



<https://www.gathermagazine.org/intergenerational-community-isnt-just-a-good-idea-its-a-necessity/>

Mixed-Use Intergenerational Community in Mueller, Austin, TX

Final Professional Project Presentation

By Shun Sun, MLA Candidate

April 14, 2021

Committee Chair: Dr. Chanam Lee
Committee Members: Drs. Zhipeng Lu, Dongying Li
Client: We Are All One (WAAO)

CONTENTS

I R A M D

INTRODUCTION

RESEARCH & CASE STUDY

SITE ANALYSIS

MASTER PLAN
& SITE DESIGN

DESIGN ANALYSIS





<https://www.designspiration.com/save/17853509760513/>

INTRODUCTION

Project Scope_01

Mission_02

User & Programming_03

Goal_04

Location

Mueller, Austin, Texas

Area

7.5-acre

Client

We Are All One (WAAO)

Teaching Retirement System (TRS)

**Committee
Members:**

Dr. Chanam Lee

Dr. Zhipeng Lu

Dr. Dongying Li

**Landscape
Architecture Team
Member:**

Shu Sun

**Architecture Team
Members:**

Danielle Wilder

Ruomeng Li

This MLA Final Project is to propose a comprehensive master plan and site designs for **an intergenerational community** that promotes healthy living for people of **all ages**.

Major program elements include a centrally-located intergenerational activity **green space** surrounded by four buildings - a **greenhouse** for seniors, two **intergenerational apartments**, a mixed-used **office building** of Teachers Retirement System (TRS), and a **community center**.

The project is carried out as an **interdisciplinary** team effort collaborating with two Master of **Architecture** students (Danielle Wilder and Ruomeng Li) who provided the architectural designs of the greenhouse and the community center buildings. The master plan incorporates those two fully-designed buildings and the three remaining buildings that only show its approximate location, size, and shape.

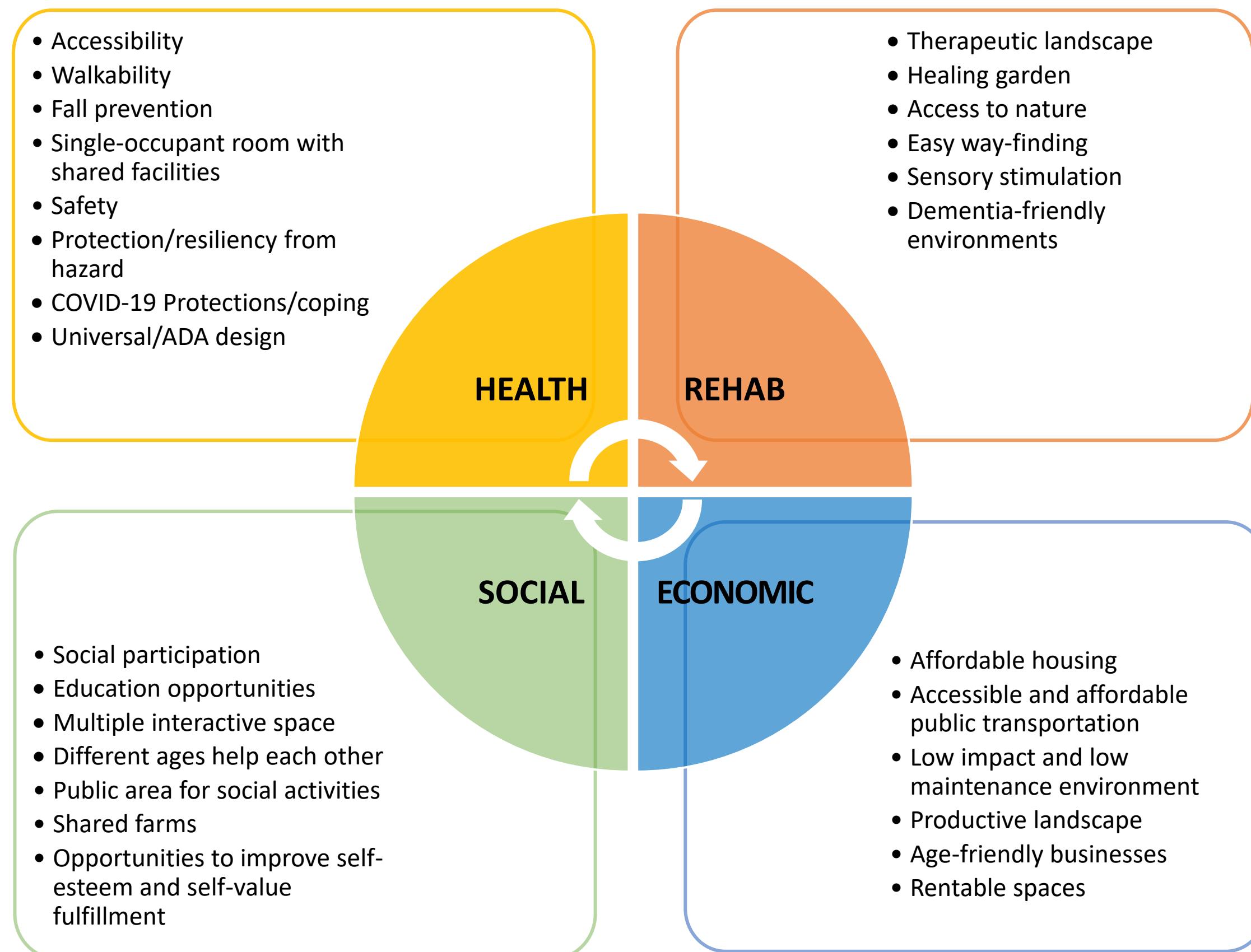
This mixed-use **intergenerational** living community design project is to provide an **affordable, long-lasting, and aging-friendly** environment for people of **all ages**. The overall environment will be designed to protect, develop, and restore **health**. The immediate and potential long-term effects of **COVID-19** will also be considered during the design development process.

As an intergenerational community, it will be designed to promote **interaction, exchange, and cooperation** among different generations, and provide opportunities for all ages to **share** their talents and **support** each other. The public green spaces will serve as a convenient and attractive location for older residents to meet the need to be **socially engaged**.

Defining Characteristics of Intergenerational Community

- ✓ Provides **basic necessities of life for people of all ages**;
- ✓ Promotes programs, policies, and practices that increase **cooperation, interaction, and exchange** between people of different generations;
- ✓ Enables all ages to share their talents and resources and support each other in relationships **that benefit both individuals and their community**.





USER & PROGRAMMING

Residents, Homeless People, and Visitors in Community Center



AGE

Residents – all ages

- 73.7% ≥ 24 ,
- 7.5% 18-24,
- 18.8% < 18

NEEDS

- Commercial and retail spaces
- Community engagement spaces
- Public green spaces
- Shelters for homeless people
- Job training and opportunities
- Therapy for mental disorders

INTERGENERATIONAL INTERACTION

- Take care of kids
- Learn experience from senior adults
- Organize events for memorial day
- Organize a yard sale or flea market

Senior Residents and Those with Disabilities in Greenhouse



Families in Intergenerational Apartments



- Senior residents ≥ 65
- The disabled- all ages

- Independent living
- Assistant living
- On-site health care services
- Safety
- Participate into social activities

- Help kids with their homework
- Give free music/art/handcraft classes to kids and the homeless
- Plant trees, flowers, fruits in community farm
- Learn new(internet) skills

Employees and Retired Teachers in Teaching Retirement System Office Building



- Children and teenager 0-18
- Young people 19-34
- Middle age 35-64
- Seniors ≥ 65

- Affordable housing
- Playground
- Educational area & amenities
- Health and fitness facilities

- Plant trees, flowers, fruits in community farm
- Give internet class/online guidance to senior adults and homeless people

- Employees ≥ 18
- Retired teachers ≥ 65

- Green space for break time
- Enough space for a large number of people flow during rush hours

