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Ayman Al Hajji, Becky Blacher, Fernando Chiquette, Autumn Ela, Helen Erickson, Justin Fritch, Alison Furuto, Lana Idriss, Beth Johannessen, Ashley Loberg, Chris O'Brien, Jim Sauer and Maria Voris directed by Dr. Mark Frederickson with assistance from Mark de la Torre

Welcome!



LAR 622.ARC 402. Tejido Group. Spring 2011 • Echoing Hope Ranch

MEETING ROADMAP

AGENDA:

1) Presentation (~30min)

- Introductions
- Background Information
- Site Analysis
- Progress
- Master Plan
- Focus Area Highlights
- Conclusions

2) Short Break (~10min)

Boards will be displayed at this time & everyone will be given a chance to explore them

3) Small Group Open-Session (~30min)

- Focus area & master plan exploration
- Dialogue with designers

Please remember to save comments & questions until the conclusion



TEJIDO GROUP

BACKGROUND

- Headed by Dr. Mark Frederickson
- Focus on research, design, planning, & most importantly, the needs of the community
- Products are focused on conceptual alternatives for our clients

THE TEAM

- Interdisciplinary Study with team of 13
 - Landscape Architecture
 - Architecture
 - Graduates Students
 - Undergraduate Students

... within the collaboration of client and designer an interweaving occurs, thus the tapestry of the garden is created ...



THE TEAM LEFT TO RIGHT:

BACK : Dr. Mark Frederickson (professor), Ayman Al Hajji, Helen Erickson, Becky Blacher, Beth Johannessen, Maria Voris and Alison Furuto

MIDDLE: Autumn Ela, Fernando Chiquette, Chris O'Brien and Justin Fritch

FRONT: Lana Idriss, , Ashley Loberg, Jim Sauer and Mark de la Torre (assistant professor)

DESIGN PROCESS

BACKGROUND

- Case studies, literature review, data collection

FORM FINDING

- Ordering systems, sources of form, design inspiration

CONCEPTS

- Design implications, conceptual ideas, sustainable strategies

REVIEW & FEEDBACK

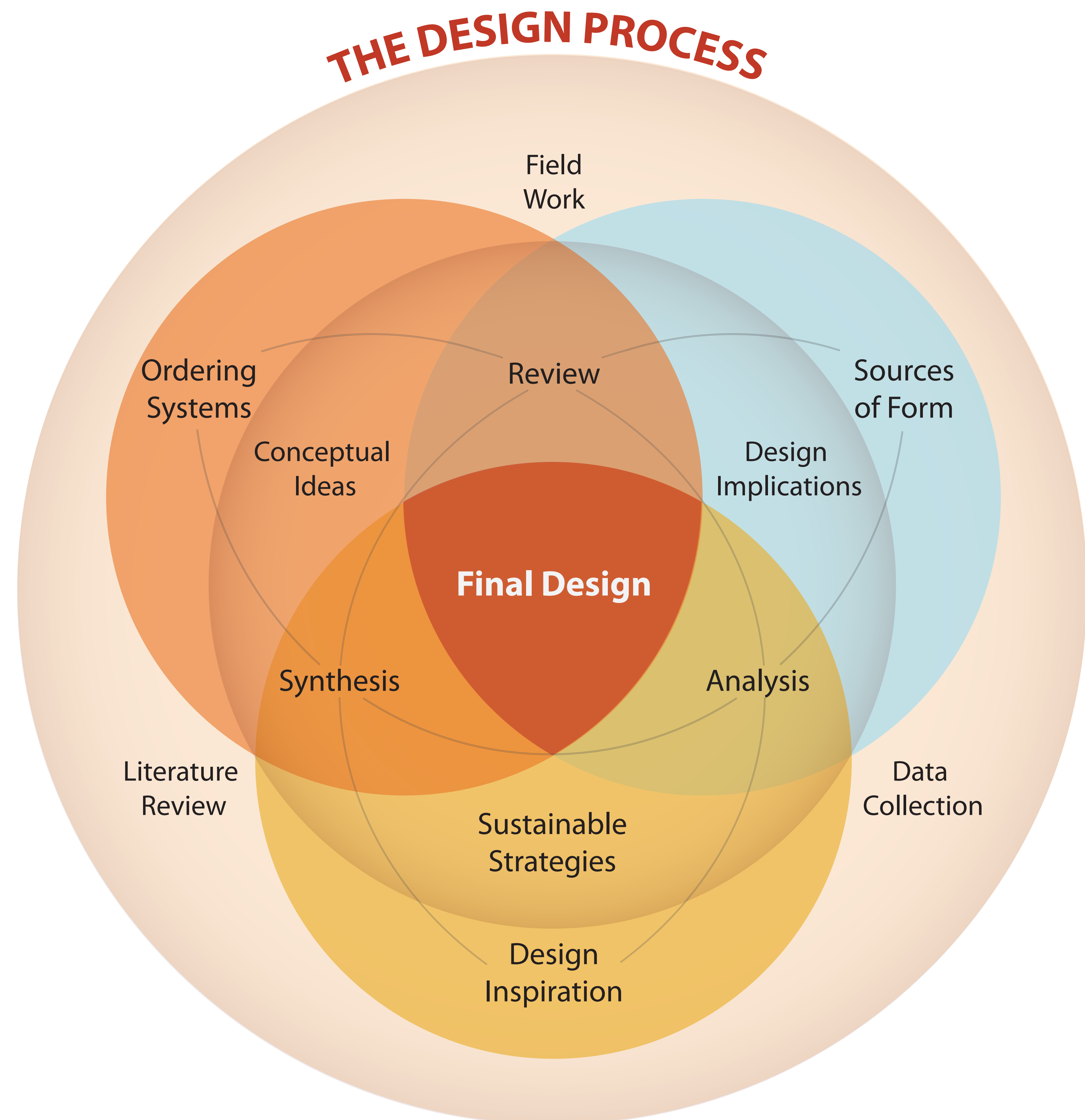
- Commentary & critique

SYNTHESIS

- Improve concepts, add new ideas, relate back to initial study

FINAL DESIGN

- Master plan & book produced



SUSTAINABLE CONSIDERATIONS

ORDERING SYSTEMS:



Therapeutic

- Animal therapy
- Plant therapy
- Vocational therapy



Functional

- Wayfinding
- Separated functions
- Spatial adjacencies
- Safety & security
- Enhancing quality of life
- Living
- Working
- Education



Environmental

- Native plant restoration & reservation
- Working with natural systems (topography, climate, etc)



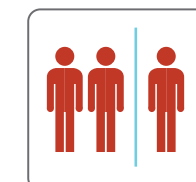
Aesthetic

- Sense of place
- Visual appeal



Economical

- Creating a self-sufficient environment
- Connecting to the regional economy
- Potential for future economic growth
- Employing sustainable construction techniques



Socio-cultural

- Opportunities for community involvement
- Educational bridge
- Positive interface with community



PROGRAM COMPONENTS

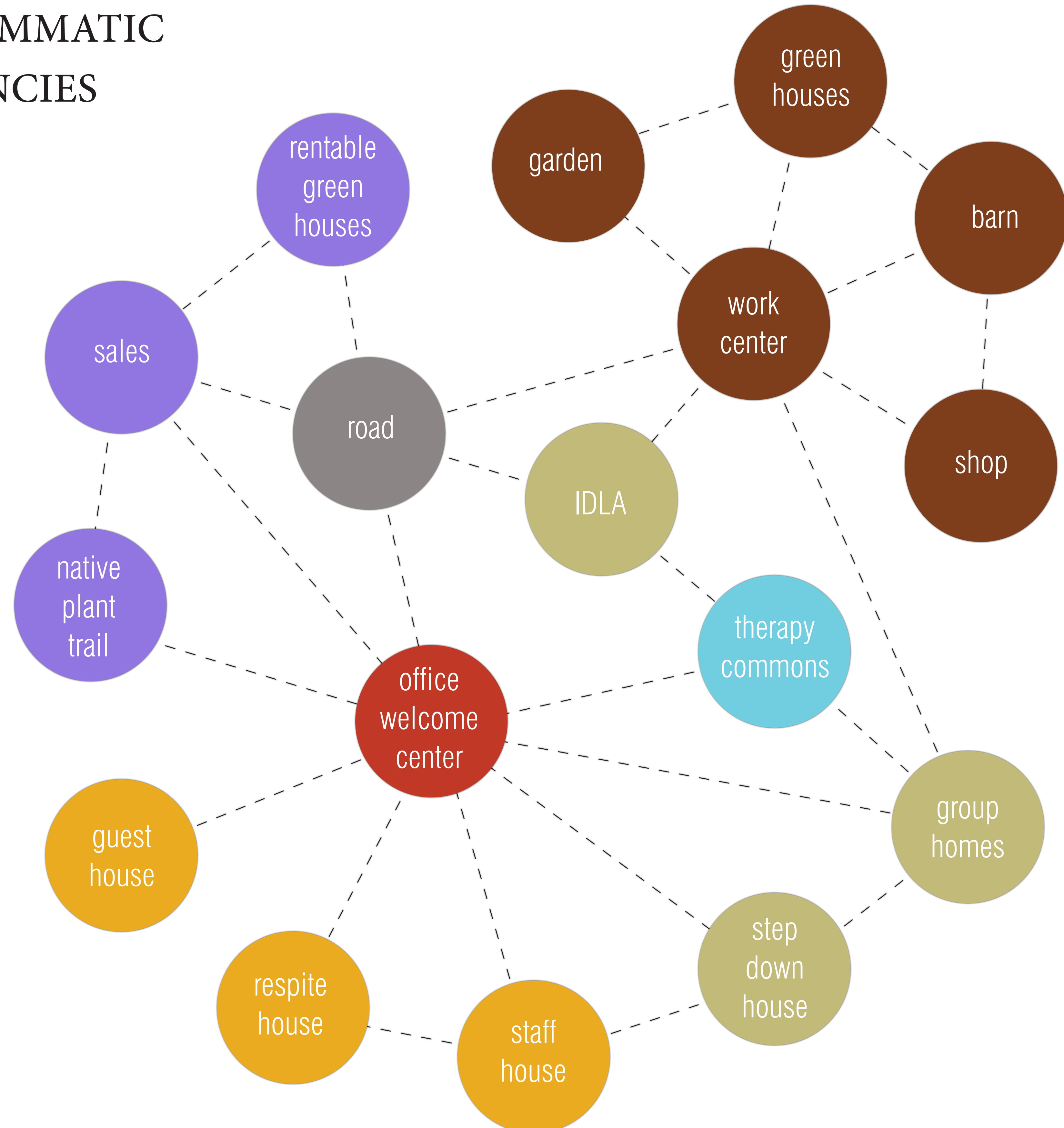
EHR PROGRAM IDEALS

- Agricultural community
- Ranching & farming active lifestyle
- Economic contribution
- Alternative energy
- Community connect
- Volunteer opportunity
- After-school & summer programs
- Respite facility
- Guest accomodation

TEJIDO GOALS

- Support lifelong growth
- Safe & respectful community
- Residential & day services
- Safe & supportive work environment
- Service-based programs for residents & neighbors
- Economic and environmental self-sufficiency
- Environmental preservation & restoration
- Research opportunities
- Model for future autism-care centers

PROGRAMMATIC ADJACENCIES



THERAPEUTIC POSSIBILITIES

CASE STUDIES

BITTERSWEET FARMS, OHIO

- Animal husbandry
- Ceramics & weaving studio
- Horticulture
- Woodworking shop

SAFE HAVEN FARMS, OHIO

- Animal husbandry

THE HOMESTEAD, IOWA

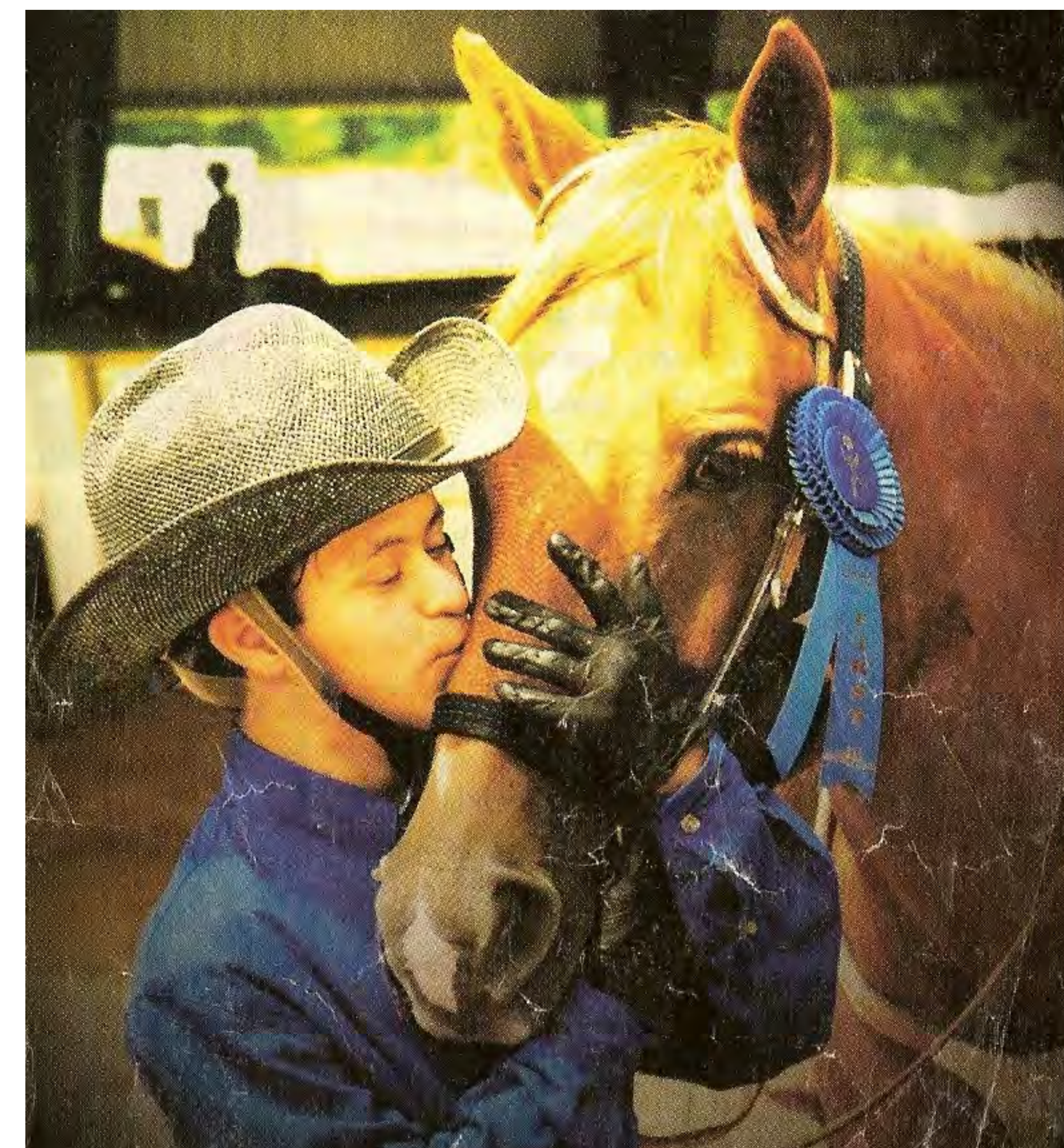
- Animal husbandry
- Horticulture
- Community Supported Agriculture

