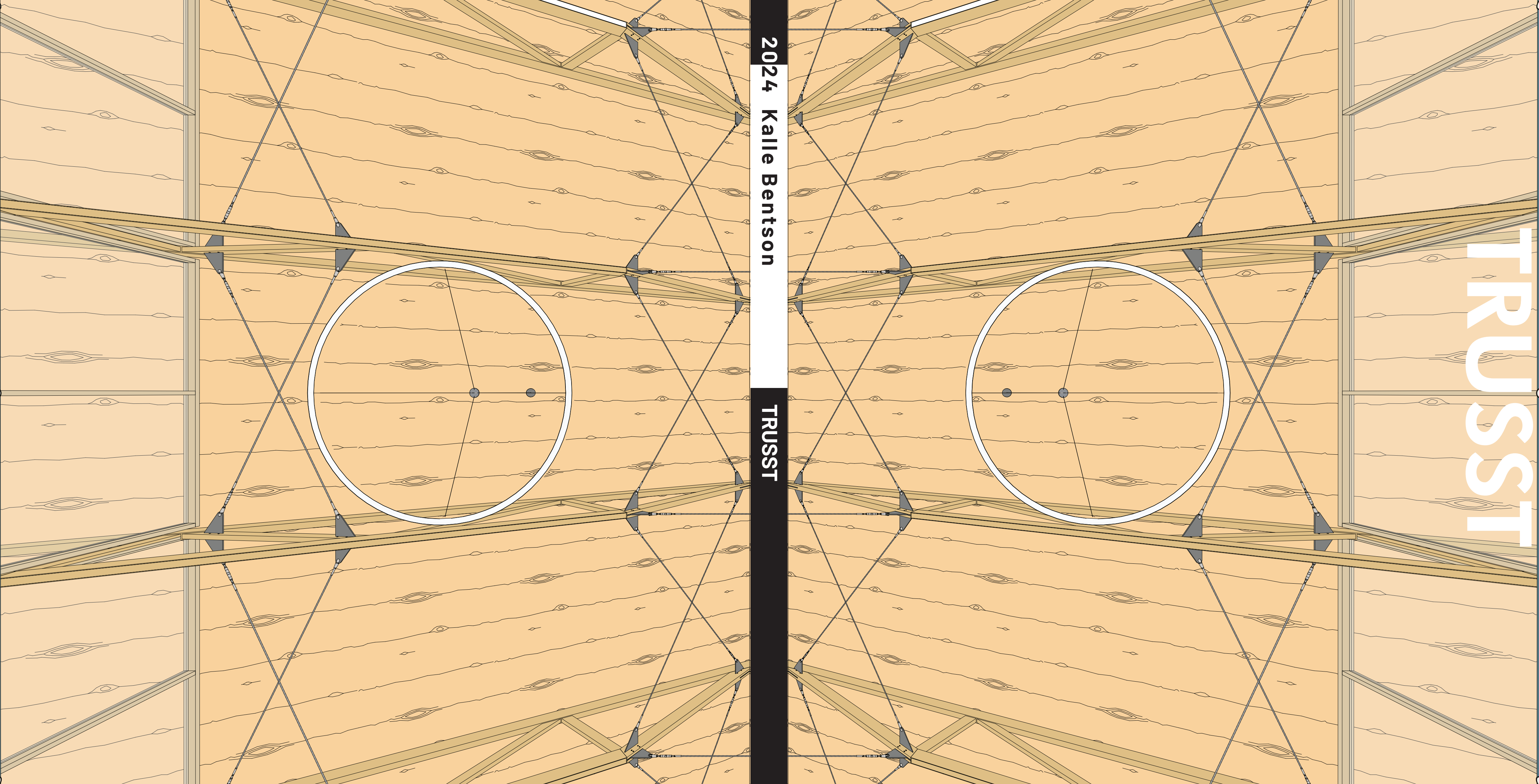


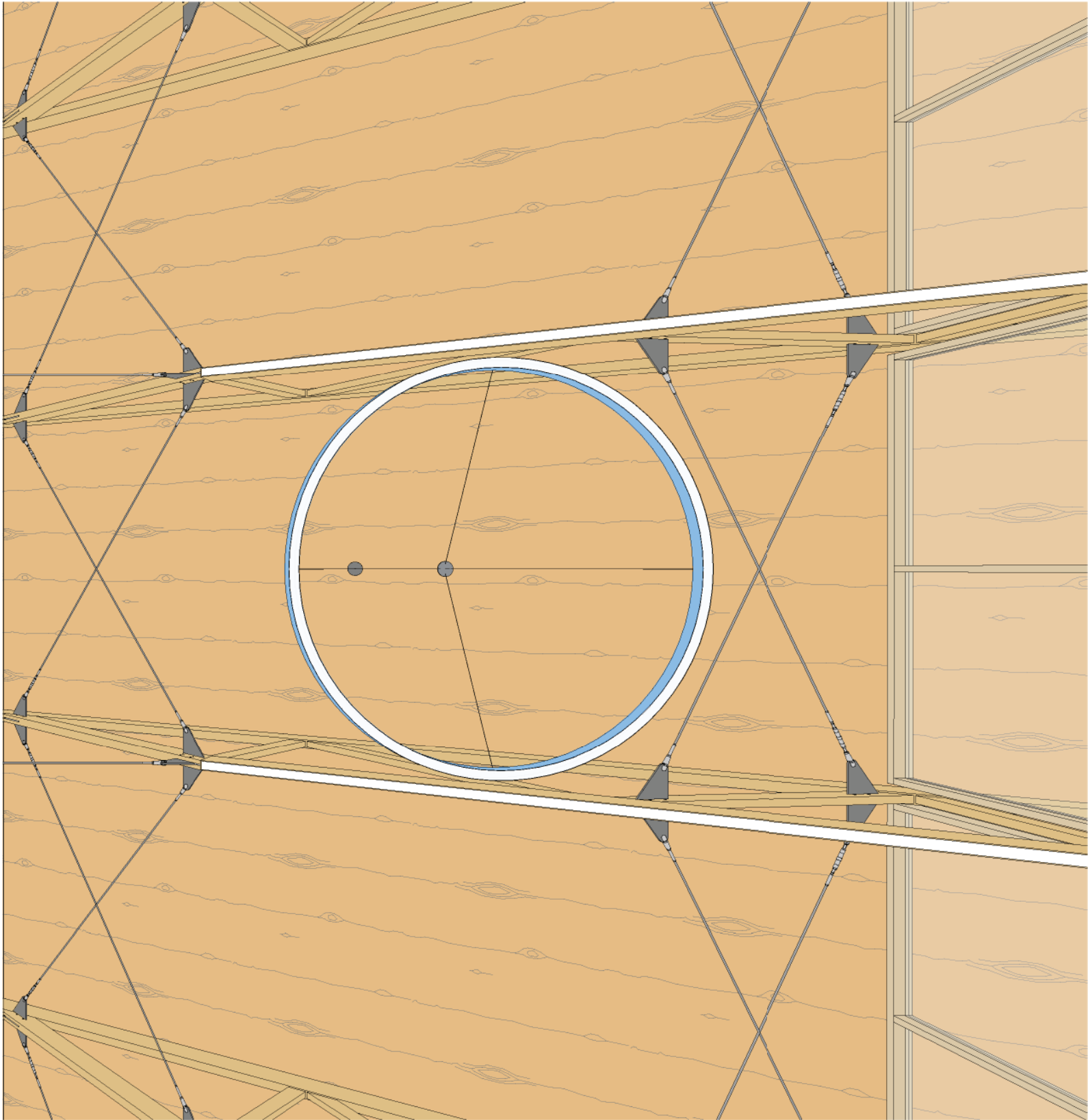
# TRUSSST

2024 Kalle Bentson

TRUSSST

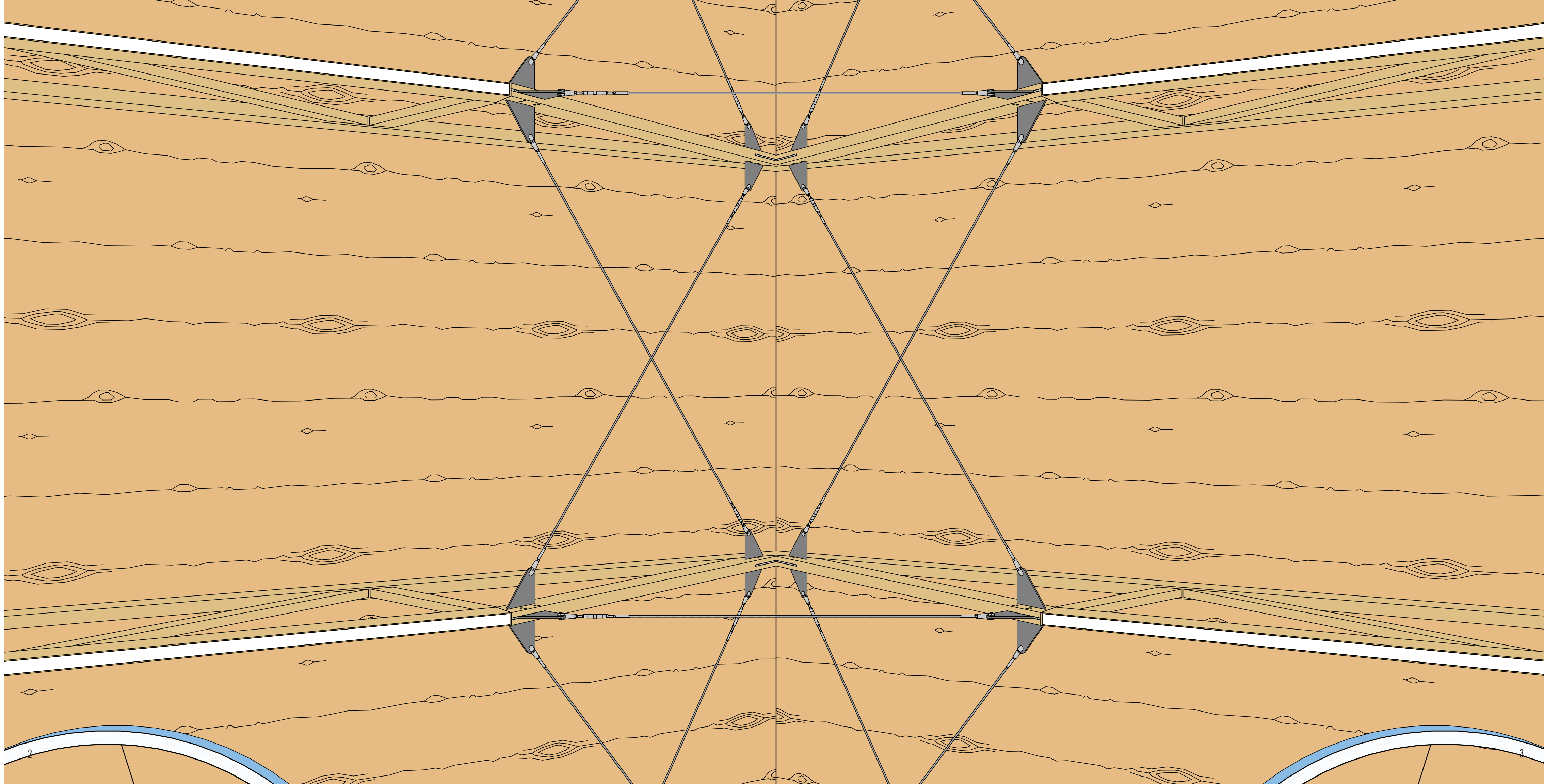


TRUSST



KALLE BENTSON





# COMMITTEE

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RAY PENTECOST  
CO-CHAIR

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MARCEL ERMINY  
CO-CHAIR

---

SHERECCE FIELDS  
MEMBER

---

BRIAN GIBBS  
PROFESSOR

Architecture should be fun -- so have fun with it. If you don't enjoy it, then what's the point?



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# INTRODUCTION

# ABSTRACT

Intergenerational Day Centers (IDCs) are a concept that targets two significant societal issues: the persistent demand for childcare and the rising need for support services for older adults that enable independence and mental wellbeing. These institutions offer care, specialized resources, and activities in one place for both seniors and children. Despite their significance and benefits have been established, there remains little information in the literature/research and best-practice guidelines on the design and execution of such programs. The primary focus of this qualitative study is the research, design, and development of a new IDC. It is based on case studies of buildings and program design outcomes, and research on the psychological significance of intergenerational interaction on all parties involved. The purpose is to facilitate the development and operation of an IDC, by analyzing relevant literature, referencing specialists in architecture, community planning, and healthcare, as well as collecting and compiling data for a feasibility review. This research presents a developmental design strategy approach that other locales, developers, and designers can embrace and apply to establish an IDC.

## Keywords:

Intergenerational Day Centers, day care, intergenerational design, shared spaces.

# RESEARCH

The main concept surrounding this project will focus on the design for a center similar to a “daycare” or “nursing home” that would provide care for both the elderly and the extremely young. This type and level of interaction requires ‘intergenerational design’, which is a design concept that considers people holistically in their environment in order to bridge the gap between generations. It requires an understanding of the psychological impacts of the built environment on individuals of different ages and with cognitive differences. Research would then focus on two areas; study of the impacts of specific elements on these different groups, and study of the subconscious mind versus societal influences on the effectiveness of certain design elements.

There are many key takeaways and features of effective intergenerational practice. Principle that culture and community matter, as they influence how people age and interact with the built environment. The ratio of young people to older people – one-to-one interaction is preferable. Fitting seniors with youngsters with similar interests, requiring a variety of spaces that allows like minds to group together. Understanding participant needs is critical, activities need to be tailored to the needs of both groups, as having shared interest encouraged interaction. Involving participants in the planning and design of activities and the use of interactive activities is critical for avoiding the reinforcement of negative stereotypes. All of these key influences impact the design. The building itself should follow a social model of design, mainly: challenging spatial expectations, designing the common area, re-use civic assets as social facilitators, being flexible to allow for spontaneous activities, and considering community design.



# TERMS

## Intergenerational Day Care **IDC**

Combined day care services for older adults and children at one shared site. Both populations receive directed services and programming while interacting through planned and spontaneous activities. Combining services and spaces in this manner can have significant efficiencies.

## Adult Day Care Center **ADC**

Offer therapeutic programs of social and health services as well as activities for adults in a non-institutional setting. Participants utilize a variety of services offered during any part of a day, but less than a 24-hour period.

## Adult Day Health Care **ADHC**

Non-residential, community-based programs providing assistance with personal care, activities of daily living (ADL), and supervision on less than a 24-hour basis.

## Community Care for the Elderly **CCE**

Purpose is to prevent, reduce, or delay premature or inappropriate placement of older persons in nursing homes and other institutions.

## Care Desert

Areas without access to reliable care, like elder/child day cares.

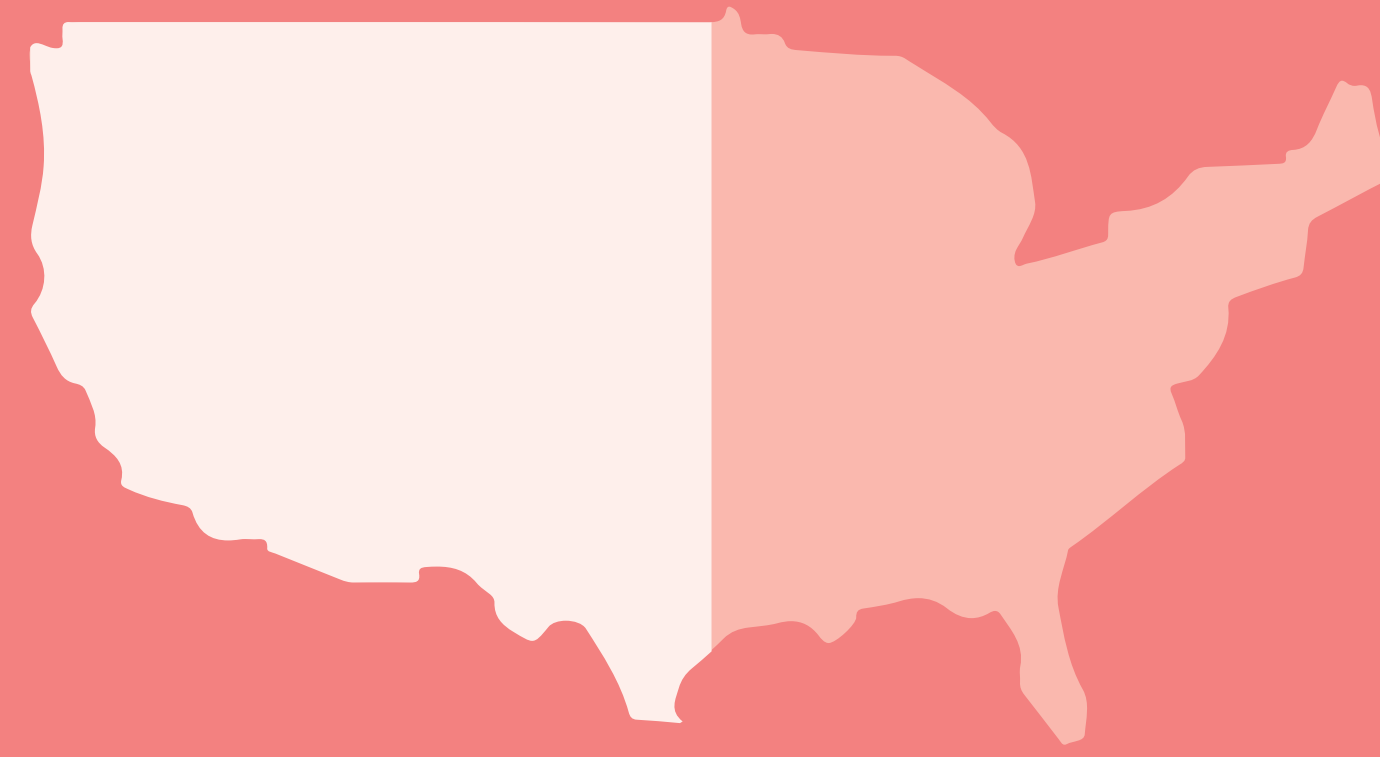
# MEETING A NEED

51% of people in the US live in a care desert.

A care desert is any census tract with more than 50 children under age 5 that contains either no child care providers or so few options that there are more than 3x as many children as licensed child care slots.

Nearly 40% of Floridians live in child care “deserts” where there are at least three times as many children as there are available certified child care slots. Even when parents are able to find quality child care for their children, it can be prohibitively expensive, particularly for low-income families.

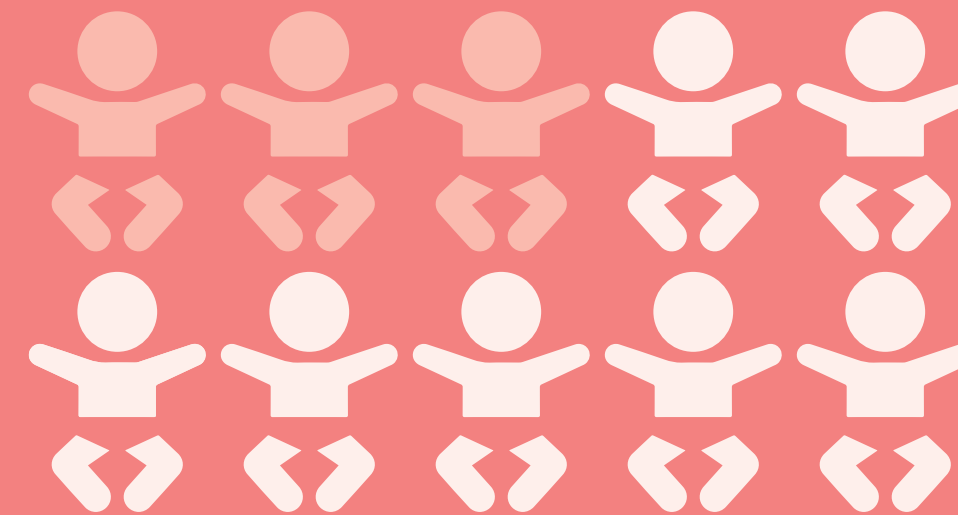
58% of parents (6.38M) with children under 5 years old use center-based child care.



51% of Americans Live in Care Deserts.



38% of FL lives in a childcare desert.

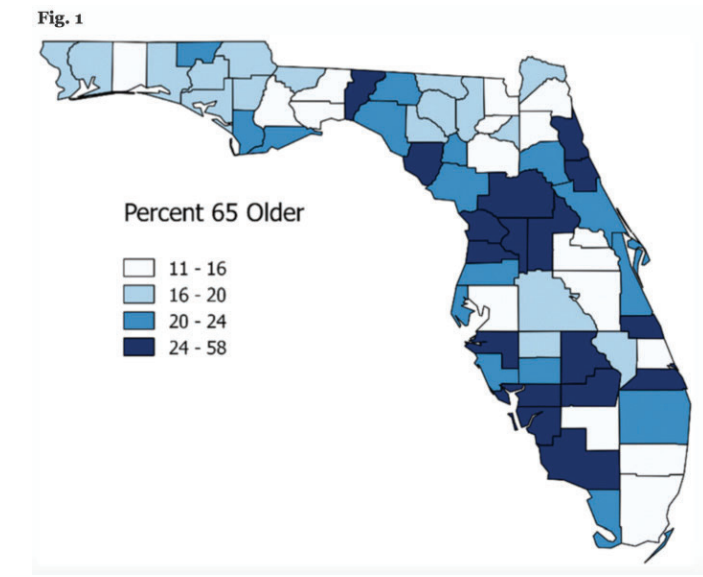
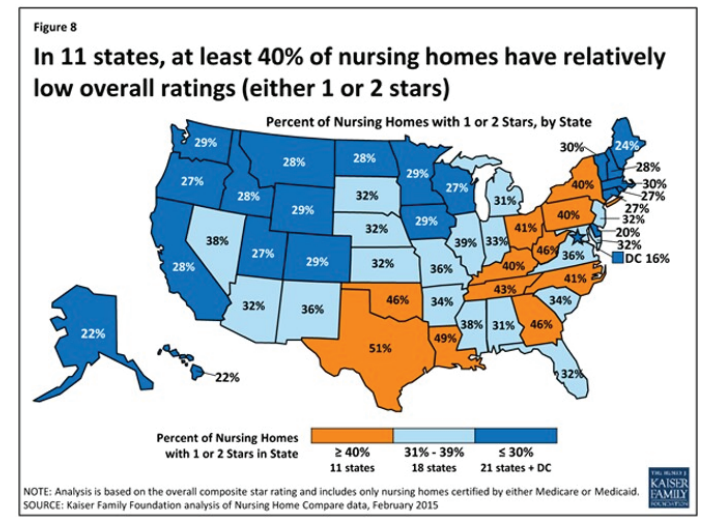
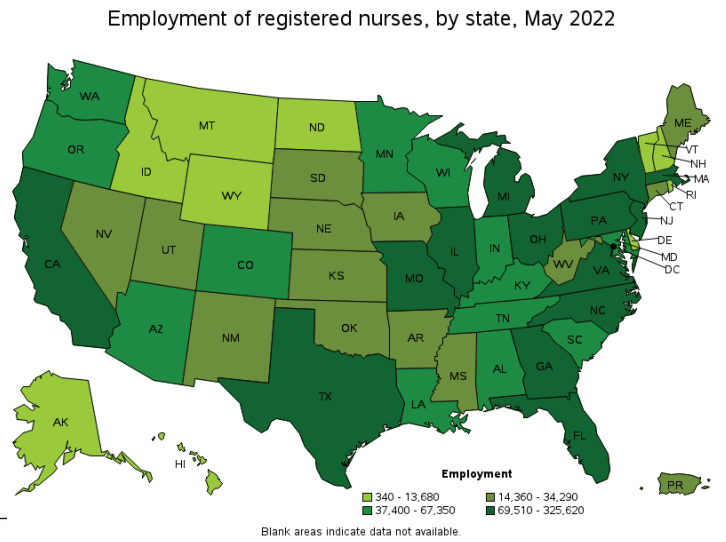
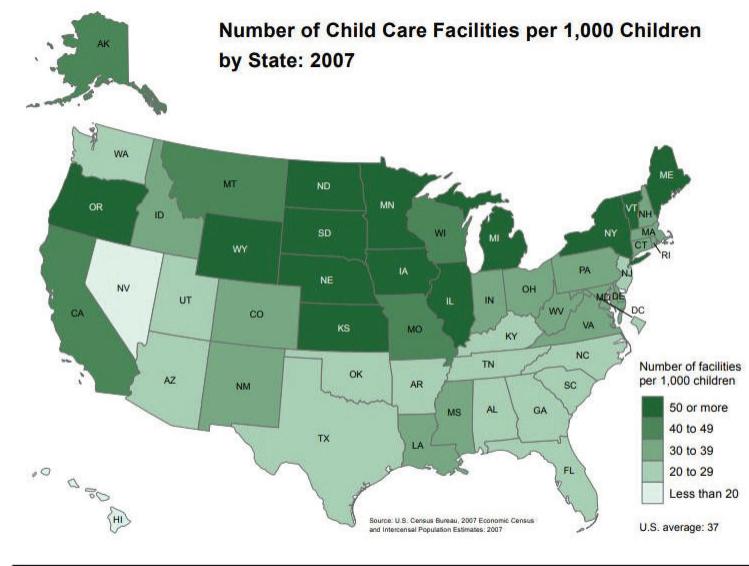
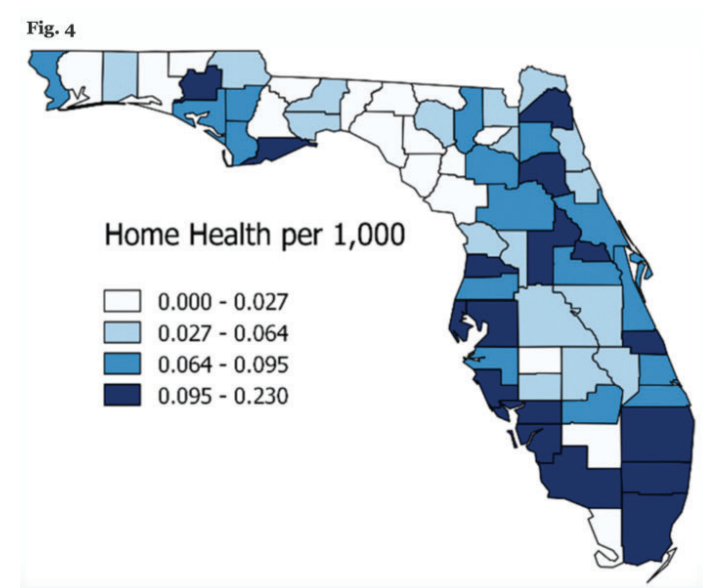
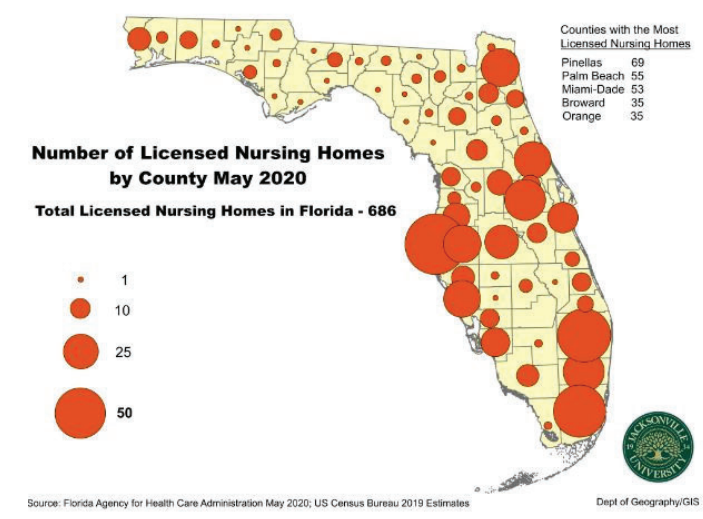
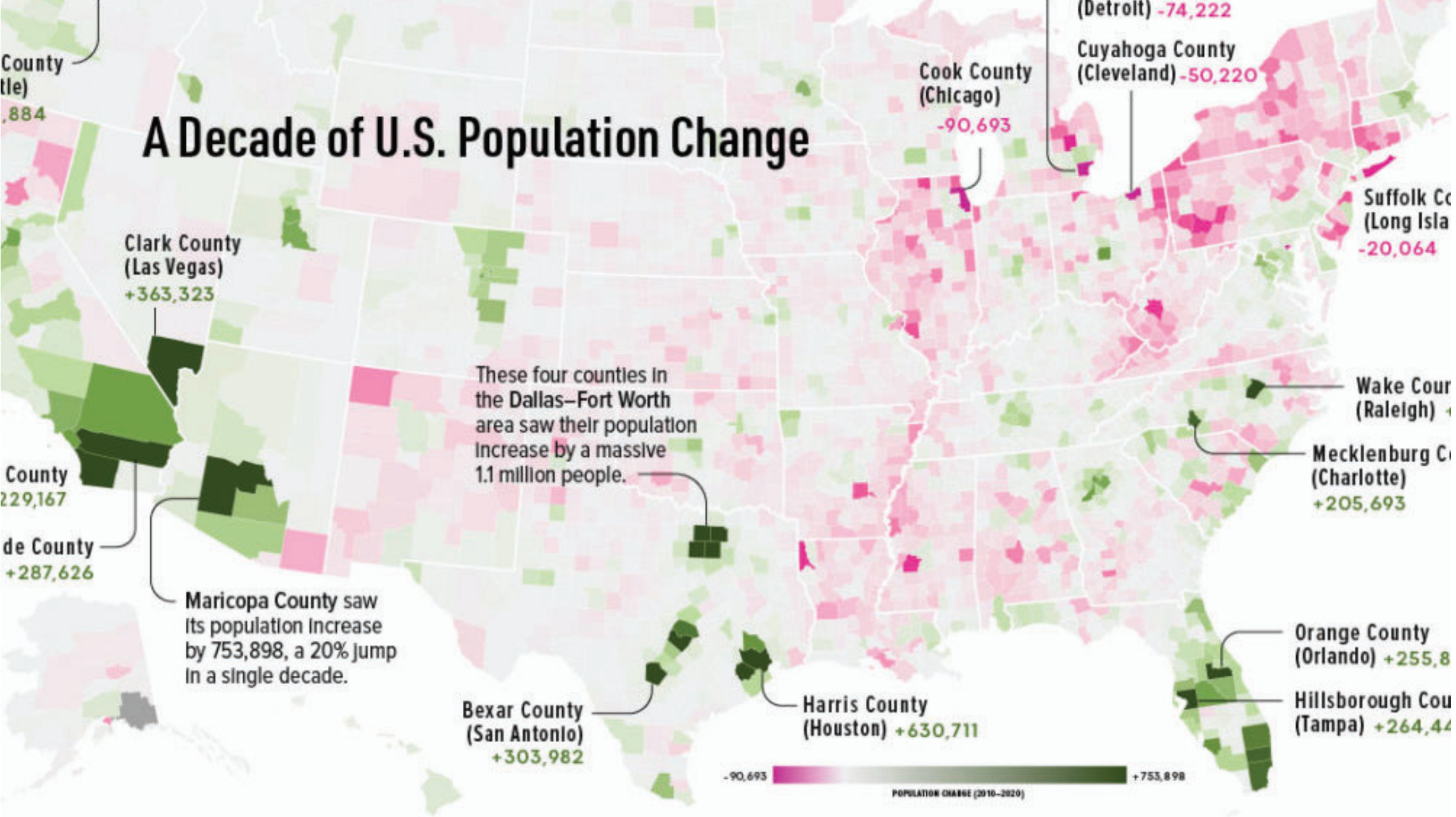