- Plant trees, flowers, fruits in community farm
- Job training for the homeless



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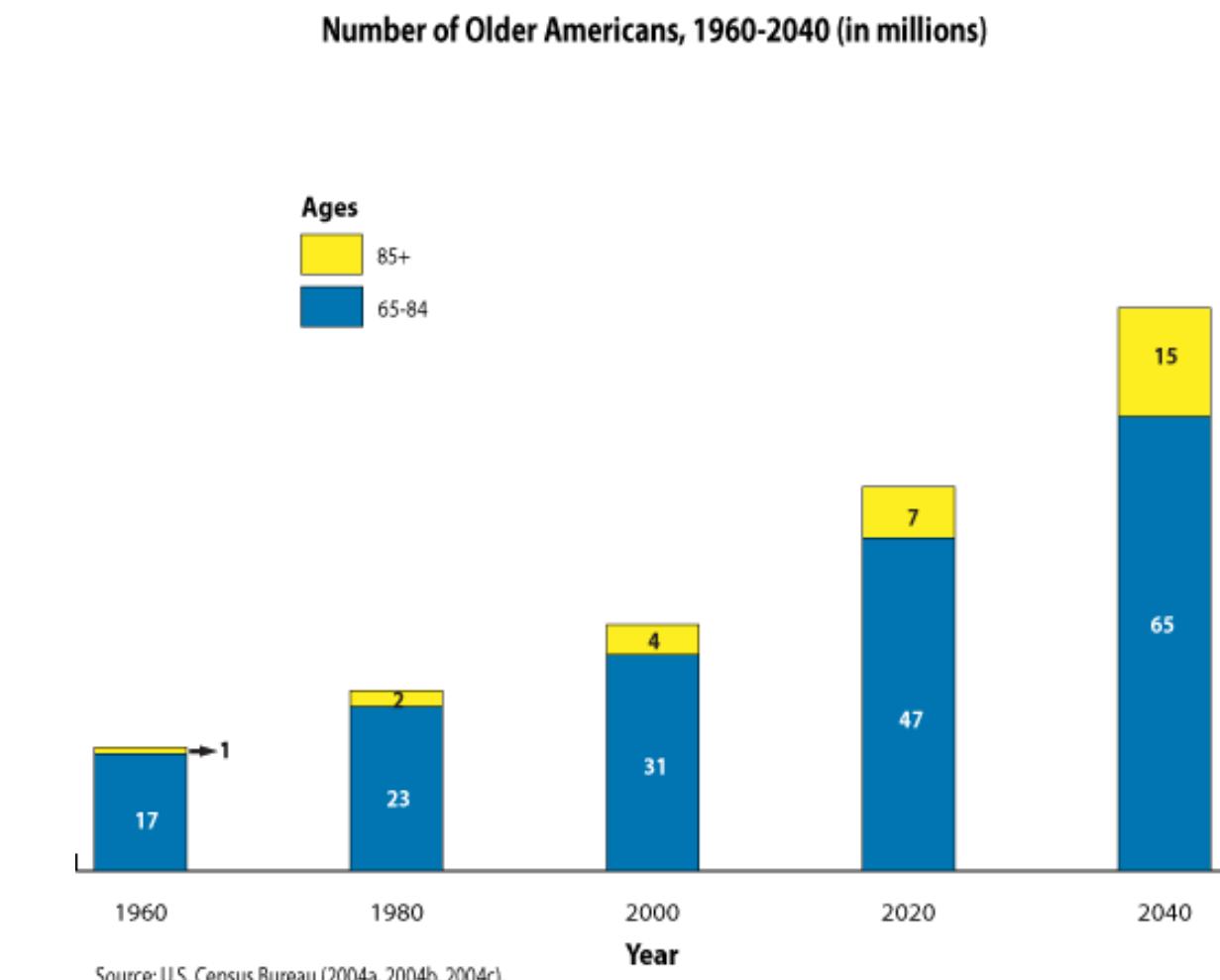
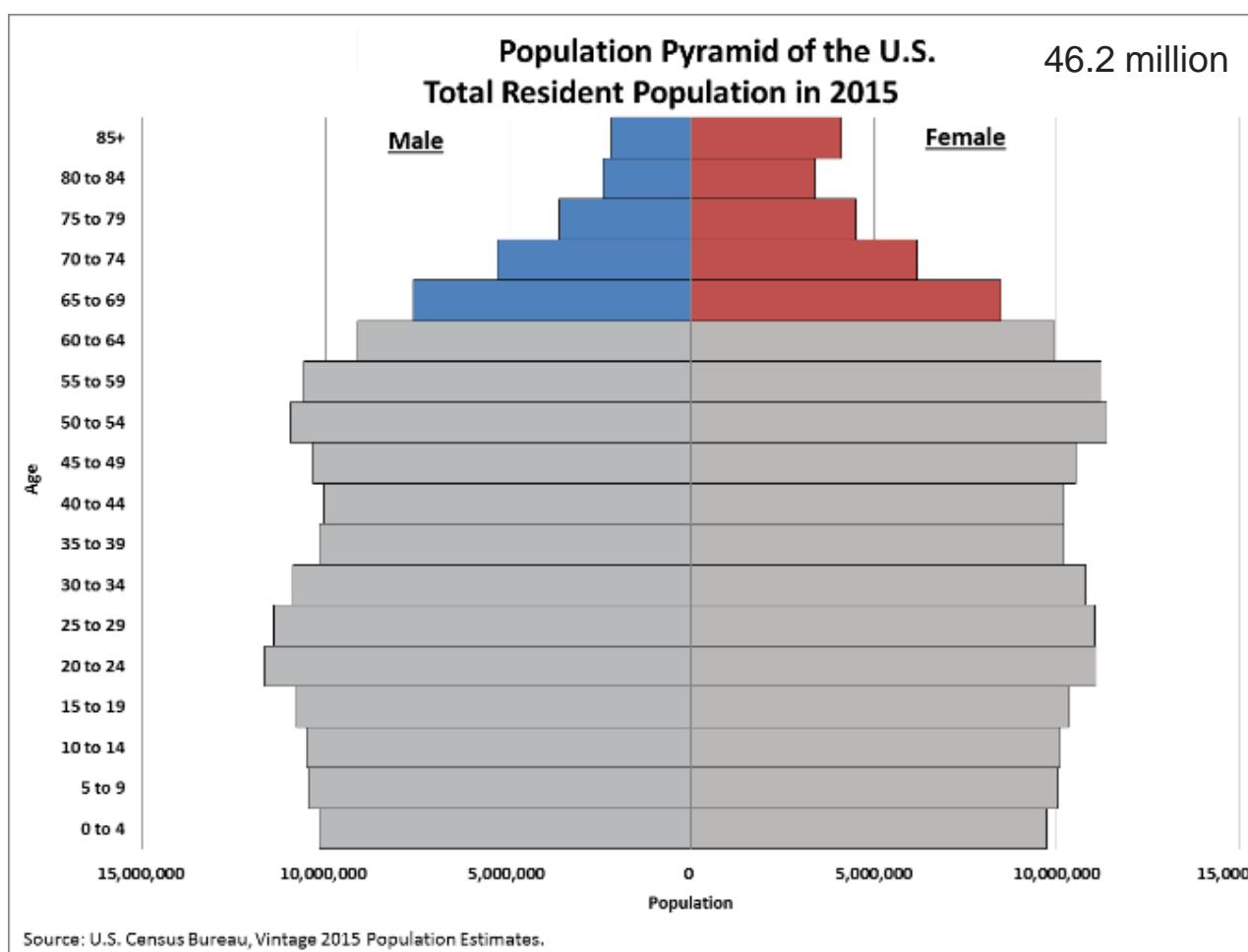
RESEARCH & CASE STUDY

[Work List_01](#)
[Research_02](#)
[Case Studies _03](#)
[Summary_04](#)

BACKGROUND	RESEARCH	CASE STUDY
Aging population in U.S.	Age-related diseases	Hogeweyk. Weesp, Netherlands
	Old adults' preference for parks	Denver Park City Loop. Denver, Colorado
	Strategies to promote aging in place	Kampung Admiralty. Woodlands, Singapore
	Concept of intergenerational community	A Patchwork in The Park. Prague, Czech Republic
		Vanke Cloud City. Guangzhou, China

Aging population in U.S. and Beyond

- The world's population is aging rapidly, , and fertility and death rates are declining. Compared with other age groups, these trends have led to an increase in the number and proportion of older adults. The American population is also experiencing this dilemma. In the next 40 years, the number of Americans over 65 will double, reaching **80 million by 2040**.



