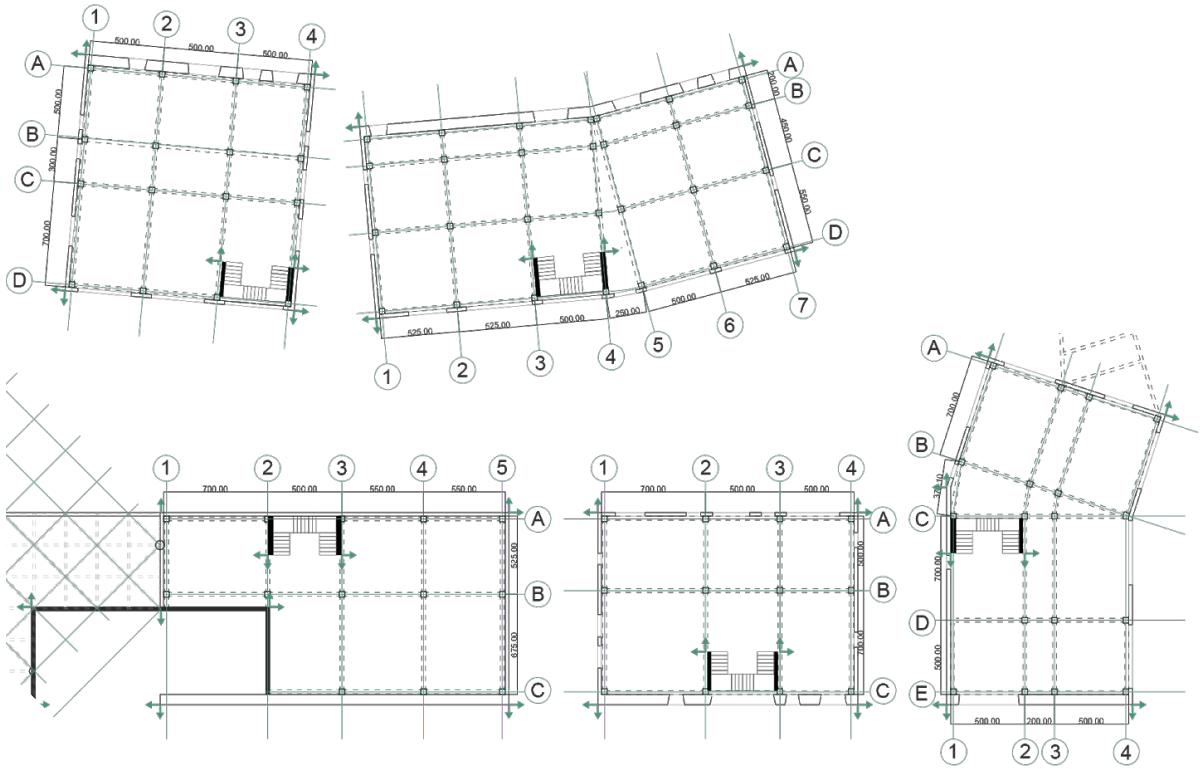


NOTRE DAME DU HAUT



RED ROOF

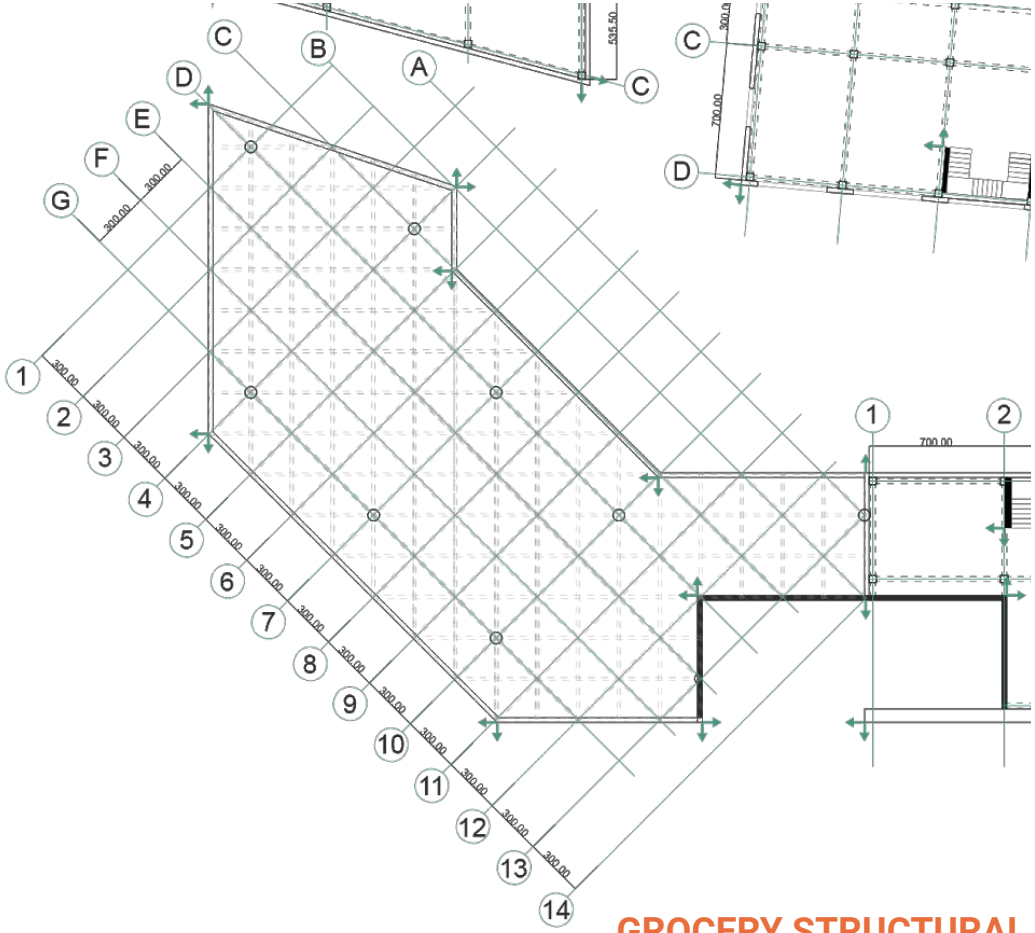