31.7% of Children under 5 don't have access to any form of affordable, nearby childcare.



58% of families use center-based child care.





The price of care can vary depending on factors such as geographic region and range of services. Median cost across the U.S. is \$1,690 a month, or \$78 per day.

Medicare generally doesn't cover these fees. Financial assistance may be available through other government programs, but may not apply to all facilities or levels of care.

Adult day care may be a more affordable option for caregivers seeking help and respite than in-home care. [2021 "Cost of Care" survey from Genworth].



# PRECEDENT STUDY

## Evidence Based Design

Design should rely heavily evidence based design. A systems-based, broadly “ecological” approach to the way the built environments address local economic, social, resource, and environmental criteria is a more appropriate response to determining architectural form than current models, based on adherence to a checklist of visual criteria constructed around an inauthentic view of place.

## Vernacular Architecture

Vernacular architecture has cultural significance and serves as a symbol of identity and history.

It provides a link and a sense of continuity with their own local identity.

The use of local construction materials helps preserve a place’s aesthetic characteristics, which mirror the values, customs and needs of its inhabitants. It also has less impact on the surrounding environment.

It evokes a positive attitude towards traditional architecture should be elicited by the depth of the cultural heritage.

It triggers the feeling of “being at home” and with reference to a personal life story and identity, may facilitate reminiscence processes, which will help older people foster a sense of continuity in their lives

## Biophilic Design

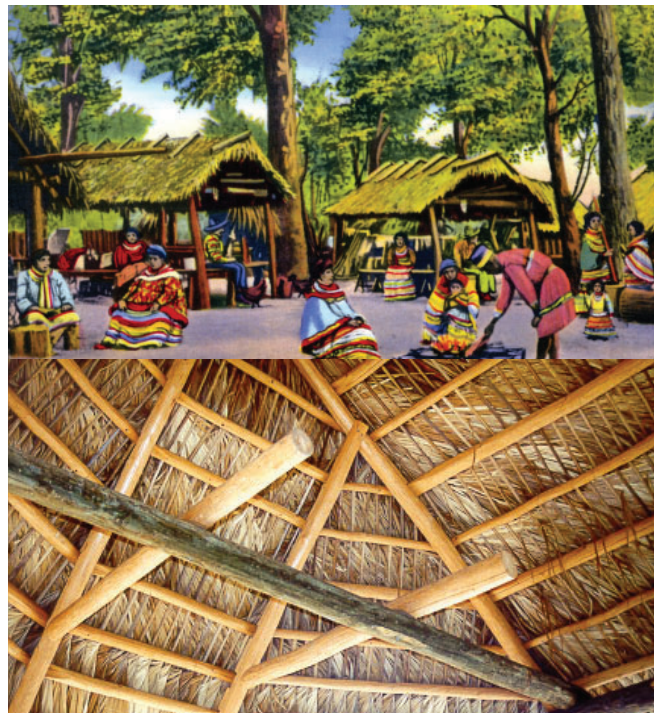
“We gaze only at regions with contrast, curves, detail and ornament, and other specific biophilic features.” Through eye tracking devices, we learn that most people look at the same features of a building or street scene, often in the same sequence.

## Multi-Sensory Design

Multi-sensory spaces play an important role in improving the skills of autistic children as they stimulate the senses. It also boosts cognition of elderly occupants, and encourages independence.

## Chickee

**Culture:** Seminoles // A typical Seminole village will have 8–10 chickees.  
**Meaning:** Elevated house constructed of palmetto leaves on cypress-log stilts.  
**Purpose:** Specialized purposes, such as a food prep or storage



Floor level is constructed 3’ above ground to keep out animals and water. Roof pitch is highly sloped and slanted to keep rainwater out. Palm thatch leaves woven together by vines or thin ropes over a cypress log frame. No walls; only a thatched roof that covered the area around the upward standing cypress logs submerged shallowly into the earth. Another level was often added in a more permanent location to make them 2 stories; providing more living space.

## Florida Cracker

**Culture:** Early colonial-era pioneer settlers  
**Meaning:** Resembled the elevated chickee huts of the Seminole tribes  
**Purpose:** Style represents an intimate knowledge of the local environment.



Typically constructed of Pine/ Cypress/Hardwood Hammock wood. Cypress wood is notoriously termite and rot-resistant. Walls are rarely painted, but often light in color to deflect heat. High ceilings and large windows facilitate interior breezes, with heat rising above the living space. Steep roof overhang sheds rain and lets windows to remain open during rainfall. Metal roofs reflect the sun’s energy away from the structure. Crawl space created by stacking coquina rocks/oyster shells provide further ventilation and protection against flooding.

## Sant Antoni - Joan Oliver Library

**ARCHITECT** Arquitectes  
**YEAR** 2007  
**LOCATION** Barcelona , Spain  
**SCOPE** New Construction  
**TYPES** Education  
**SIZE** 2 Levels

Make the street dynamic; public inner courtyard.



Lets natural light into interior spaces. Courtyard as an extension of the program, defining the reclaimed space. Interior block as playground for kids with spatial and relationship richness for a socially dynamic urban project. Varied program revitalizes community.

## El Petit Comte Kindergarten

**ARCHITECT** RCR Arquitectes  
**LOCATION** Olot , Girona , Spain  
**YEAR** 2007  
**SCOPE** New Construction  
**TYPES** Education , Cultural  
**SIZE** 1 Level, 1000 sq m. 80 kids.

Municipal school, built to free up the old site.



Structure enhances space. Glazed walls for natural light. Centralized shared courtyard. Protected exterior views. Luminous play spaces make a welcoming environment for kids and teachers.

## Seniors’ Residence + Nursery

**ARCHITECT** a/LTA  
**LOCATION** Nantes, France  
**YEAR** 2012  
**SCOPE** New Construction  
**TYPES** Elder Care, Child Care  
**SIZE** 5 Levels; 5000 m<sup>2</sup>

Nursing home, children’s nursery, and restaurant.



Forms a therapeutic link for the Alzheimer’s patients to exterior spaces. Organized around central garden. Structure responds to context. Protected green views. Interior color use highlights the different spaces to aid Alzheimer’s patients orientation.



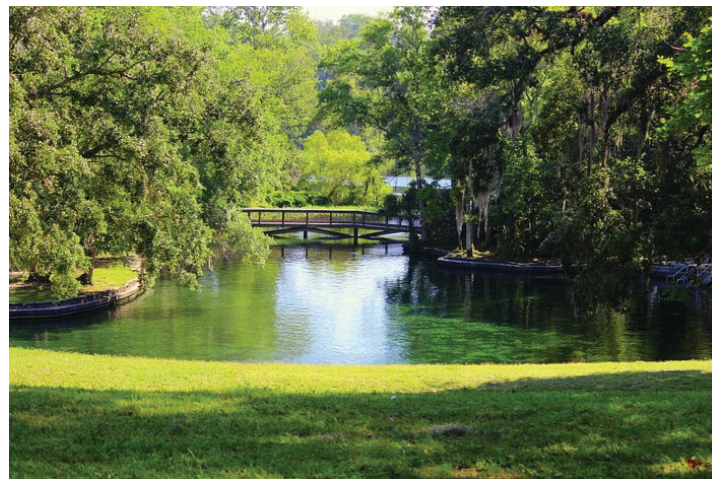
# APOPKA

The site, a 14 acre plot, is located in southern Apopka, FL (Orange County).

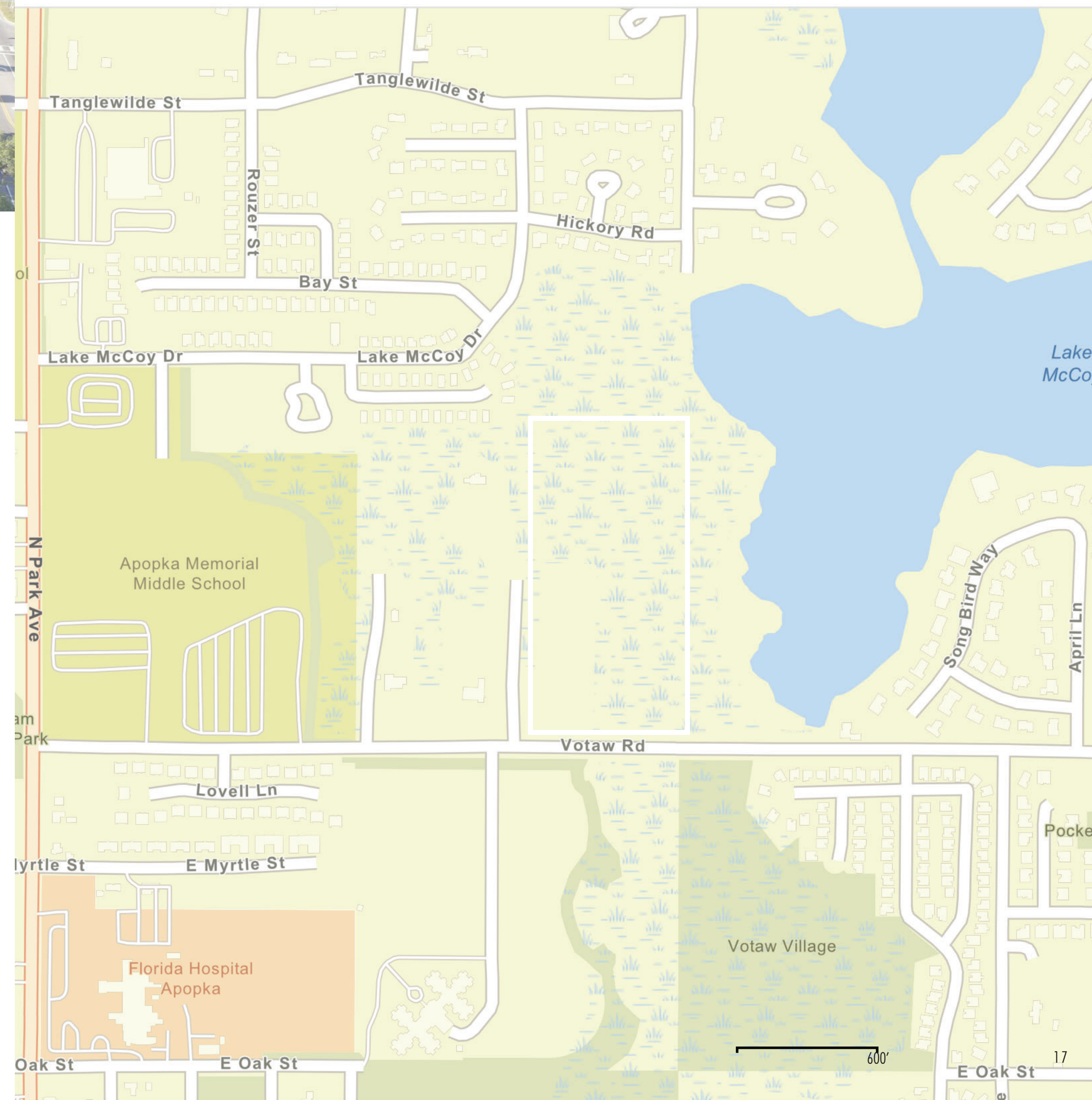
Part of the reason this particular site was chosen was because the area had a fast growing population. It has both a large elderly population, and a high birth rate. Additionally there are also a high number of registered nurses within the county, which would be a vital resource for the facility.

It sits on the southwestern corner of lake Mccoy and neighbors the Parker-Dempsey nature preserve. It is heavily wooded, relatively flat, and sits on a floodplain. The southeast side of the site includes swamps and wetlands, which will be preserved.

There is one main road on the southwestern side. There is a growing community around the plot, including several schools and churches.



- School
- Health Care
- Neighborhood
- Park
- Building
- Water
- Minor Roads
- Highway
- 





# SITE ANALYSIS

Apopka is one of the top destinations for outdoor recreation. It is nearby to several well known state parks and contains numerous natural springs.

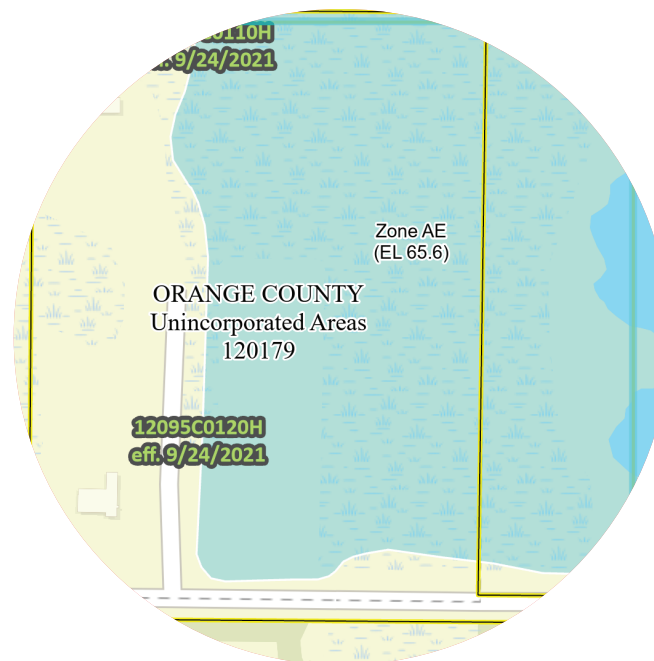
Located close to Wekiwa Springs State Park. Good accessibility to highway 451, 429, and 414 with easy access to I-4. Close to 436 where you can find many shops and restaurants.

Overall View



.3m

Flood Plain



**FLOODING**  
Hurricanes and Tropical storms often cause flooding.

## PROPERTY SUMMARY:

Price: \$450,000  
 Size: 14.68 Acres  
 Type: Undeveloped Lot  
 Zone: A-1  
 Taxes: \$1,341 Annual

Address: 449 Votaw Rd,  
 Apopka, FL

## DESCRIPTION

Road: Asphalt  
 Septic: Needed  
 Electric: Nearby  
 Walk Score: 11 / 100  
 Transit Score: 23 / 100  
 Bike Score: 53 / 100

## CLIMATE

Climate: Hot and humid subtropical  
 Summers: Long, hot, wet, mostly cloudy  
 Winters: Short, mild, and cloudy.  
 Temperature varies from 51°F to 90°F  
 Rarely below 37°F or above 94°F

Apopka is a fast growing community, and would benefit greatly from this type of program. Needs of aging societies differ between cultures – in part because of differences in older adults’ social relationships and what they expect to get out of them. Intergenerational activities help revitalize seniors and senior care homes, creating more dynamic environments where seniors can grow closer to other generations rather than further apart.

Elephant Grass



Fan Palm



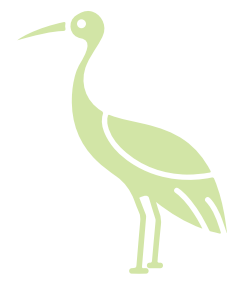
Swamp Dogwood



Red Maple



Large Birds



Alligators



Snakes



Cypress



Pop Ash





# PART I

## ZONES:

The IDC is structured to encourage social interaction between older adults and children while respecting their autonomy and desires by offering space for individual activities.

Zones should offer 3 different levels of interaction:

- (1) visual
- (2) visual and auditory
- (3) sharing the same space.

## Central Shared Space:

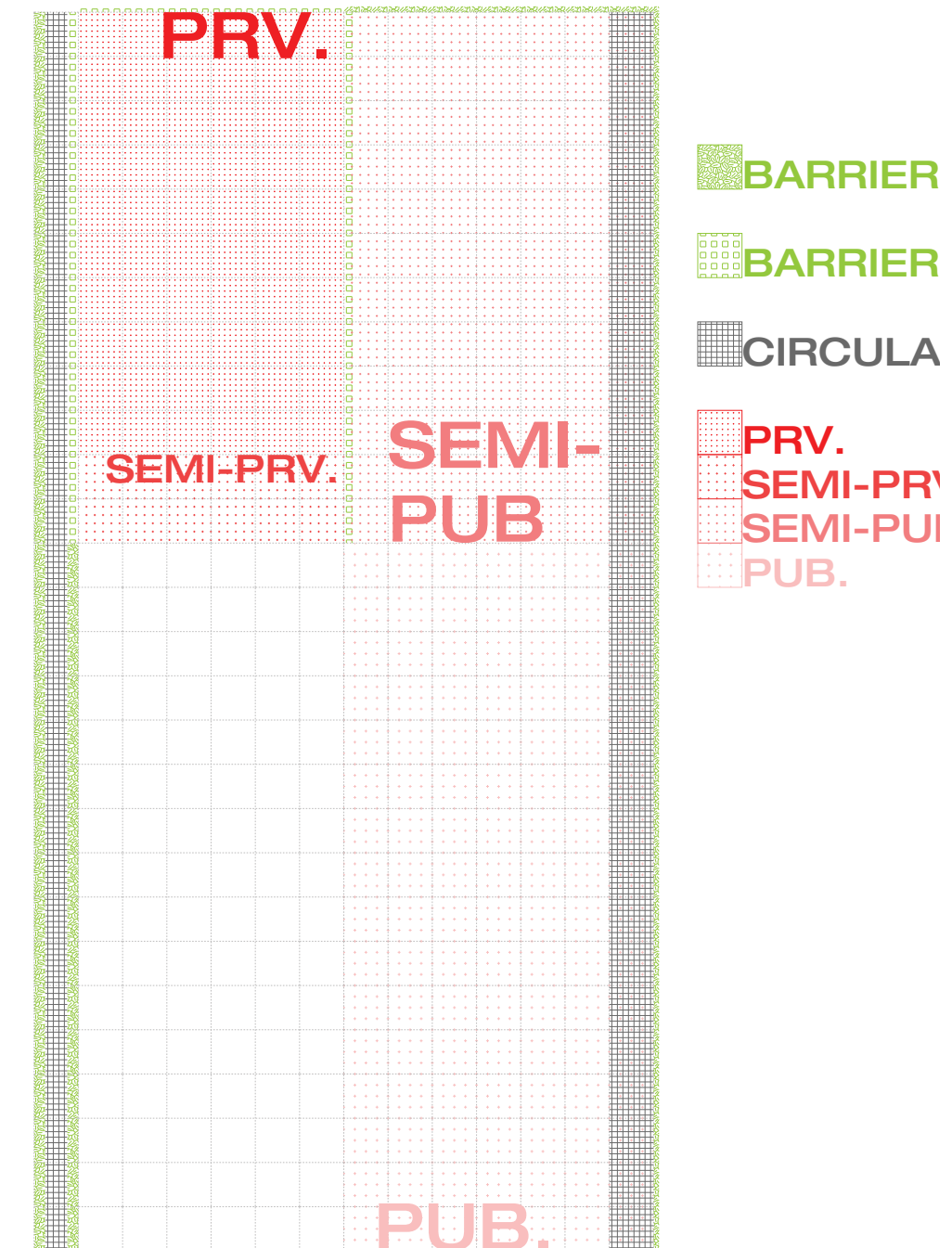
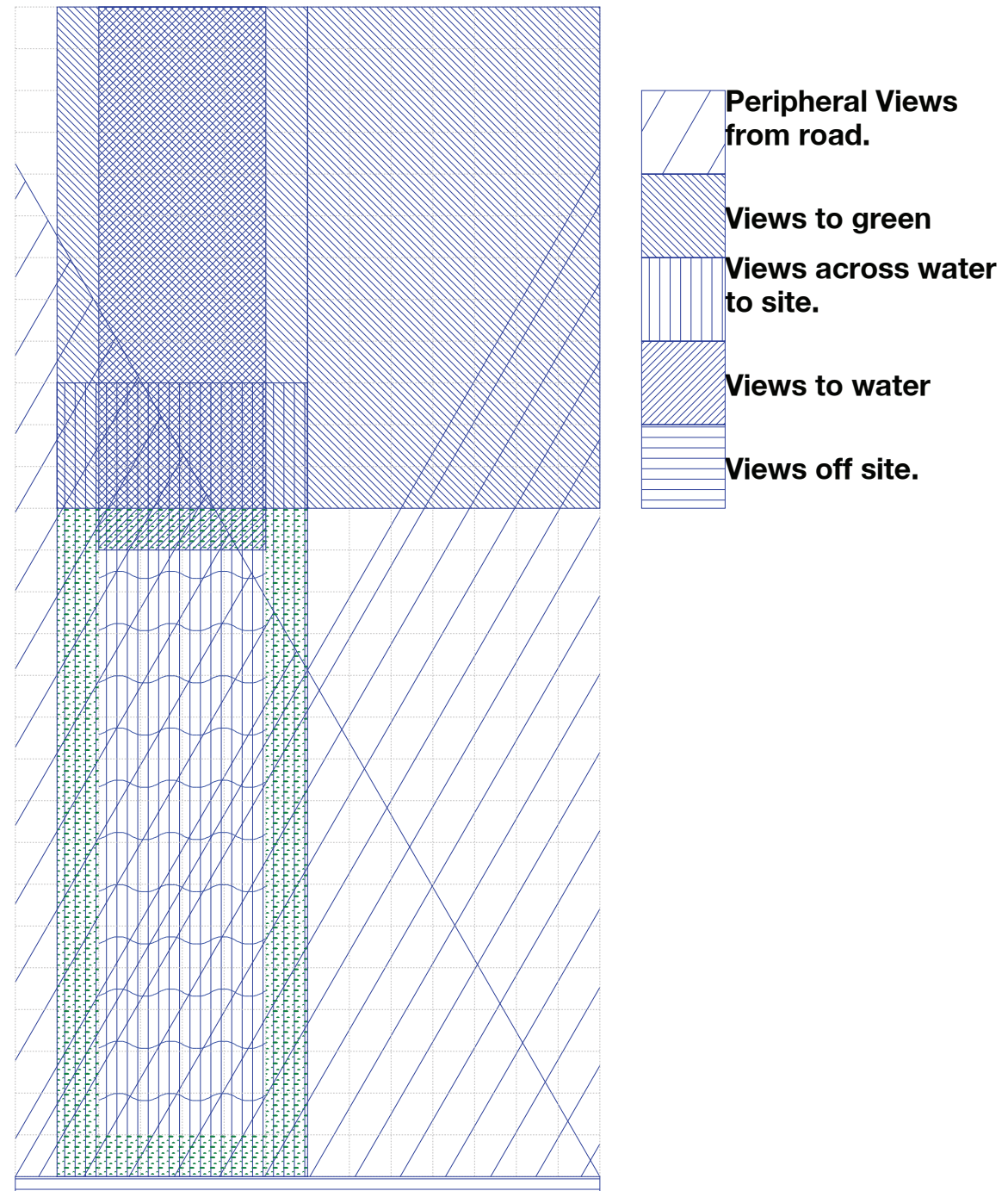
A large flexible space should connect the child development and the older adults' sections for intergenerational activities.