Age-Related Diseases

NORMAL AGING



Sensory change

Hearing Loss – special in multiple talkers
 Visual Acuity -problems with glare, making night driving riskier
 Dizziness –lead to falls



Muscle mass and strength decline



Decline in the immune system

SOMATIC DISEASE AND MULTIPLE CHRONIC CONDITIONS

- Cardiovascular Disease
- Cancer
- Respiratory
- Osteoarthritis
- Osteoporosis
- Diabetes Mellitus
- Hypertension
- **Multiple Chronic Conditions** – 62% of Americans over 65 have more than one chronic condition



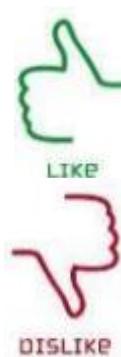
PHYSICAL FUNCTION

- **Declined walking speed** –the average walking speed for the age group of 85–89 is 1.1 m/s for men and 0.8 m/s for women. Physical activity interventions can improve walking speed.
- **Disability in Activities of Daily Living** - disability in dressing, bathing and instrumental activities of daily living such as cooking, chronic pain, depression, and complex medication regimens .
- **Falls** - the primary cause of morbidity and disability among older adults. Physical activity, vitamin D supplementation, balance exercise, and home safety assessment .
- **Frailty** – easily lead to disability, falls, hospitalizations, and poor surgical outcomes.
- **Mobility Disability** – lead to social isolation, falls, and depression.

PSYCHOLOGICAL AND COGNITIVE

- **Cognitive Aging**
 short-term memory loss, word-finding difficulty, slower processing speed
- **Dementia**
 need cognitive stimulation, caregiver support, and assistive technologies to improve safety and independence
- **Depression**
 because of the loss of families/friends, loss of income, and loss of physical, social, or cognitive function from illness.

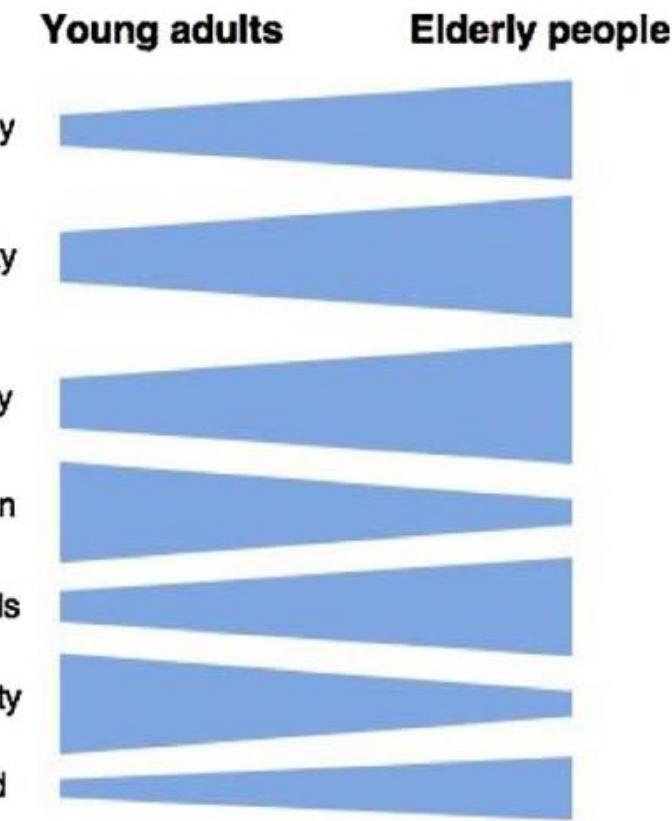
Elderly people Preference for Parks



Legibility, accessibility, safety, quality of trails

Park participation, vigorous physical activity.

In the park design, some characters like wayfinding, accessible design, trails and safety should be considered first.



Summary for Potential Design Elements

Category	Subcategory	Core Findings of Preference
Landscape Features	Aesthetics	Maintain naturalness , including wild animals, water features, open view with the visual center, and easily recognizable structures as needed
Infrastructures and Facilities	Trails	Pavement with anti-slip and water-resistant materials, well-designed paths connecting different attractions/destinations
Maintenance	Recreational facilities	Accessibility to recreational facilities and playgrounds for children
Accessibility	The proximity of green space	Amenities within walking distance from home to public green spaces, well-organized street network

Age-Friendly Communities

A place with policies, services, settings, and structures that encourage all residents to actively **age in place** and maintain their functional capacity over their entire lifetime, including early life, adult life, and older age.