RUSTY'S MORNINGSTAR RANCH, ARIZONA

- Animal husbandry
- Horticulture
- Hiking



HORTICULTURAL THERAPY



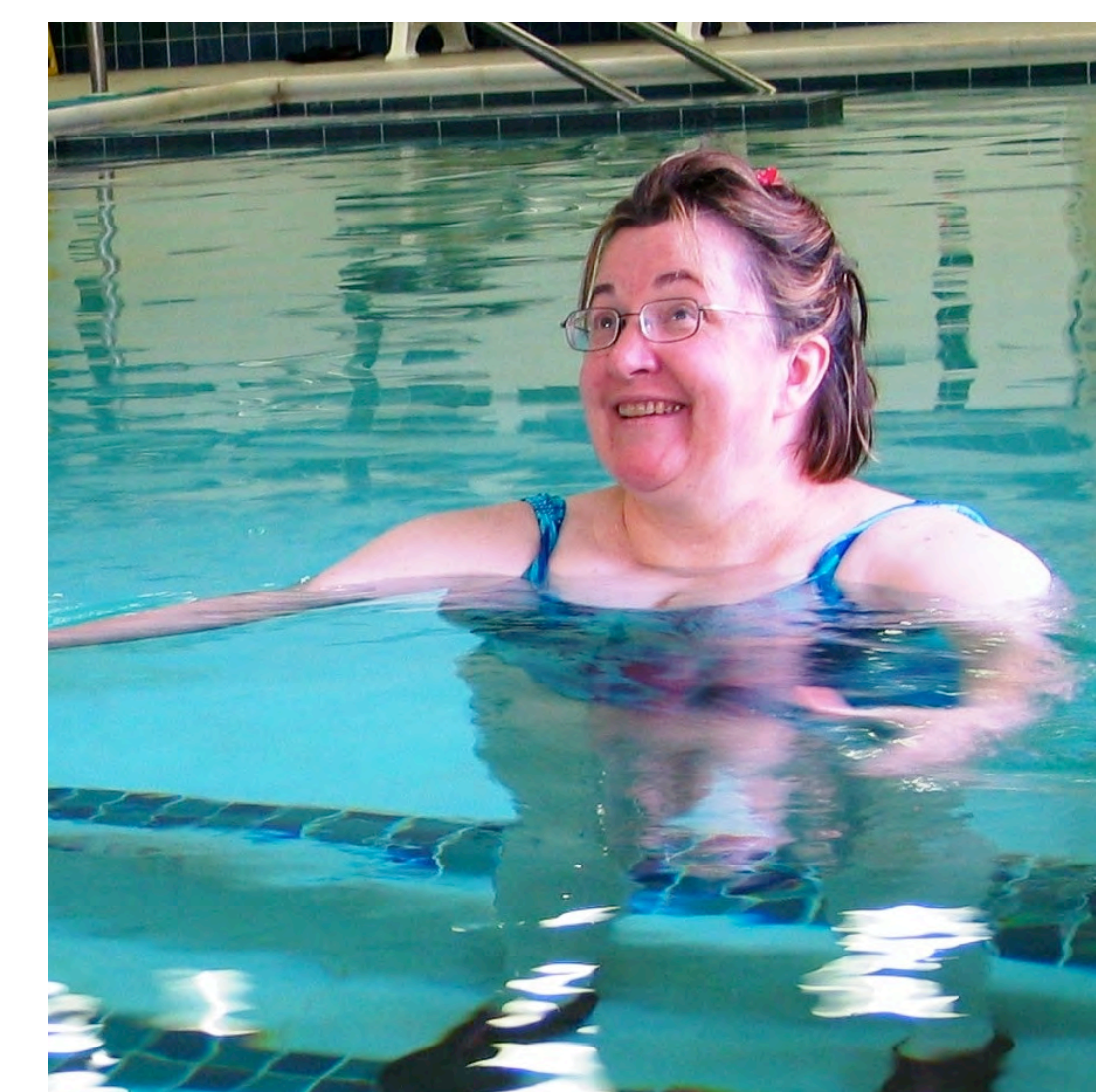
ANIMAL THERAPY



ART THERAPY



MUSIC THERAPY



WATER THERAPY

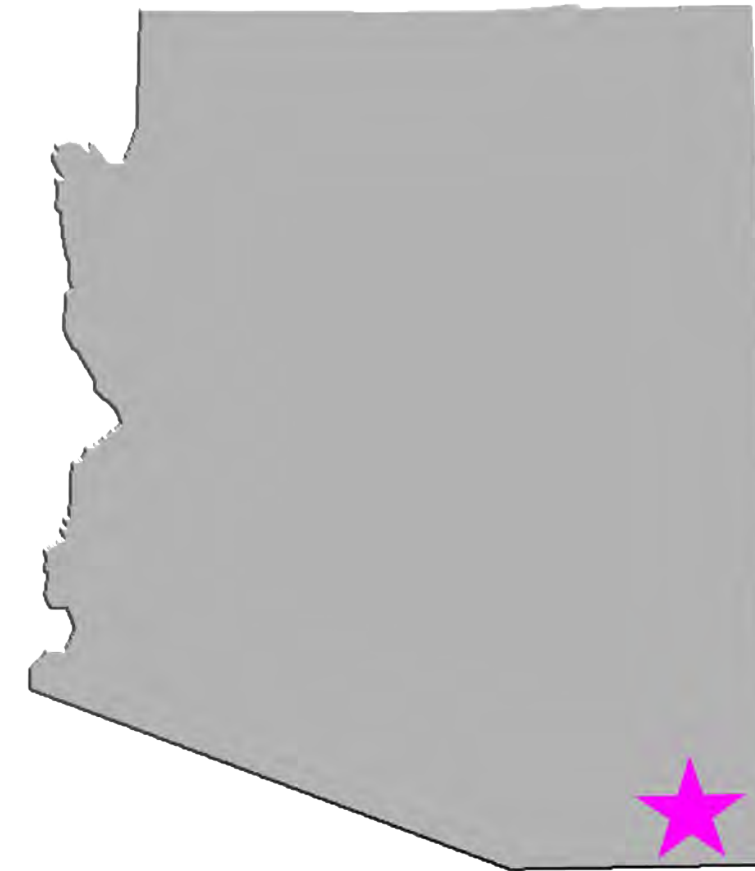


HIKING THERAPY

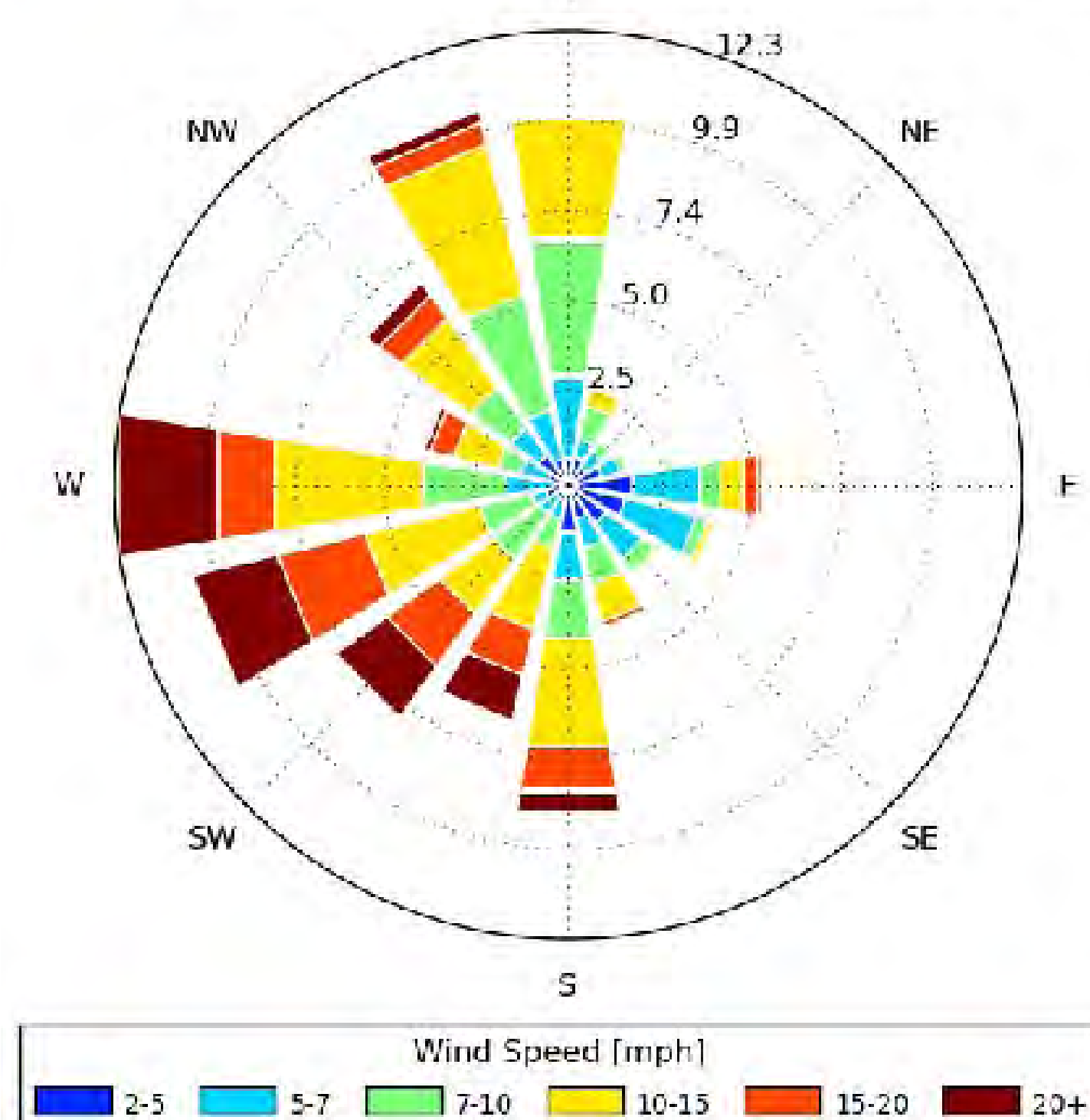
CONTEXT & CLIMATE

LOCATION:

- Located in SE Arizona
- ~100mi from Tucson
- ~15mi from the United States and Mexico border
 - Naco is the border crossing town
 - Mexico is visible to the S from the site



DOUGLAS BISBEE INTL [DUG] Windrose Plot
[All Year]
Period of Record: 21 Mar 2010 - 21 Jun 2010
Number of Obs: 2042 Calm: 11.4% Avg Speed: 9.9 mph

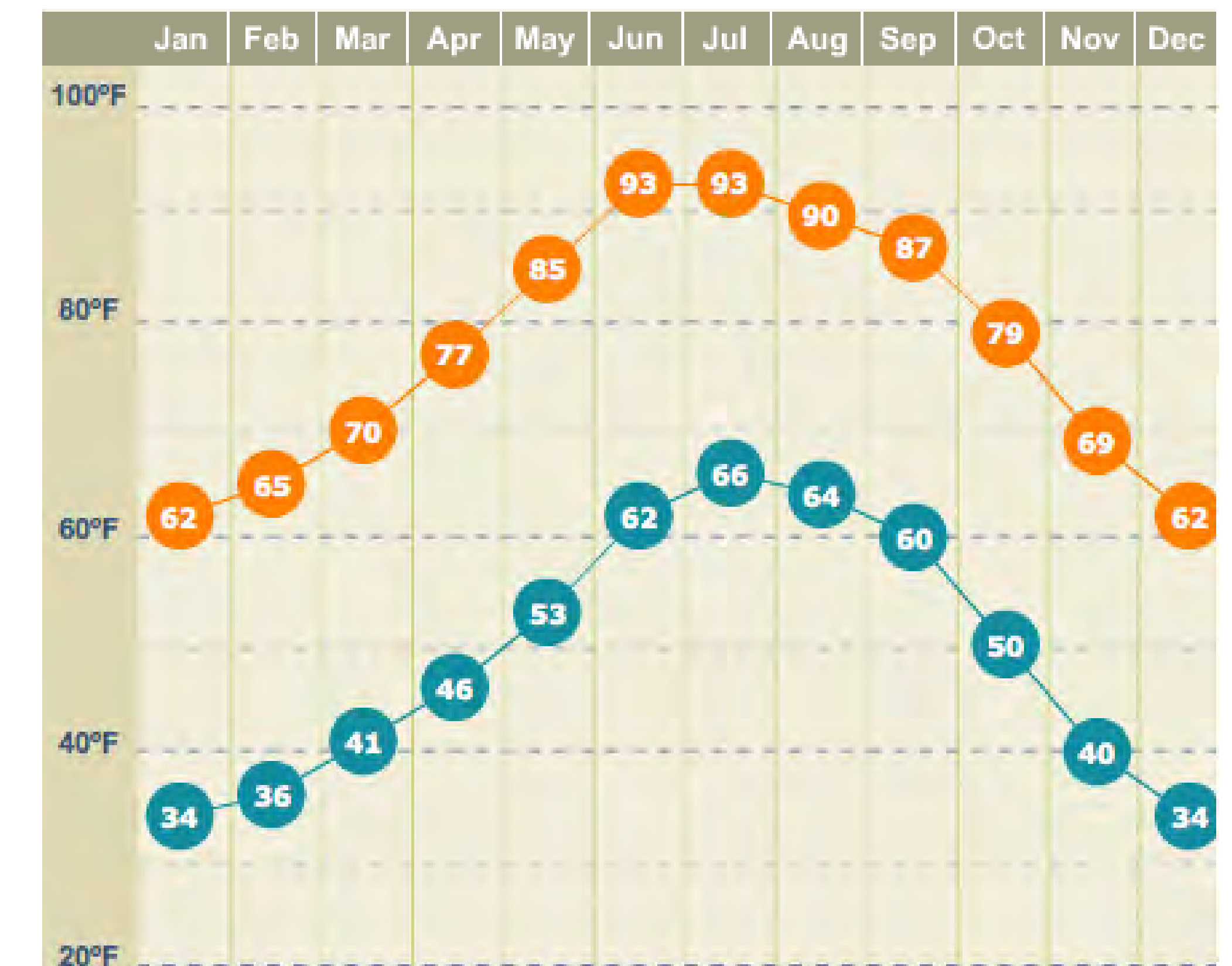


TEMPERATURE:

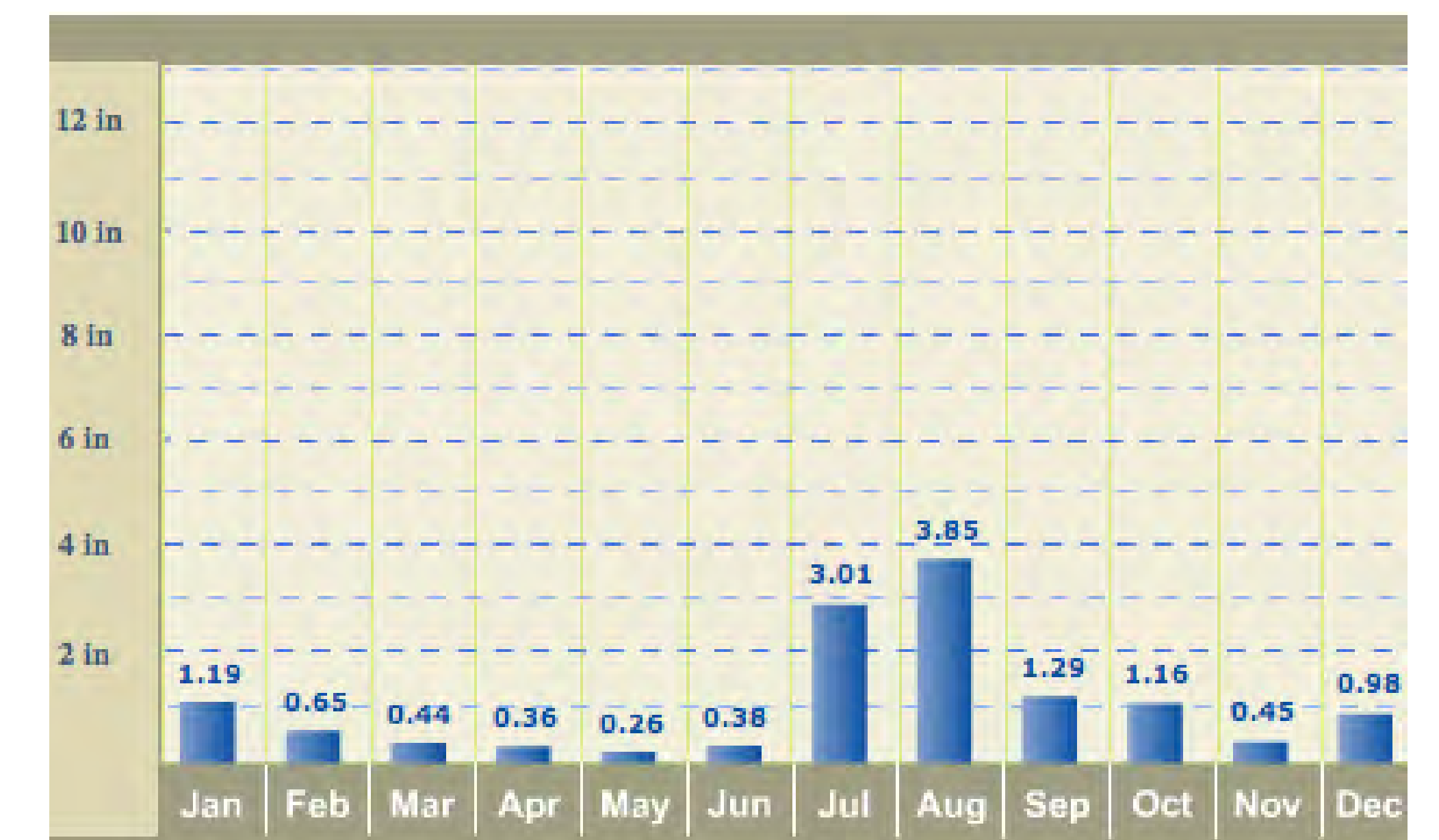
(Based on Sierra Vista)

- EHR elevation is 4653'
- Summer temperatures:
 - Lows = 60s
 - Highs = 90s
- Winter temperatures:
 - Lows = 30s
 - Highs = 50s

MONTHLY AVERAGE TEMPERATURES



MONTHLY AVERAGE PRECIPITATION



PRECIPITATION:

- Average annual rainfall = 15"/yr.

WIND

- On-site observations indicate winds move from the SW to the NE
- Seasonal variation is likely

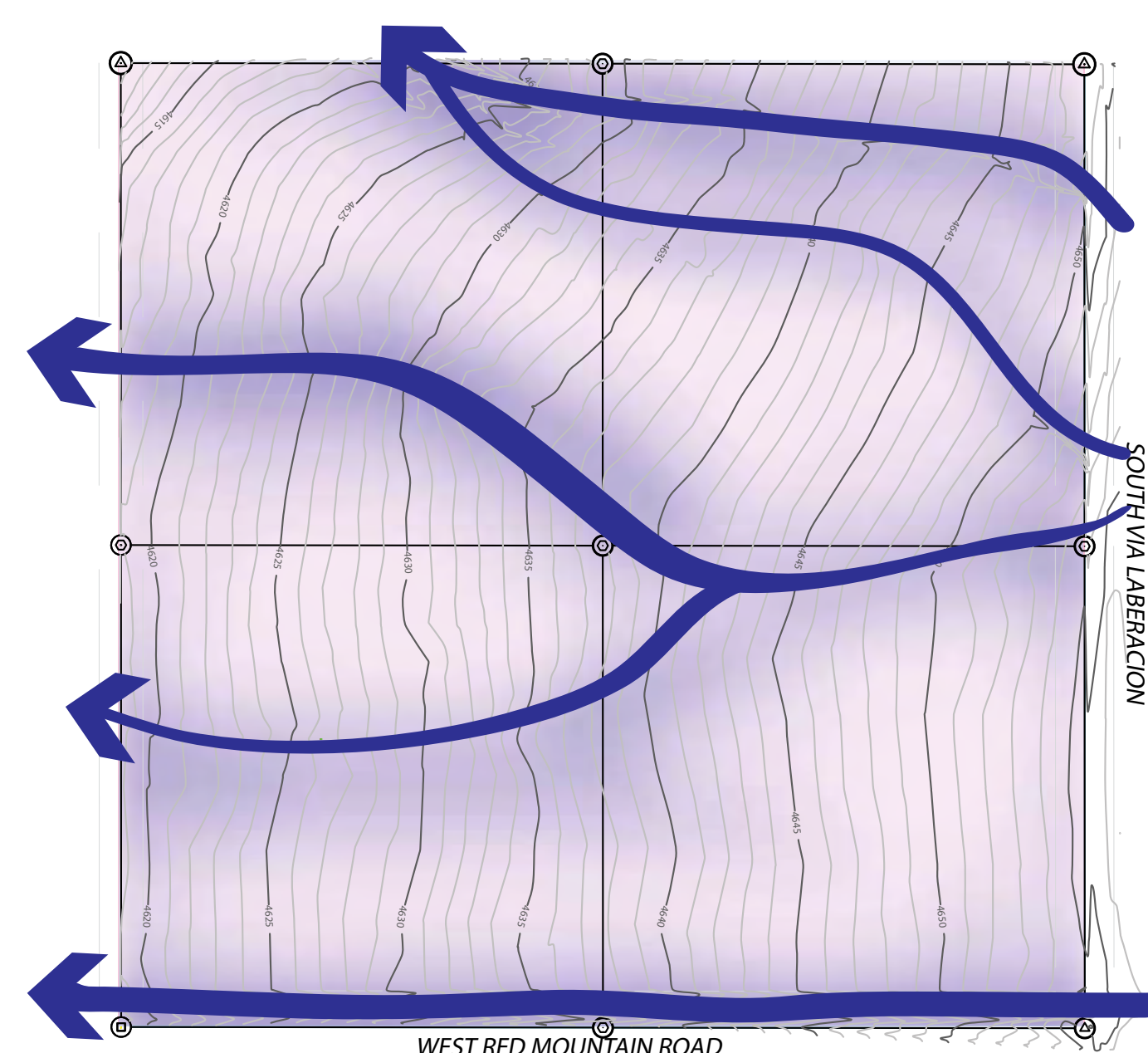
ENVIRONMENT

TOPOGRAPHY:

- High point is at the SE corner
- Low point is at the NW corner
 - Pockets of ocotillo
 - Creosote, mariola and viscid acacia dominate

HYDROLOGY:

- Water generally drains E to W
- All washes are intermittent
- Largest wash runs along N-side
- Drains into Spring Creek located to the NW of site
- Needs to be tested



VEGETATION:

- Chihuahuan desert association dominates
- Dominate species include:
 - Creosote (*Larrea tridentata*)
 - Mariola (*Parthenium incanum*)
 - Viscid acacia (*Acacia vernicosa*)
- Site has been overgrazed
 - Restoration efforts to return it to healthy natural state
- Pockets of ocotillo



Rhus microphylla



Parthenium incanum



Fouquieria splendens



Larrea tridentata



Opuntia macrocentra



Opuntia spinosior



Acacia vernicosa



Acourtia nana



Condalia or Ziziphus sp.



Flourensia cernua



Ephedra sp.



VIEW TOWARDS MULE MOUNTAINS FROM SITE.