This space can also be utilized by the community on weekends, evening and when needed. It is flexible in the sense that it can be used for events, social gathering, a music and dancing platform, and an art gallery to showcase art created by older adults and children.

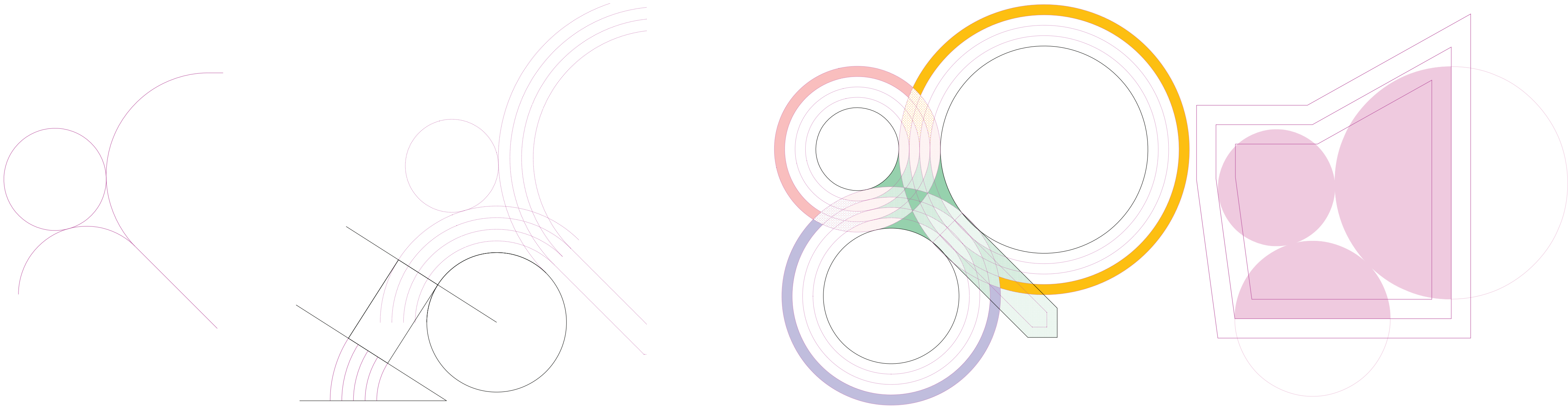
Staff must have access to a centralized support system that exists between zones that contains and provides them with any and all relevant tools.

The different zones – indoor, outdoor, and transitory – are arranged to establish communal spaces with multiple types of activity that different generations can simultaneously engage in.

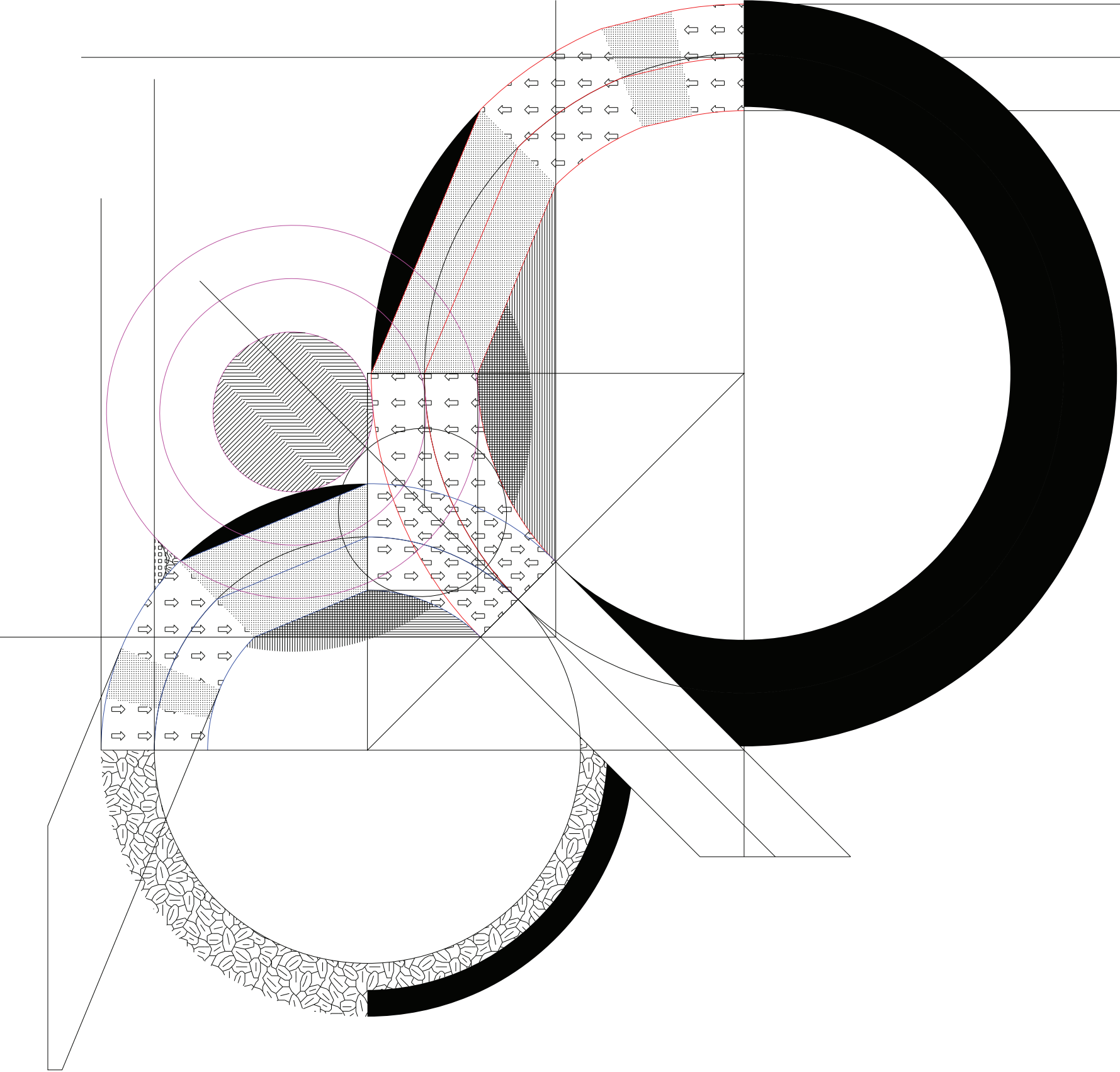
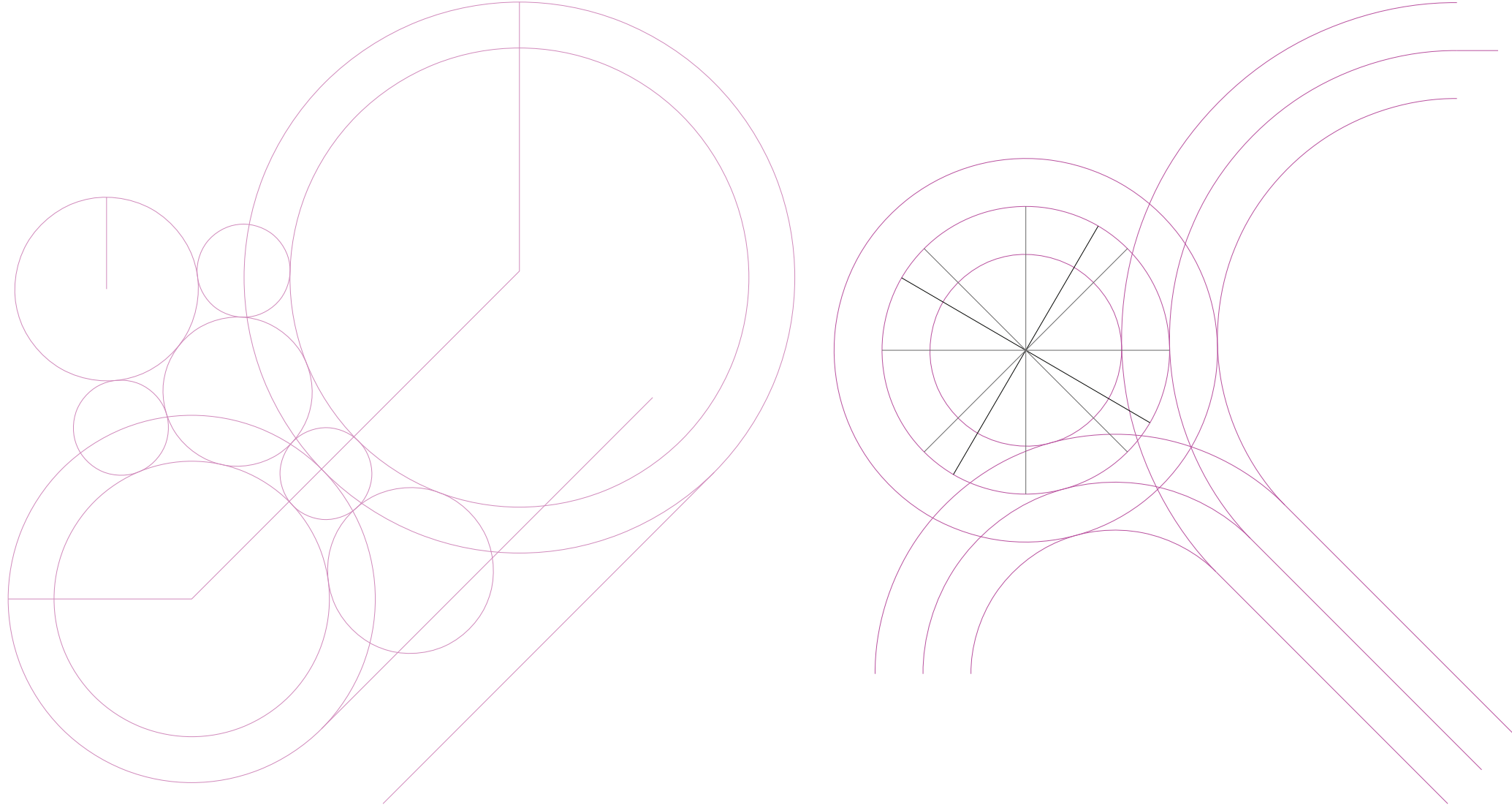
The building must be made safe and accessible in all weather conditions, so there should be large covered areas, wide parking spaces, and permeable walkways for drainage.



# PART I



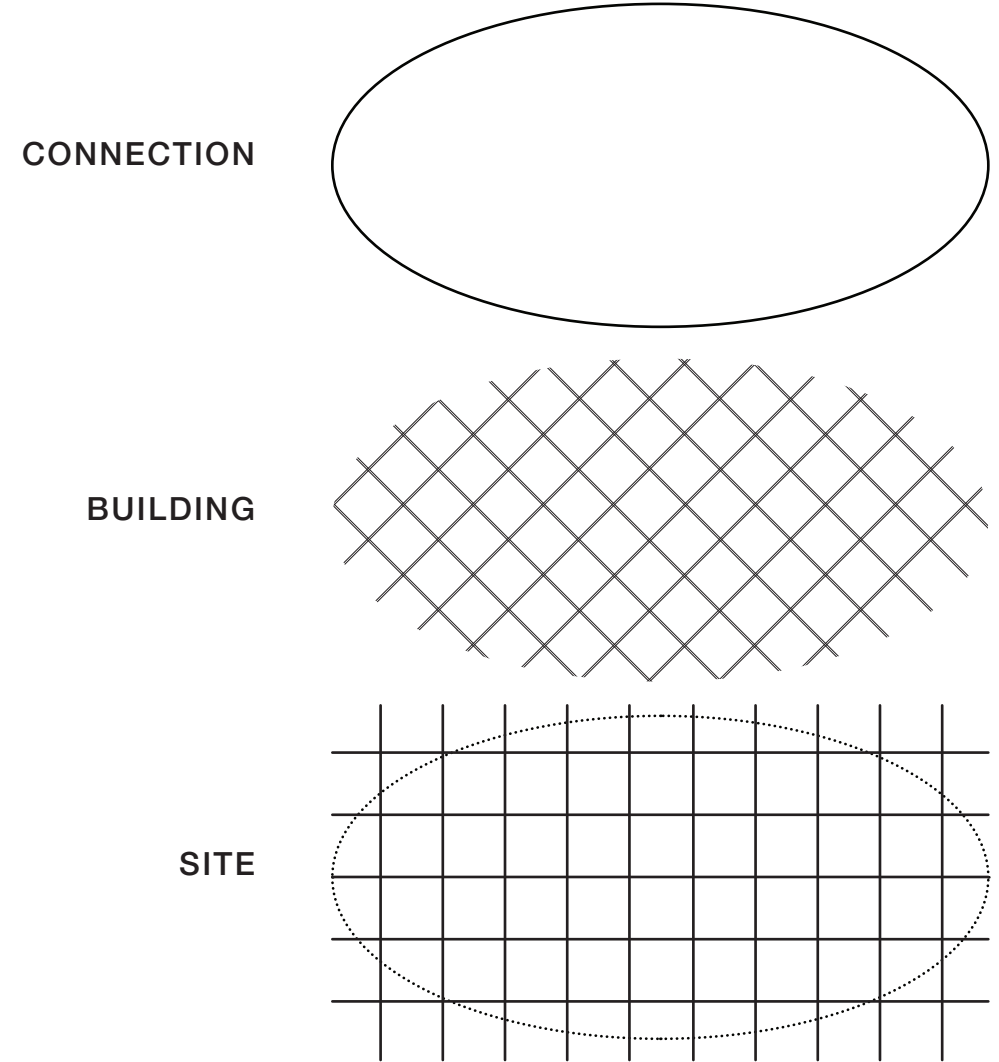
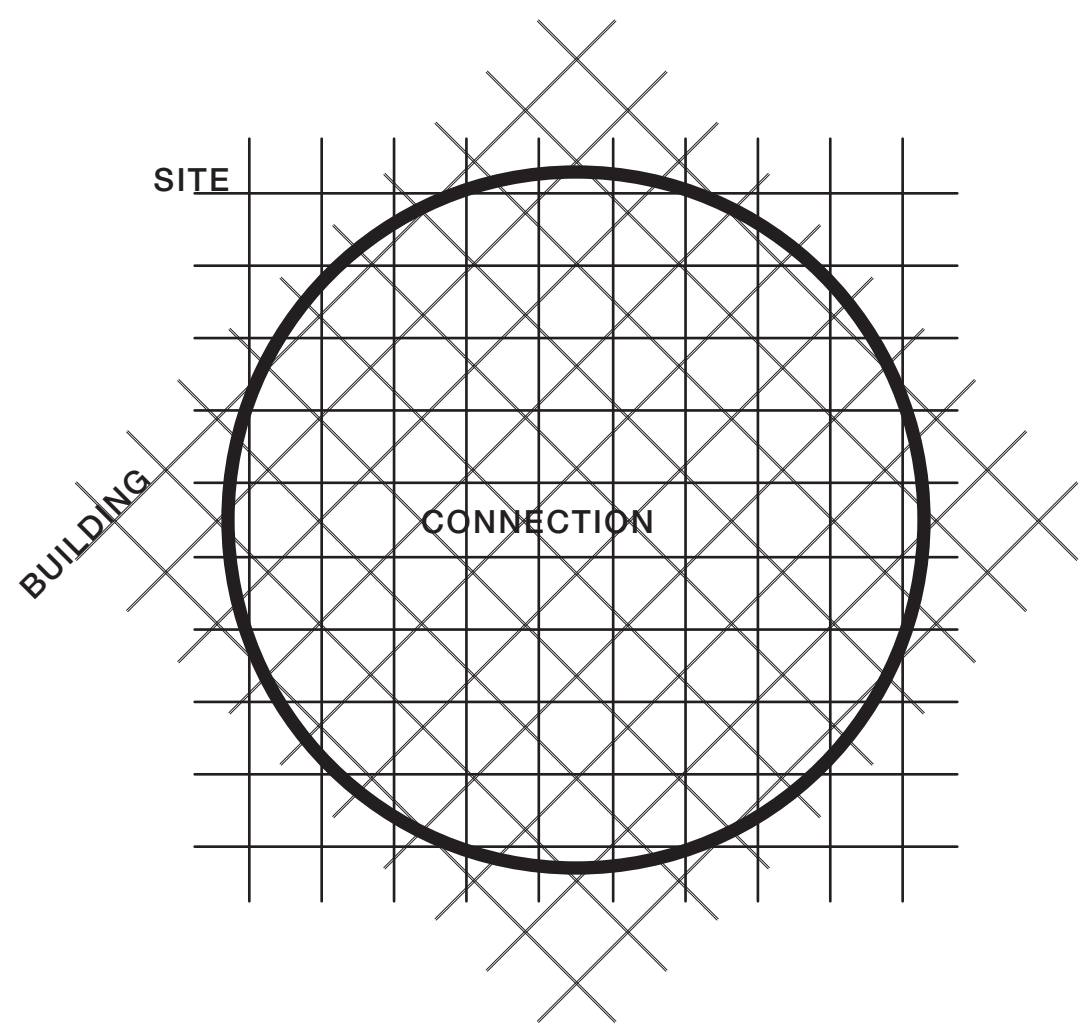
# PART I





# GRID

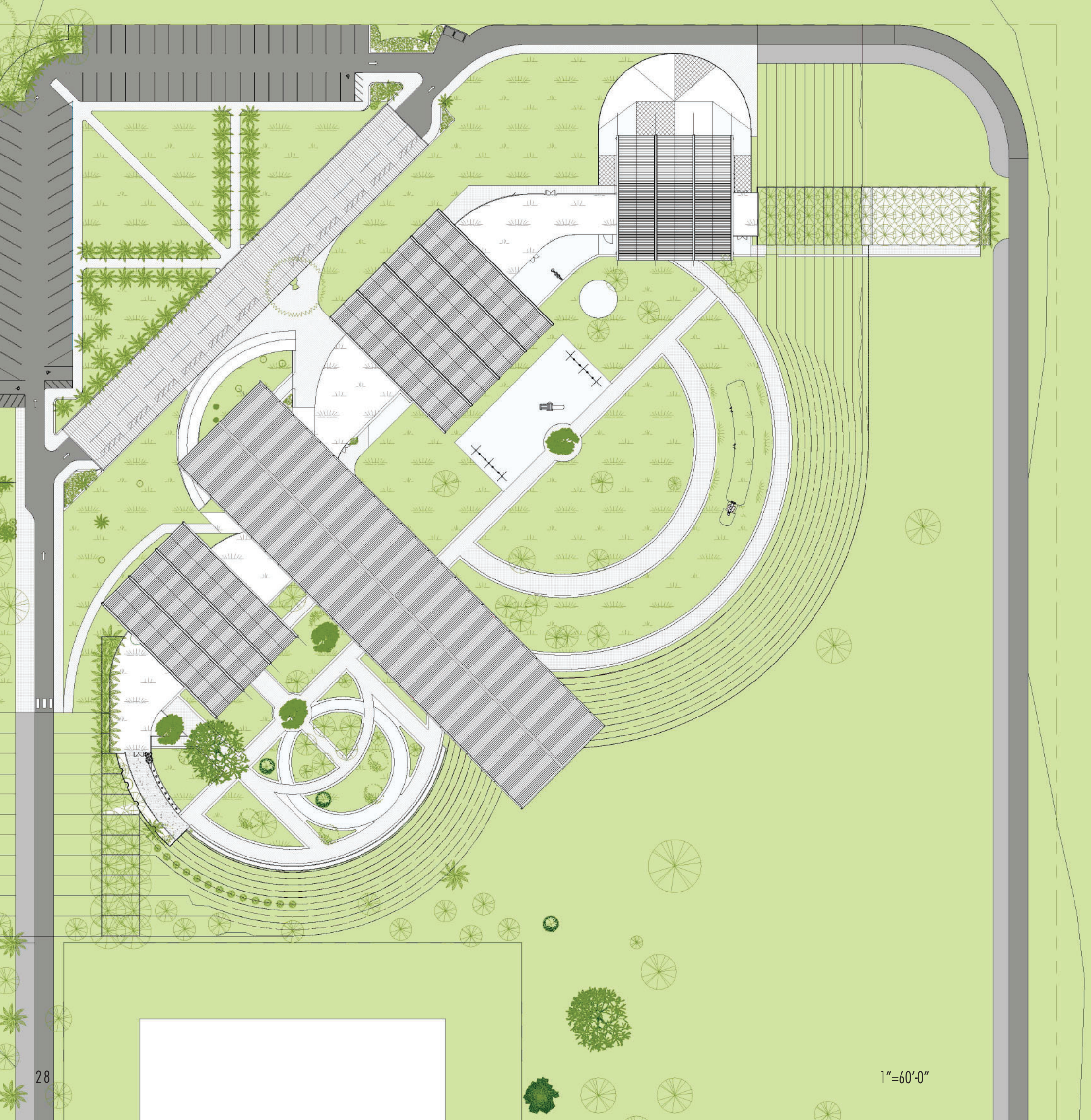
The site was divided evenly into a grid of 48'-0" x 48'-0" boxes. The site grid is vertical, while the building grid is rotated at a 45 degree angle.



# SITE







# ENVIRONMENTAL CONSIDERATIONS + SITE PLAN

Develop the surrounding unused site to be more appealing to the community by including paths and more landscaped nature that visitors can enjoy.

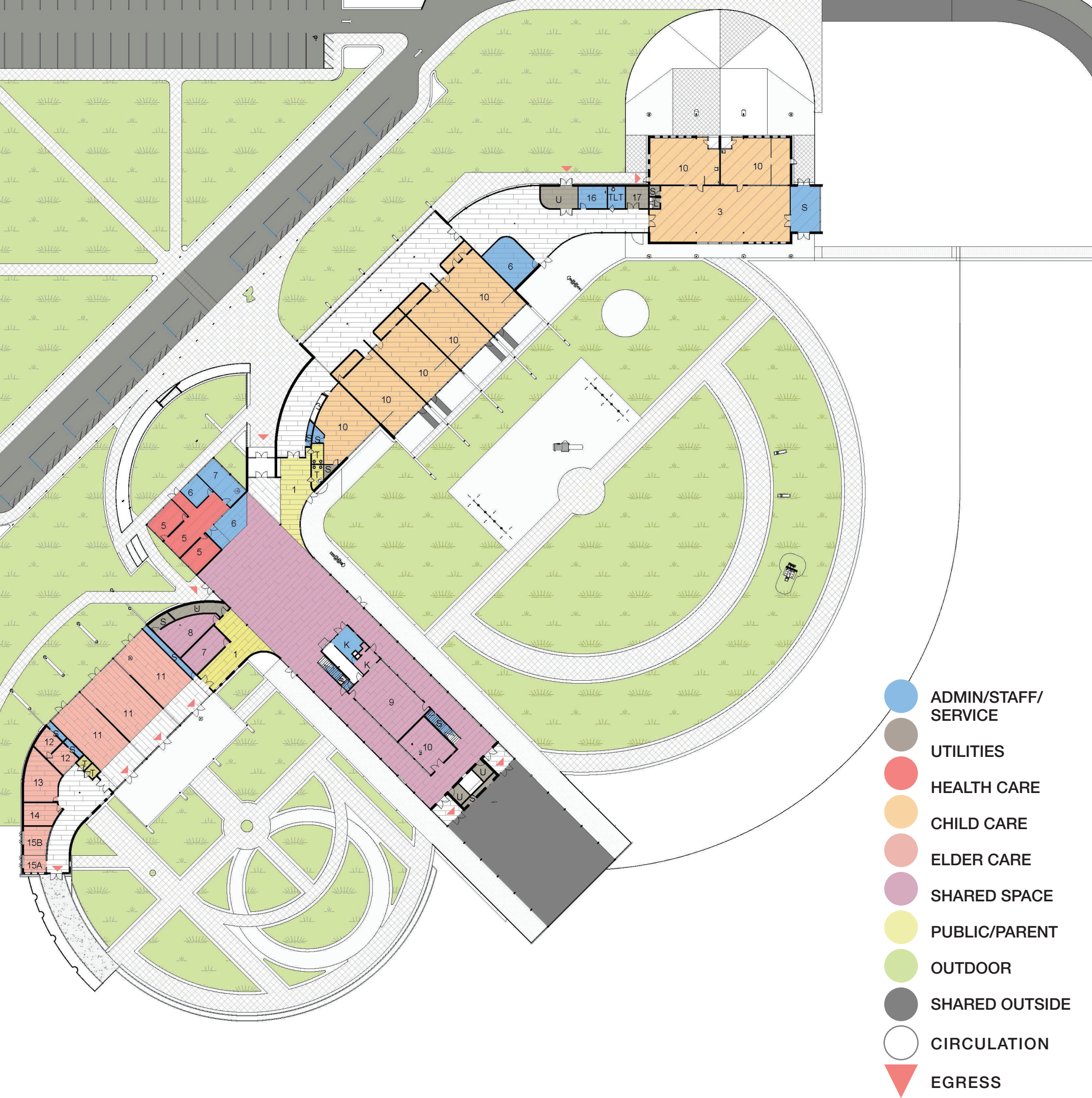
Austin, Texas, there is a public health policy on IDC's. Austin Public Health (APH) worked with the LBJ School of Public Affairs on an investigation of an IDC prototype. The University of Texas conducted a survey to evaluate public interest in establishing an adult day care facility that included an integrated medical wellness clinic, complete service coordination, and child childcare all in one location. A feasibility study (2020) was completed in collaboration with the city, which identified acceptable and particular IDC activities and services that complied with all local and state norms and regulations at the IDC. ( Norouzi, 2023)

The building will be located on the northwestern corner of the site, and a 6' berm will be built to raise the building out of the floodplain. Elevated - drainage is on the longer axis of the site.

Biophilic design and connection to nature are important.

Courtyards, curtain walls, overhanging roofs all facilitate connection to nature. The courtyards are tailored to the needs of both groups. The senior courtyard has winding paths that loop back on each other and are dotted with shade and gardens. The children's courtyard has age-appropriate play equipment, and has spaces dedicated to outdoor spaces, to facilitate as much outdoors time as possible. Curtain walls border the main activity areas, allowing constant views to nature. Overhanging roofs provide shade and allow more fragile individuals to be outside longer without suffering from rain, sun, or heat. The building should consider the climate by utilizing natural resources and weather resistant materials, since the site experiences extreme weather phenomena. The site should promoting individuality and independence by being both engaging and easily transversable, while keeping safety in mind by with sight lines and ADA accommodations.