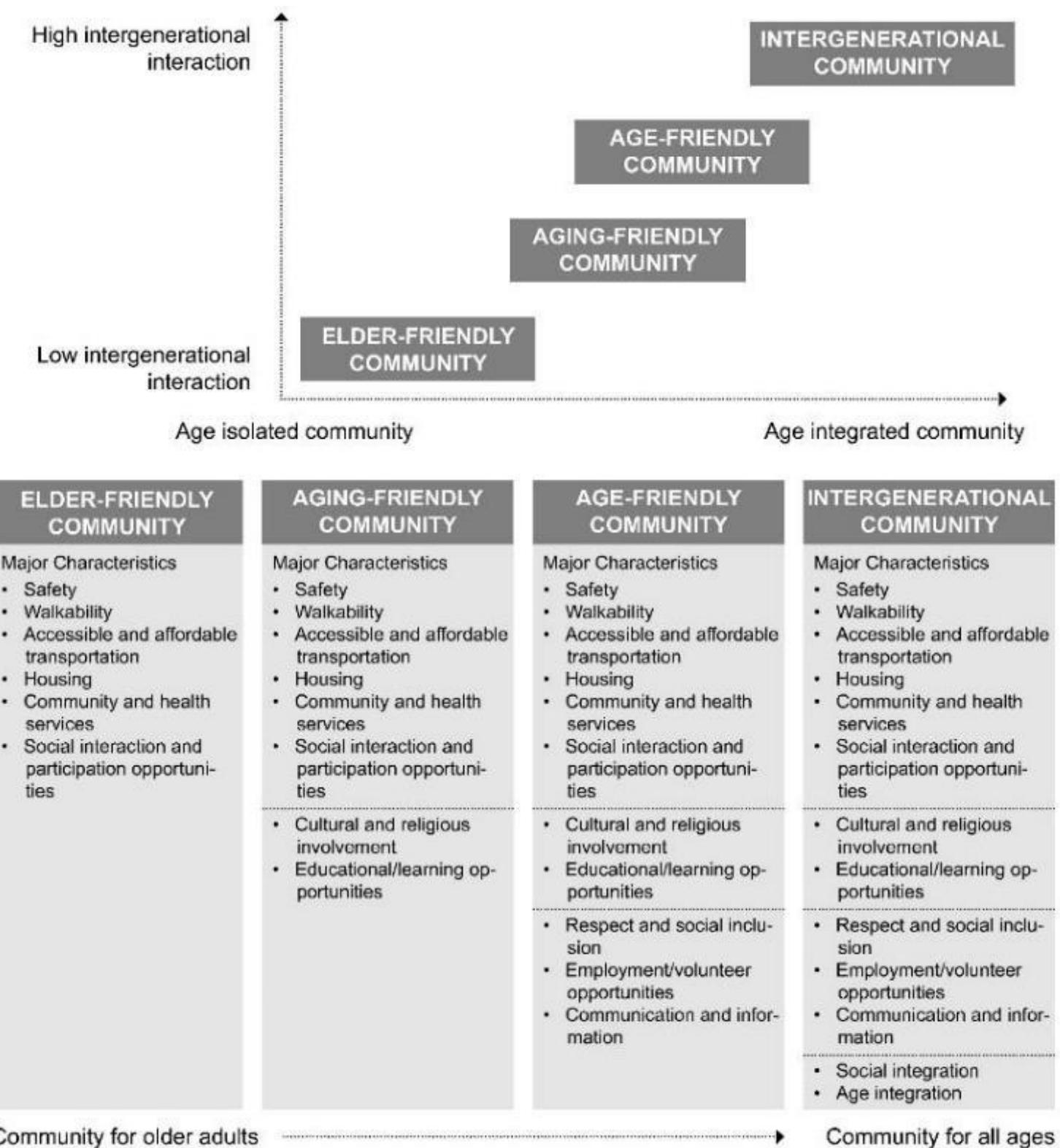
Design principles

Category	Subcategory
Landscape Features	Aesthetics, Legibility, Soundscape and Air Quality, Sunshine and shade, Cultural heritages
Infrastructures and Facilities	Trails, Intersections, Seating
Maintenance	Recreational facilities, Business settings and toilets, Cleanliness, Security
Accessibility	The proximity of green space, Travel modes other than walking, Interactions with others

Intergenerational Communities

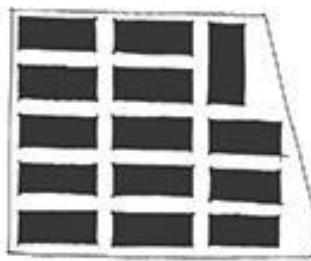
- Provides adequately for the safety, health, education and basic necessities of life for people of **all ages**;
- Promotes programs, policies, and practices that increase **cooperation, interaction, and exchange** between people of different generations;
- Enables all ages to share their talents and resources and support each other in **relationships** that benefit both individuals and their community.

Type of Communities

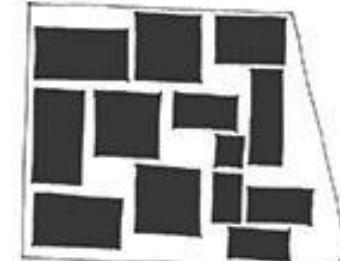


Hogeweyk

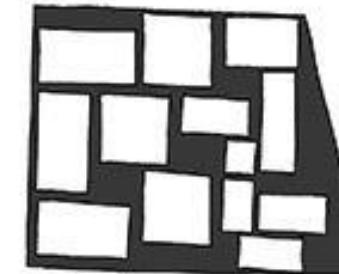
- Part of Hogewey **care center for dementia**
- Area: 2.79-acre
- Location: Weesp, Netherlands



House grew

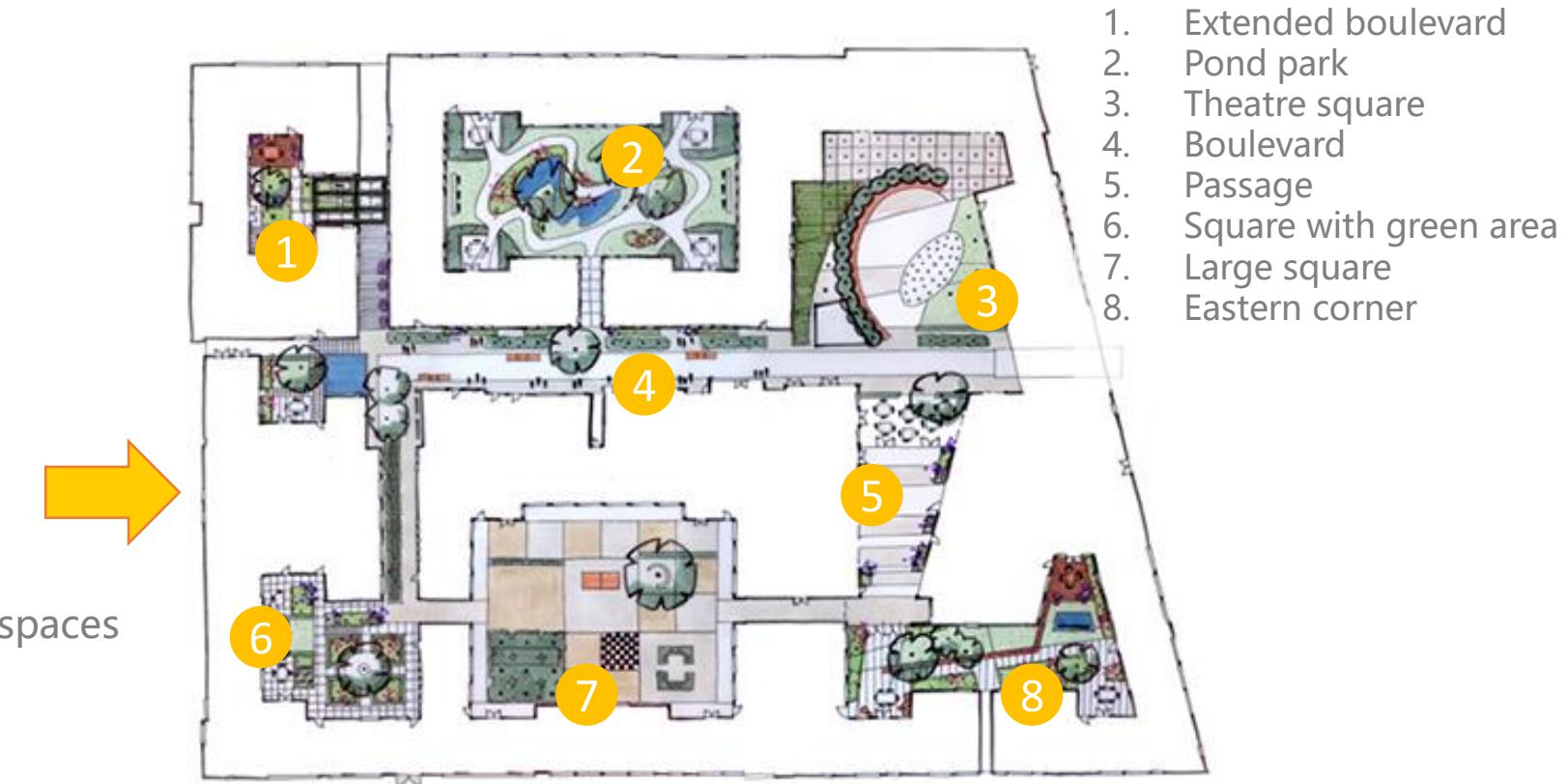


Creating diversity homes



Design of various spaces

Landscape spaces created through architectural **deformation and dislocation**.



Building skywalks connect all the buildings.