STRUCTURAL/DAYLIGHTING PRECEDENTS

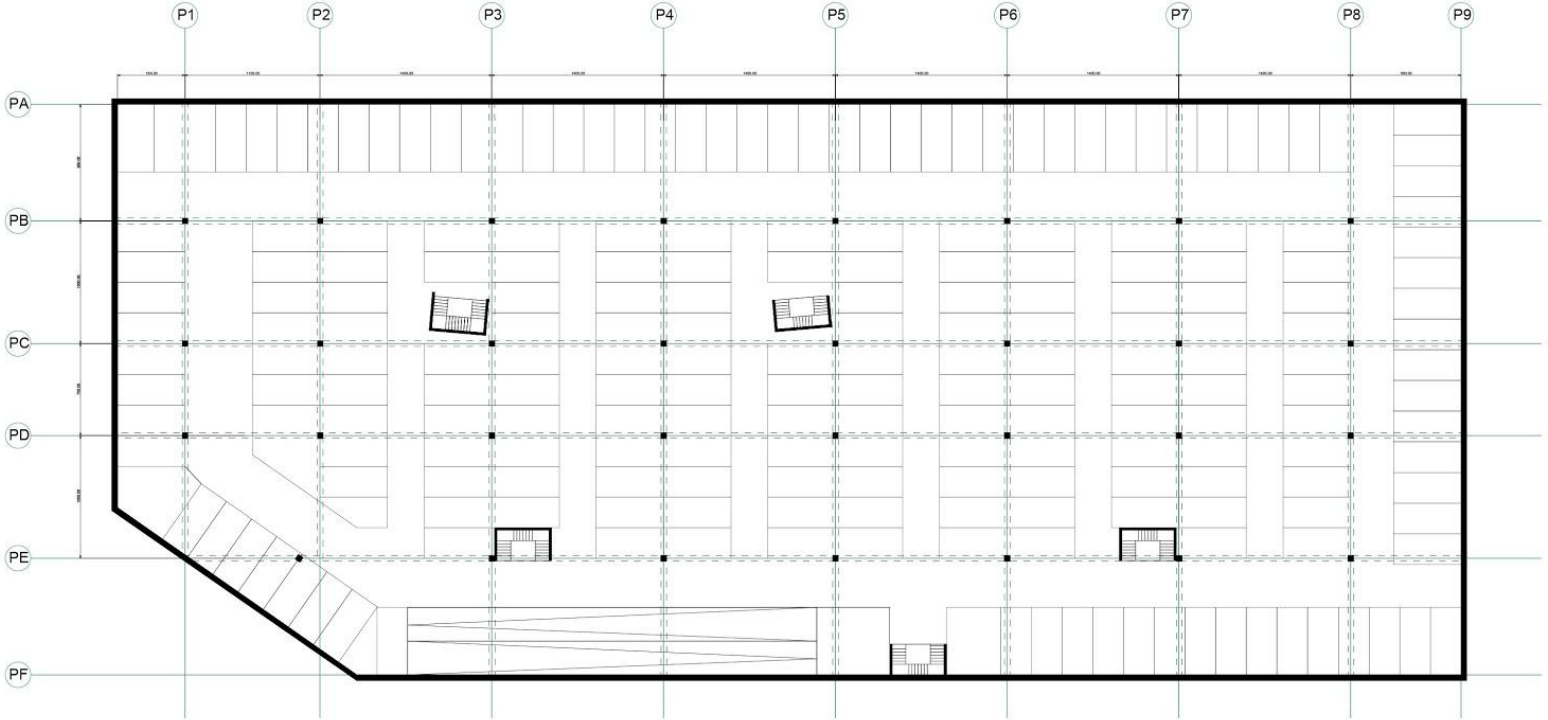
RESIDENTIAL STRUCTURAL PLAN

COBE CHARGING STATION