# PROGRAMMING LEGEND

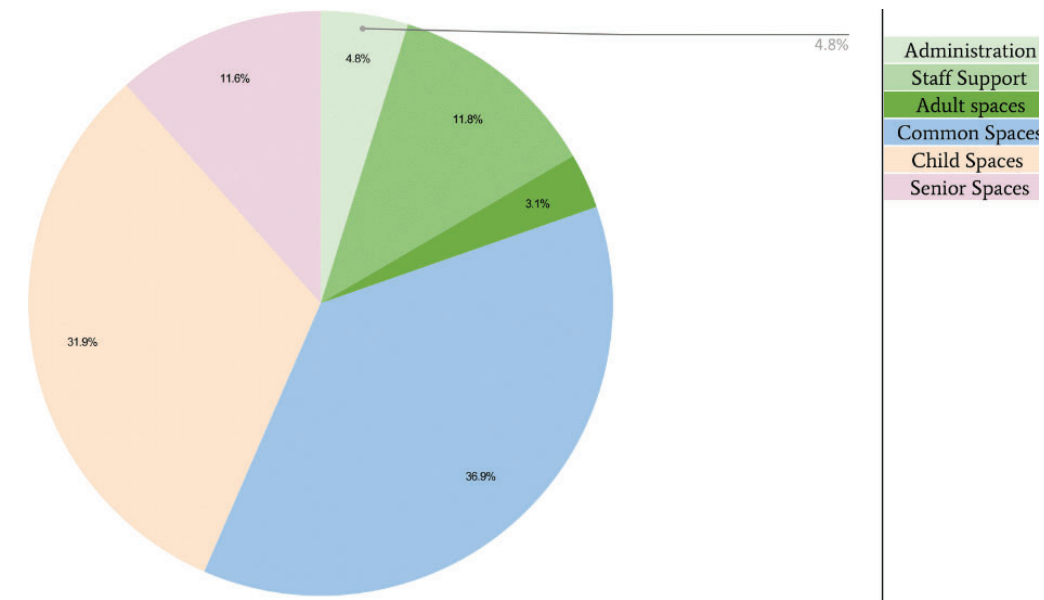
- ADMIN/STAFF/SERVICE
  - UTILITIES
  - HEALTH CARE
  - CHILD CARE
  - ELDER CARE
  - SHARED SPACE
  - PUBLIC/PARENT
  - OUTDOOR
  - SHARED OUTSIDE
  - CIRCULATION
  - ▼ EGRESS
- 1"=60'-0"

## ROOM LEGEND

Name	#	Department	Area
SHARED OPEN AREA	0	Shared Space	6054 SF
LOBBY	1	Public	540 SF
LOBBY	1	Public	578 SF
PLAY	3	Child Care	18 SF
PLAY	3	Child Care	40 SF
INDOOR PLAY AREA	3	Child Care	1957 SF
MED.	5	Health Care	202 SF
HEALTH SPACES	5	Health Care	210 SF
MED.	5	Health Care	487 SF
OFFICE	6	Admin	140 SF
RECEPTION	6	Admin	285 SF
CONFERENCE	7	Admin	273 SF
ART ROOM	7	Shared Space	270 SF
MUSIC ROOM	8	Shared Space	357 SF
MULTI-PURPOSE	9	Shared Space	850 SF
CLASS	10	Child Care	757 SF
CLASS	10	Child Care	805 SF
CLASS	10	Child Care	808 SF
CLASS	10	Child Care	908 SF
CLASS	10	Child Care	909 SF
CLASS	10	Child Care	911 SF
CLASS	10	Child Care	911 SF

## ROOM LEGEND

Name	#	Department	Area
GAME ROOM	10	Shared Space	439 SF
ELDER SOCIAL SPACE	11	Elder Care	745 SF
ELDER ENTERTAINMENT	11	Elder Care	746 SF
ELDER LOUNGE	11	Elder Care	852 SF
SHWR	12	Elder Care	118 SF
BOUTIQUE	12	Elder Care	134 SF
THEATER	13	Elder Care	379 SF
SKILL CENTER	14	Elder Care	197 SF
SUN ROOM	15	Elder Care	99 SF
LIBRARY	15	Elder Care	183 SF
LOUNGE	16	Staff	165 SF
STAFF AREA	17	Admin	2020 SF
FOOD PREP	K	Shared Space	105 SF
KITCHEN	K	Staff	154 SF
LND	L	Service	30 SF
EVS	S	Service	28 SF
STOR.	S	Service	45 SF
STOR.	S	Service	62 SF
STOR.	S	Staff	30 SF
STOR.	S	Staff	31 SF
STOR.	S	Staff	33 SF
STOR.	S	Staff	38 SF
STOR.	S	Staff	94 SF
STOR.	S	Staff	97 SF
STOR.	S	Staff	99 SF
VESTIBULE	S	Staff	351 SF
WC	T	Public	31 SF
WC	T	Public	32 SF
WC	T	Public	62 SF
WC	T	Public	63 SF
WC	T	Staff	100 SF
UTIL.	U	Service	29 SF
UTIL.	U	Service	58 SF
UTIL.	U	Service	58 SF
UTIL.	U	Service	131 SF
UTIL.	U	Service	154 SF
DELIVERY	U	Service	207 SF





# DESIGN GOALS MEET REALITY

		GOALS	CONCEPTS	PROBLEM STATEMENT
Function	People	Intergenerational interaction. Low cost building. Promote safety, minimal turnover.	Integration Automation Incentive	If this project is going to be successful ... Staff must have access to a centralized support systems that exists between zones that contains and provides them with any and all relevant tools.
	Activities	Promote mental development	Stimulation	In order for this project to be successful ... The different zones – indoor, outdoor, and transitory – should be arranged to establish communal spaces with multiple types of activity that different generations can simultaneously engage in.
	Relationship	Facilitate mental growth.	Levels of engagement	In order for this project to be successful ... The 3 different zones of engagement should overlap and allow for different levels of engagement; the zones containing separate rooms (like classrooms and pharmacies) and the overlapping areas being communal spaces (like cafeterias, courtyards, and support spaces.)
Form	Site	Accessible parking. Strong foundation.	Enhanced accessibility./ Resilience.	In order for this project to be successful ... The building must be made safe and accessible in all weather conditions, so there should be large covered areas, wide parking spaces, and permeable walkways for drainage.
	Environment	Weather resistant.	Sustainability	If this project is going to be successful ... The building should consider the climate by utilizing natural resources and weather resistant materials, since the site experiences extreme weather phenomena.
	Quality	Promote safety and mental wellbeing.	Awareness	If this project is going to be successful ... The site should promoting individuality and independence by being both engaging and easily transversal, while keeping safety in mind by with sight lines and ADA accommodations.
Economy	Initial budget	Min. Initial costs.	Sustainability	In order for this project to be successful ... It will be a green building, even though it adds to the initial budget, because in the long run the efficiency of operation, overall use, and state specific tax incentives will offset the initial cost and funnel into operating costs.
	Operating Costs	AI to reduce staff costs. Expansion in mind.	Simulation / Modeling Versatility	In order for this project to be successful ... The building should utilize AI to analyze building systems patterns to maximize staff efficiency by meeting their needs to help retain them.
	Life Cycle Costs	LEED materials. Natural plants. Sustainability for utility.	Sustainability Branding Recycling	In order for this project to be successful ... The building should utilize durable and cost effective materials with a long life span, considering the life cycle cost of these materials, given projected intensity of use, the St. Building requirements, and the climate.
Time	Past	Preserve surrounding environment.	Conservation	In order for this project to be successful ... The building will need to remain flexible, before eventually needing to expand to accommodate higher numbers of ‘attendees’ and varying age ranges, which will only grow as indicated by the growing market /demand for this service.
	Present	Use AI. Handle changing occupancy rates.	Integrated technologies Flexibility	In order for this project to be successful ... Flexible facility that can accommodate change in flow/use/occupancy over multiple age ranges while meeting the needs of the staff.
	Future	Completed before 2025. Future growth in mind.	Versatility	In order for this project to be successful ... The building design must consider future expansion – on and off site – in terms of both physical growth and telemedicine; and building (code) requirements, while also having a schedule that accounts for any delays or errors in construction so that the initial construction is completed before 2025 to take advantage of state green building tax incentives.

GROUP		RATIO	Occupancy
Elder	65+	1:6 Staff to Patient 1:40 Nurse to Patient	26 elders at one time.
Kids	Birth –1 year	1:4	8
	1 year – 2 years	1:6	8
	2 years – 3 years	1:11	13
	3 years – 4 years	1:15	13
	4 years – 5 years	1:20	20
	5 years up	1:25	20
72 children at one time.			
Staff	Admin	4	31 minimum staff.
	Pharmacy	1	
	Kitchen	1	
	Educators	2	
	Child Staff	5	
	Registered nurses	4	
	Elder Staff	6	
Child care staff	8 Minimum		
Total Occupancy is 129.			

There are several immediate questions and concerns that come to mind based on existing misconceptions about intergenerational programs.

#### Health & Safety Concerns

1. Do sick children endanger the older clients' health?
2. How will children react if one of the older clients dies?
3. What kind of background checks are done on the elderly clients?

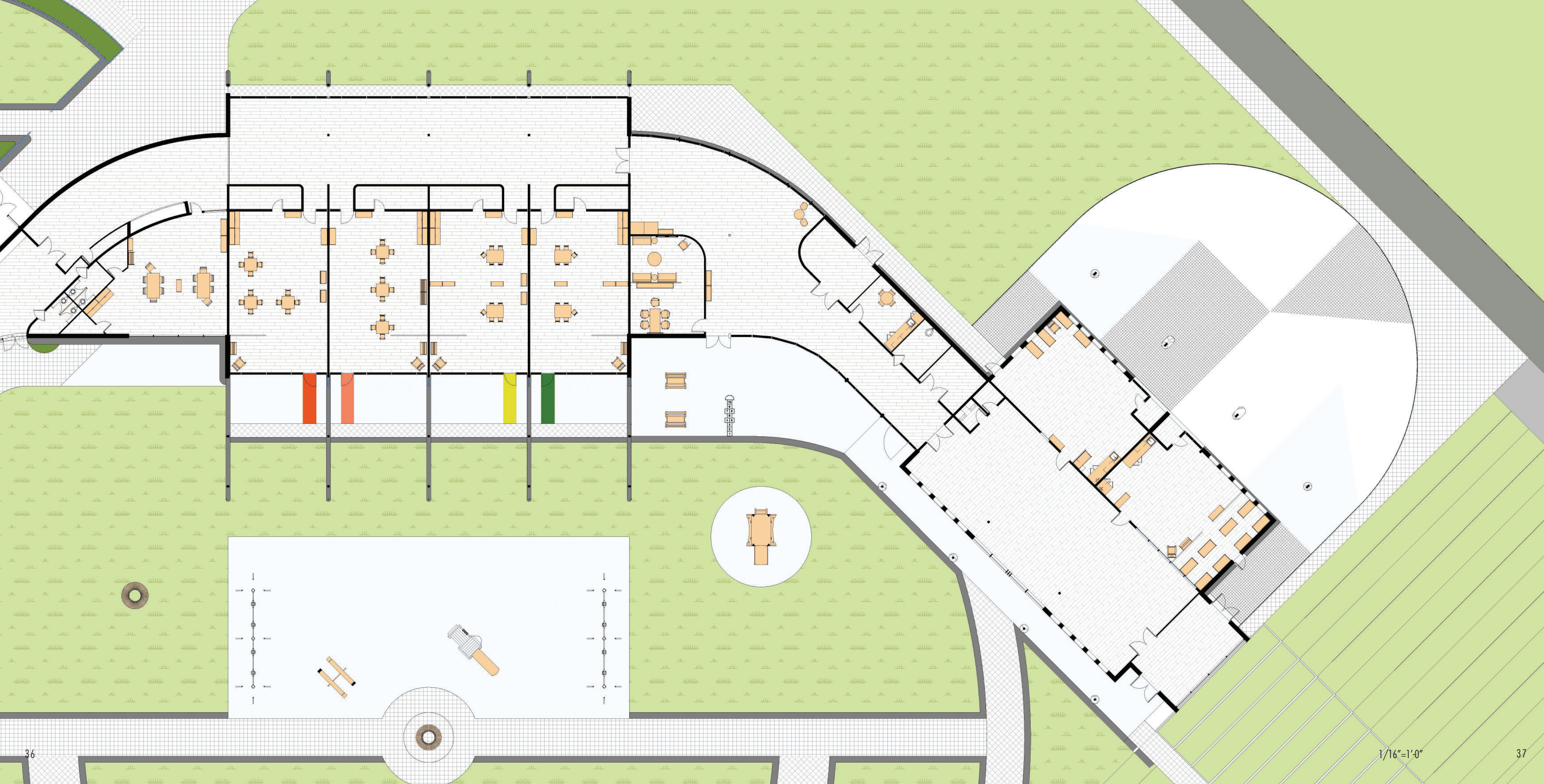
#### Health & Safety Policy

1. When someone is sick, they are not allowed to attend.
2. Every morning there are “wellness checks” where everyone is examined to ensure they are healthy. If they seem sick, they are to the sick waiting room until they can go home.
3. IDC is not hospice and typically the older clients are not near death.
4. Kids are never left alone with elderly attendees.
5. Attendees are always supervised by trained, professional staff members who have undergone early-childhood and geriatric training, as well as background checks.











# Shared Spaces For Intergenerational Interaction

## Activities

In a study done, most participants enjoyed activities focused under 3 main categories of:

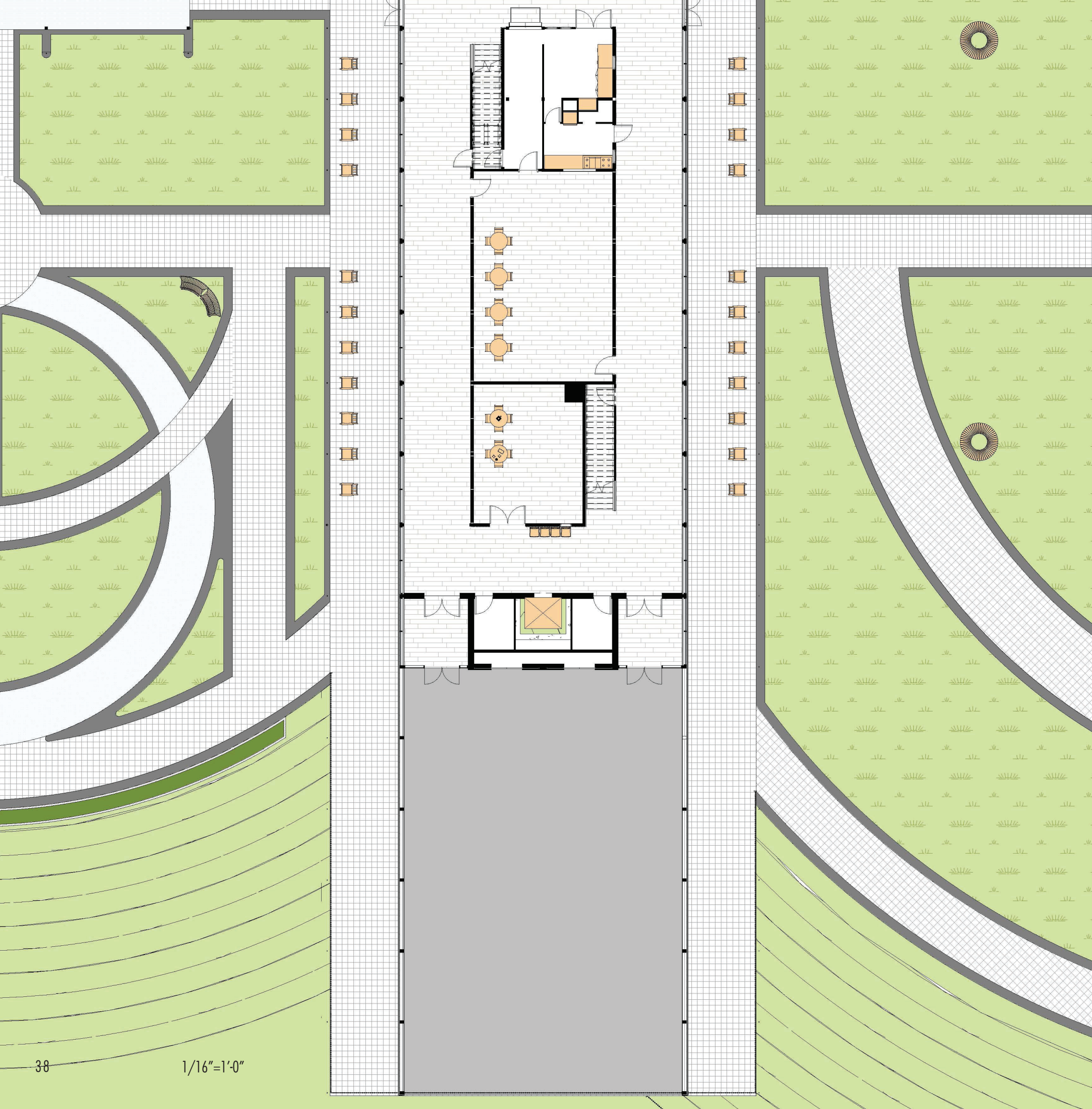
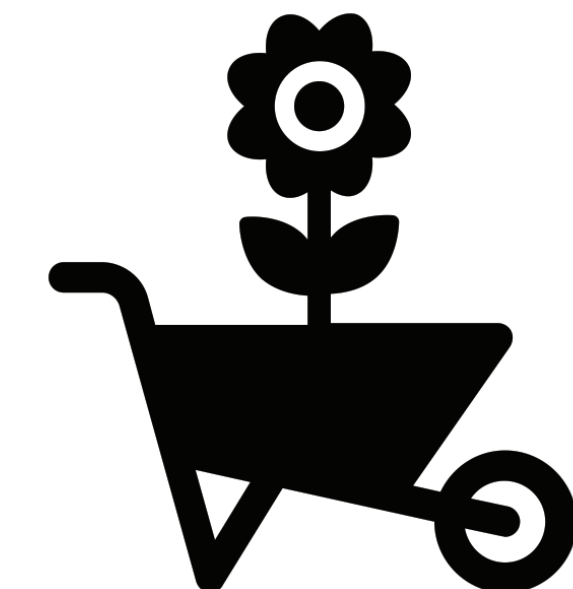
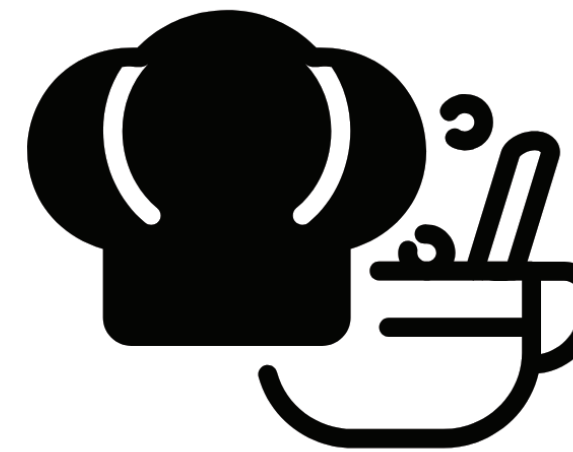
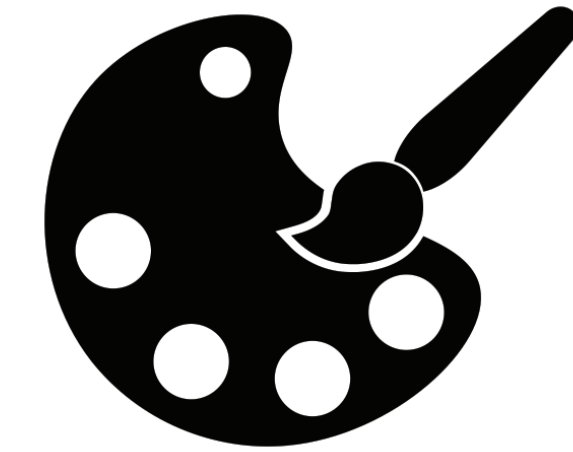
1. Art making
2. Food-related activities
3. Shared outdoor activities

Encourage mental and physical exercise by offering access to outdoor natural and landscaped spaces. Encourage planned and spontaneous interaction.

Common areas designed for socializing and activities between seniors and children. Emphasis on human connection.

The child and senior zones overlap to form centralized indoor/outdoor communal spaces. In between these spaces are a network of centralized staff support areas. There will be many levels of interaction, not just direct, physical; but indirect, through visual sight lines. These communal spaces connect the zones and facilitate opportunities for intergenerational socialization. The goal is to have this building serve the community as a dynamic learning, care-giving, and gathering space for every phase of life, but especially those when we are most vulnerable.

Outdoor spaces for recreation and relaxation, including a covered activity space adjacent to the interior shared spaces.





## THE MEZZANINE

THE MEZZANINE is the only second floor area in the facility. It sits above the multi-purpose "Box" and overlooks the entirety of the shared area.

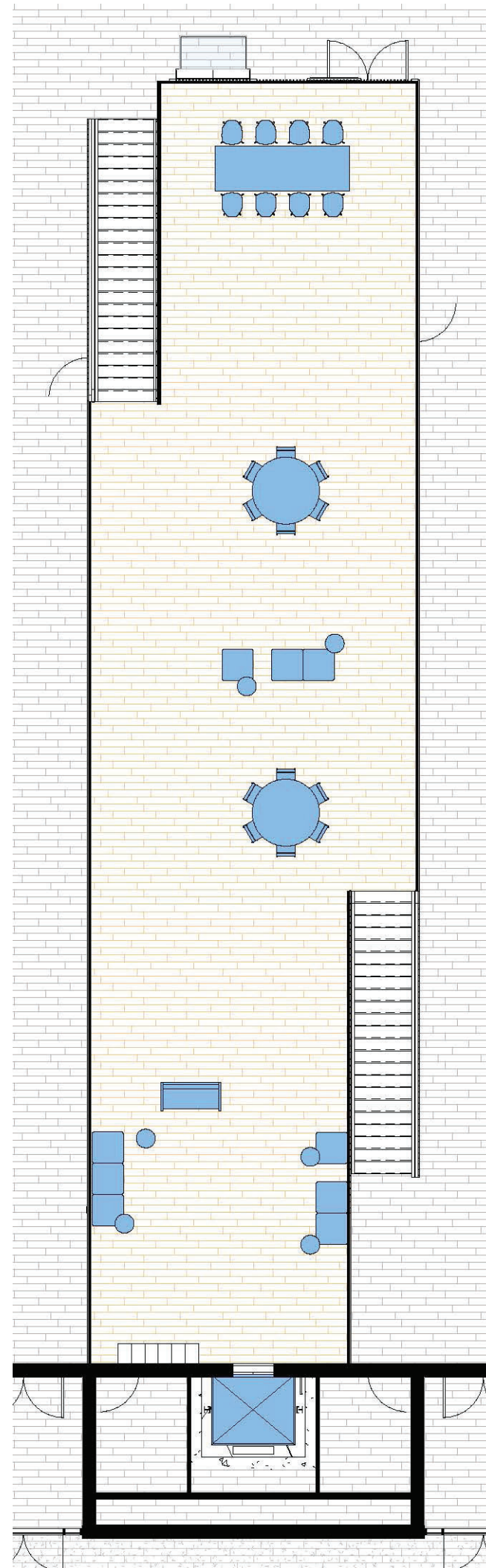
This space is multipurpose staff area. It serves as a training area, lounge, locker room, meeting, and lunch room.

It is restricted to staff only. No children, seniors, or non-staff adults should access this space.

Primary access is by the two main stairs, although there is also an elevator at one end.

Smaller circular lights are hung over the mezzanine area as task lighting.

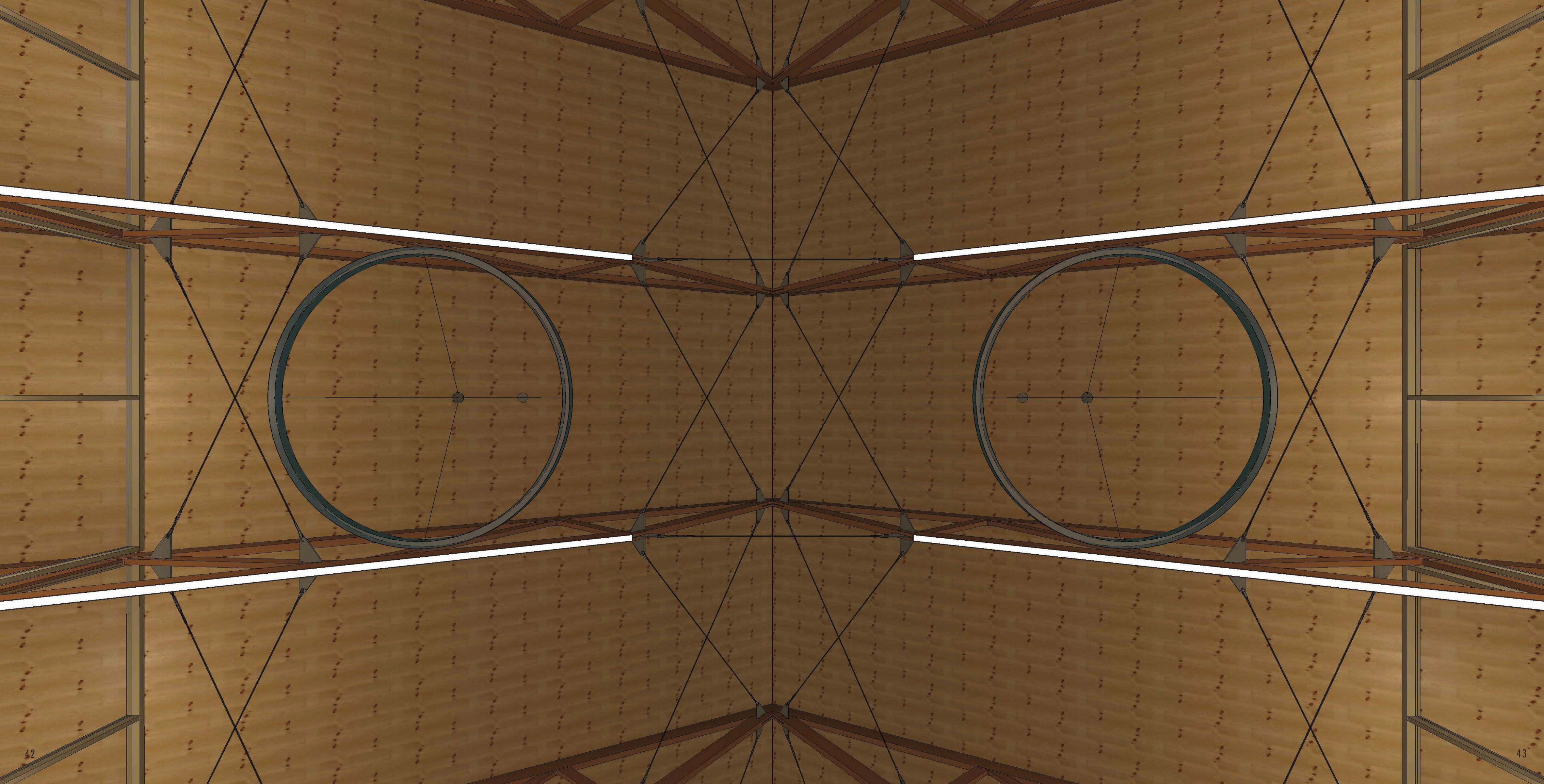
The walls on the mezzanine do not go to the roof. This was to give the space access to the shared spaces below, so that staff in the mezzanine could react quickly to something happening in the shared space. It is also a way to give staff privacy without completely removing them from the program.