Public Space

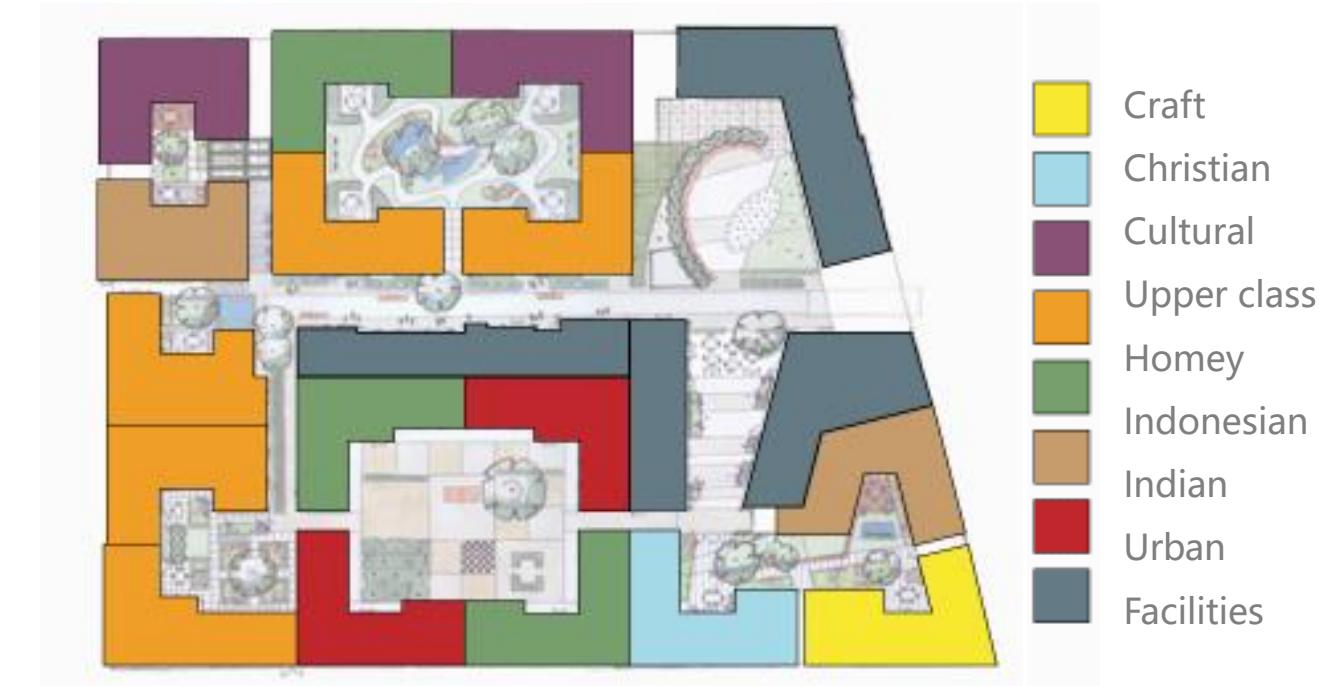
- Residents with **dementia** to maneuver freely through the complex while still staying within the protected environment.
- All outdoor environments designed to be clearly **recognizable/legible**.
- Outdoor spaces that are **diverse** with a wide range of options.

<https://hogeweyk.dementiavillage.com/design-for-aging-boek/>

Hogeweyk

Implications:

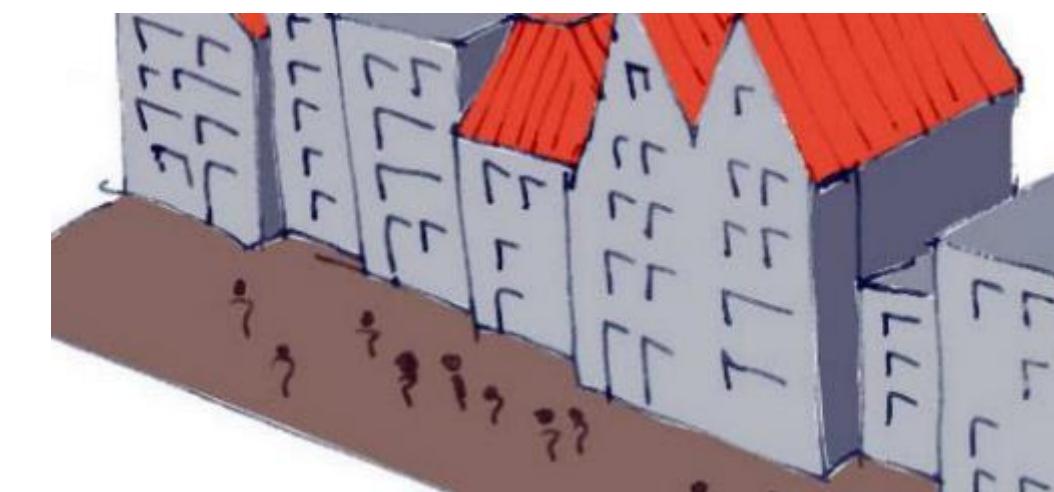
- Building blocks defining the introverted public space.
- Different gardens with unique characters and functions that are **easy to remember and find for seniors**.
- **Retails** located along the boulevard.
- The overpass connecting adjacent buildings and providing views of nature.
- **Different styles** of houses to fit the personalities or preferences of residents.



Provide **different styles** of houses to fit the diverse personalities or **preferences** of residents. Grouping elderly people who **share the same** social values and lifestyles



Square-Centrally oriented (introverted), intimate, living together, walls with functions.



Street-linear (extroverted), dynamic, street as extended living room, temporary.

Kampung Admiralty

- Mixed-used Architecture for all ages
- Location: Woodlands, Singapore
- Area: 0.22 acres
- Height: 150 ft (45 m, 11-storey)
- Designer: WOHA
- Opening: 2017

Design Features:

Building layered as **club sandwich** approach with a **vertical** kampung (an integrated building with public facilities of different functions on the vertical level) and **three tier** co-location of amenities.

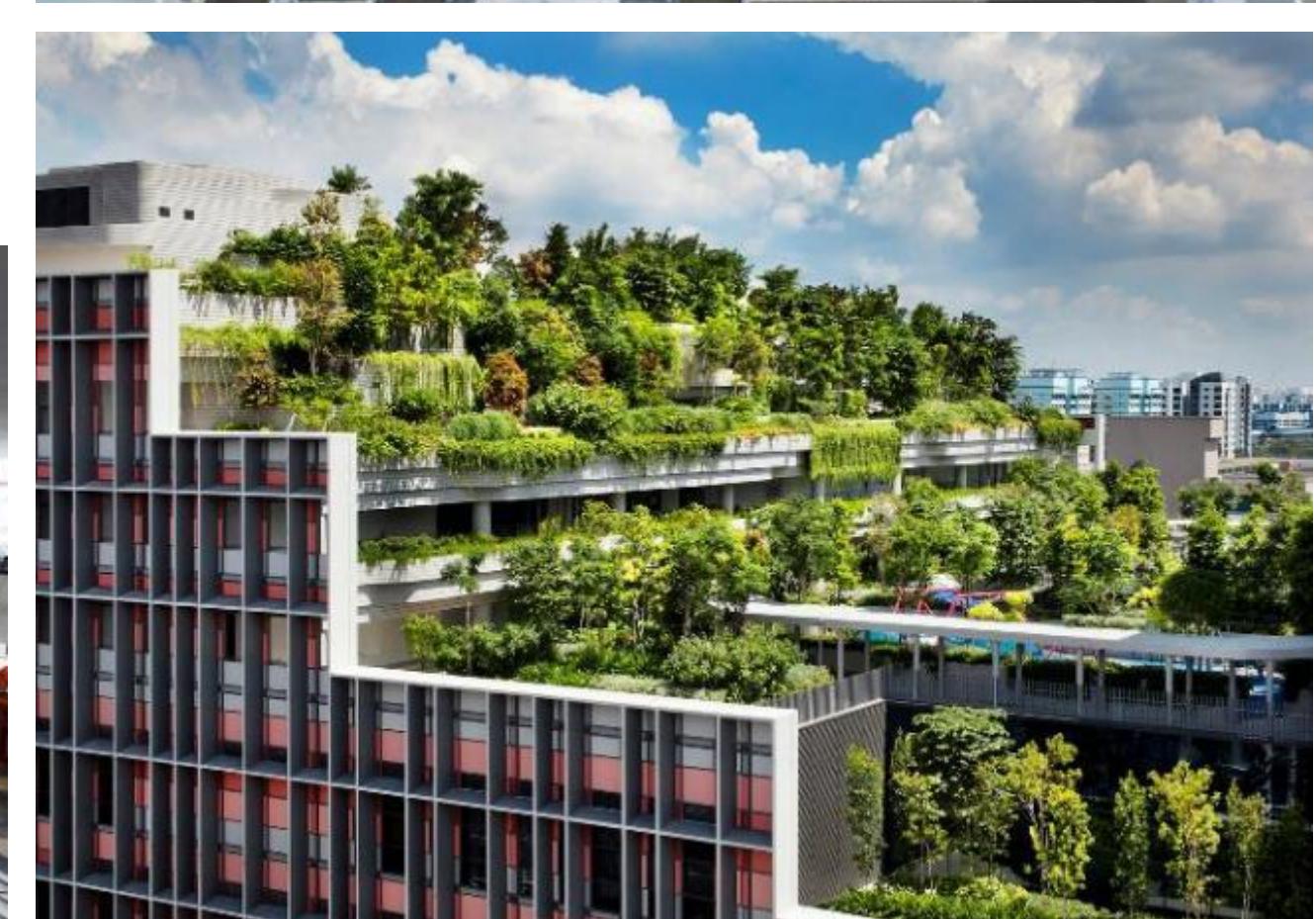
- **Upper stratum** - a Community Park and Community Farm with studio apartments for seniors
- **Mid stratum** - a Medical Centre (Eldercare and Children Care Center)
- **Lower stratum** - Community Plaza and Shops, Supermarket, Hawker Center (Second floor)
- **Basement** - Carpark and Bicycle Parking