At least 10 grass species

AESTHETIC OBSERVATIONS

VIEWS OFF-SITE



WEST

HUACHUCA
MOUNTAINS
SAN PEDRO RIVER

NORTH

TOMBSTONE HILLS
SIERRA VISTA (NW)
NEIGHBORING
RANCHES

EAST

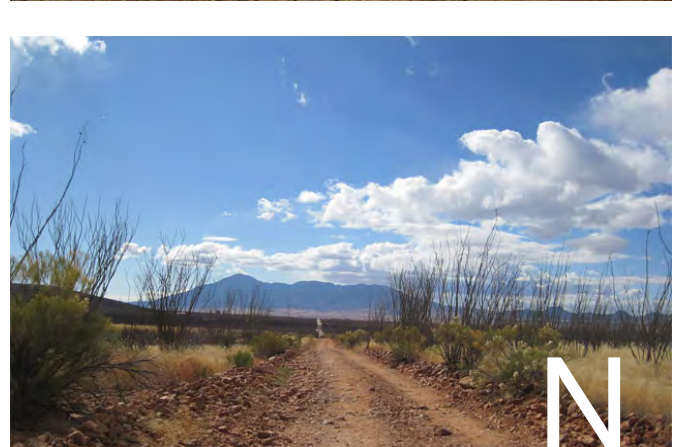
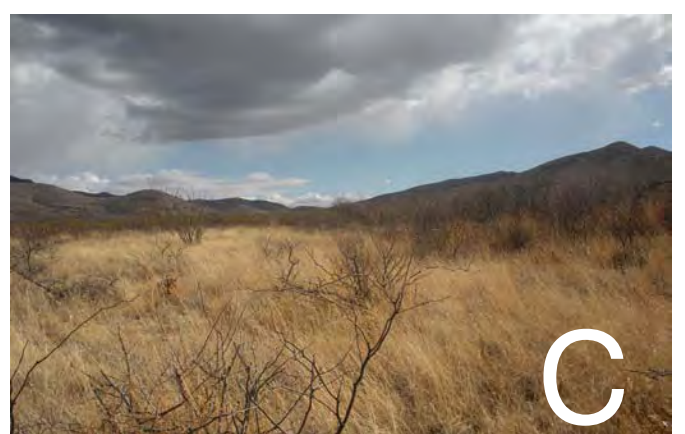
MULE
MOUNTAINS
BISBEE

SOUTH

NACO
MEXICO



VIEWS ON-SITE



ECONOMIC TIES



COMMUNITY SUPPORTED AGRICULTURE “HARVEST”

AGRICULTURAL:

- Food crops
 - No local supplier to co-op
 - Existing farmer’s markets
 - No community supported agriculture program
 - No existing bakery in Bisbee

ENVIRONMENTAL:

- Tidal wetlands system
- Hydroponics
- Water harvesting
- Native plant nursery
 - Restoration/revegetation

EDUCATION/RESEARCH:

- Sustainable technology
 - State of the art model

COMMUNITY OUTREACH:

- Trail system
- Rentable greenhouse space
- Rentable amphitheater



NATIVE PLANT NURSERY



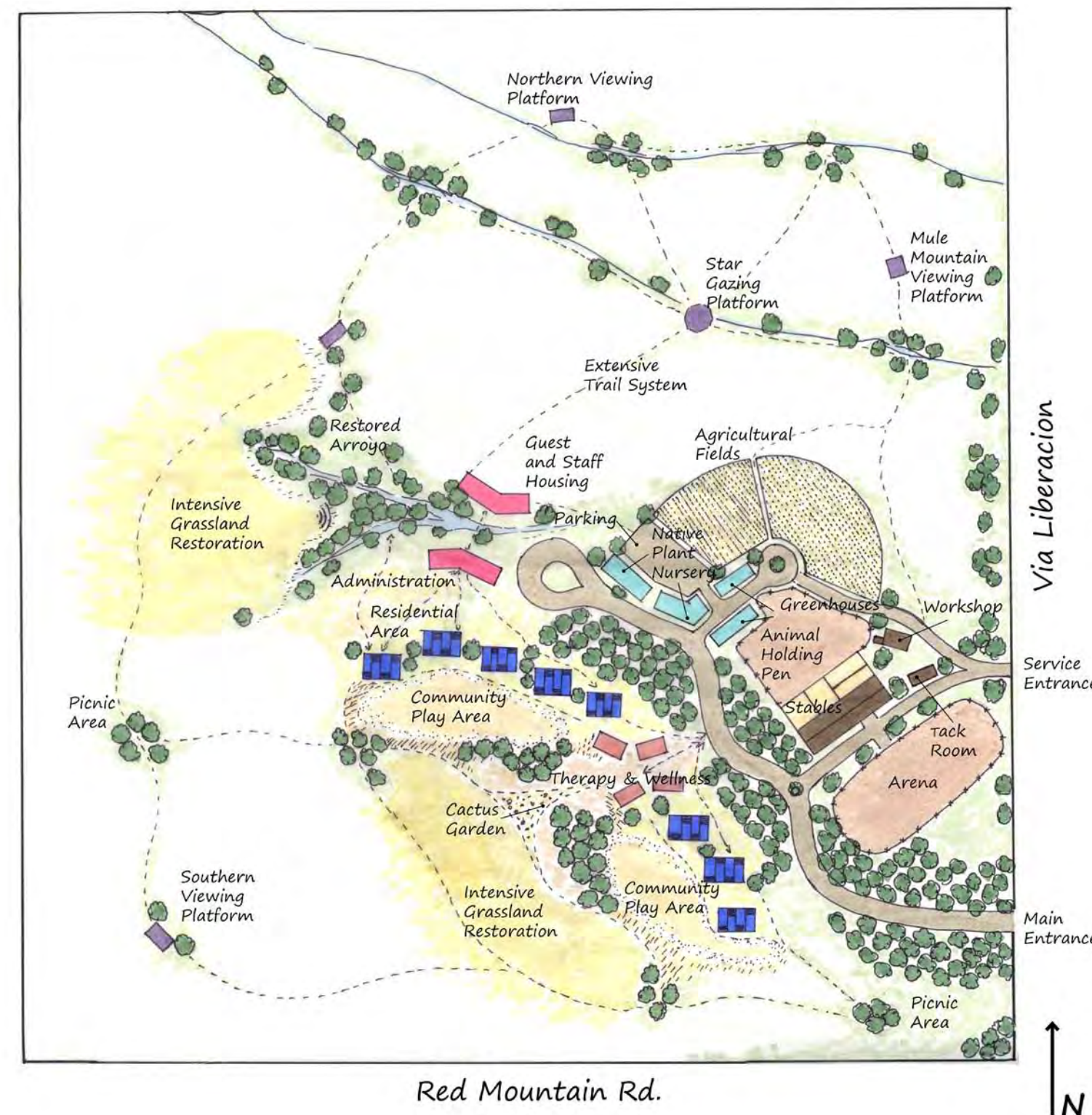
DESERT TRAIL SYSTEM



TIDAL WETLAND SYSTEM

LAST TIME WE MET...

The 4 Main Concepts:



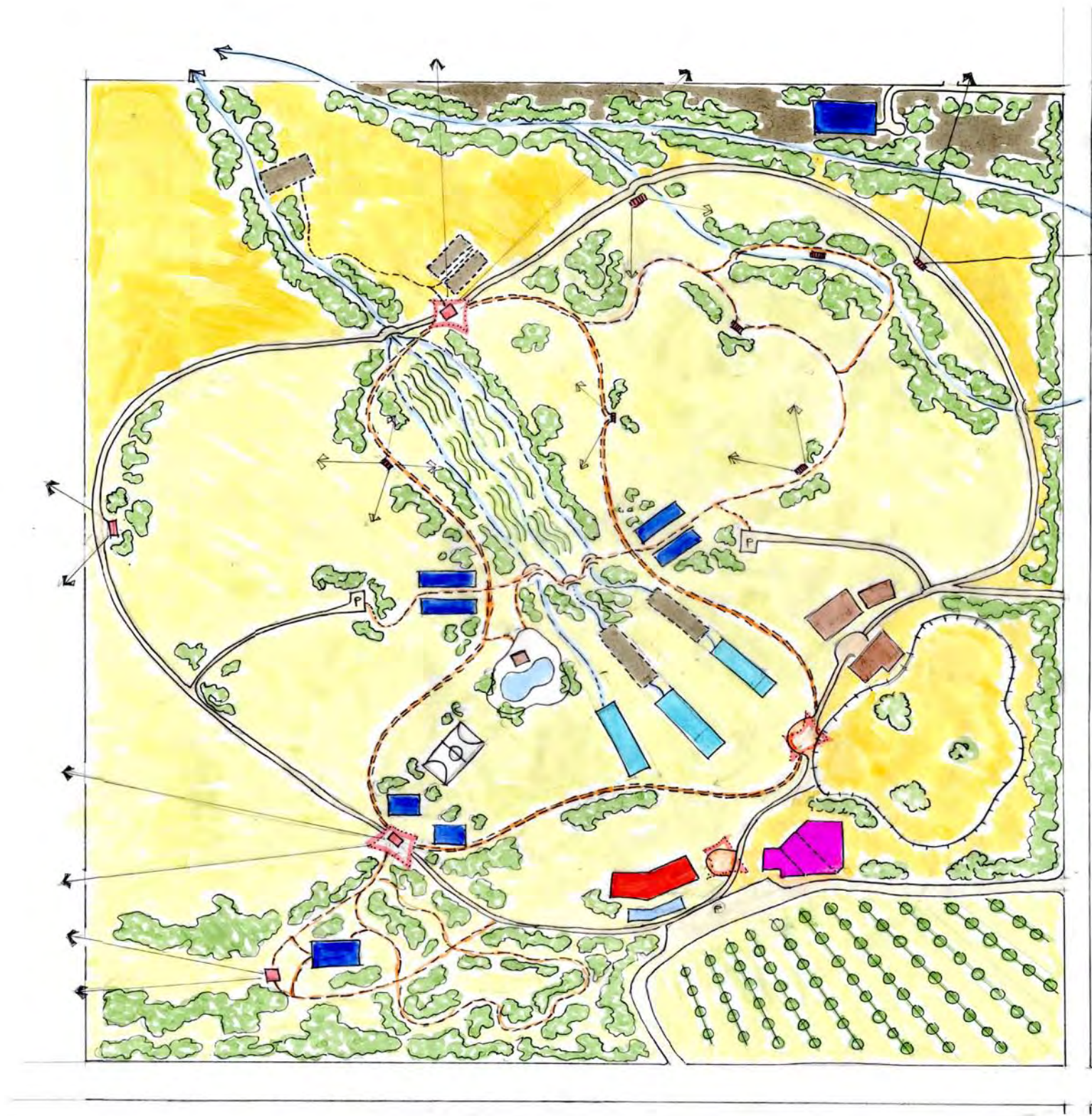
'Life in Balance'

- Therapy and wellness center buildings are close, but separate
- Closeness allows for easy transitions and separation allows for limited noise and visual stimulation



'Arroyo'

- A more concentrated space that fans out to less concentrated spaces
- Keeping all the buildings together in the corner should reduce construction costs and will have less roads and utility costs



'Nucleus'

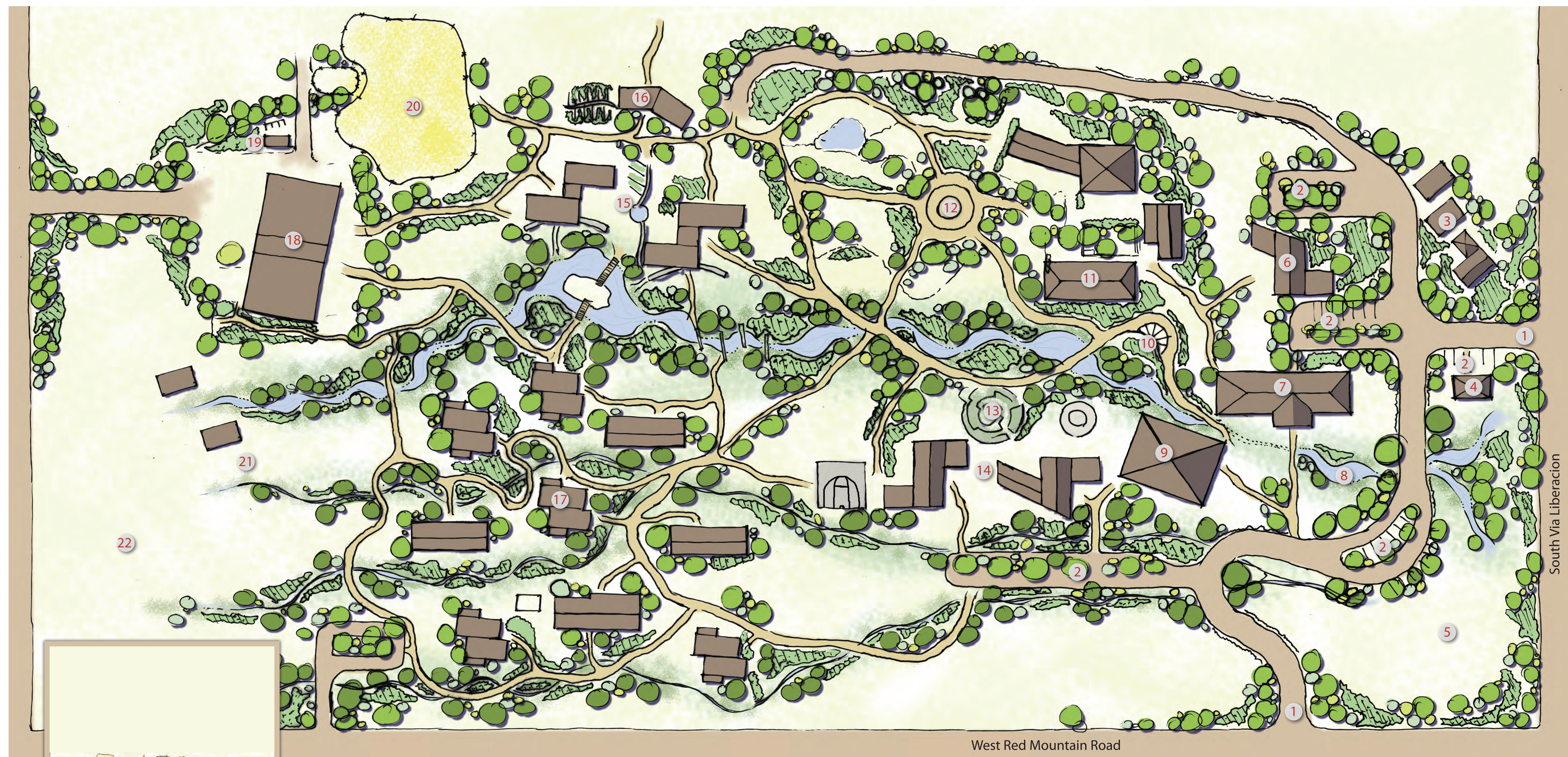
- Providing shading strategies
- Central location of permanent resident housing
- Housing is away from the roads to eliminate temptations to leave the property



'Growing and Giving'

- The most public buildings first on the drive into the property to create a public barrier to the rest of the program
- The layout spreads the work areas out so there will be separation of workers and be less stressful for them

SITE OVERVIEW



West Red Mountain Road

South Via Liberacion

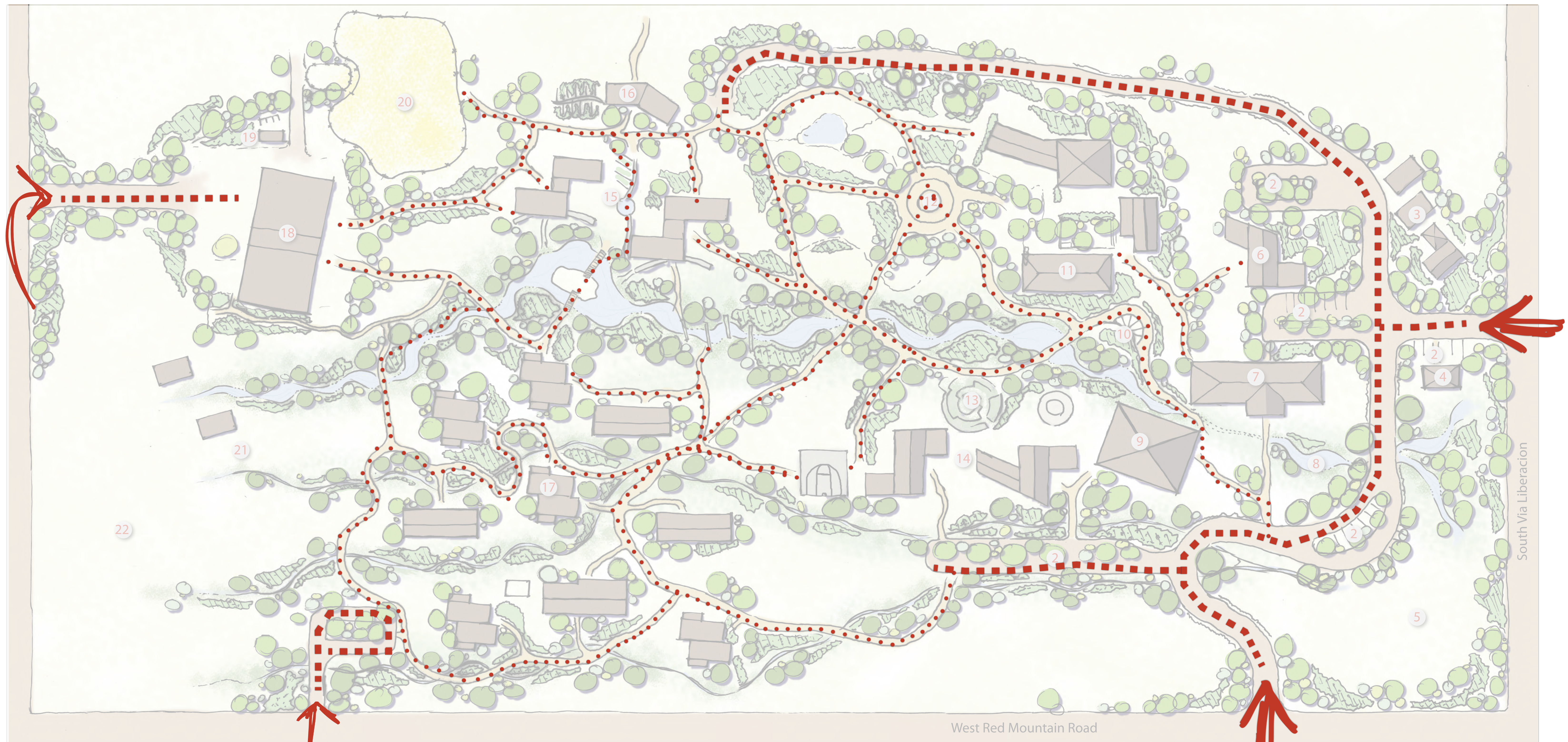
- | | | | | | |
|---------------------------|------------------|----------------------|----------------------|-----------------|------------------------|
| 1 Entry | 5 Well | 9 Great room | 13 Central courtyard | 17 IDLA | 21 Private greenhouses |
| 2 Parking | 6 Staff housing | 10 Amphitheatre | 14 Guest and respite | 18 Barn | 22 Revegetation |
| 3 Nursery and greenhouses | 7 Administration | 11 Therapy buildings | 15 Group homes | 19 Chicken Coop | |
| 4 Retail space | 8 Seasonal wash | 12 Outdoor therapy | 16 Step down house | 20 Pasture | |



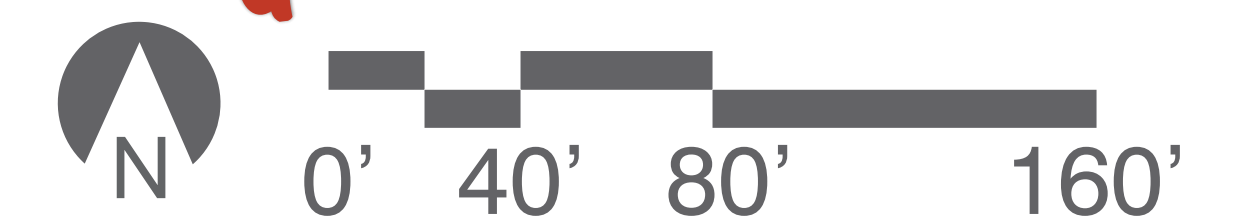
0' 40' 80' 160'