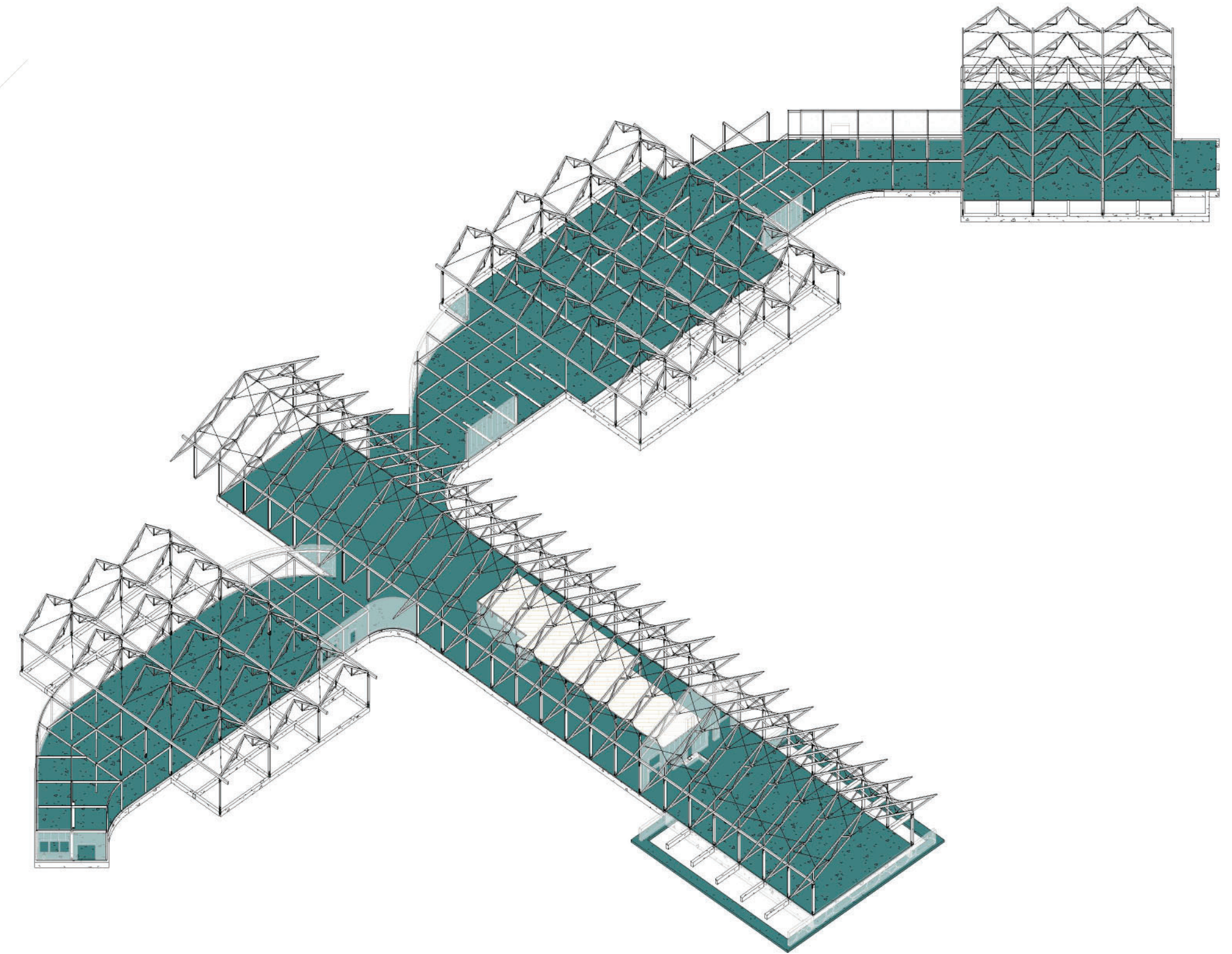
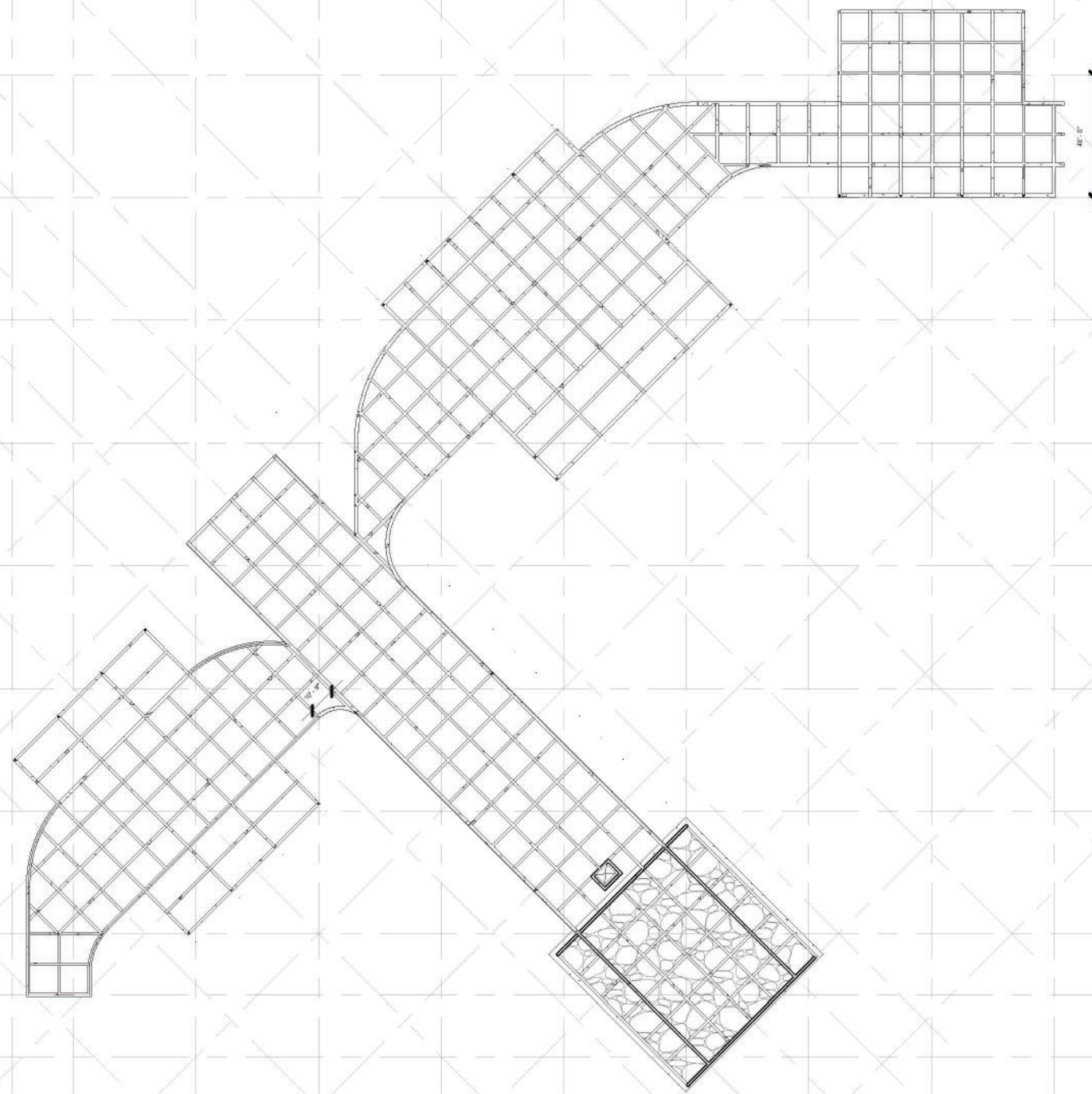
3/32" = 1'-0"













# Architectural Design Principles

## Sustainable Design Features

For this project design choices, materials, and technologies were chosen for their sustainable properties. Local, natural materials are used because they are inexpensive, renewable, and offer further connection to nature and the site.

## Energy-efficient systems.

Due to the scale of the interior spaces, a number of energy efficient systems are implemented. Green spaces and natural light are also integrated into the site extensively.

## Vernacular styles

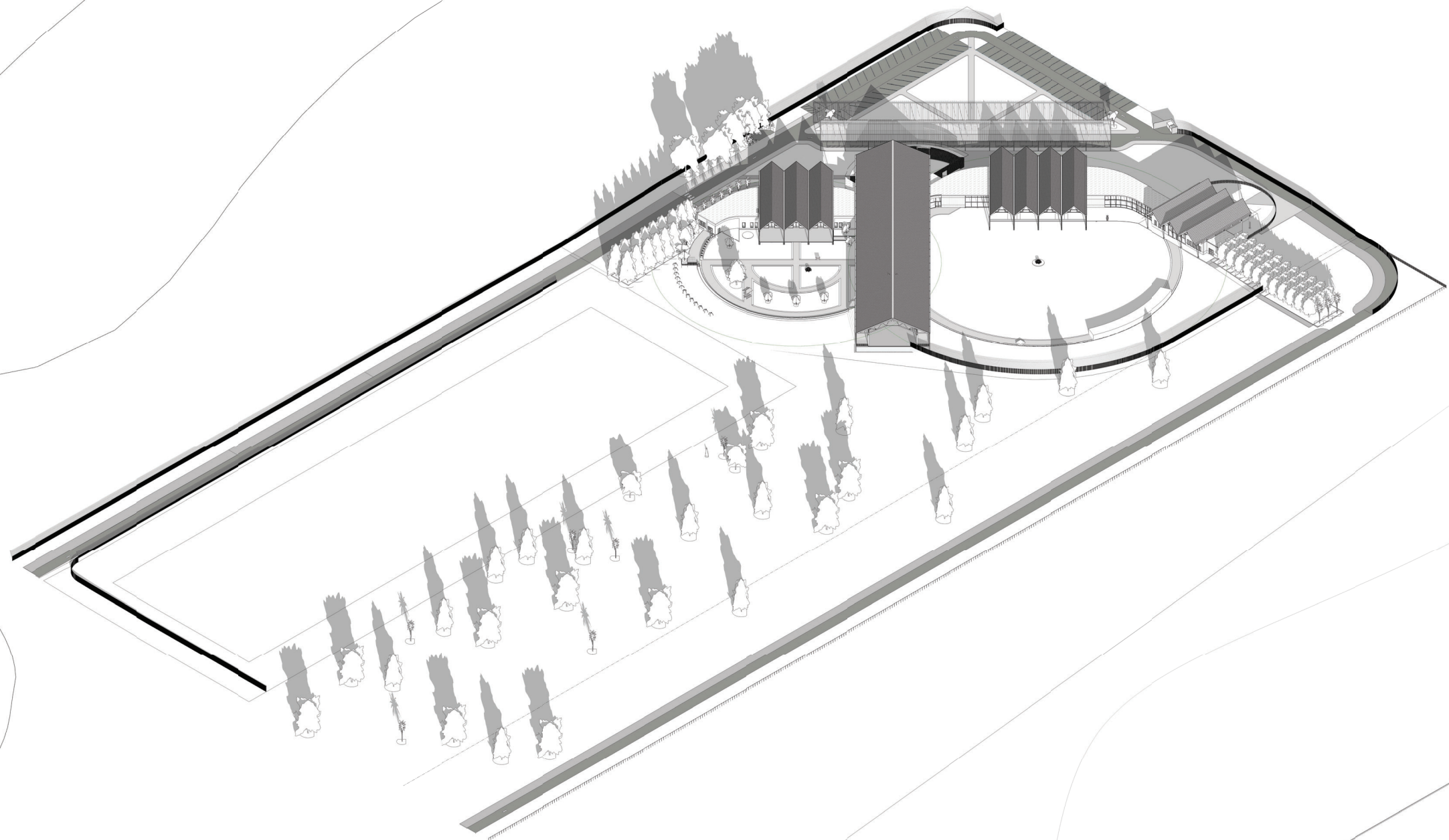
The building is integrated into the surrounding context through use of vernacular architecture styles in the form of repeating pitched roofs'. This helps to create a sense of ownership and belonging among occupants.

## Flexibility and adaptability.

There are large multi-functional spaces intended for a wide range of activities. They have adaptable layouts to accommodate changing needs.

## Safety and Accessibility

The design is built with mobility and accessibility in mind, as the primary occupants have limited mobility. Emergency response systems and safety measures are incorporated and are critical to design as occupants are generally considered vulnerable populations.

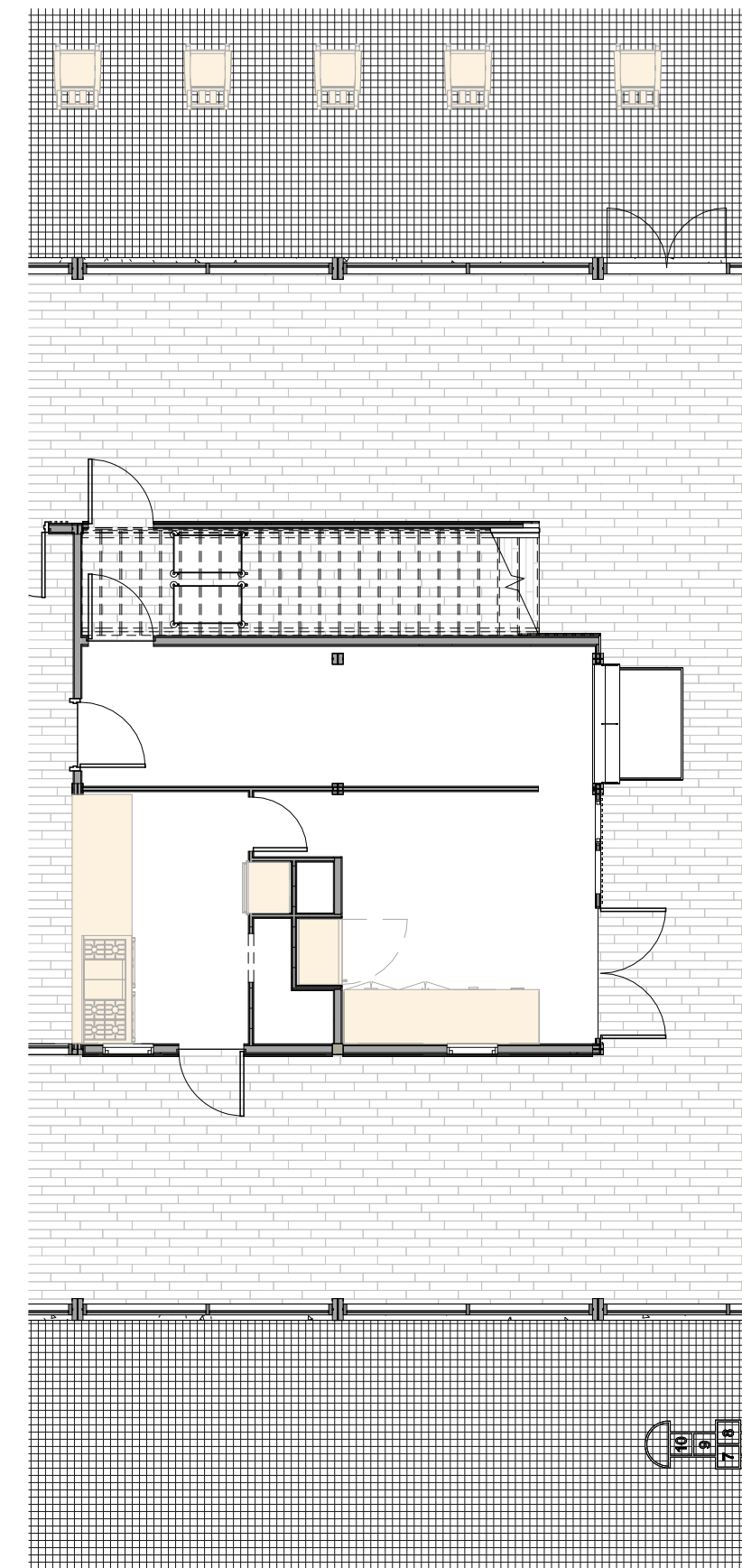
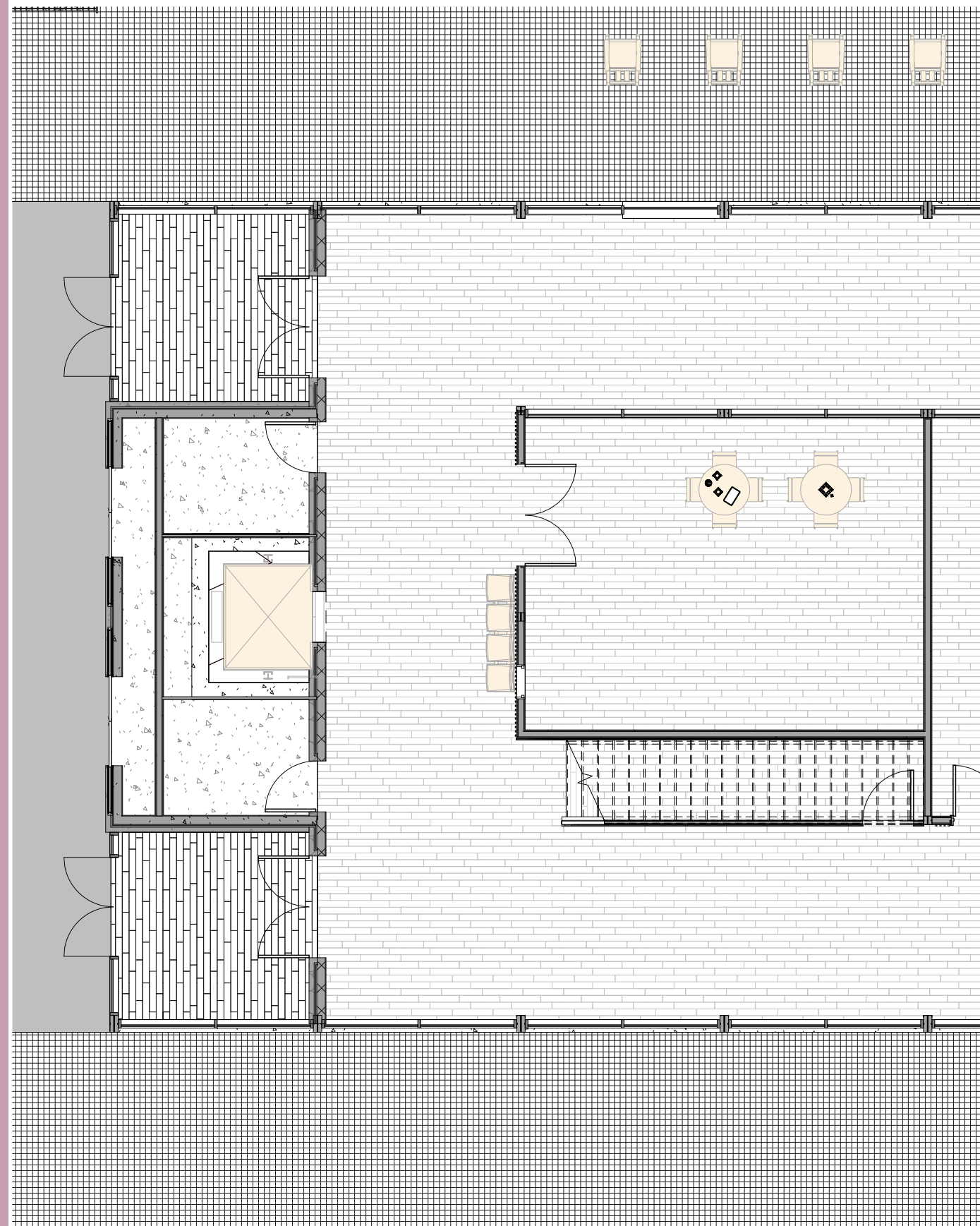




# CENTRAL

# SHARED

# SPACE

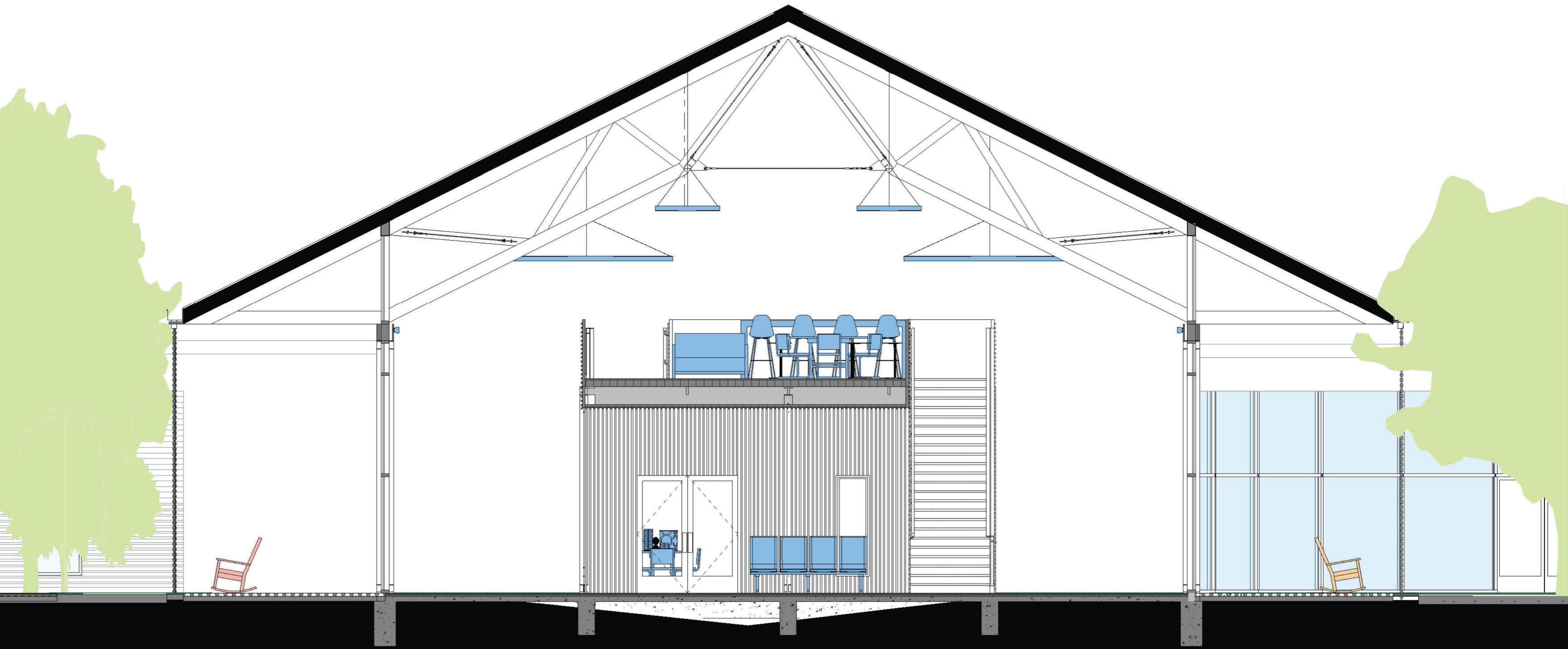


1/8"=1'-0"