Kampung Admiralty

Design Features:

- **The Community Plaza** - community living room for organized events, seasonal festivities, shopping, etc.
- **The Community Park** - elevated village green for exercise, socializing, and engage in activities with community farms.
- **Childcare and an Active Aging Hub** - located side by side, bringing together young and old to live, eat and play.
- **Aging apartments** - with “Buddy benches” at entrances encouraging seniors to come out of their homes and interact with their neighbors.
- Natural cross ventilation and optimum daylight.



Denver Park City Loop

Intergenerational play landscape and recreation circuit

- Area: 14 acre
- Location: Macon, Denver, Colorado

Implications:

- Multi-purpose use of the site
- The intentionally abstract form of the play features, inviting engagement by people of all ages and abilities.

<https://www.porturbanism.com/work/denver-city-park-city-loop/>

- City loop creating a distributed, fully accessible recreation circuit.
- This loop going around a **big open lawn** that allows for the activities of the Loop to **extend to the interior** areas of the site.
- Each space creating a distinct **micro-environment** for play and social interaction.



CASE STUDY

Denver Park City Loop



A Patchwork in The Park

Courtyard for office workers

- Location: Prague, Czech Republic
- Designer: Cigler Marani Architects

The park includes a **courtyard** for office workers to enjoy their break time in a **patchwork of grassy hills, chess boards**, water features, and a **mixture of seating**.

Implications:

- Use **grids** to divide the area into small sections
- Provide different amenities and space to relax and fun



Vanke Cloud City

- **Grid system and modular furniture**
- Designer: Lab D+H
- Location: Guangzhou, China
- An affordable lifestyle for young generation.

Modular grid system

- The overall landscape **framework** on a **modular grid system**. From **softscape**, to **paving**, to outdoor **furniture** and installation, landscape elements are arranged on this modular system so that they are easy to construct, assemble, and replace.