SITE OVERVIEW



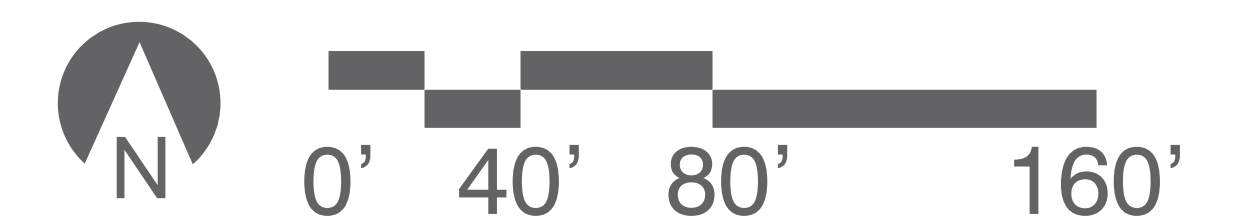
Site Access & Circulation



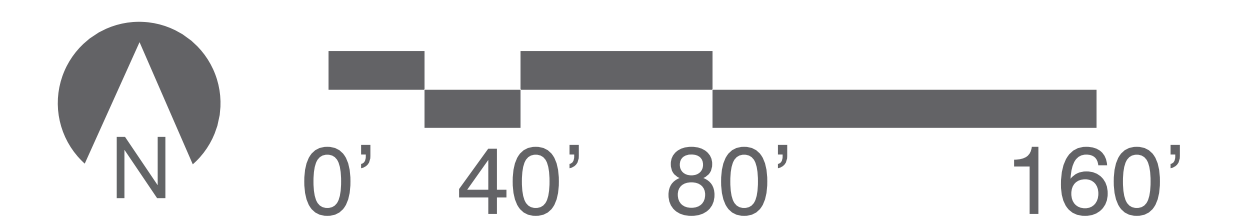
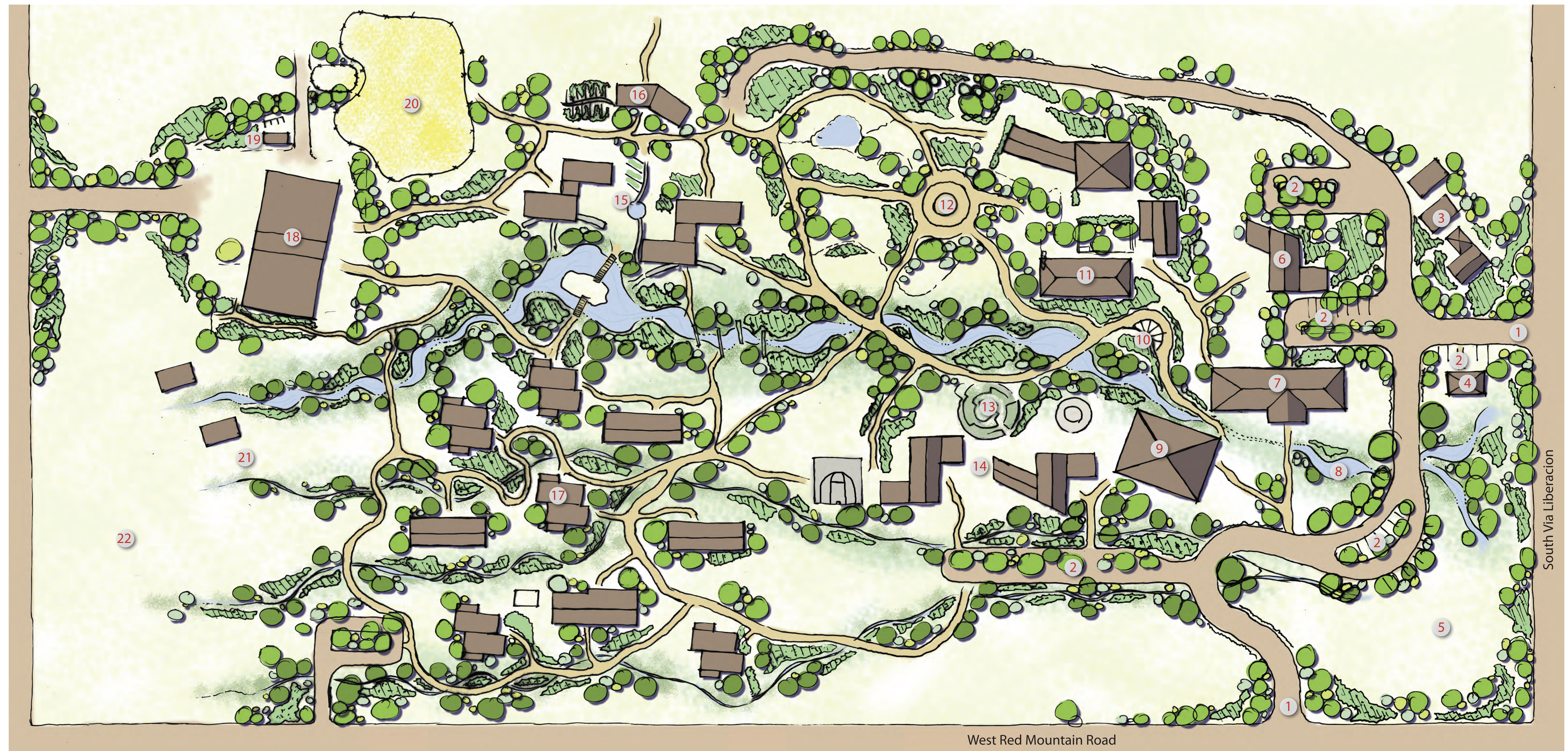
SITE OVERVIEW



Site Axis



SITE OVERVIEW



ENTRANCE



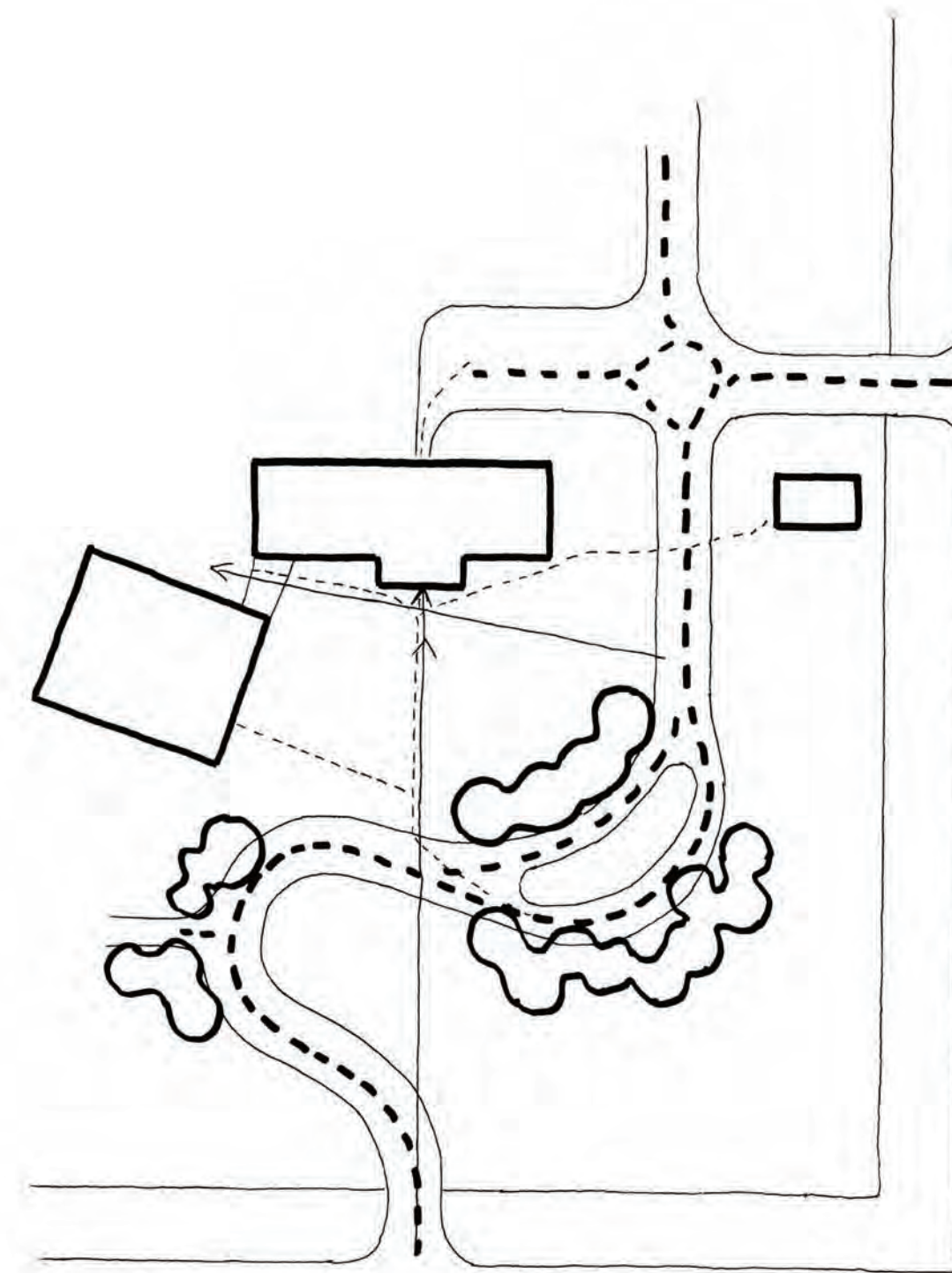
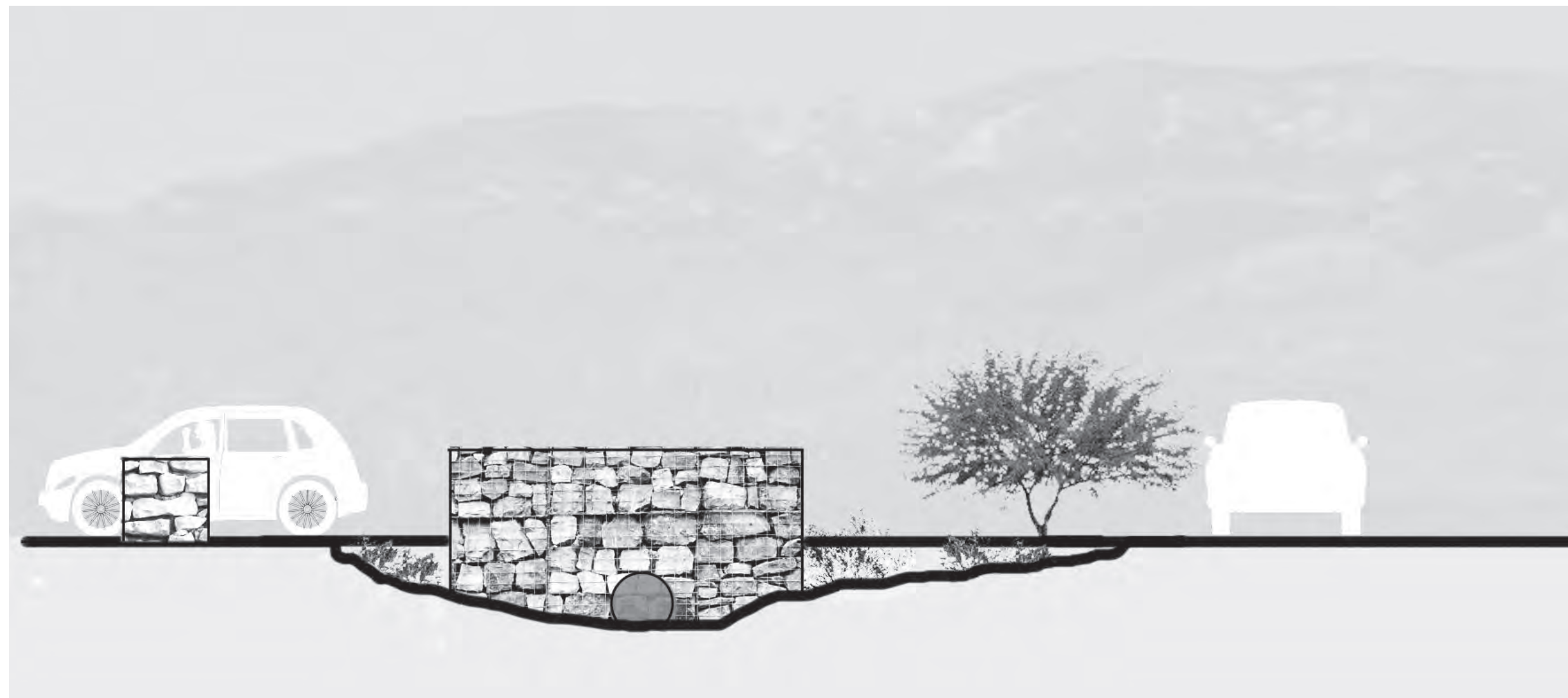
ENTRY & ADMINISTRATION

A gentle transition

The beginning of the wash

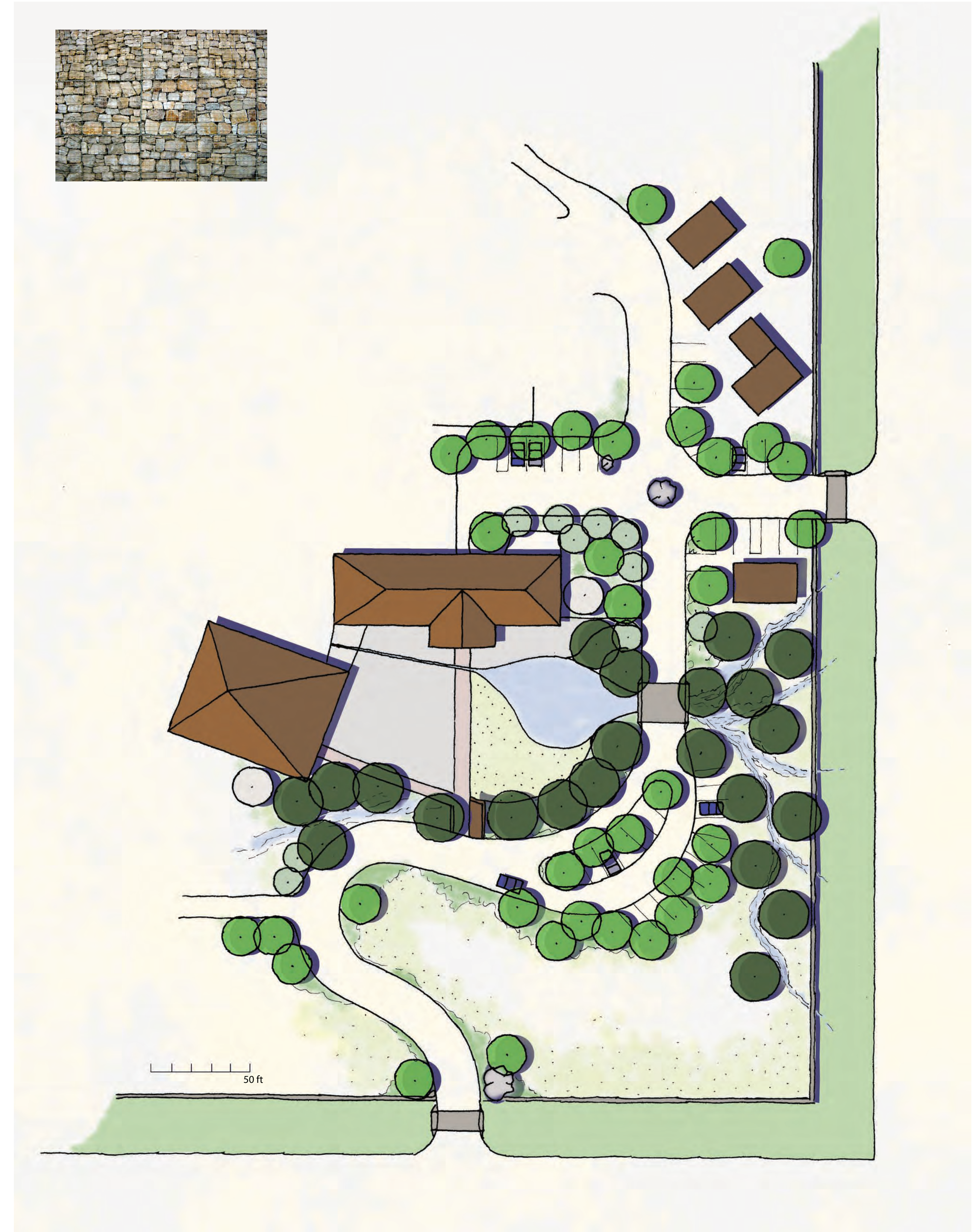
A welcoming plaza

Crossing the vegetative buffer

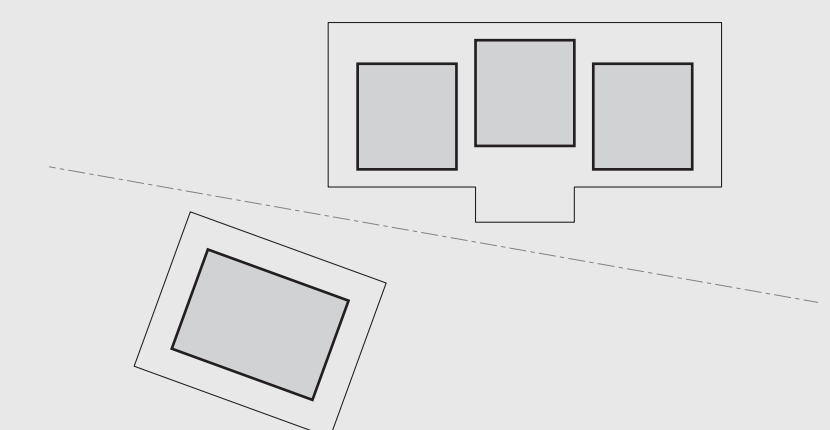
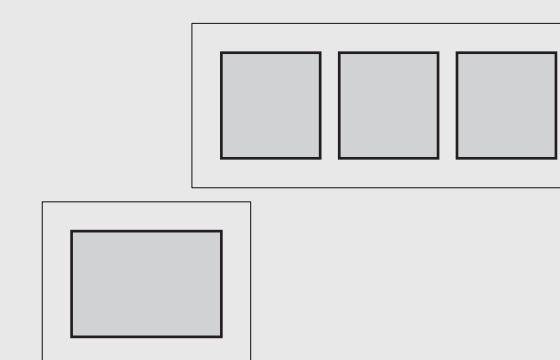
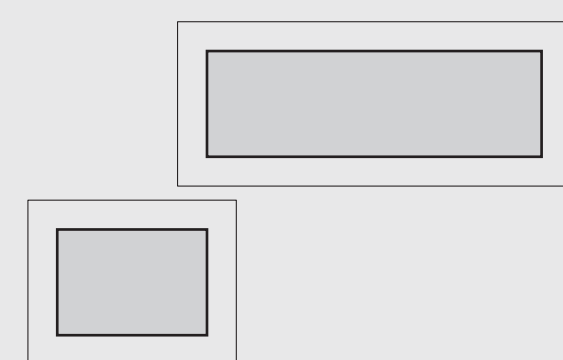
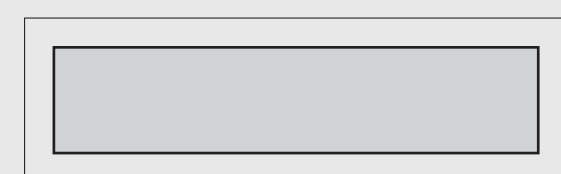
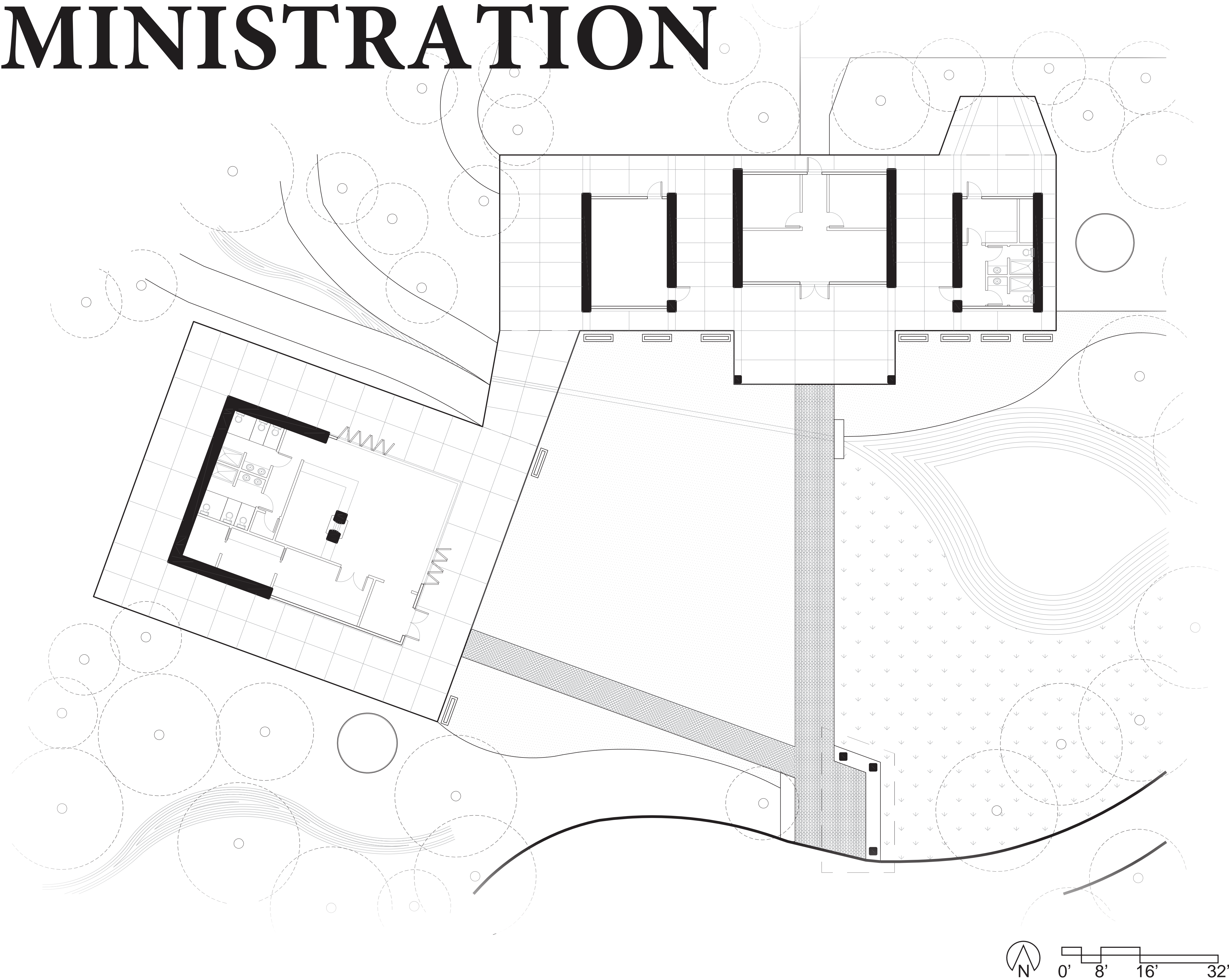
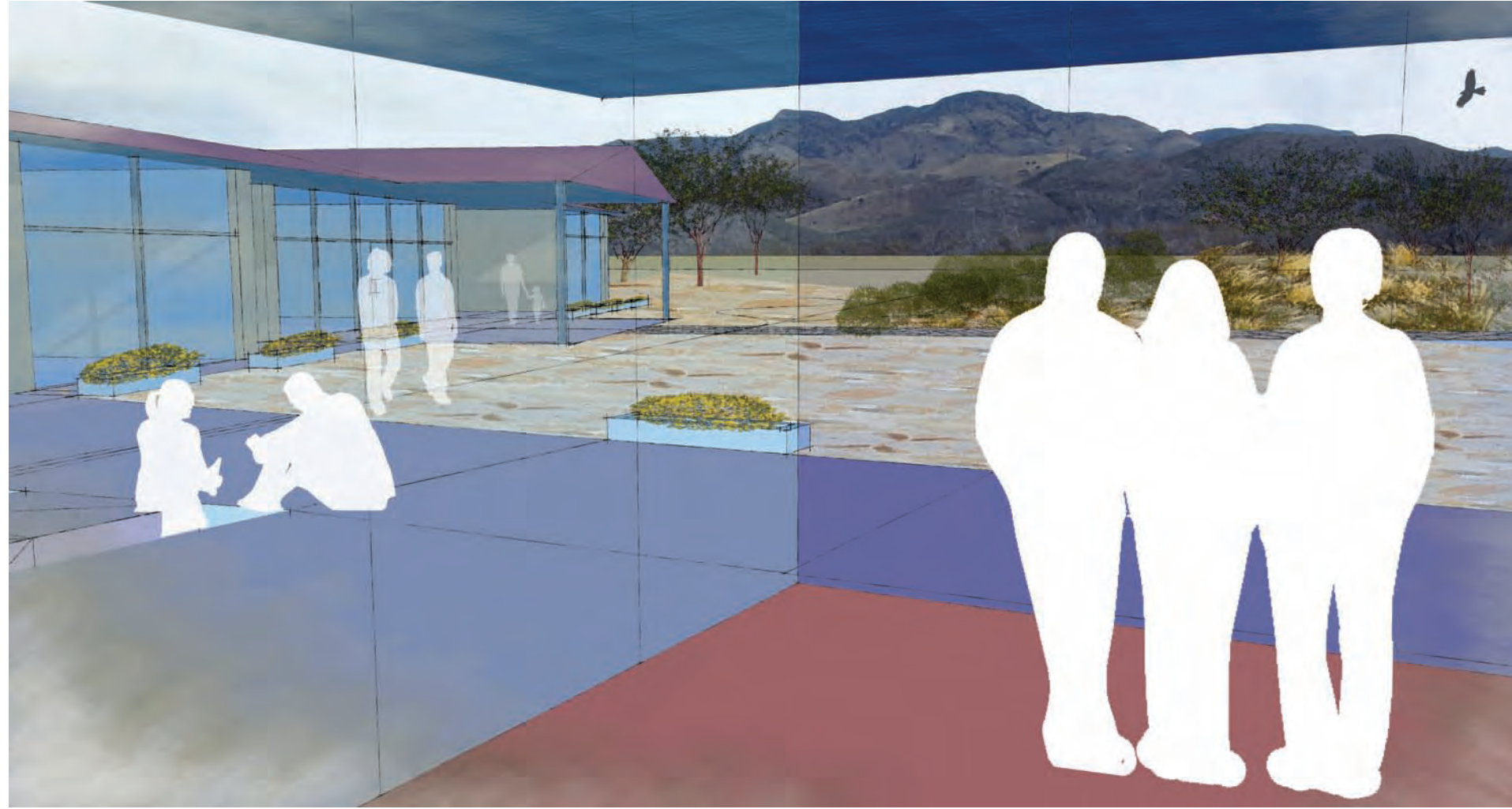