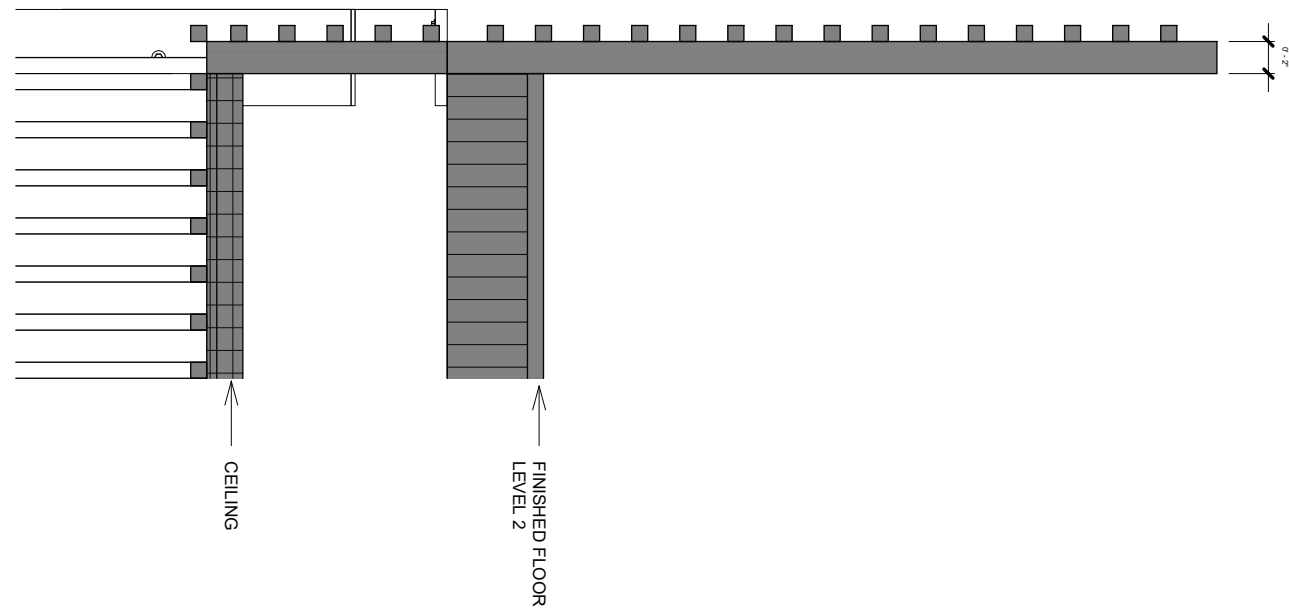
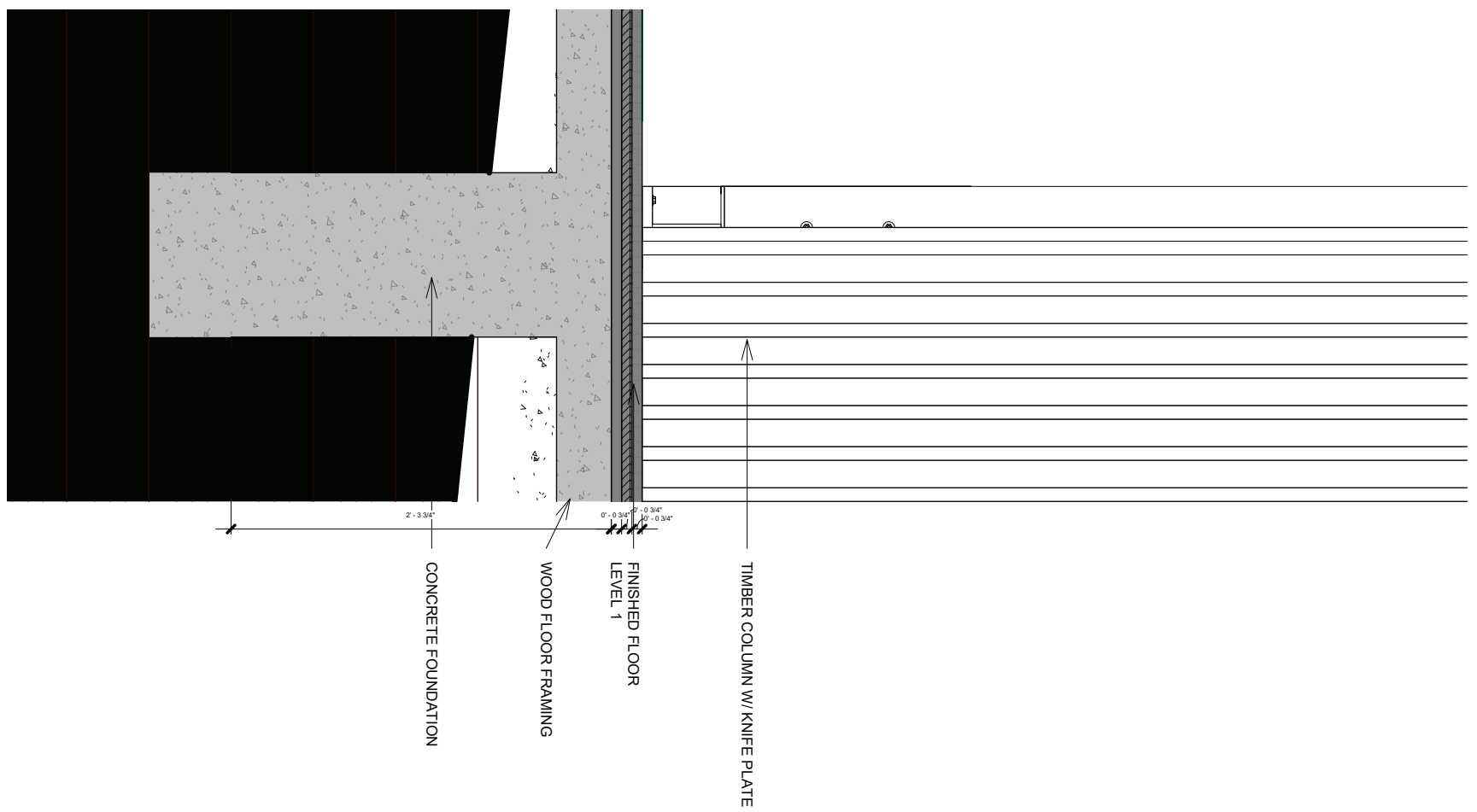
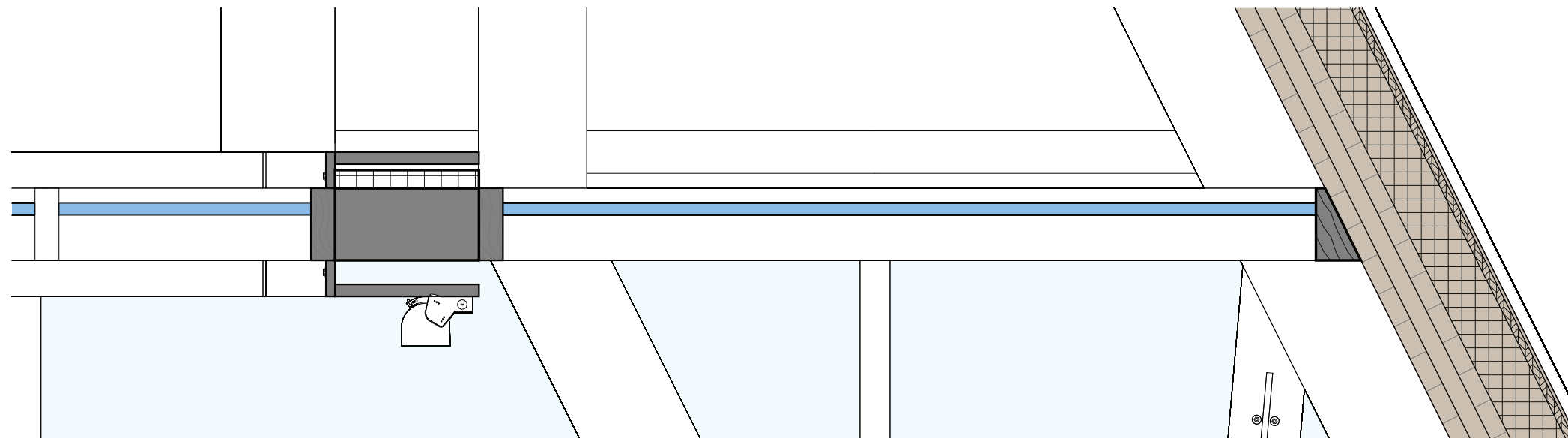
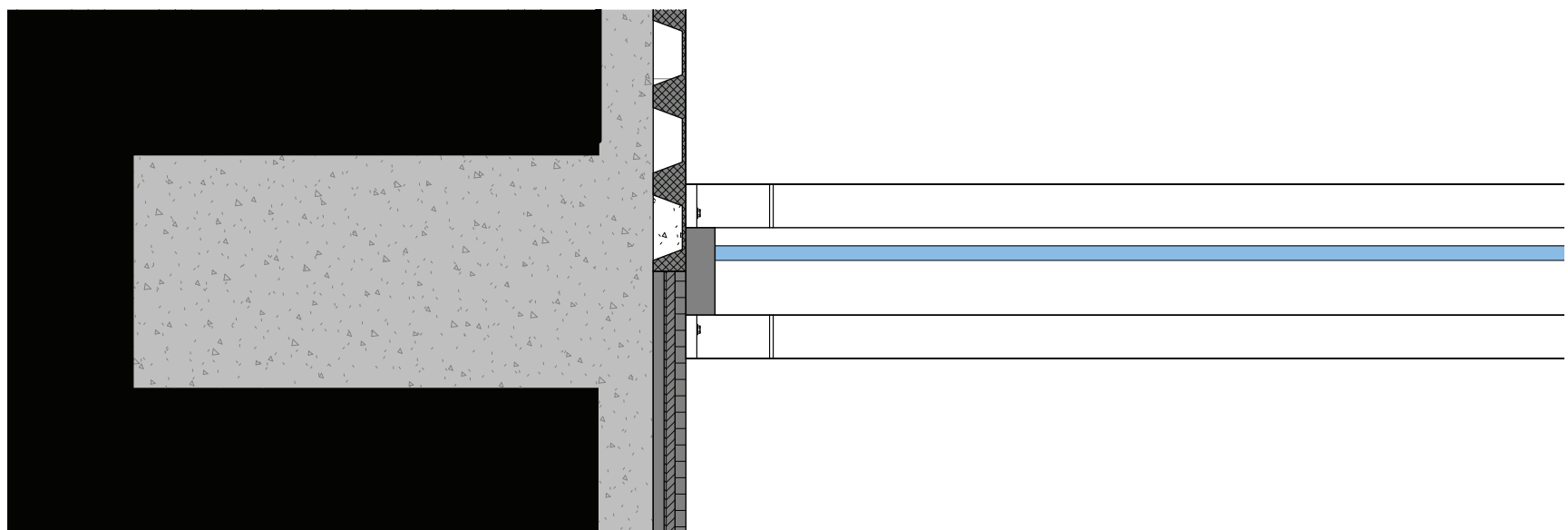






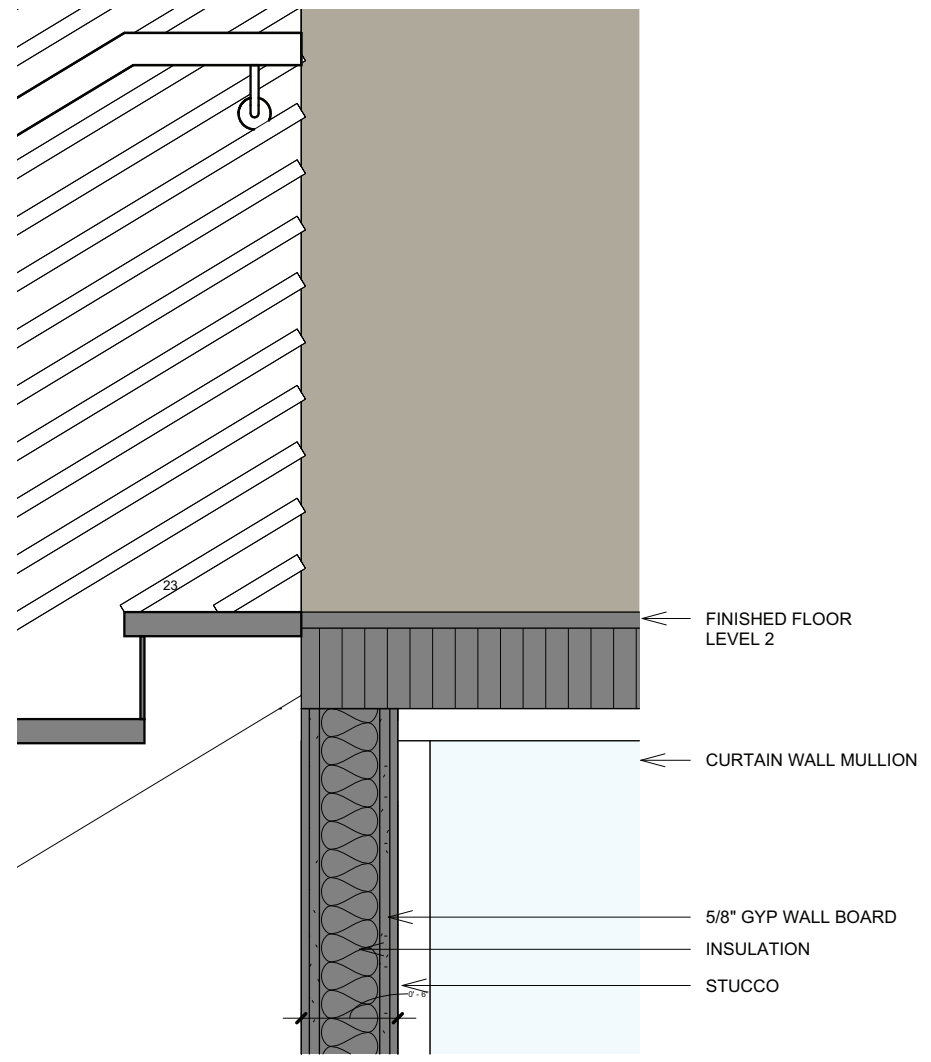
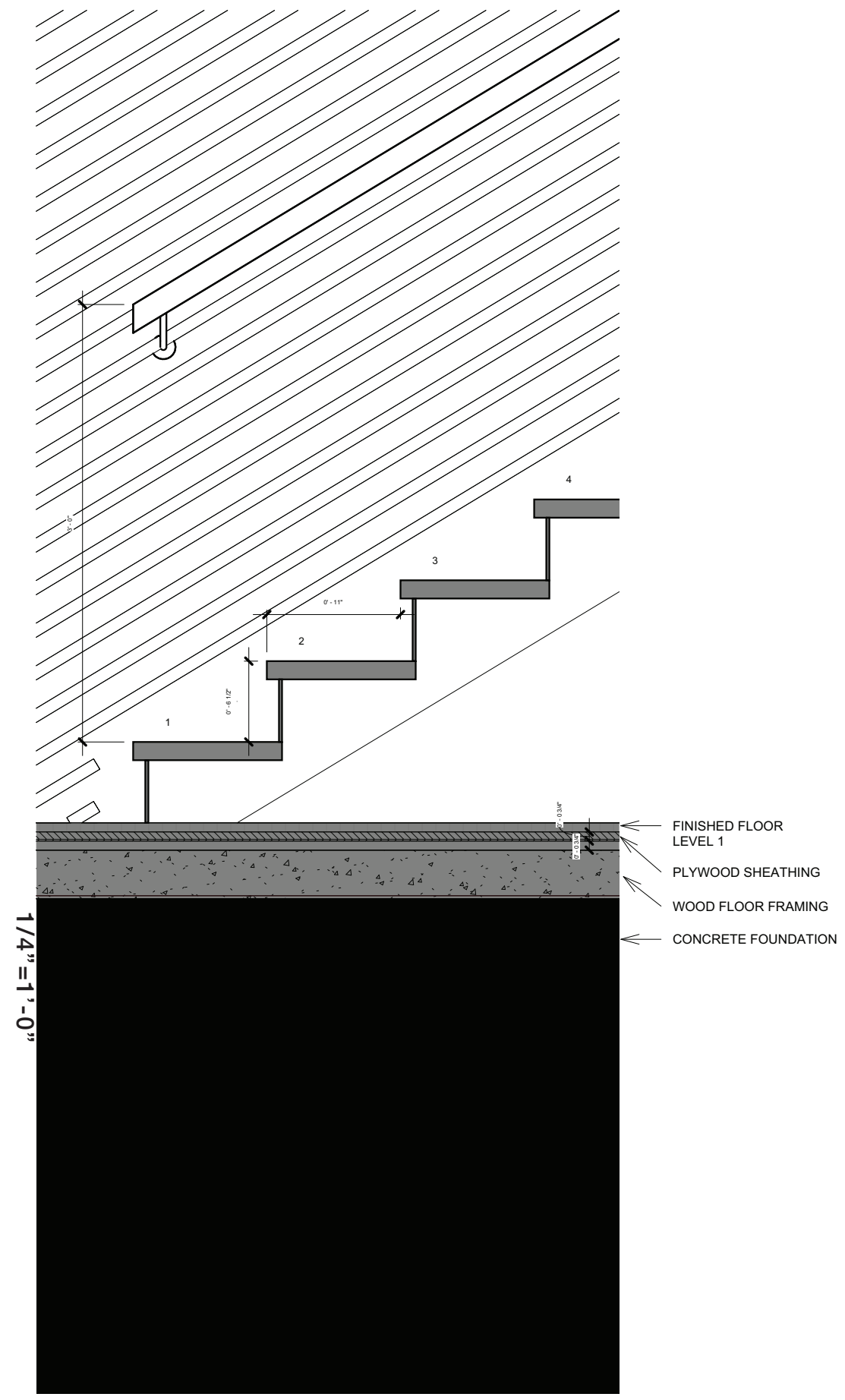






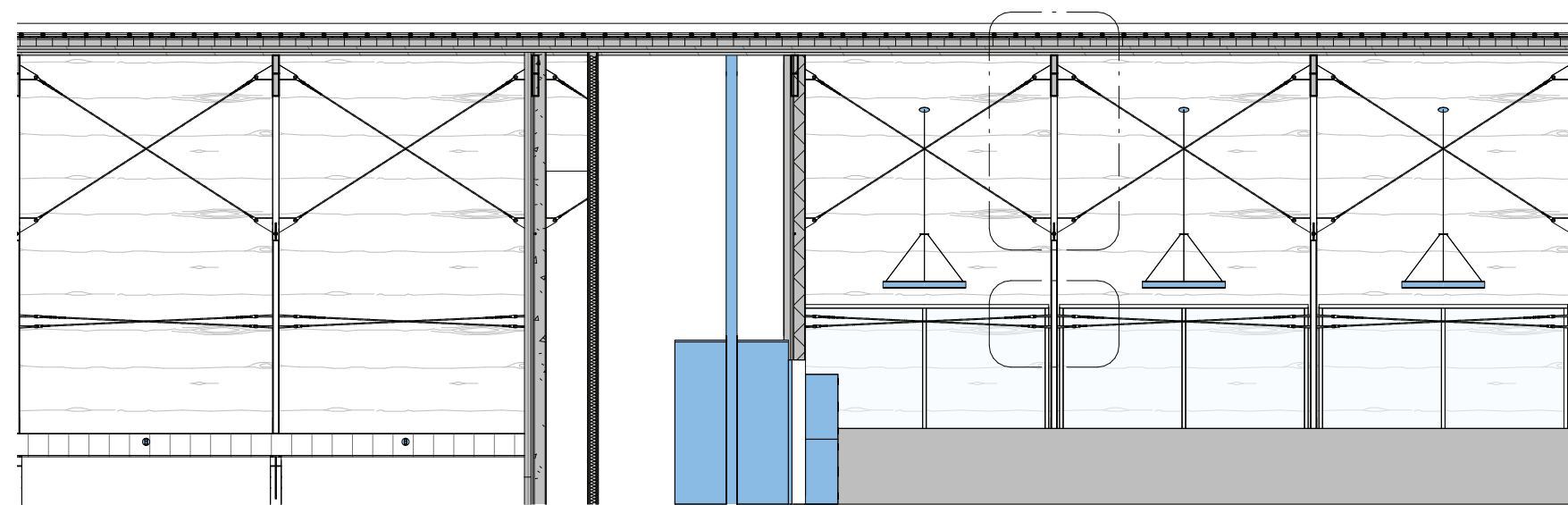
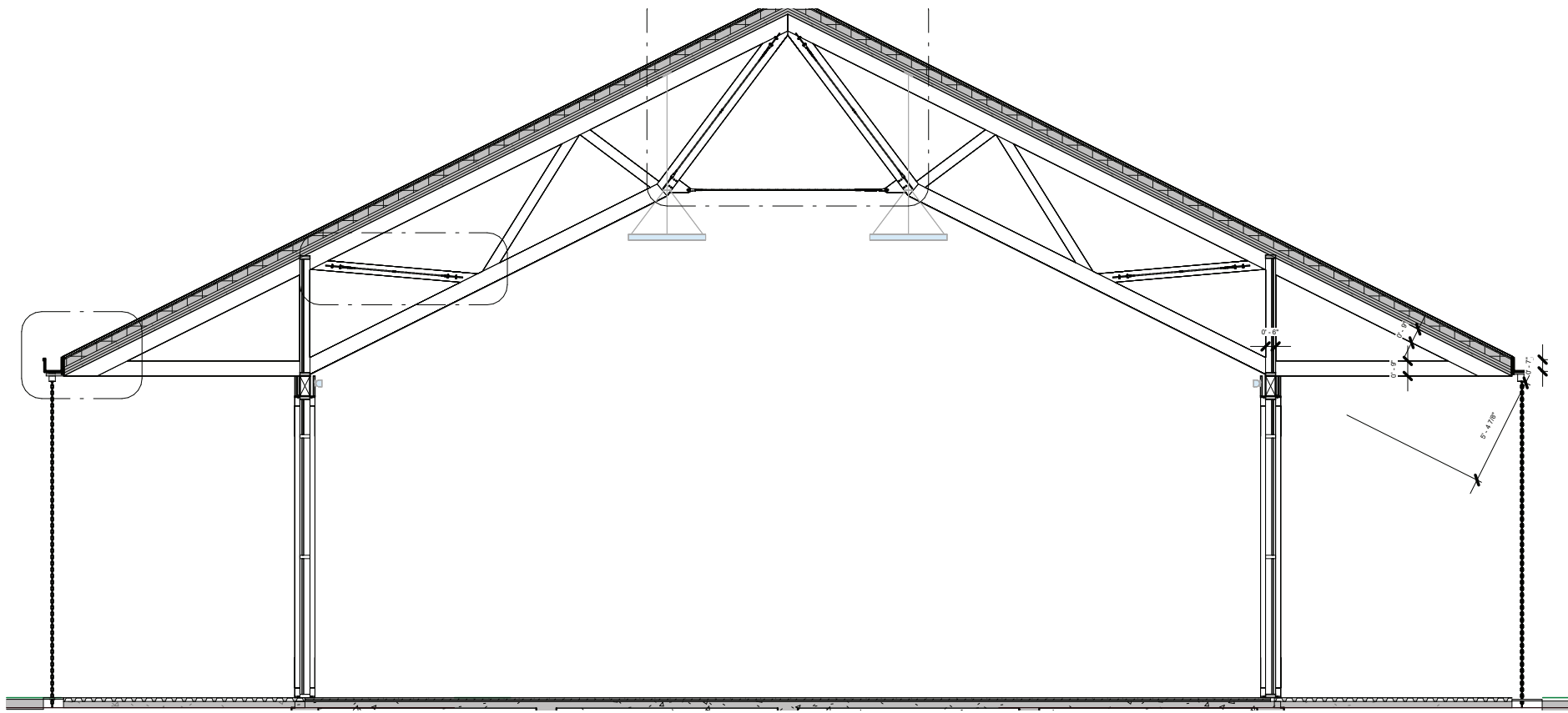
1"=1'-0"



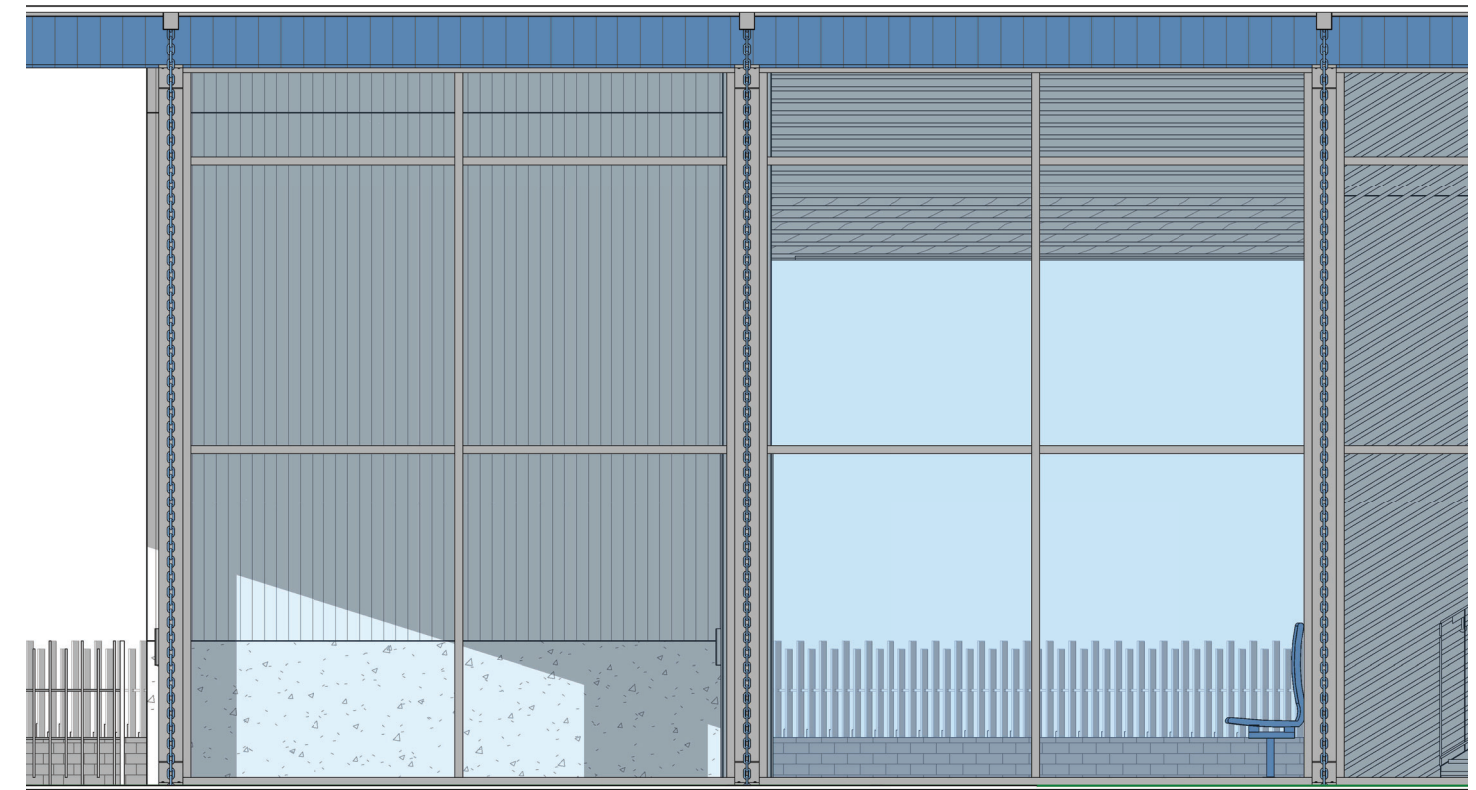
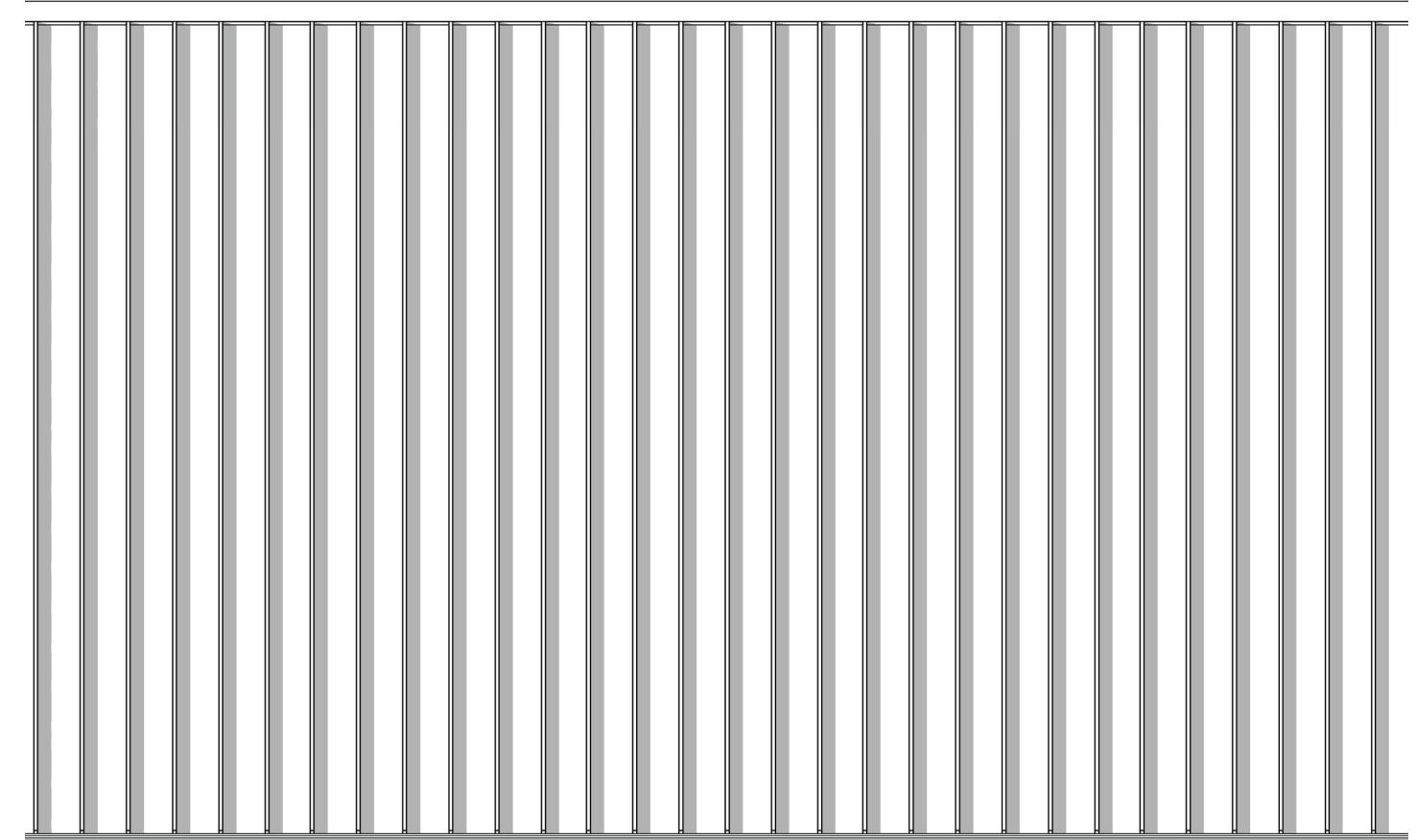