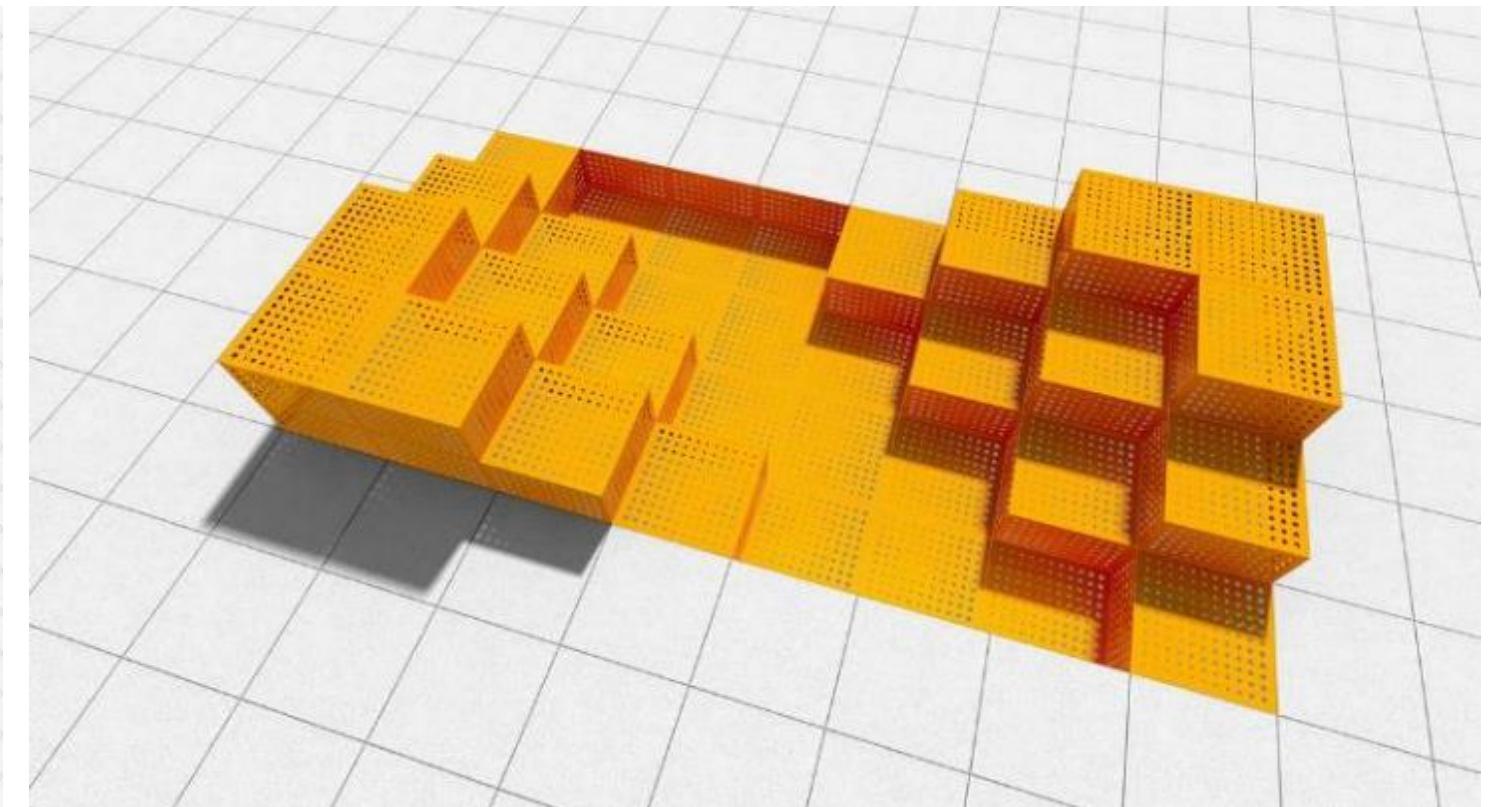
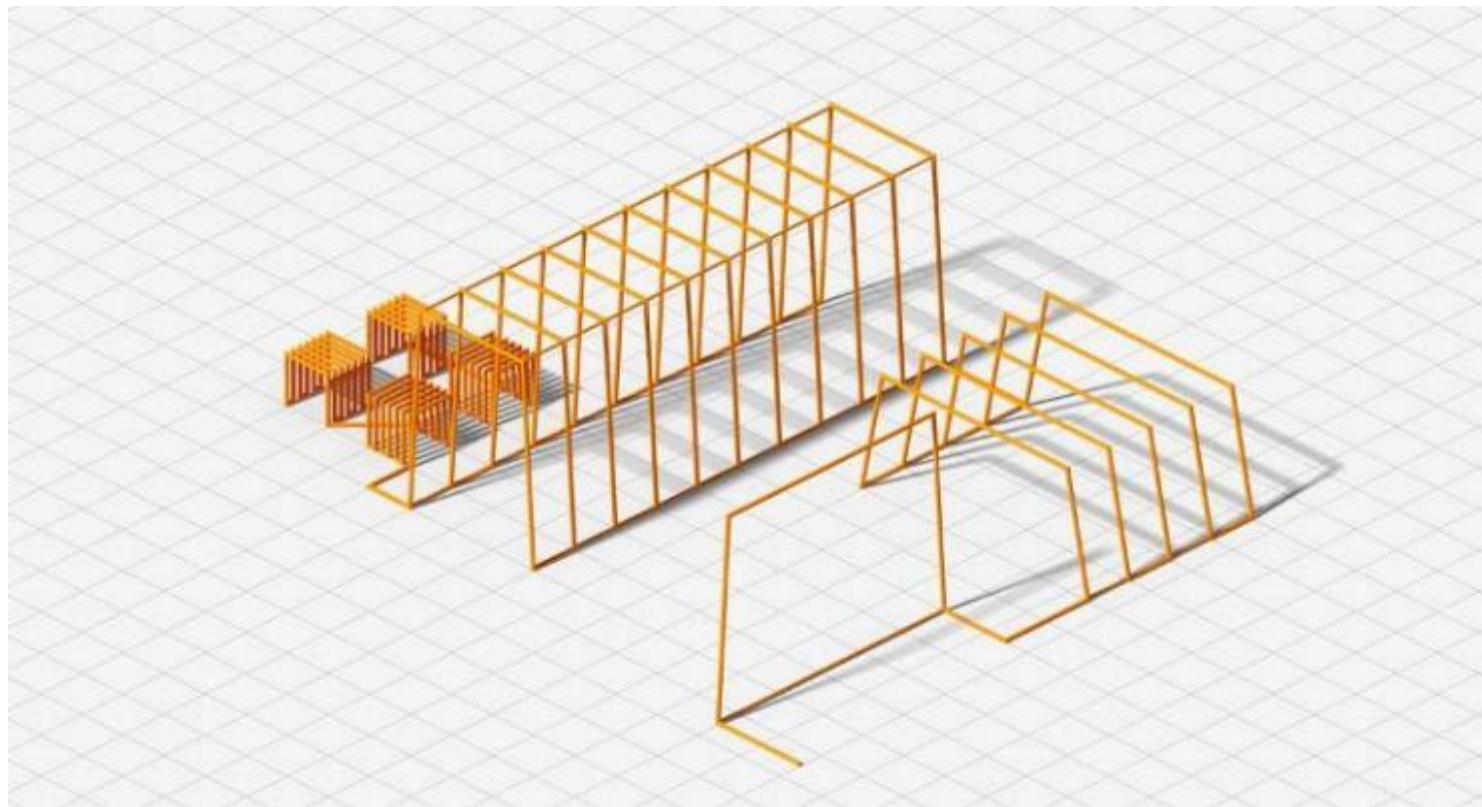
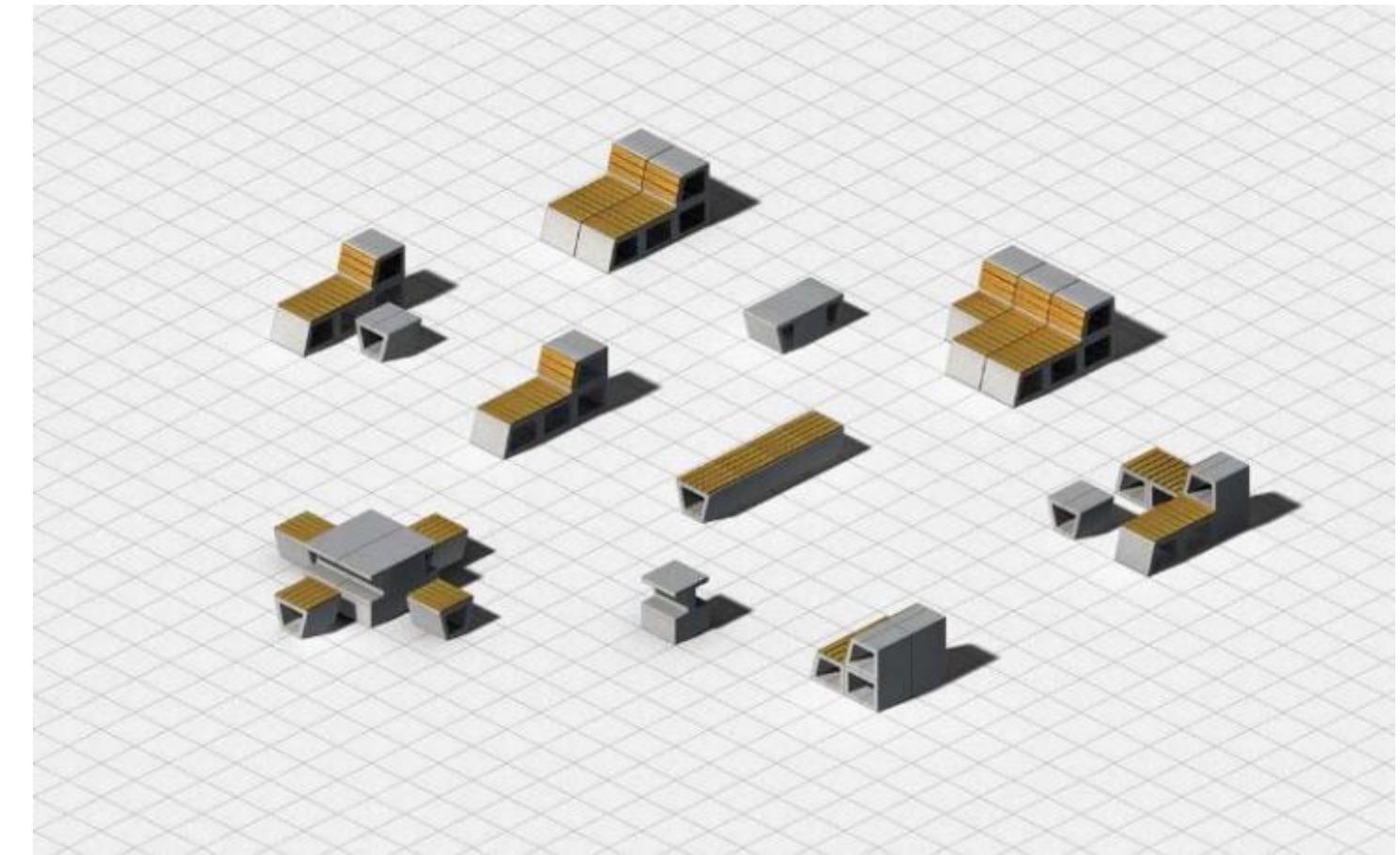
Vanke Cloud City

Modular furniture system

- Assembled precast concrete modular outdoor furniture could meet customers 'need with more than 20 different combinations.

Interactive landscape

- The Cloud Line is a **continuous tubular steel** structure, bent into a bar, parallel bars, monkey bars, benches, and other fitness facilities.
- Cloud Seat is a modular set of interactive spaces made of pre-perforated **steel plate**.
- Cloud Seat is lit up at night and produces stunning **lighting effects** through the perforated plate.



Hogeweyk — **Square-Centrally** oriented (introverted) vs. **Street-linear** (extroverted)

Denver Park City Loop — City Loop going around a **big open lawn**, with small and intimate spaces for play and social interaction along the loop

A Patchwork in The Park — **Patchwork** of grassy hills, chess boards, and a mixture of seating

Kampung Admiralty — Public areas for **intergenerational interaction** like the Community Plaza, community farms. Childcare and an Active Aging Hub are located side by side.