Circulation and views

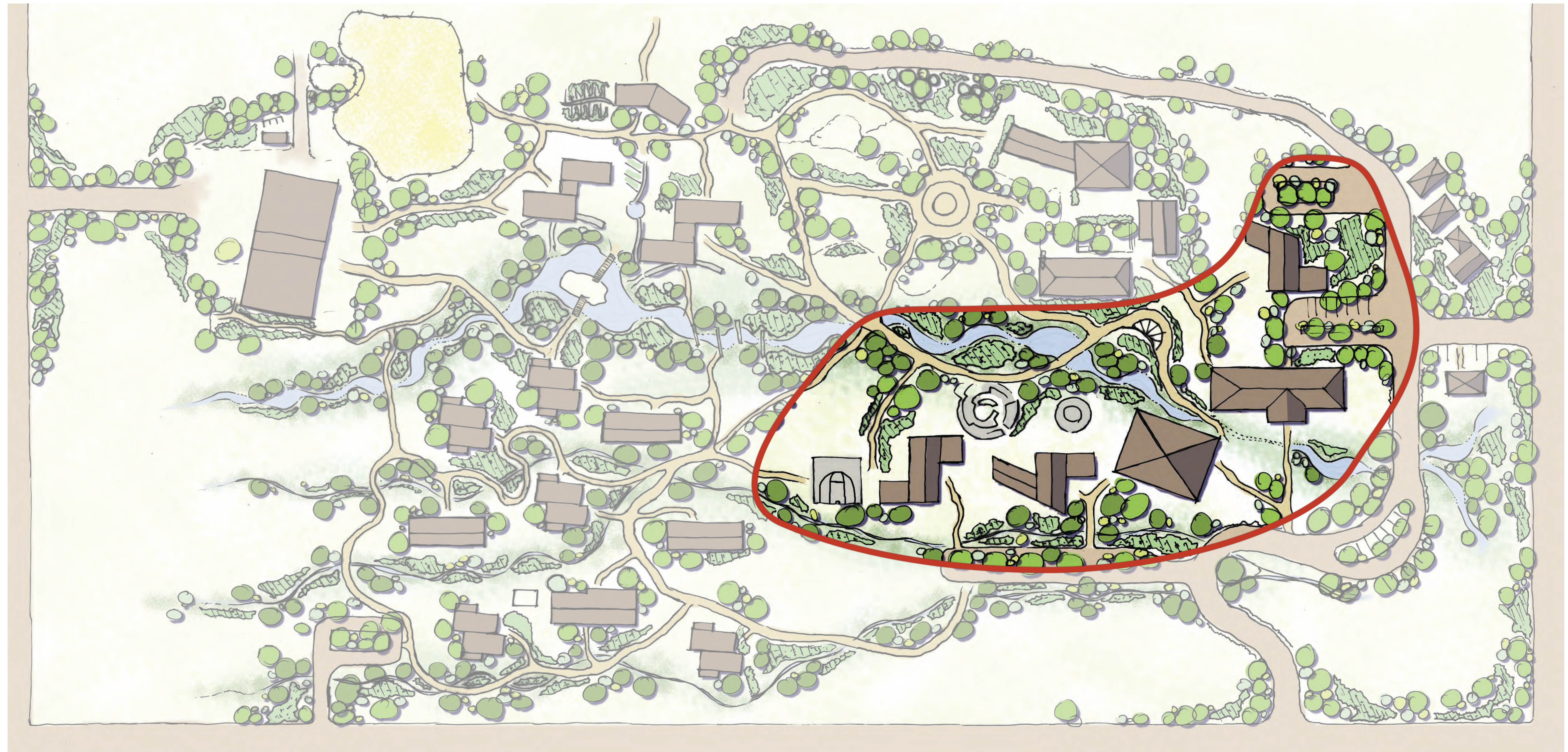
Entrance



ENTRY & ADMINISTRATION



CENTRAL COURTYARD

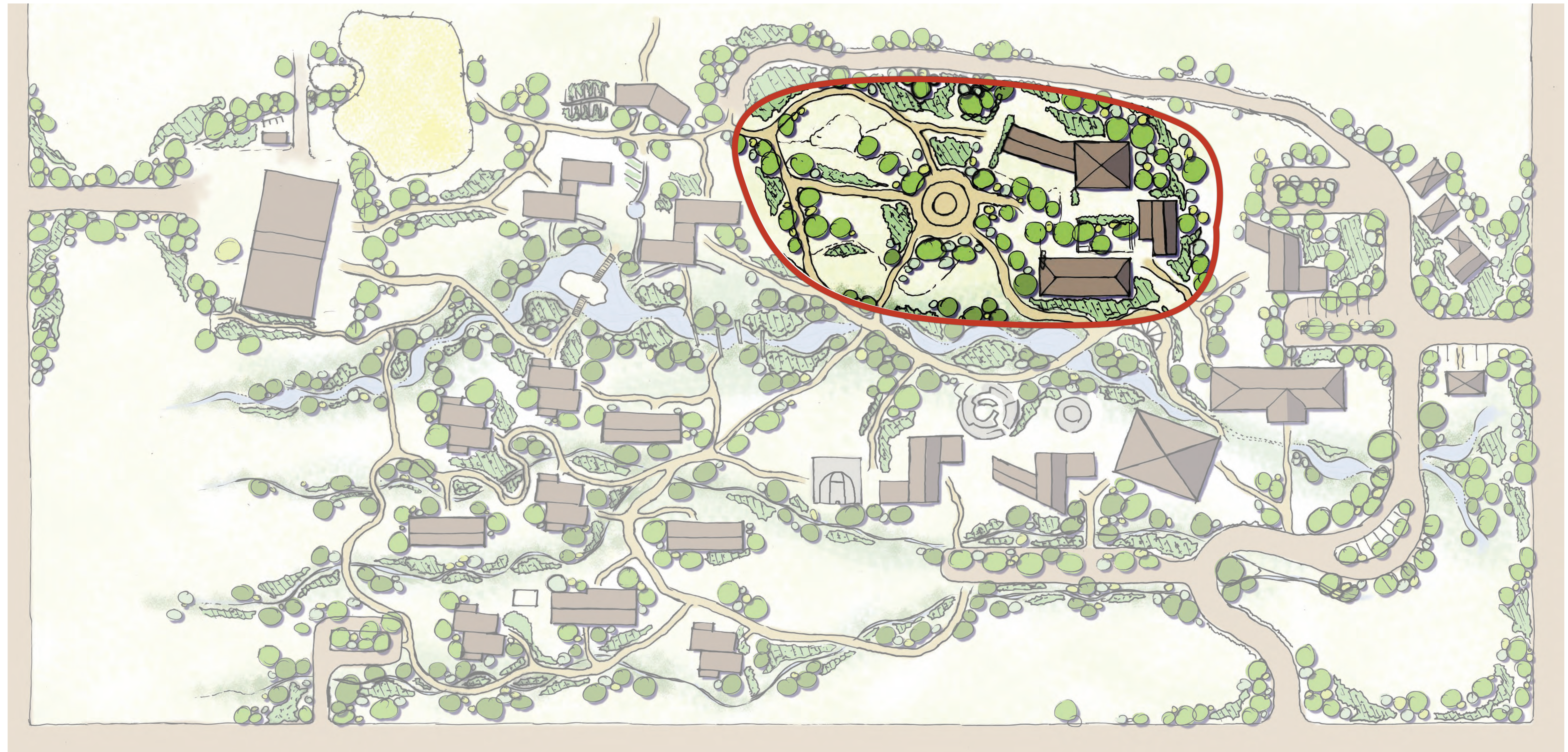


THE CENTRAL COURTYARD

- 1 Staff housing
- 2 Administration building
- 3 Great room
- 4 Guest housing
- 5 Respite house
- 6 Public amphitheater with tidal wetlands planters
- 7 Fire ring
- 8 Wash with reclaimed water
- 9 Strolling solace garden
- 10 Secondary therapy commons
- 11 Time-out gazebo



THERAPY COMMONS



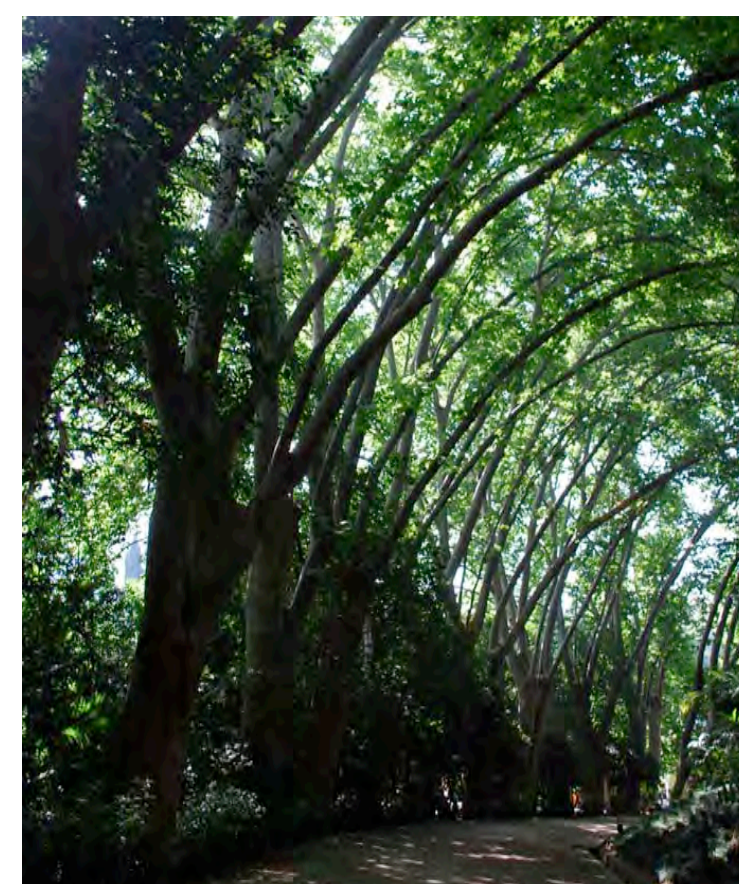
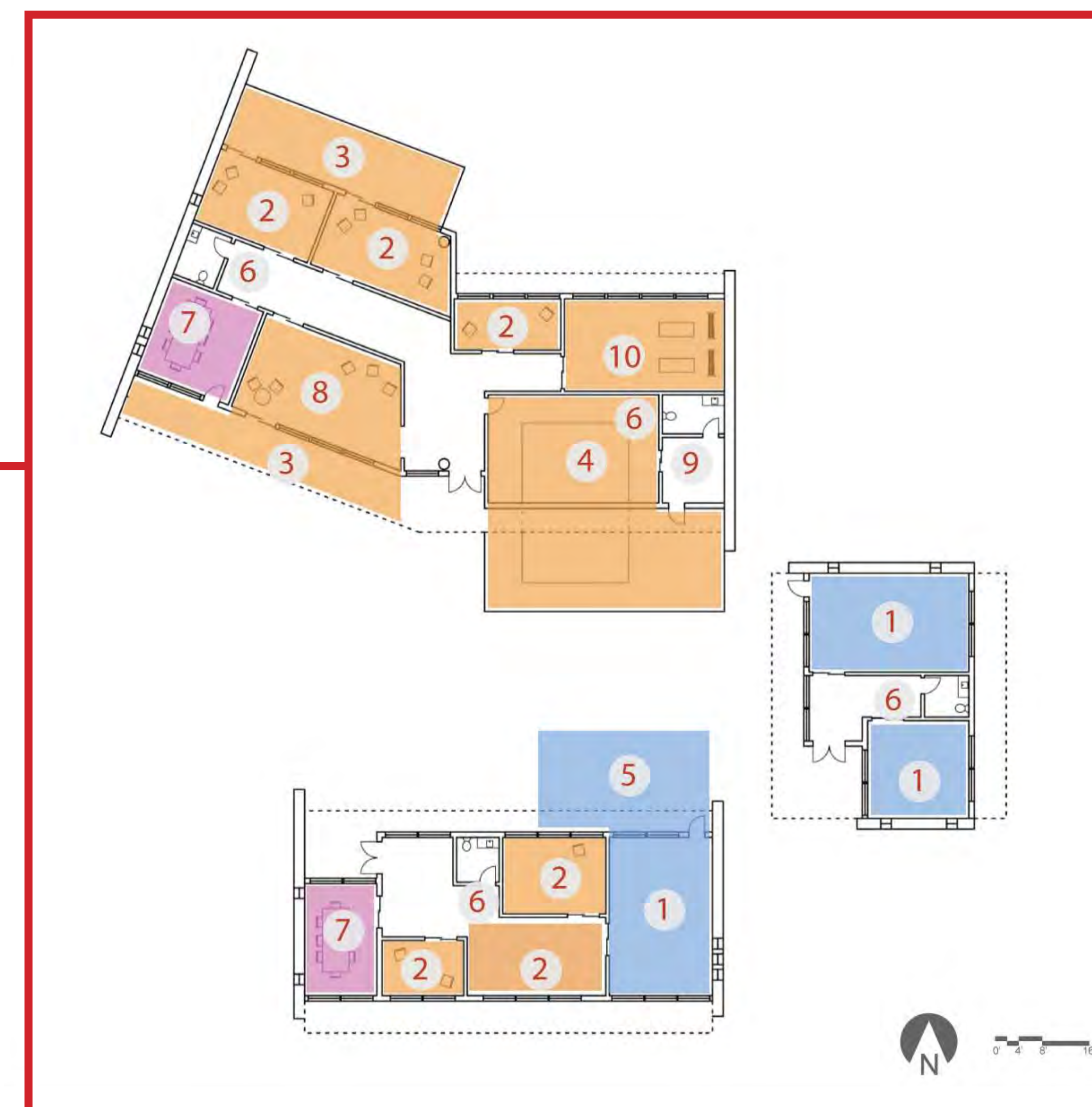
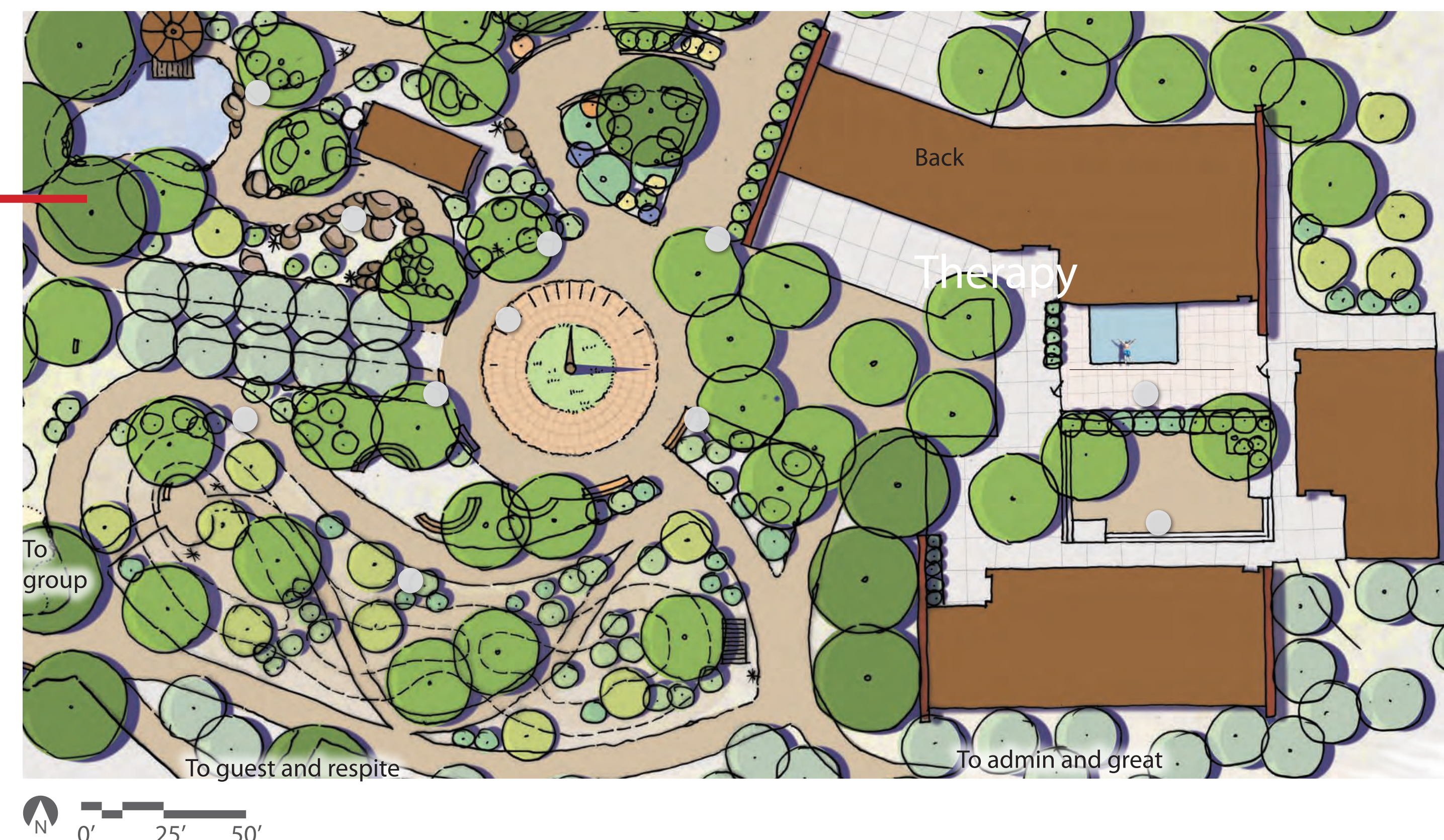
THERAPY COMMONS