# LARGE TRUSS SYSTEM



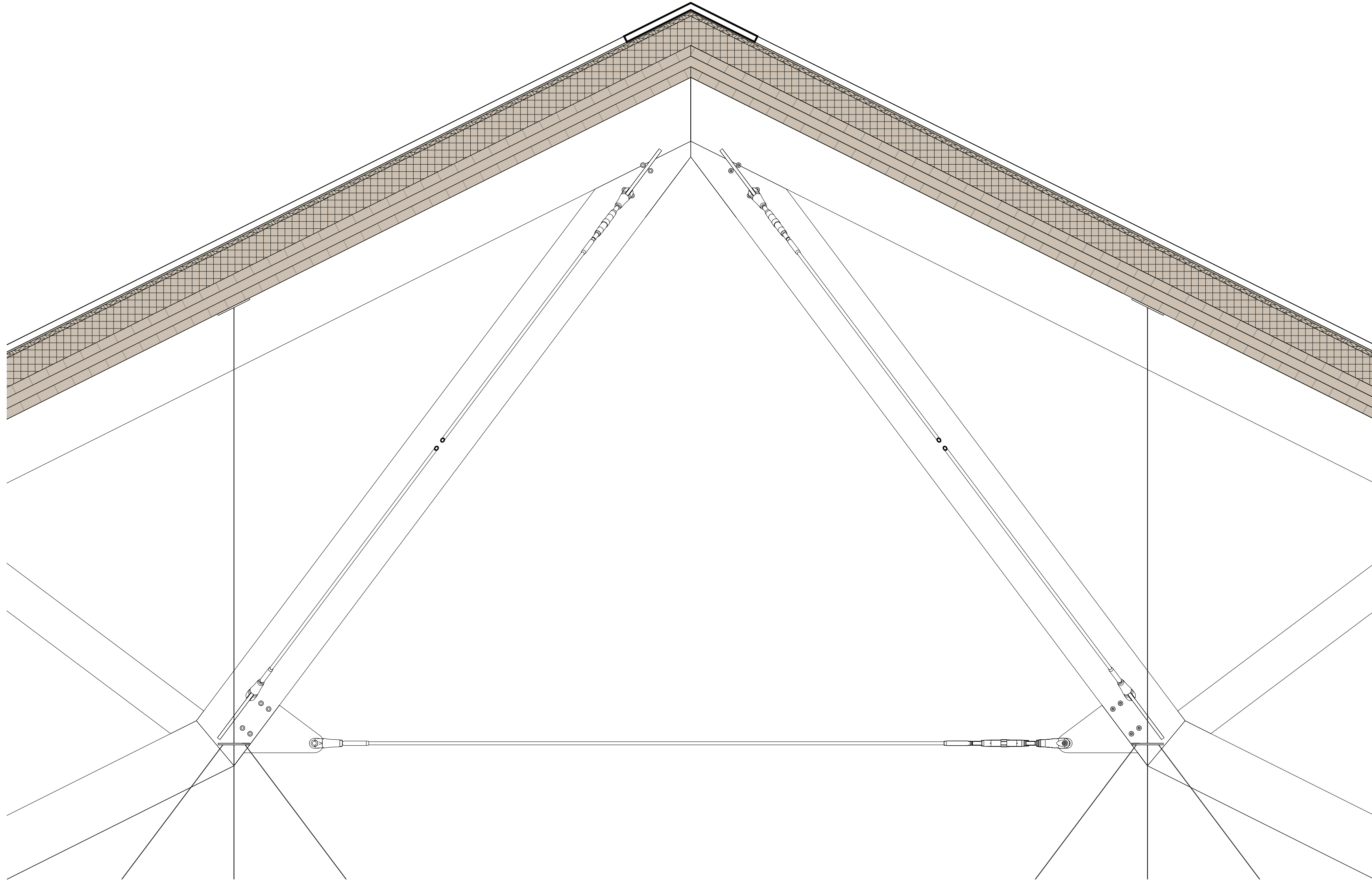


1/8"=1'-0"



1/4"=1'-0"



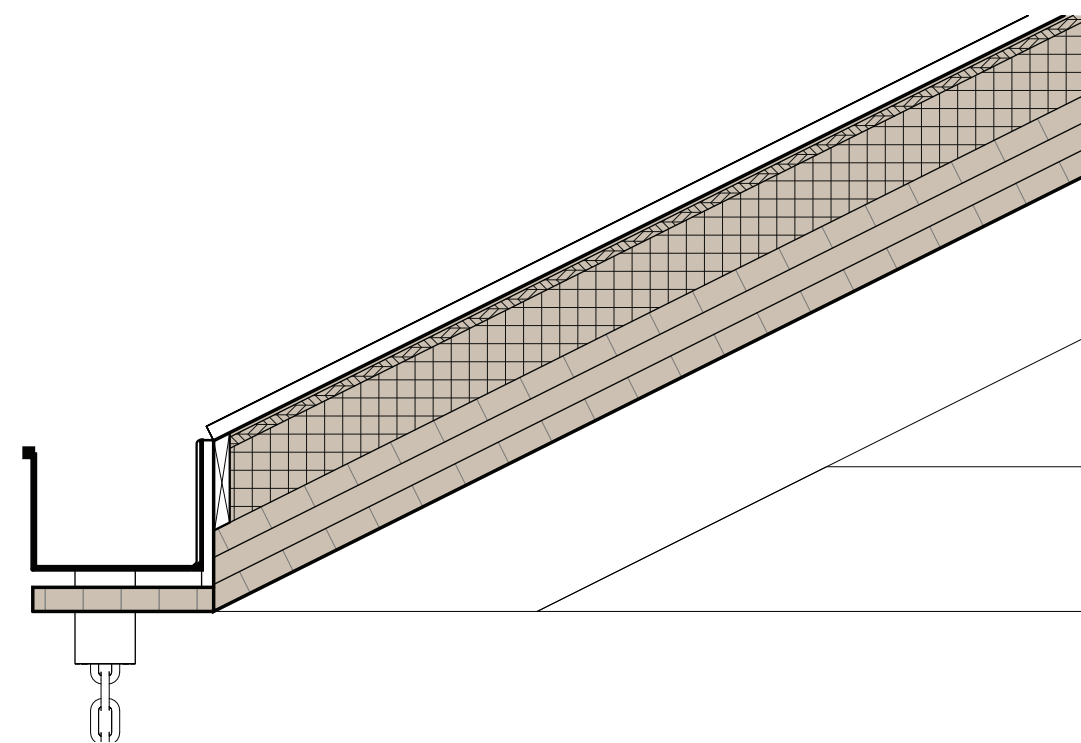
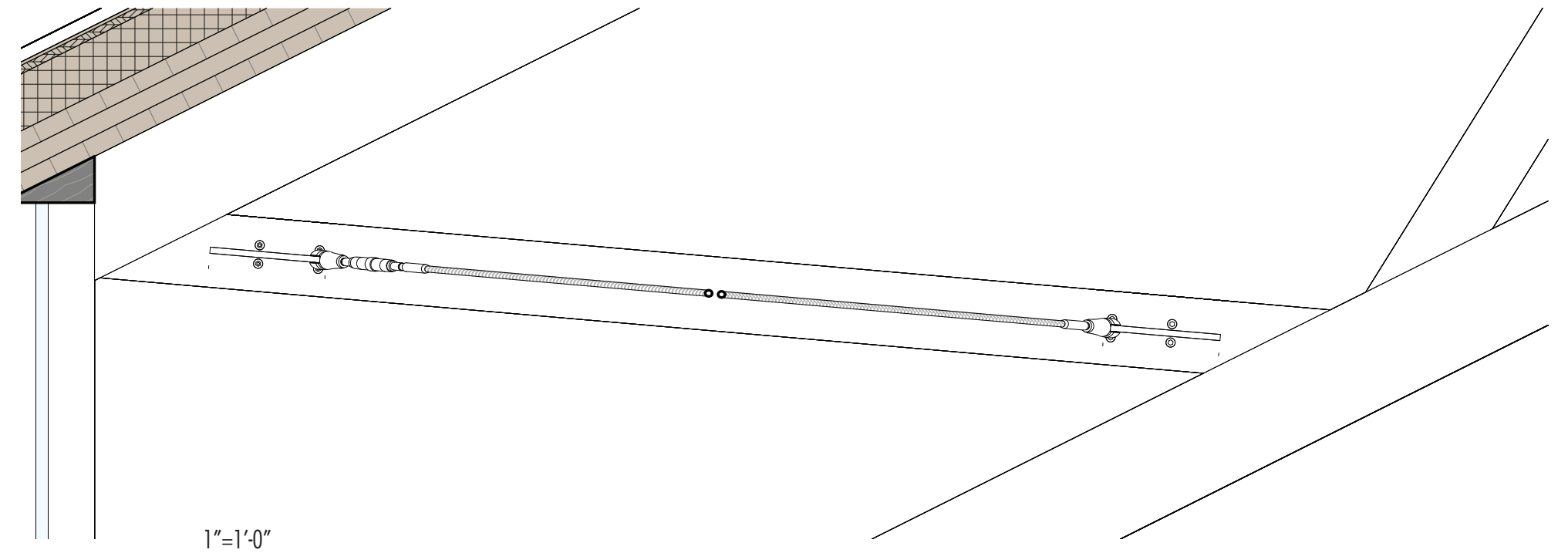




## LARGE TRUSS SYSTEM

The large truss system was developed for the large roof that covers the administration and central shared spaces. It runs along the spine of the project, dividing it in half. It spans 72'-0" , 48'-0" is interior, and the truss extends 12'-0" to either side creating a covered porch area.

Cross bracing is done with two sets of cable systems connected to embedded steel brackets by a steel forte (designed by Jakob). The cables span between trusses and form an "X" .



STANDING SEAM METAL ROOF

5/8" ROOF  
UNDERLAYMENT  
VAPOR BARRIER  
4" RIGID INSULATION  
4 1/2" CLT

TRUSS

1"=1'-0"

## RAIN CHAIN

All gutters at the far edge of the roof are equipped with rain chains instead of regular downspouts. This was done because the rain chains work better with the roof - porch overhang. Additionally the chain is more delicate than a downspout, and thus relates to the delicate cable elements in the trusses. Ultimately the chains work for the climate and amount of rain the site receives annually, and is nicer to look at for occupants in the building.



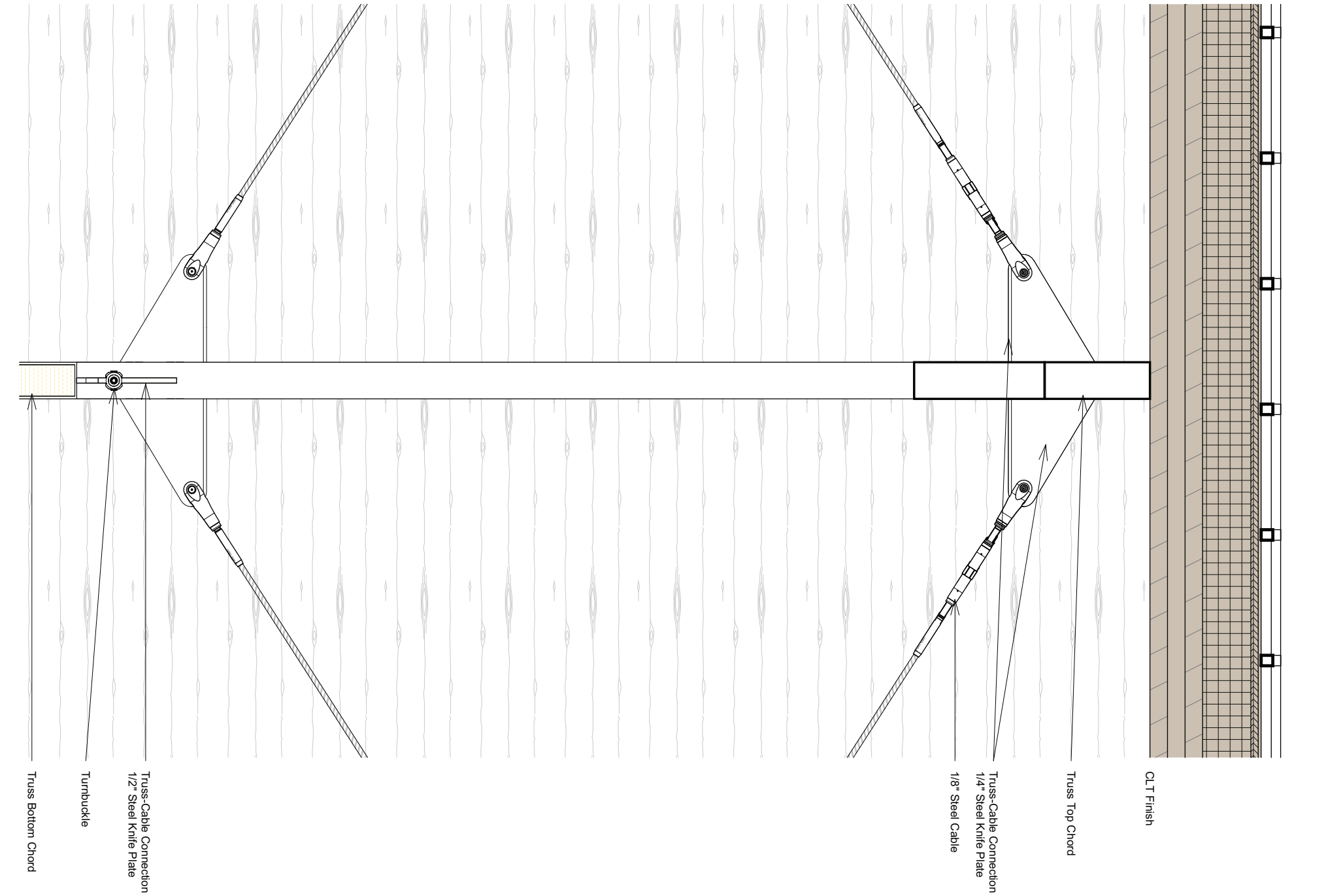
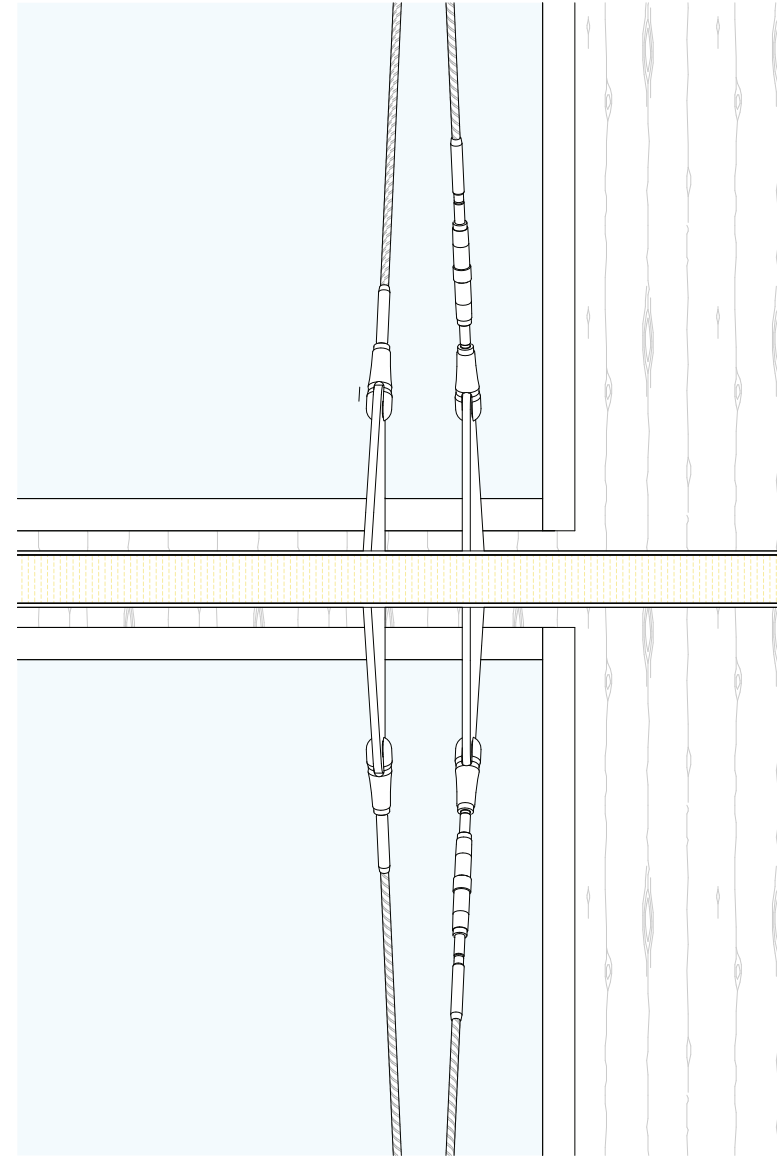


## LARGE TRUSS LIGHT

A strip light is fixed to the diagonal bottom chord of the truss to illuminate the spaces below. The light used is soft, and diffused so that no bulb is visible. This creates a very warm welcoming atmosphere inside.

## LARGE TRUSS CABLE + THREAD

There are five total cables connected to each truss. A forte cable system is implemented, where on at least one side of the cable a forte is fitted with a thread to tighten the cable and create tension.





# BRACKET

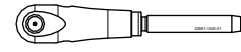
# FORTE

## CLEVIS / TURNBUCKLE

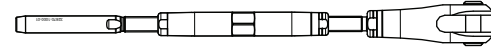
Left - Top  
Total 9.39"



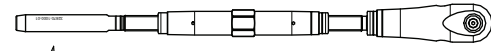
Left - Side



Right - Top  
Total 11.24"  
Turnbuckle 7.932"



Right - Side



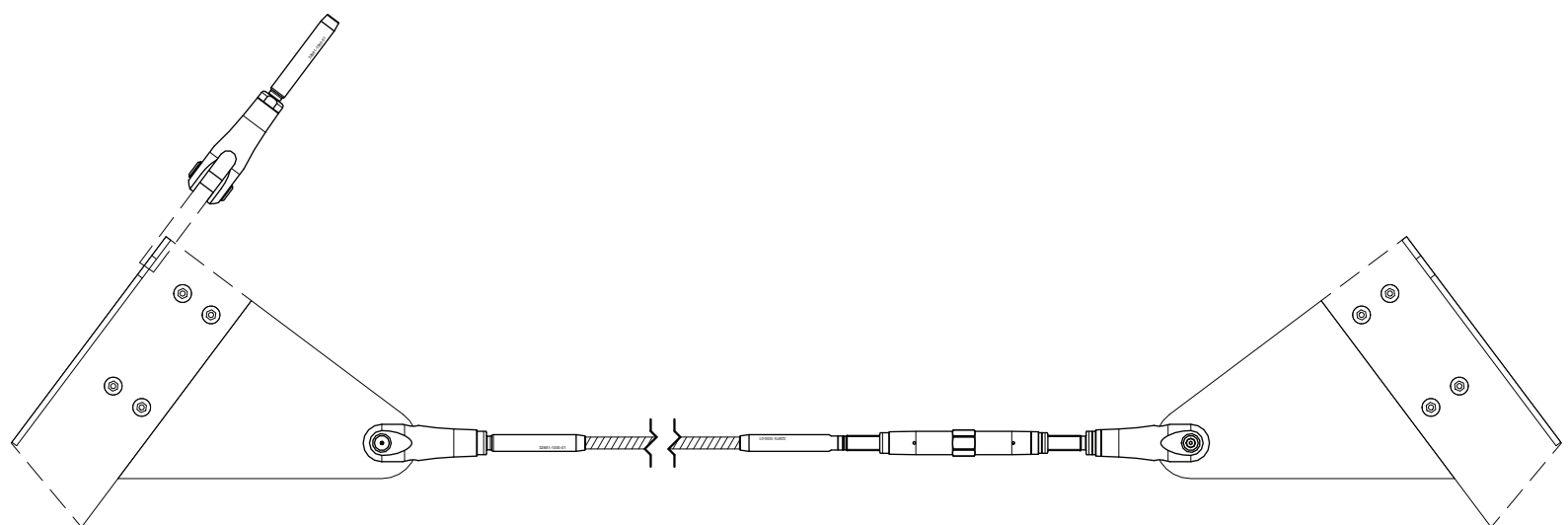
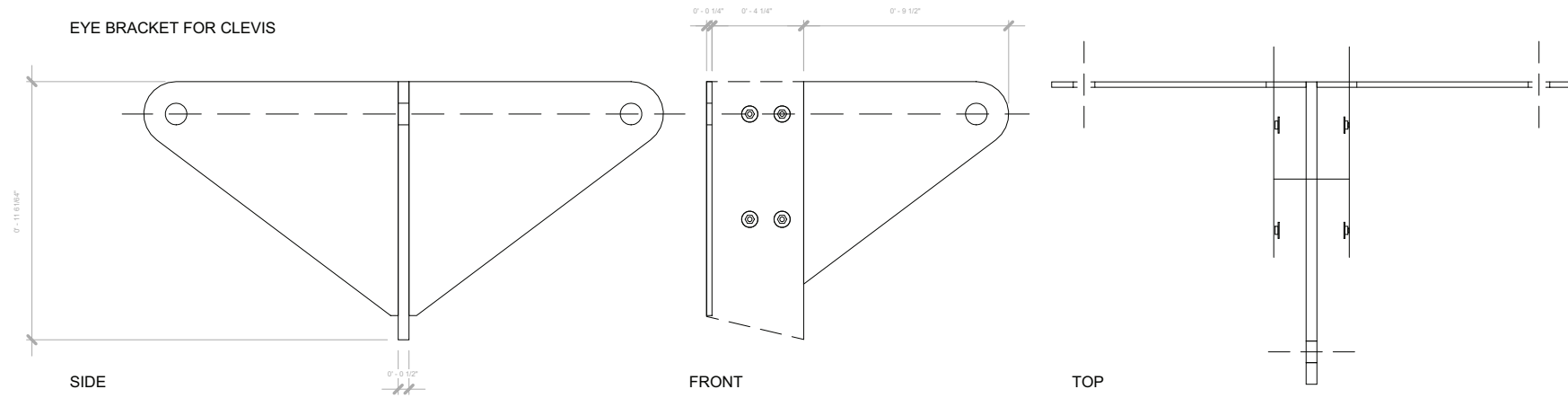
TURNBUCKLE

CLEVIS FORTE  
ROUND SWAGED



Front

## EYE BRACKET FOR CLEVIS

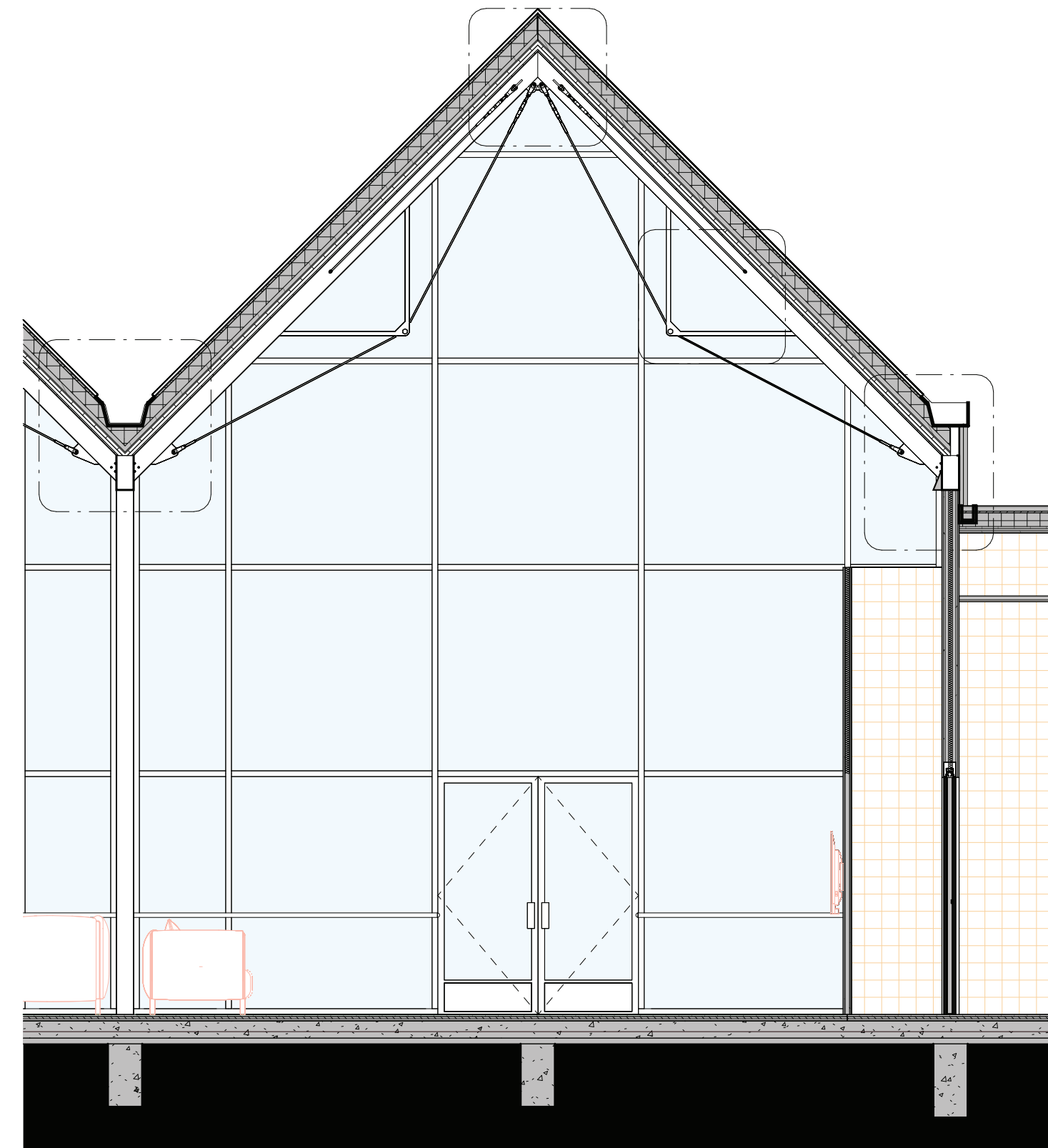


1 1/2"=1'-0"