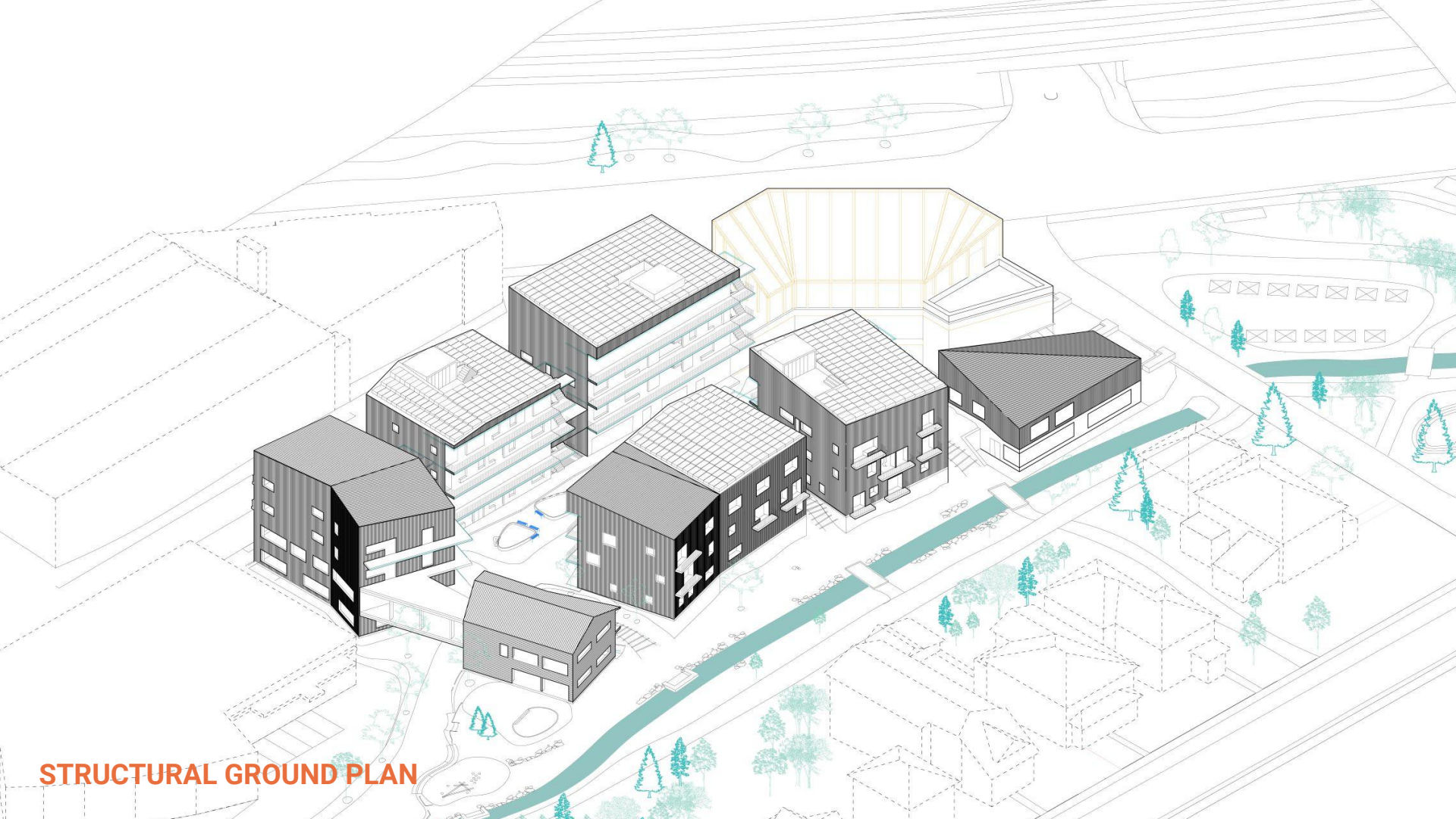


STRUCTURAL PRECEDENTS

GROCERY STRUCTURAL PLAN



PARKING STRUCTURAL PLAN



STRUCTURAL GROUND PLAN