INDOOR THERAPY

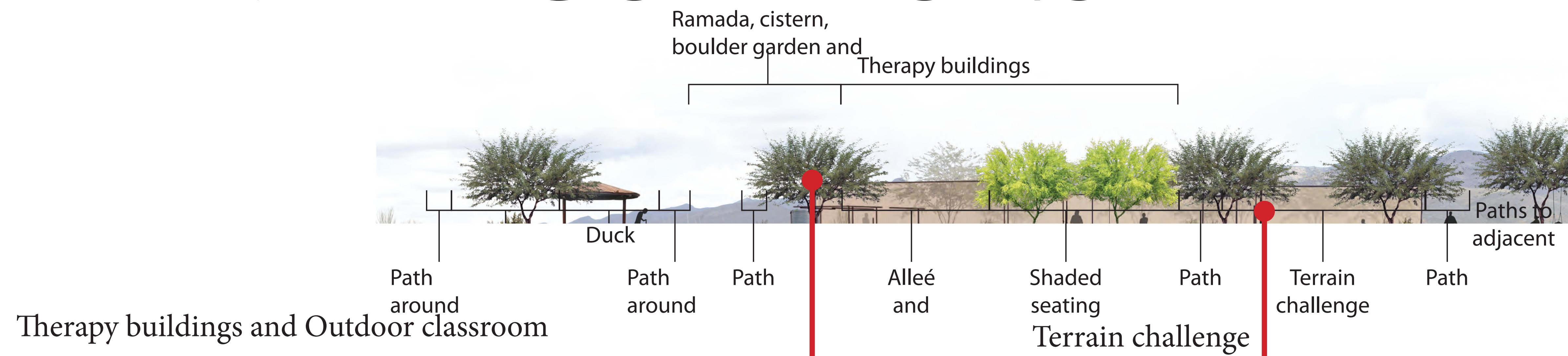
Classrooms
Activity rooms
Outdoor activity Spaces
Outdoor classroom
Bathroom
Meeting spaces
Multi-purpose room
Locker room
Fitness room

OUTDOOR THERAPY

- 1 Indoor/outdoor pool
- 2 Outdoor classroom
- 3 Central meeting space
- 4 Sensory garden
- 5 Ramada
- 6 Boulder garden
- 7 Duck pond
- 8 Tree lined walkway
- 9 Playground
- 10 Terrain challenge



THERAPY COMMONS



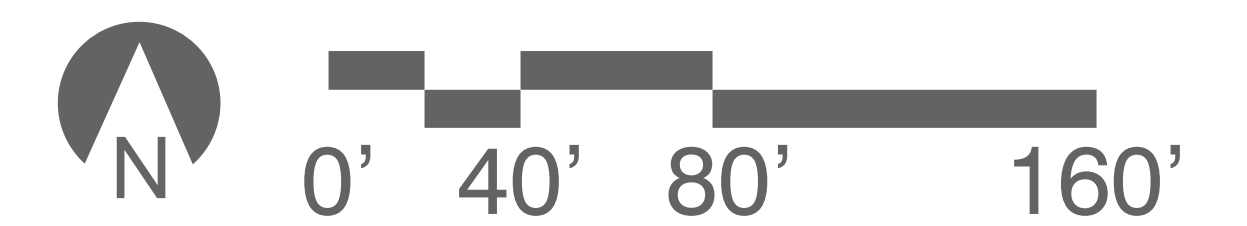
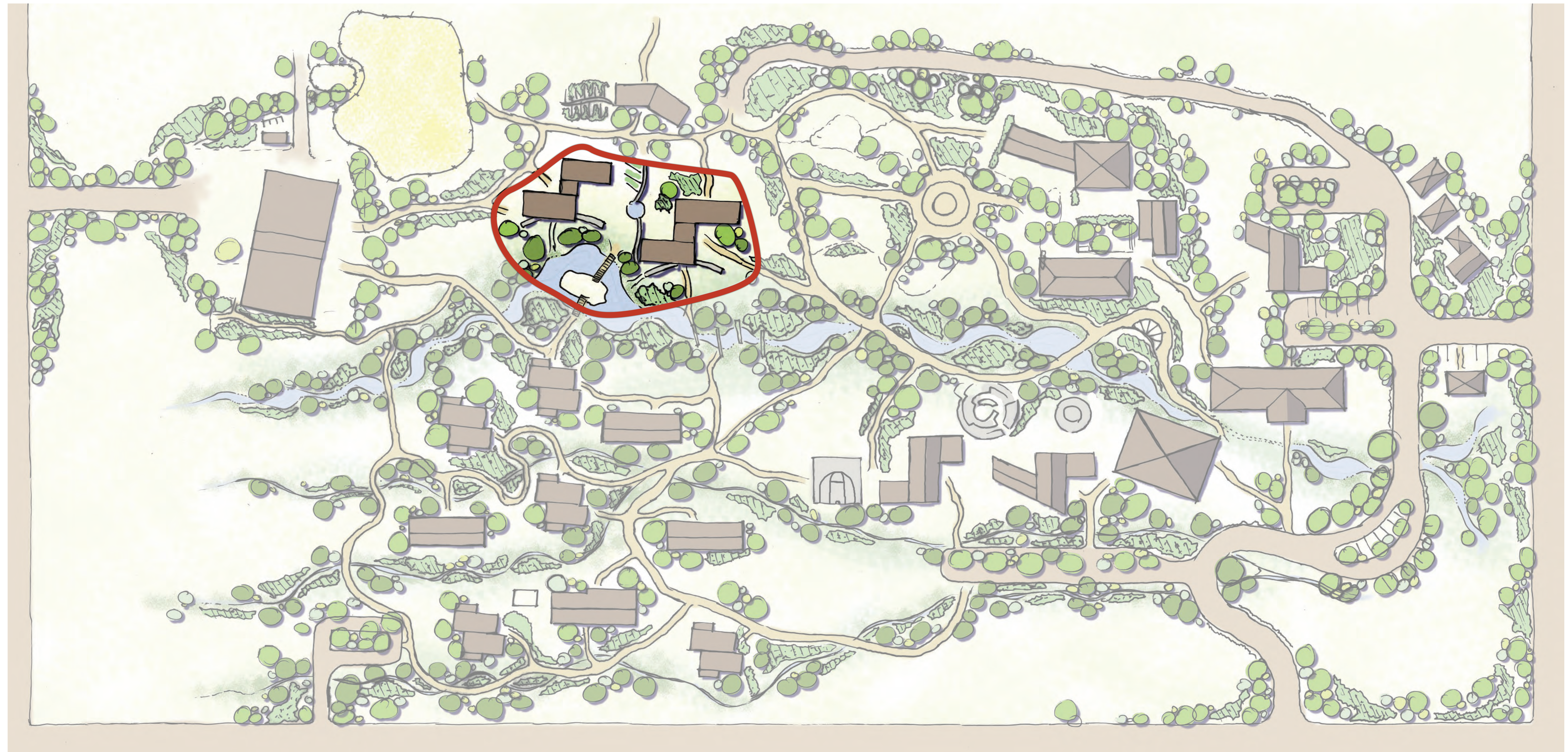
Smooth transitions from indoor to outdoor



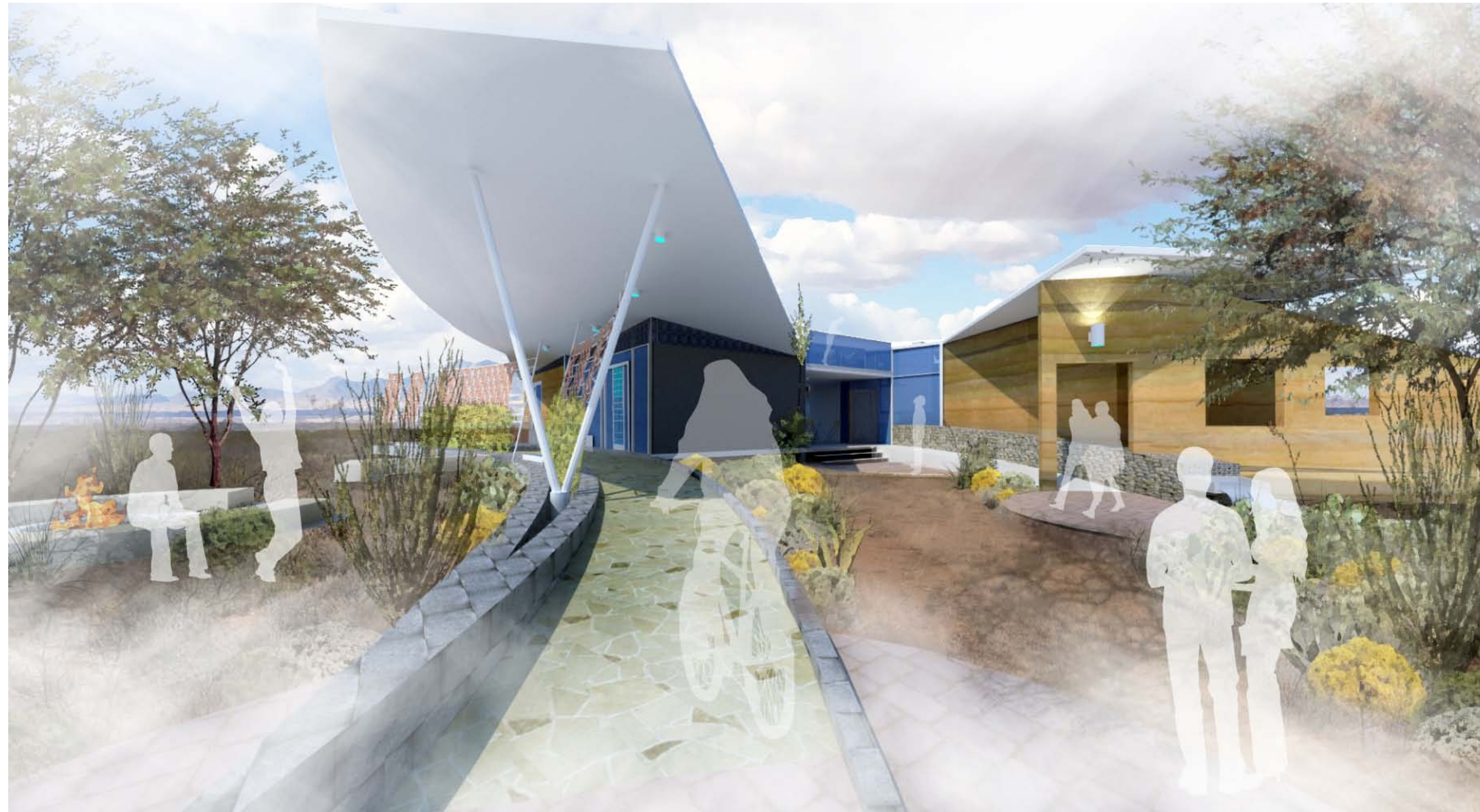
Central gathering space leads to other spaces in the garden.



GROUP HOUSING



GROUP HOUSING



RESIDENTIAL PROGRAM

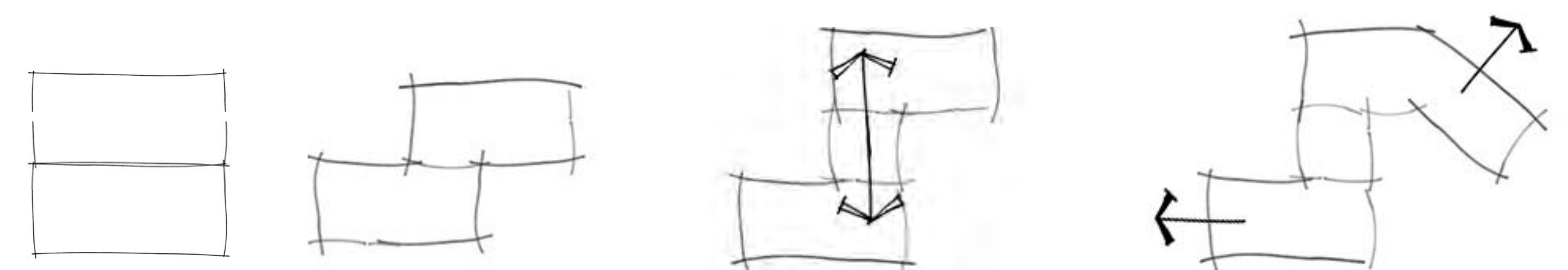
- 1 Parking
- 2 Group homes
- 3 Water harvesting plaza
- 4 Step down housing
- 5 Edible gardens, gabion canals
- 6 Shade ramada
- 7 Fire pit and seating
- 8 Island with swings
- 9 Gabion walls, slow water
- 10 Seasonal wash

SUSTAINABLE STRATEGIES

- Rammed earth
- Shading roof and screen
- Rain water collection system
- Private and public outdoor living
- Evaporative cooling



FORM EVOLUTION



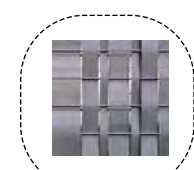
GROUP HOUSING



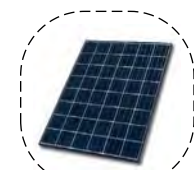
FLOOR PLAN KEY

- 1 Living room
- 2 Bedroom
- 3 Bathroom
- 4 Kitchen
- 5 Dining room
- 6 Laundry closet
- 7 Mud room

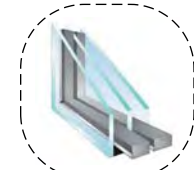
ECONOMICAL STRATEGIES



Screening strategy



Photovoltaics



Insulated glass



Fiberglass mullion



Water shed



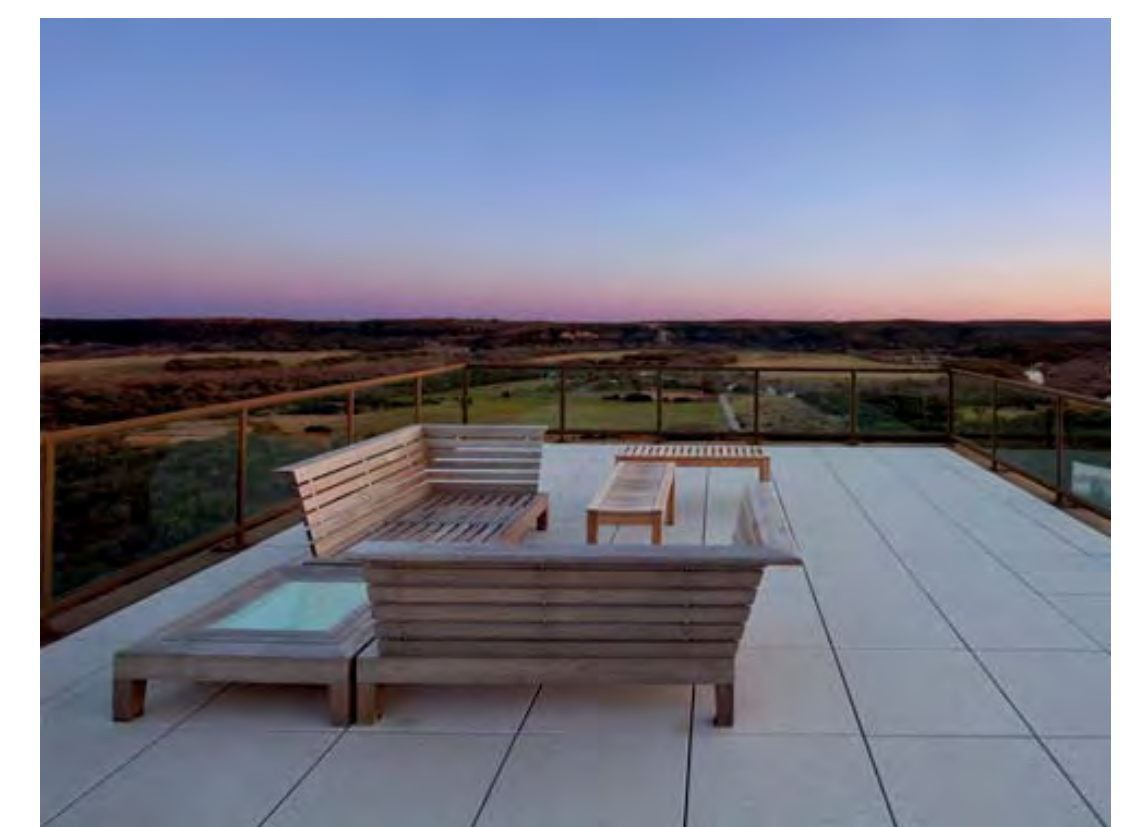
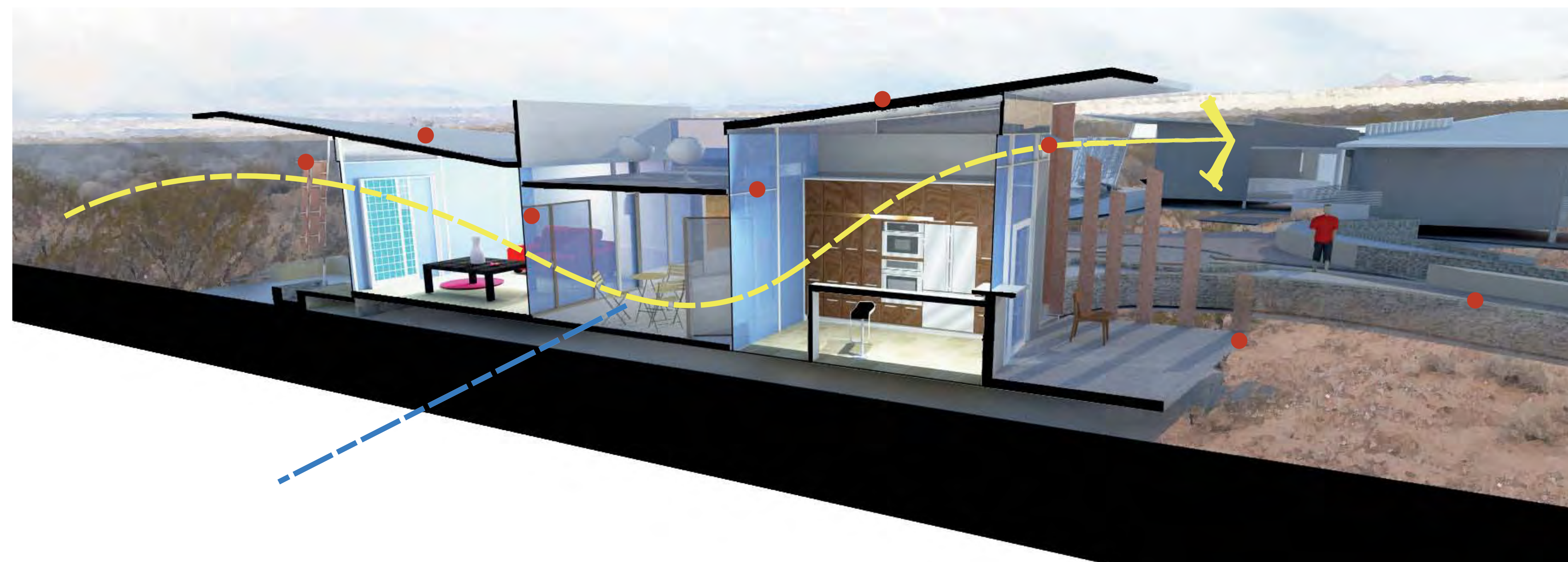
Cross Ventilation