# SMALL TRUSS SYSTEM

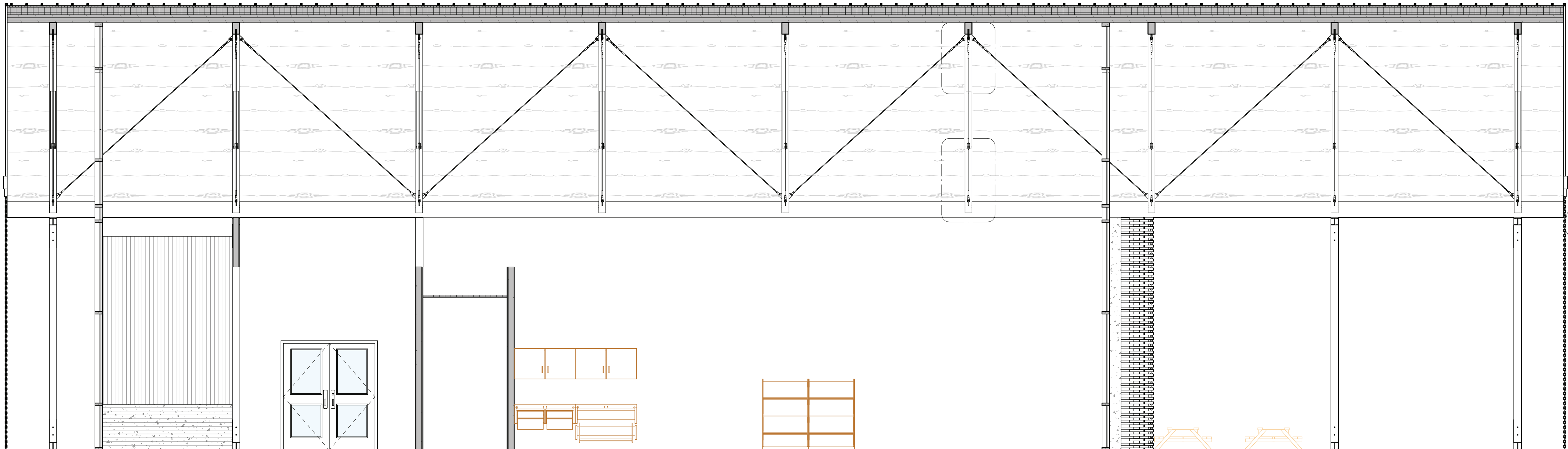


1/4" = 1'-0"

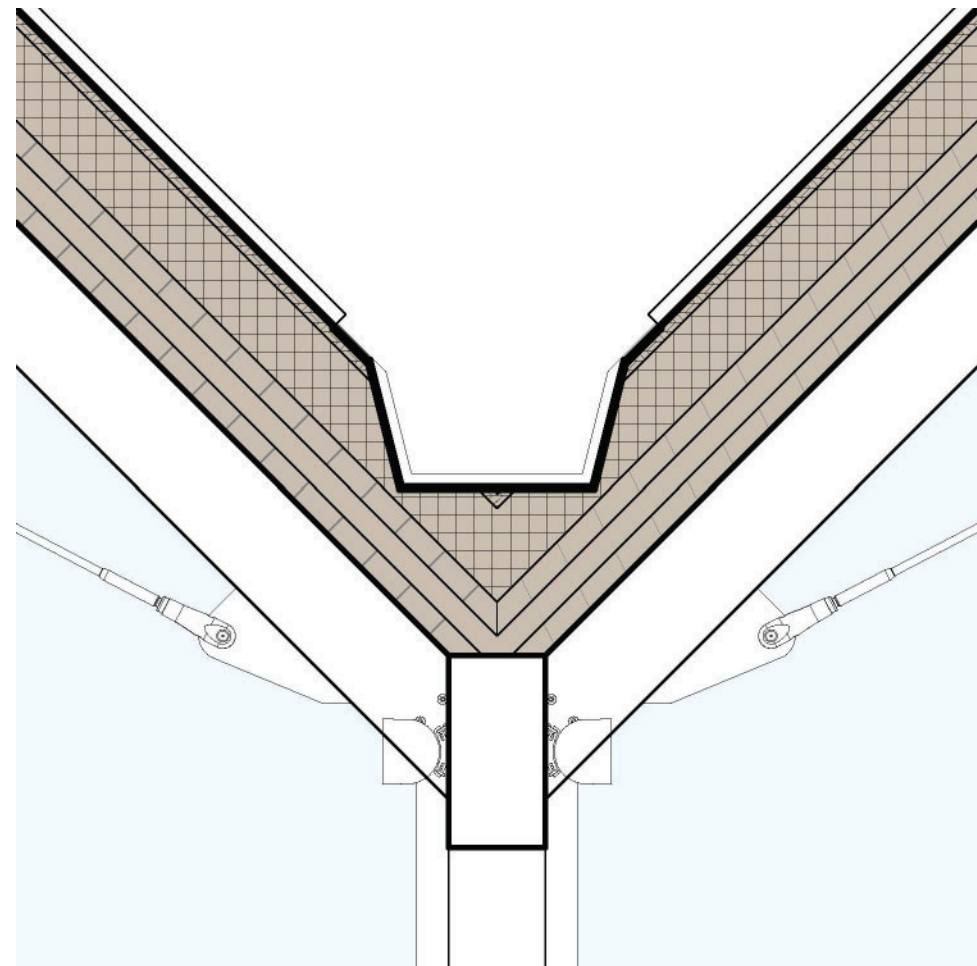
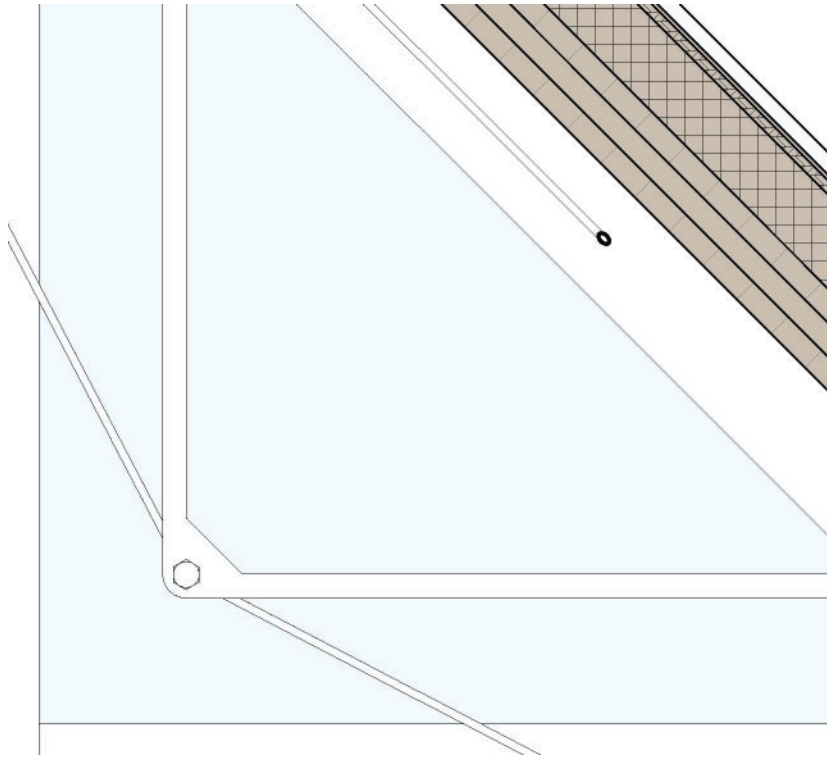
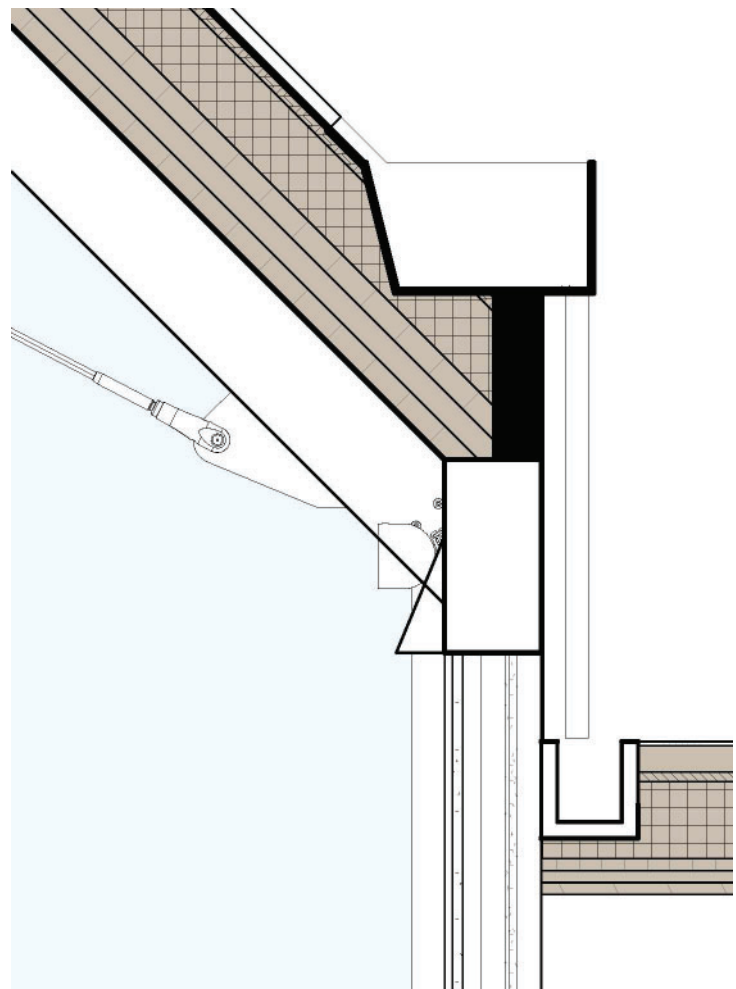
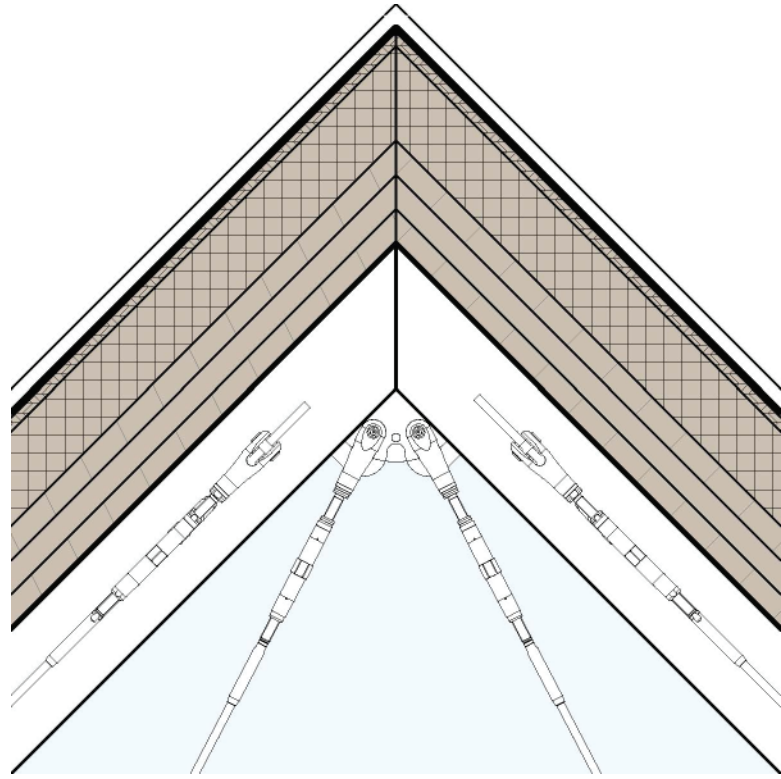


# SMALL ROOF TRUSS SYSTEM

The smaller roofs required significantly smaller trusses. They span 24'-0" across and are 12'-0" tall. There are two cables connecting each truss, attached to the top and bottom of the truss, creating a zig-zag pattern. The bottom chord of each truss is a cable supported by a steel rod support system. Like the large truss cable system, each cable is connected to an embedded steel bracket by a forte. On at least one end of the cable forte system is a thread to tighten the cable.







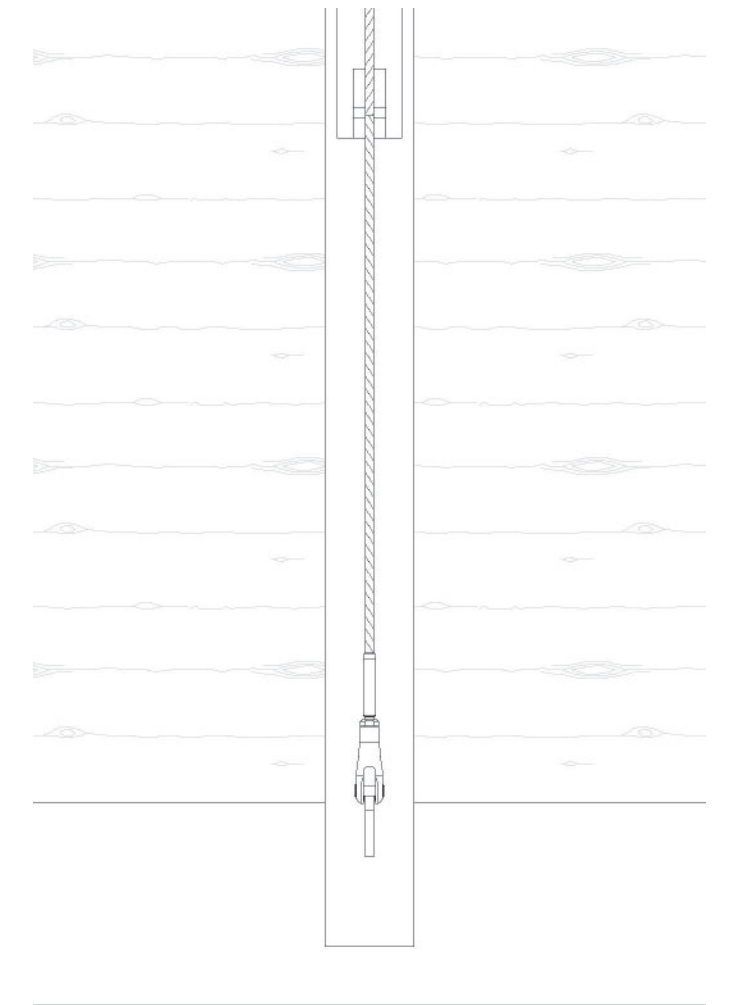
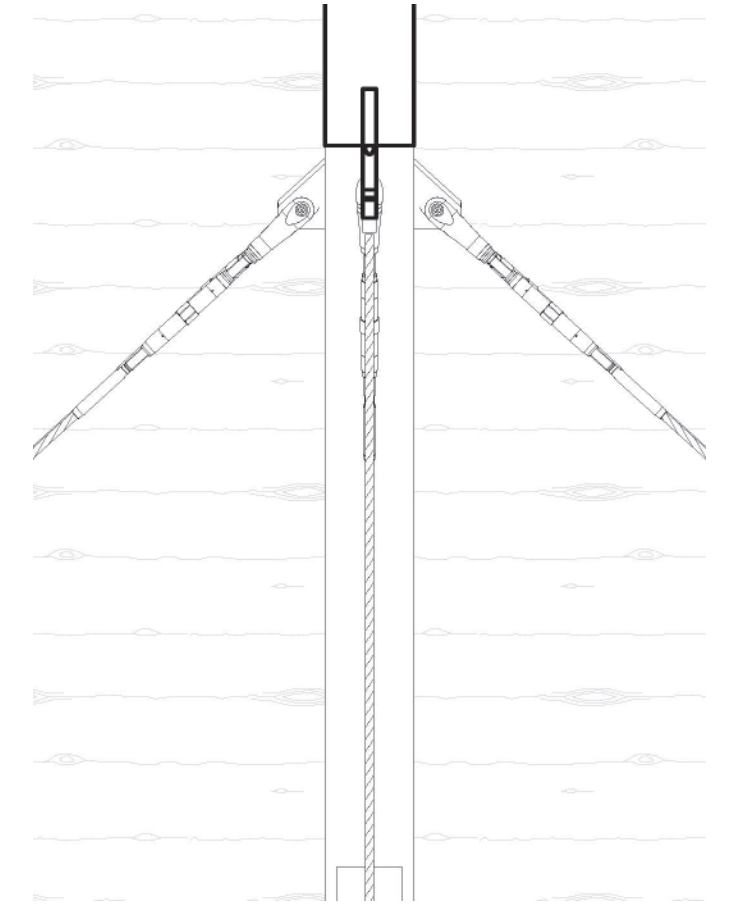
1"=1'-0"

## BRACKET

The smaller roofs required significantly smaller trusses. They span 24'-0" across and are 12'-0" tall. There are two cables connecting each truss, attached to the top and bottom of the truss, creating a zig-zag pattern. The bottom chord of each truss is a cable supported by a steel rod support system. Like the large truss cable system, each cable is connected to an embedded steel bracket by a forte. On at least one end of the cable forte system is a thread to tighten the cable.

## GUTTER SYSTEM

A valley gutter is used in between the small roofs' to channel water to the end of the total roof span.



1"=1'-0"



### **Care During The Day**

Operation. During standard work hours. May provide half day or full day for kids.

Nutrition. Provide meals, and accommodate special diets.

#### **Care of Children**

Personal care. Care level depends on age group.

Infants and toddlers: includes feeding, changing diapers and playing.

Older children: includes reading, early education, playing and meeting basic needs.

Services for caregivers. Support groups, care planning, and care-giving education.

Health services. Can vary from medication dispensing, condition monitoring, management of learning disabilities, and management of other disabilities.

#### **Activities**

Social activities: Tailored to participants' ages. Encompass things like arts and crafts, musical entertainment, mental stimulation games, gentle exercise, holiday and birthday celebrations, and sometimes field trips. .

Other Programs: Intergenerational programs, which educate and enliven both groups. Age appropriate activities are critical to the development of children's mental emotional and physical well being.

### **Care During Day**

Operation. During standard work hours.

Nutrition. Provide meals, and accommodate special diets.

Transportation. Provide transportation to and from the center and for any outings.

#### **Care Of Elders**

Personal care. Help with the activities of daily living like grooming, toilet hygiene, walking, and feeding.

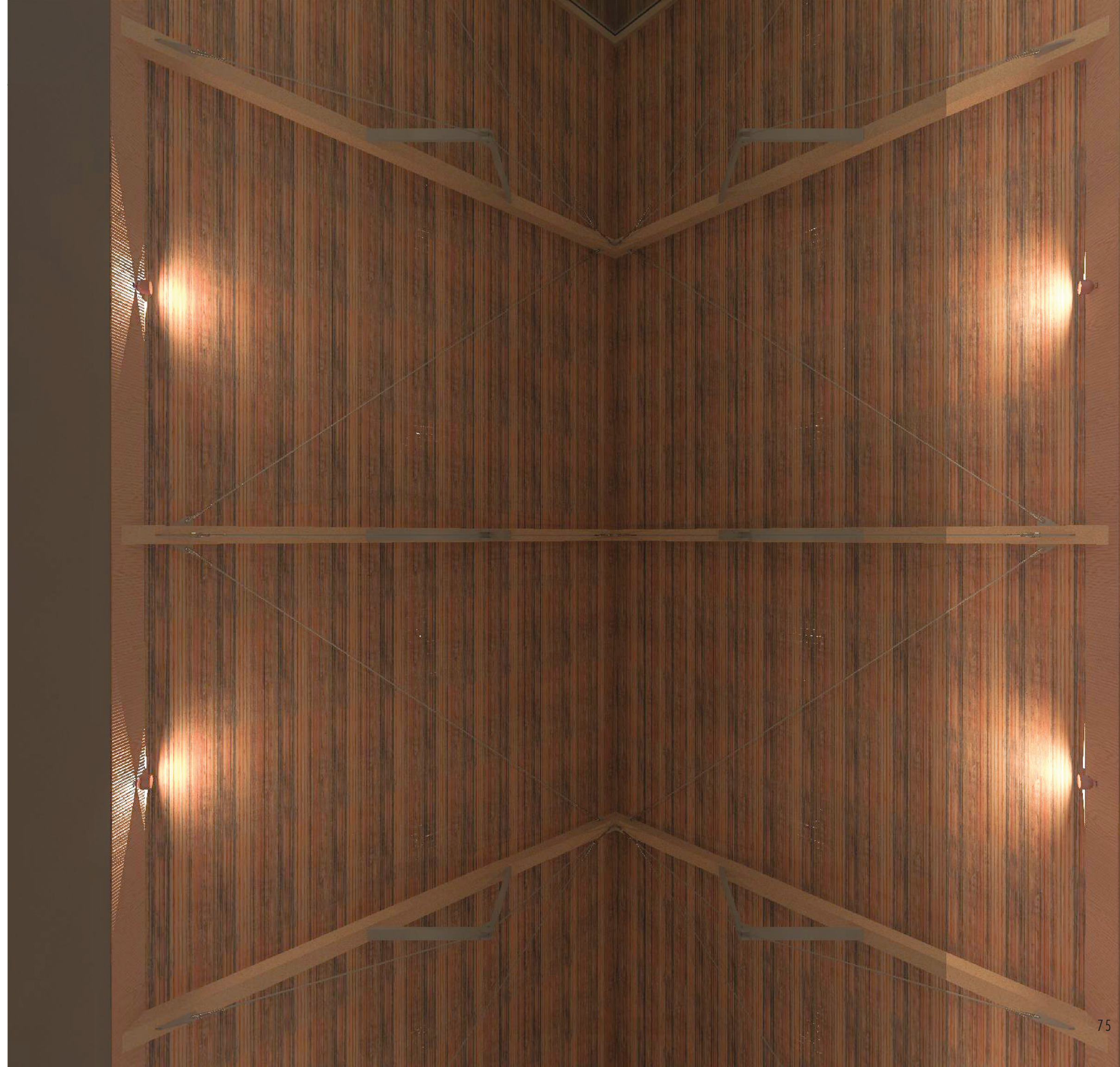
Services for caregivers. Counseling, support groups for caregivers, help for care planning, and care-giving education.

Health services. Can vary from medication dispensing, blood pressure monitoring, hearing checks, and vision screening, symptom management and more intensive medical or therapeutic services.

#### **Activities**

Social activities: Tailored to participants' abilities and health conditions. Encompass things like arts and crafts, musical entertainment, mental stimulation games, gentle exercise, discussion groups, holiday and birthday celebrations, and local outings.

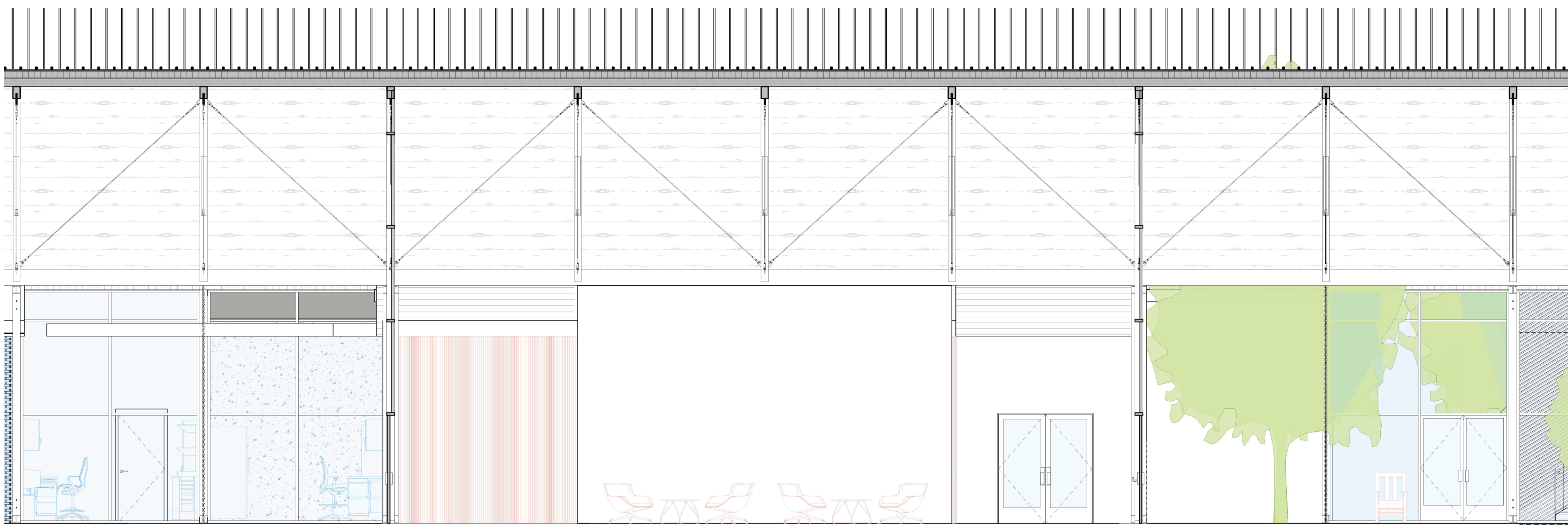
Other Programs: Pet therapy or intergenerational programs. Which educate and enliven both groups.











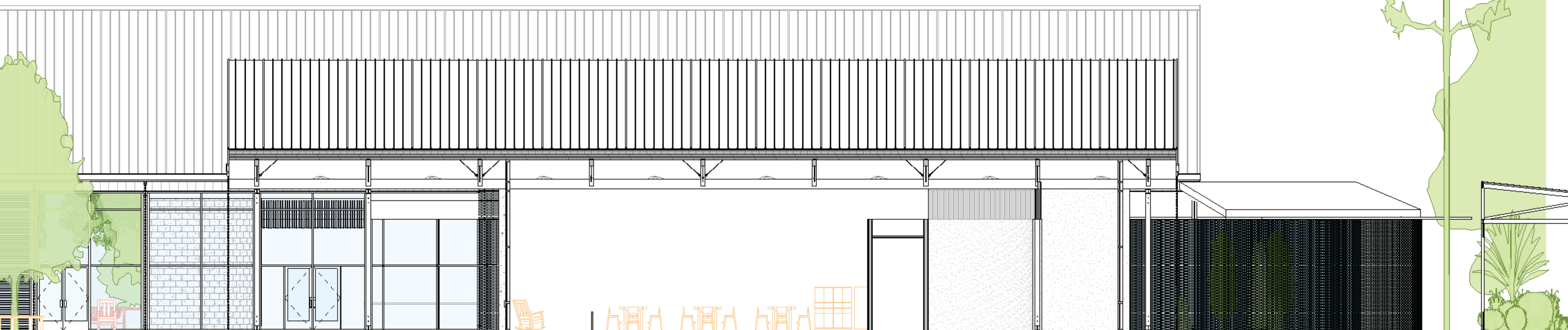
# SENIOR SPACE

1/4"=1'-0"



1"=30'-0"





# CHILD CLASSROOM

1/8"=1'-0"



1"=30'-0"





# CONCLUSION

The overarching goals of the intergenerational health day care center is to address the intergenerational problem in society through the architecture, and promote connection between elderly people and young children.

Intergenerational work is difficult to get correctly. To be successful, activities involving both young and old people require careful preparation and monitoring. The amount of preparation necessary should not be underestimated, and adequate time should be allocated.

There are also many limitations of research design implementation, however, the studies analyzed form a good base for future project development of a model for design of these facilities.

Spaces that are designed specifically for the facilitation of interaction of old and young people will ensure psychological well being, and promote positive social-cultural relationships through forming intergenerational bonds.

The Future of Intergenerational Health Day Care Centers in Florida

In a world where most able bodied adults work all day, there is a desperate need for care for the most vulnerable populations – the old and young. The young and old Given the social benefits, as well as impact on mental health and wellbeing that intergenerational interaction has, it makes no sense that their facilities should be separate



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THANK YOU