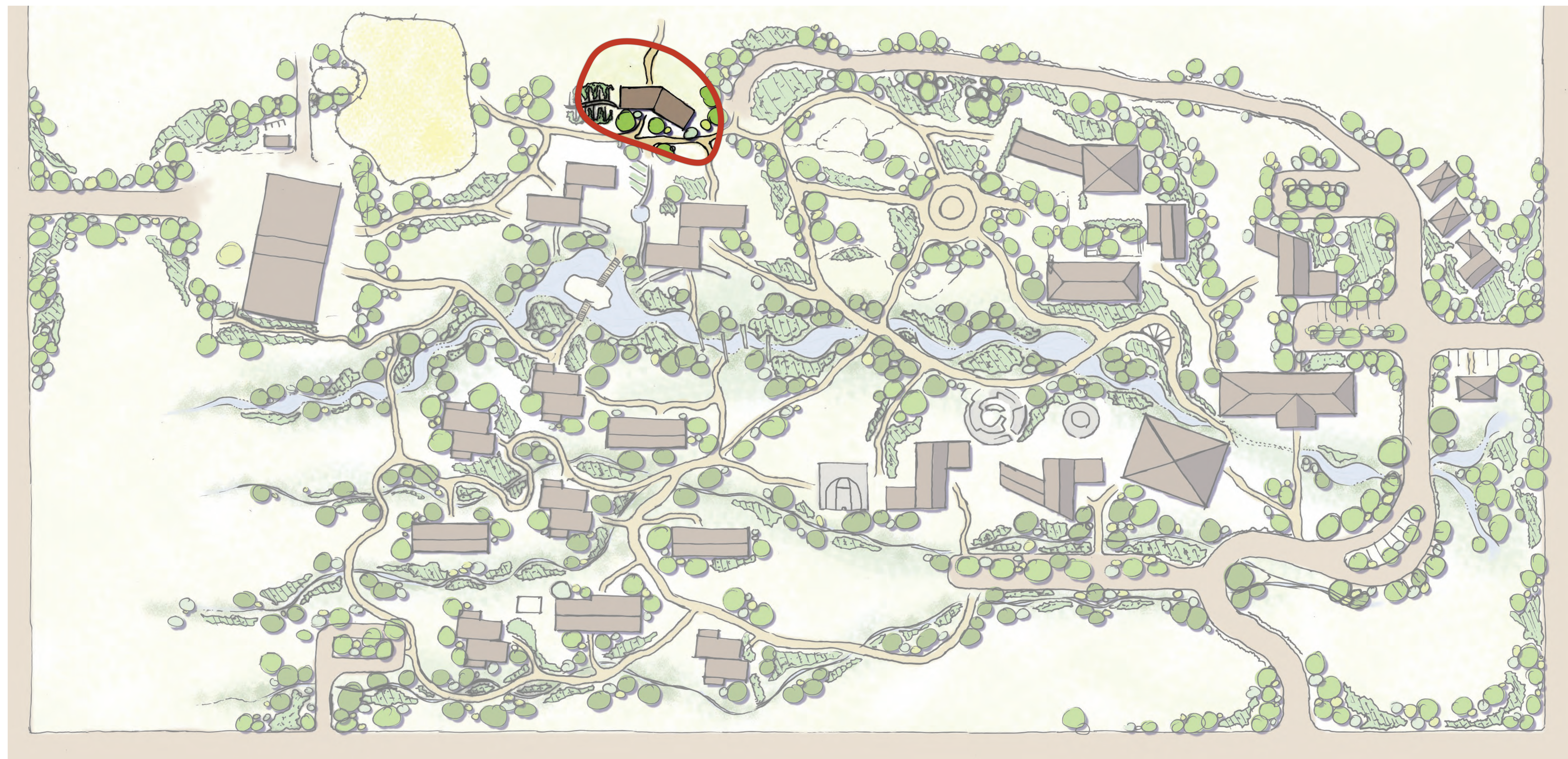
Sheet flow



Site existed materials



STEPDOWN HOUSE



STEPCDOWN HOUSE

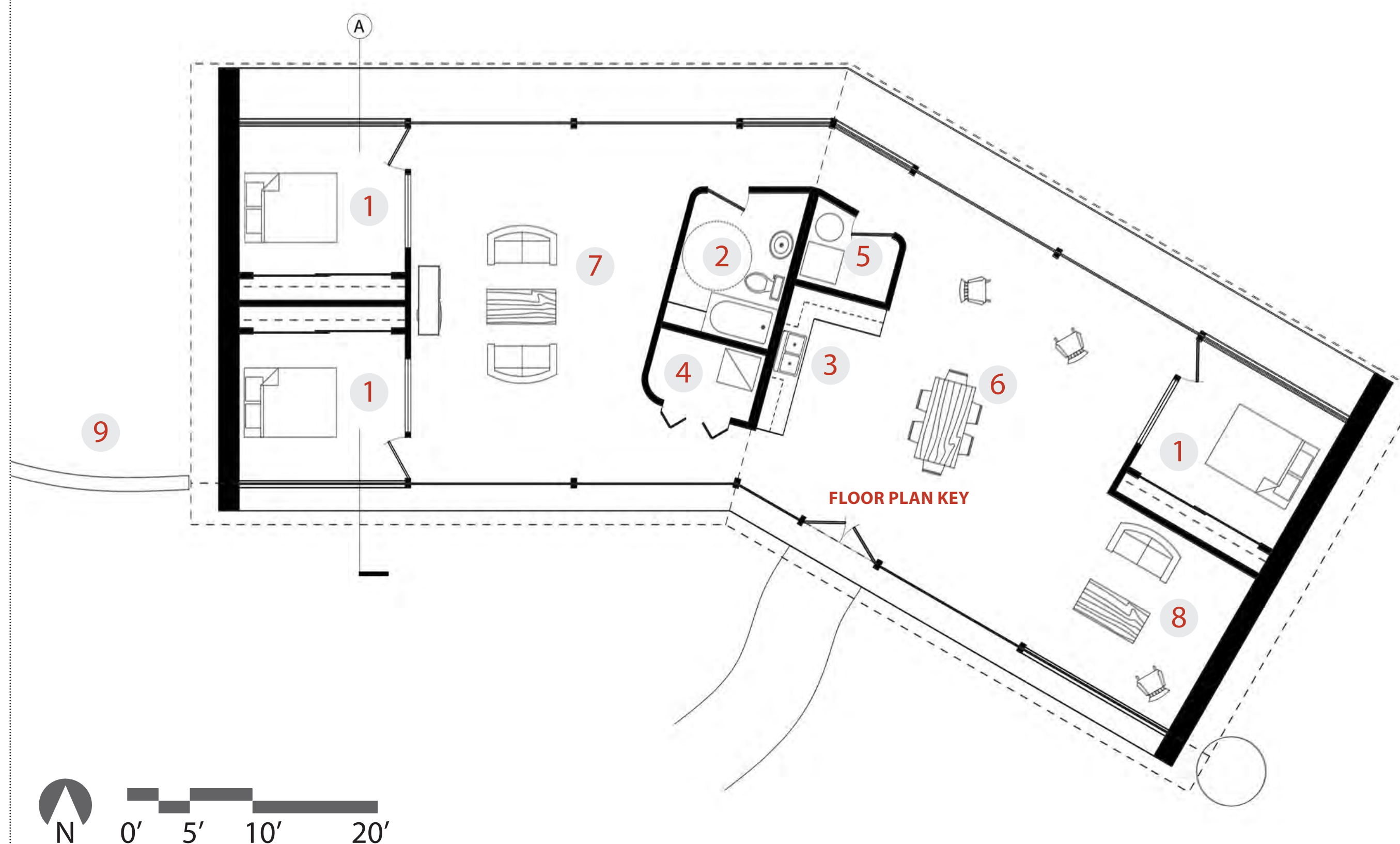
STEP DOWN HOUSING CONCEPT

Located at the perimeter of the development, yet close to staff and amenities.

Provides housing for three residents and room for attending staff, the step down house has three bedrooms, one accessible bathroom, a kitchen, and ample spaces for sitting and storage.

Visual access to and from the resident spaces is a form-giving factor. Translucent and transparent surfaces are used whenever possible; for example, between the bedrooms and the sitting area.

Providing an economic, environmental, functional, aesthetic, and therapeutic benefit, the roof collects rainwater and channels it into a cistern on the east and a gabion wall water feature on the west, where edible gardens can be planted.



FLOOR PLAN KEY

- 1 Bedroom
- 2 Bathroom
- 3 Kitchen
- 4 Laundry/Storage
- 5 Mechanical
- 6 Dining
- 7 TV Lounge
- 8 Reading/Relaxing
- 9 Gabion water canals

Stone gabion canals can be constructed by residents and used to harvest water for edible gardens.



As a model for future development, the building draws its inspiration from, and responds to, its immediate environment

much like the work of Glen Mercutt.



STEPDOWN HOUSE



Wherever possible, reclaimed materials can be used and, if practicable, constructed by residents.



Rammed earth is one material that can be sourced on site and constructed by residents while providing beneficial therapeutic, tactile, visual, and acoustic properties.



An entire wall of windows allows the residents scenic views of the Mule mountains from various points within the building, while allowing in ample natural light. The stone gabion wall to the west harvests water from the roof and pulls it into edible gardens.



Tempered glass openings in bedroom walls and long corridors within the building provide visual access between caregivers and residents. Fewer walls within the building allow for a sense of openness and uninhibited movement while maintaining a degree of privacy and opportunity for escape for residents.

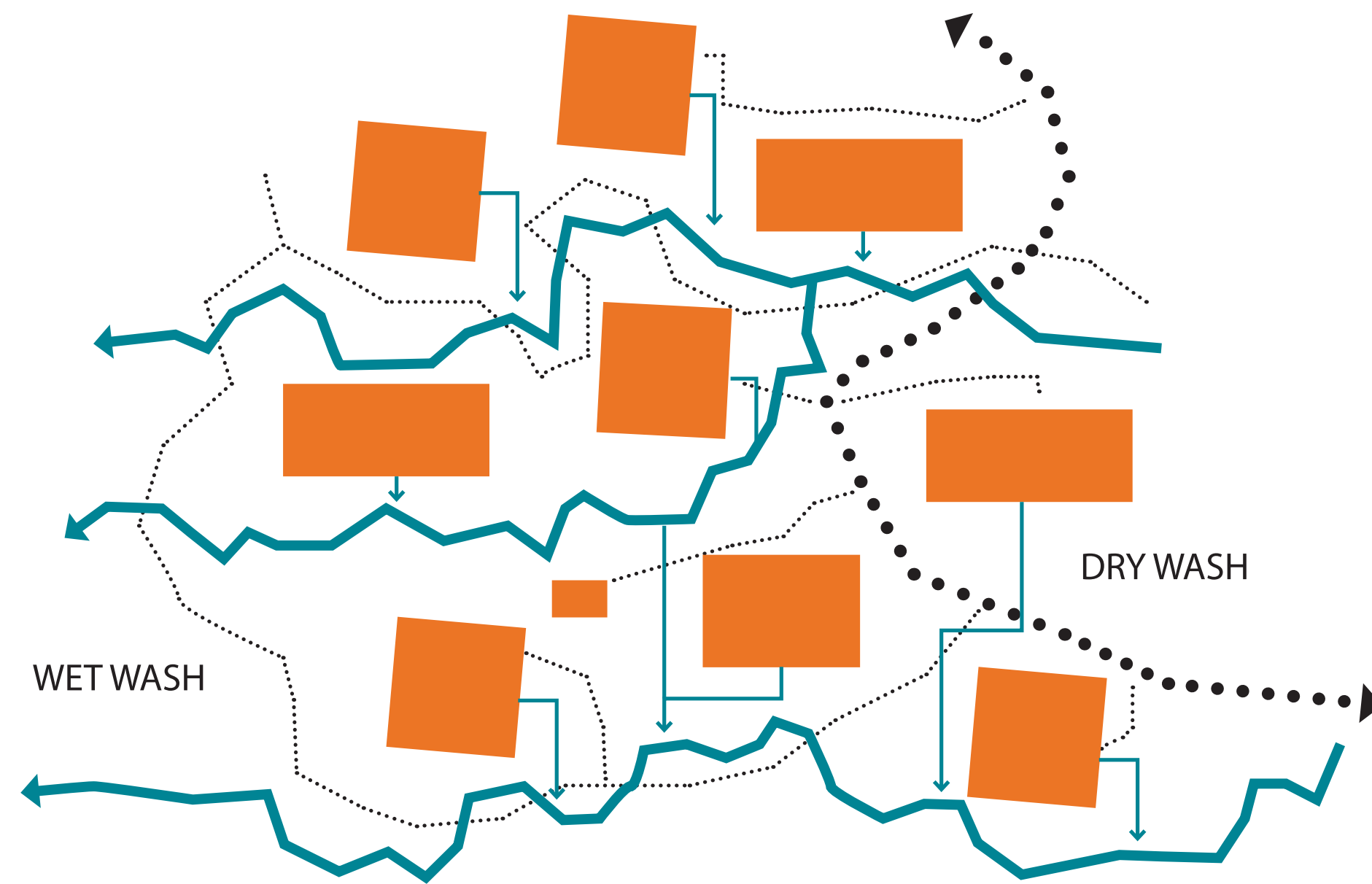
IDLA NEIGHBORHOOD



IDLA NEIGHBORHOOD

CONCEPT

Inspired by the ribbons of washes that flow to the San Pedro River, the wash and trail system connects people, water, and buildings to the land.



IDLA PROGRAM

- 1 West view oriented residence duplex
- 2 North/South view oriented residence duplex
- 3 8' wide multi-use trail with permeable pavers
- 4 Wash and gully system fed by graywater and rainwater collected from building roofs
- 5 Common house with rain garden
- 6 Rusted metal bridges over dry/wet washes
- 7 Gabion wall
- 8 Ramada with picnic tables and barbeque



Direct access to West Red Mountain Road

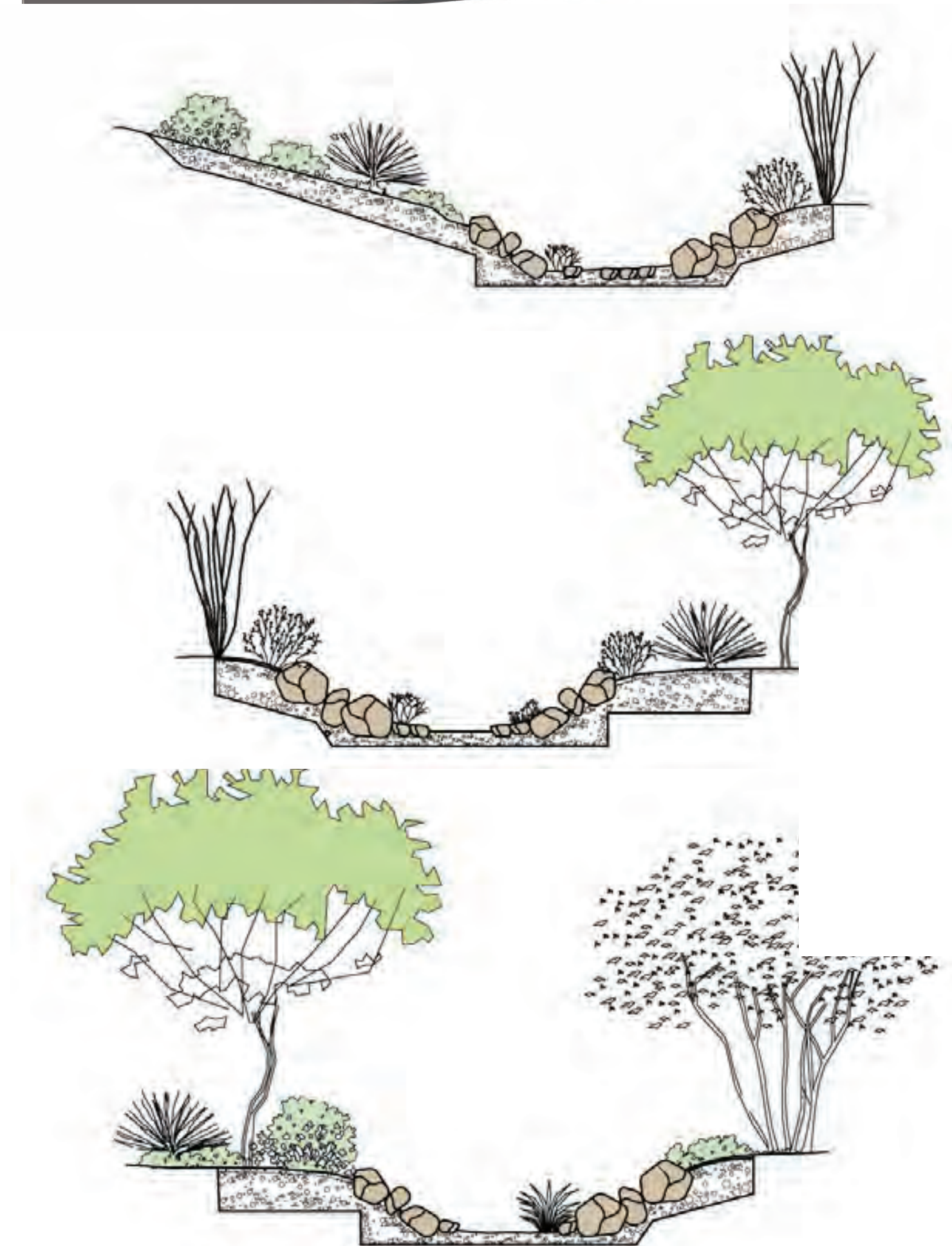
IDLA NEIGHBORHOOD



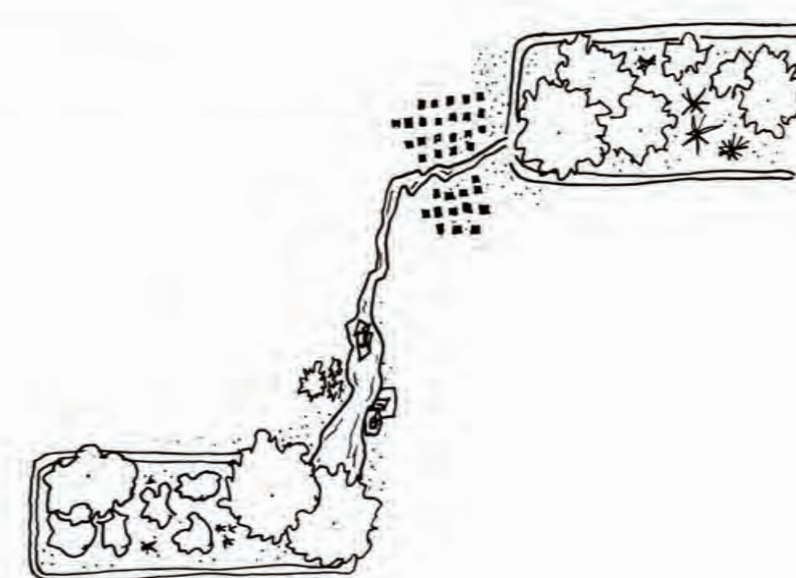
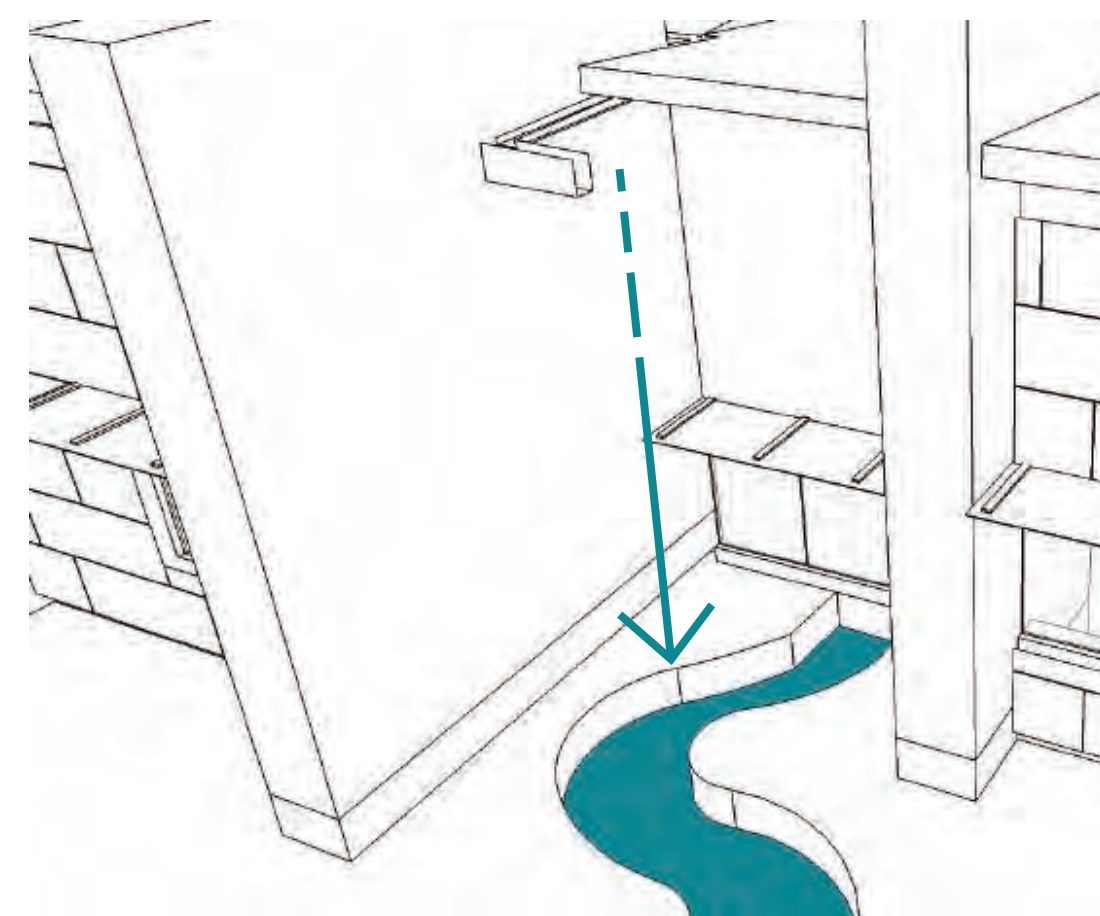
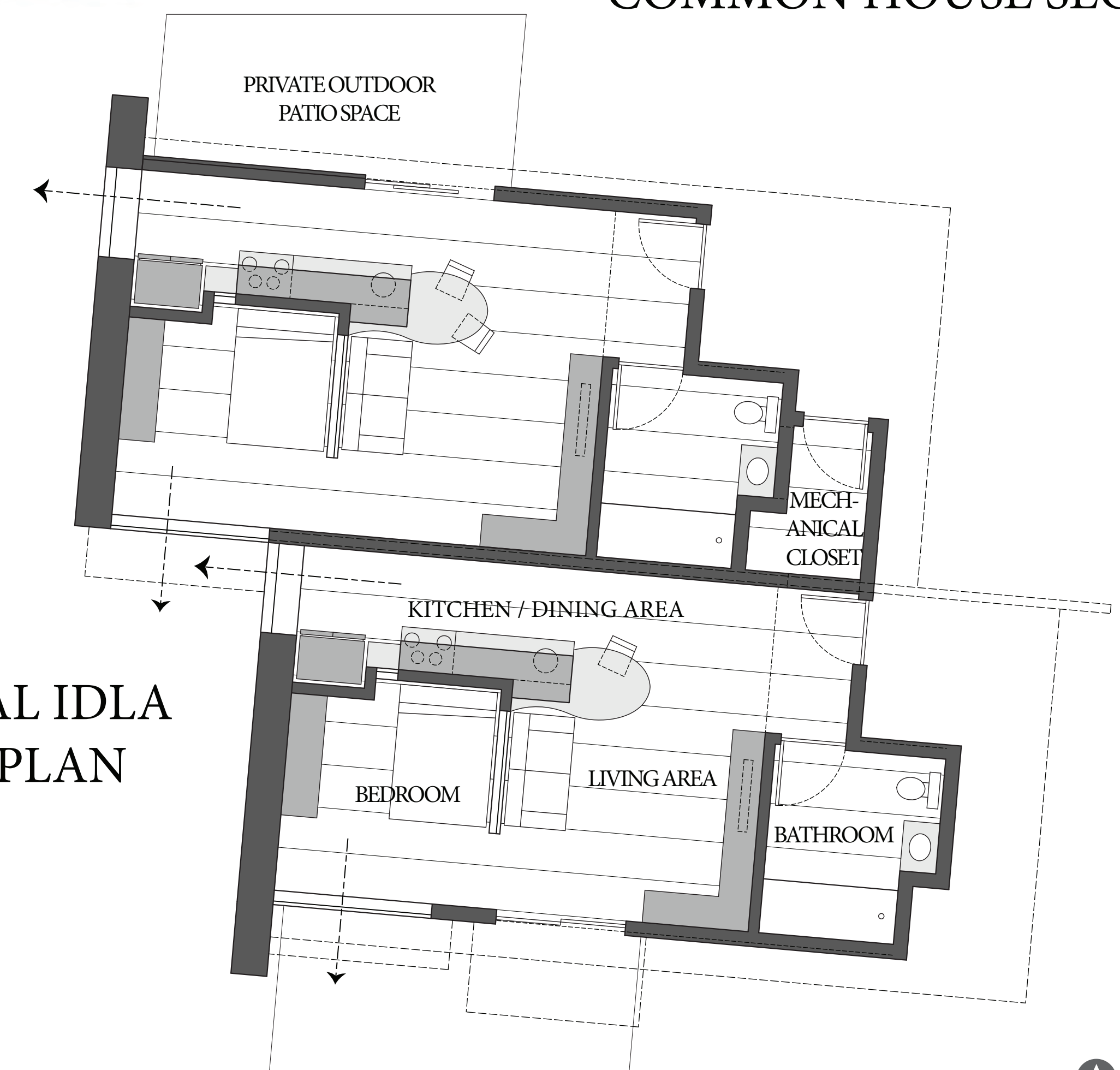
Washes reveal seasonal changes



COMMON HOUSE SECTION



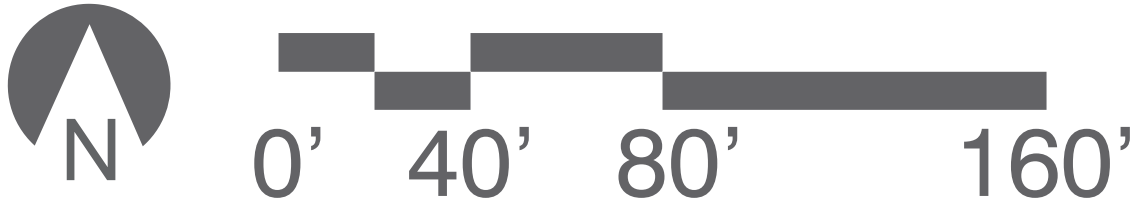
TYPICAL IDLA FLOORPLAN



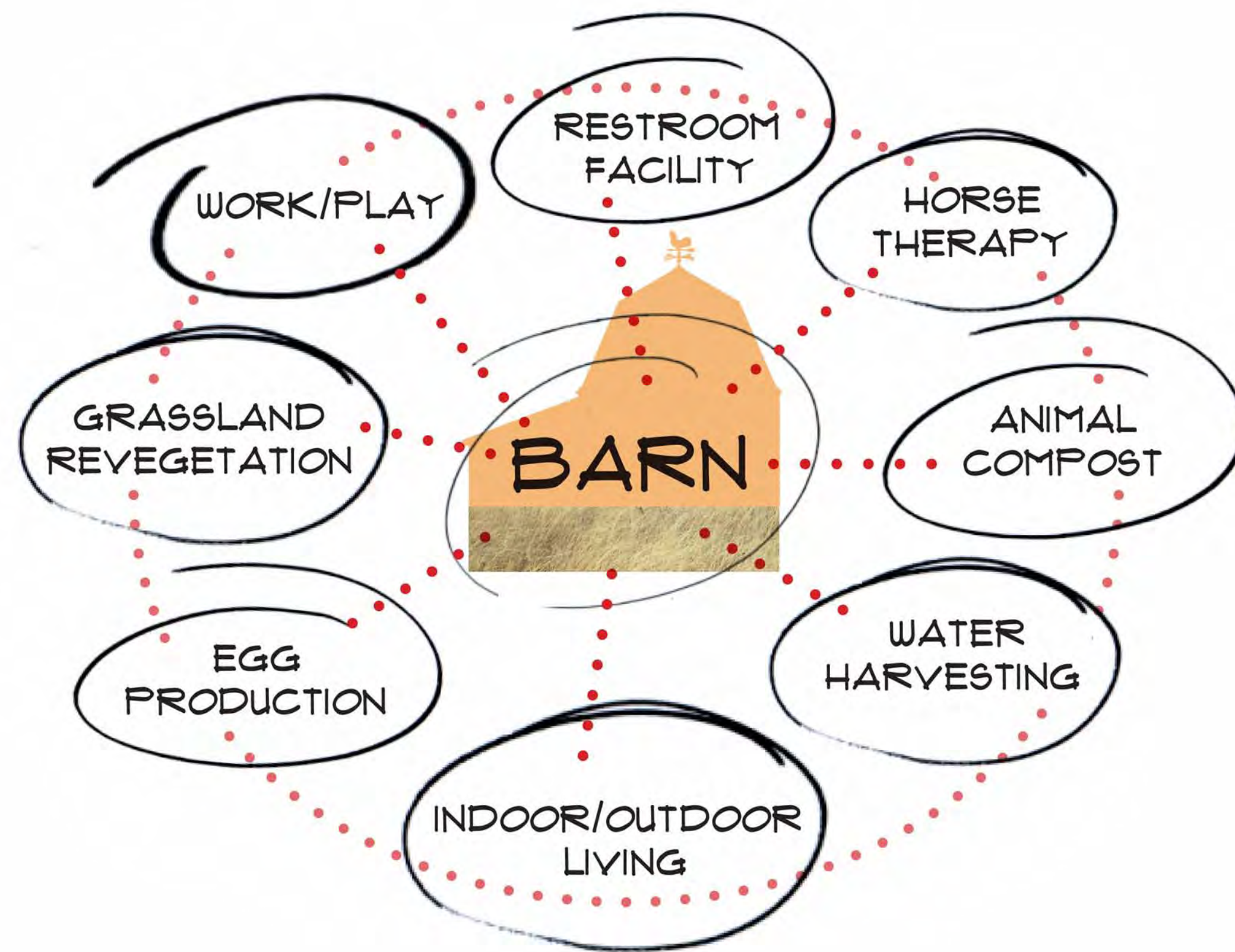
Water movement integrates buildings and landscape



BARN



BARN



BARN CONCEPT

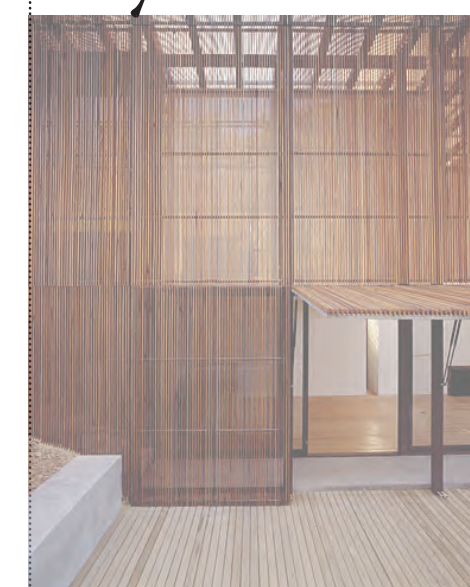
The barn serves as a multi-faceted facility; bringing together the Echoing Hope Ranch community & providing options to suit diverse lifestyles. Each resident is a rancher, farmer, builder, student & teacher. The idea of opportunity manifests here; welcoming in the community; bringing residents together; allowing animals to live happily; & letting the environment benefit from Echoing Hope's presence.

Natural resources are celebrated in a space that is designed to encourage various forms of activity. The barn represents the termination point of the living machine system, & the beginning of a new biologic & ecologic cycles.



BARN PROGRAM:

- 1 Pedestrian Path
- 2 Outdoor Gathering
- 3 Isolation Vista
- 4 Meandering Wash
- 5 Grasslands
- 6 Garden Shower
- 7 Horse Stalls
- 8 Multi-Purpose
- 9 Fabrication Shop
- 10 Materials Storage
- 11 Covered Breezeway
- 12 Chicken Coop
- 13 Compost Bins
- 14 Arena
- 15 Grazing Pastures
- 16 Access Road
- 17 Rainwater Collection
- 18 Tack Room
- 19 Wash Room
- 20 Feed + Bedding Storage
- 21 Loft Studio
- 22 Restroom
- 23 Tool Storage

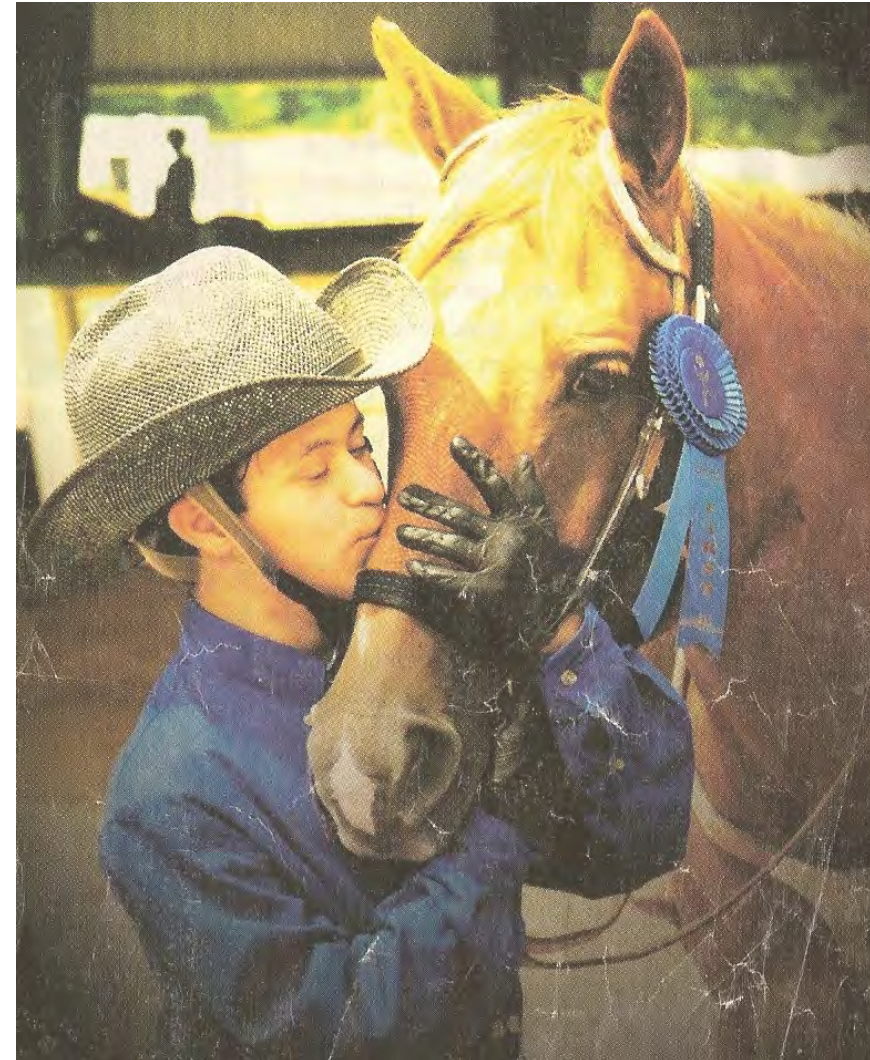


BARN

EQUINE THERAPY:



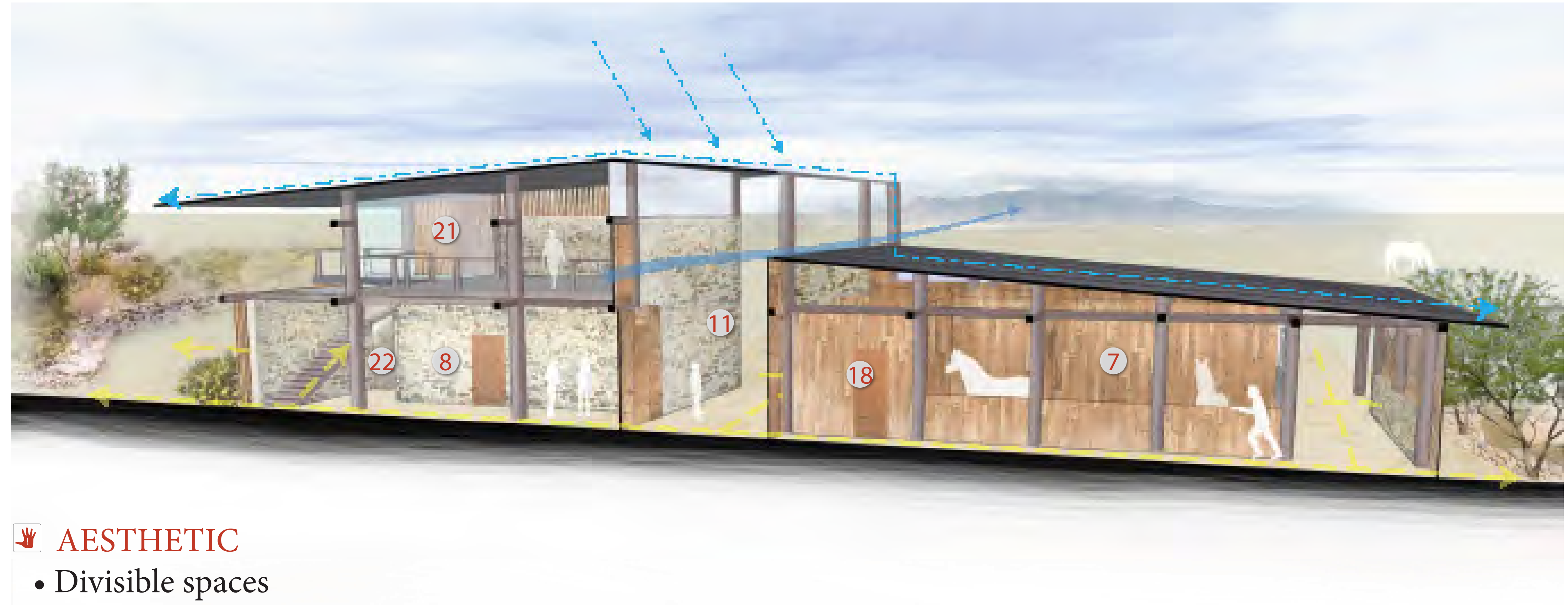
- Using feelings, behaviors, & patterns to better understand the horse & themselves
- Building confidence, improving communication, & inspiring emotional growth



PLANT THERAPY:



- Seasonally rotating pastures help revitalize overgrazed land
- Revegetation efforts in a pasture's 'off-season' for communal sale
- Chickens peck & scratch at the land to prepare the soil for cultivation.
- Compost as fertilizer



AESTHETIC

- Divisible spaces
- Operable building elements



ECONOMIC

- Food Production
- Fabrication Shop as site & communal resource
- Constructability by unskilled laborers
- Passive building systems



ENVIRONMENTAL

- Rainwater collect & grey water re-use
- Seasonal rotation pastures
- Composting chicken & horse waste for fertilizer



FUNCTION

- Pasture fencing and vegetative buffer as secure borders
- Operable building elements allow for climate adaptation
- Flexible spaces for variety of user groups & functions



SOCIO-CULTURAL

- Indoor/Outdoor living & gathering spaces
- Guest loft



CENTRAL COURTYARD UP CLOSE



NEXT STEPS

TODAY:

- Reflect on the final design and the focus area concepts we have presented to you
- Take a moment to reflect on the sustainability design principles:
 - Environmental
 - Functional
 - Aesthetic
 - Socio-cultural
 - Economic
 - Therapeutic
- Join the conversation

YOUR ROLE:

- Reflect on the information shared
 - Review the CD
 - Review the Book
- Use this final design to secure more funding to guide subsequent designers as they begin to take this into construction documents
- Use this presentation and the book to make Echoing Hope Ranch a reality
- Keep in contact

TEJIDO'S ROLE:

- As this design evolves, know that we are here to help facilitate in any way





THANK YOU!