Vanke Cloud City — **Efficient modular furniture system** for outdoor furniture

SUMMARY

Age-Related Diseases	Strategies	Details
NORMAL AGING DISEASE <ul style="list-style-type: none"> • Sensory change • Strength decline • Decline in immune system • Difficulty in temperature adaptation 	Safety and Security 	<ul style="list-style-type: none"> • Non-slip paving • Enough seats with handrail and back • Sufficient lights • Good visibility and supervision in outdoor space
	Comfort 	<ul style="list-style-type: none"> • Temperature moderation/ control • Shadowing in hot area • Comfortable seat with backrest, handrail
CHRONIC DISEASE <ul style="list-style-type: none"> • Cardiovascular Disease • Hypertension • Cancer • Diabetes Mellitus • Osteoporosis • Osteoarthritis 	Good Walkability 	<ul style="list-style-type: none"> • Trails without crowds and collisions • No trip hazards • Eye-line to facilities • Low-glare paving • Street network with good connectivity
	Good Accessibility 	<ul style="list-style-type: none"> • Easy access to nature • Easy wayfinding • Appropriate walking distance
PHYSICAL FUNCTION RECESSION <ul style="list-style-type: none"> • Declined walking Speed • Mobility Disability • Disability in Daily Living • Falls, Frailty, Continence 	Therapy 	<ul style="list-style-type: none"> • Sensory Stimulation • Exercise and active living programs • Therapeutic landscape for seniors and disabled • Amenities to promote outdoor activities • Engagement activities related to art, music, food, and nature
PSYCHOLOGICAL AND COGNITIVE <ul style="list-style-type: none"> • Cognitive Aging • Dementia • Depression 	Biophilia 	<ul style="list-style-type: none"> • Path in nature • Community farm for gardening • Butterfly sails • Local microclimate environment
	Social Engagement 	<ul style="list-style-type: none"> • Public area for social participation • Urban agriculture for intergenerational interaction • Social integration events for residents of all ages and abilities • Intergenerational interaction that are mutually beneficial



<https://www.designspiration.com/save/17853509760513/>

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SITE ANALYSIS

Context_01
Zoning Regulation_02
Census Data_03
Service Analysis_04
Green Space_05
Circulation_06
Topology_07
Weather_08
SWOT_09

CONTEXT

Location

Mueller in Austin, TX

Area

Totally 7.5 acres

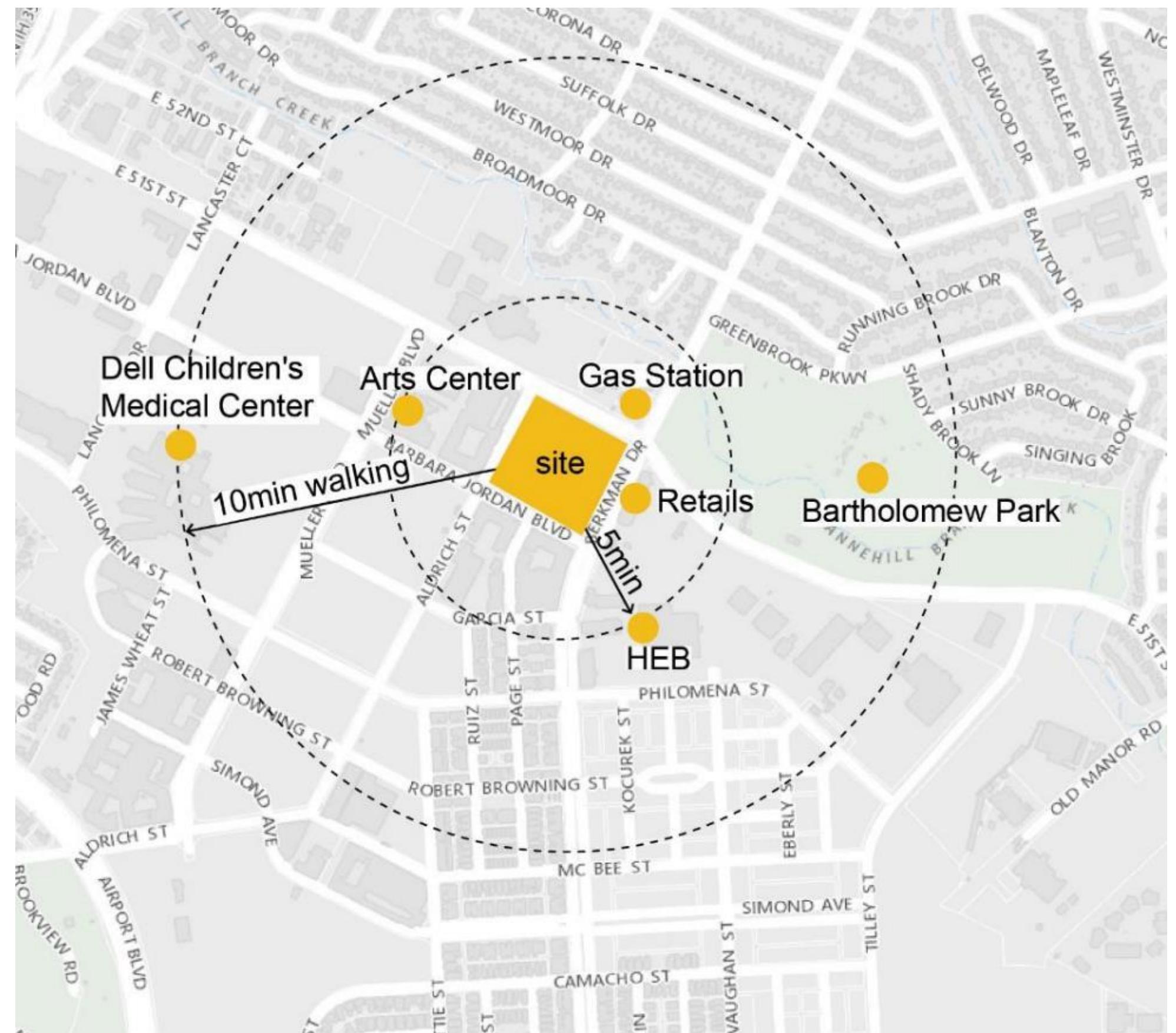
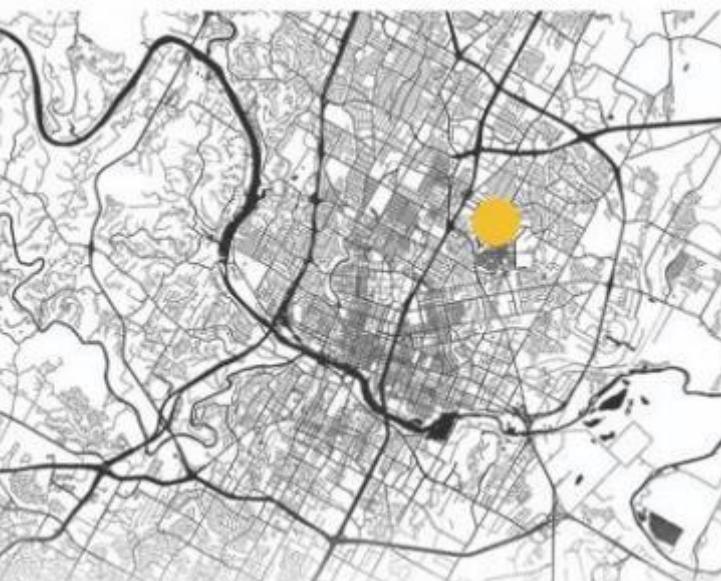
Surroundings

5min walking distance to HEB and Art Center, 10min walking distance to Dell Medical Center and Bartholomew Park.

TEXAS



AUSTIN



1. Mixed Use Commercial

The site is Mixed Use Commercial area including two mixed-use buildings, an office building, retails and green space.

2. Mixed-Use Residential

These apartment houses or neighborhood-scaled office buildings offer the opportunity to create activity centers with local serving retail and restaurant uses, as well as neighborhood-serving amenities and services at the street level.

3. Yard Houses

These yard housed are greenhouses mainly for single-family detached.

Legend

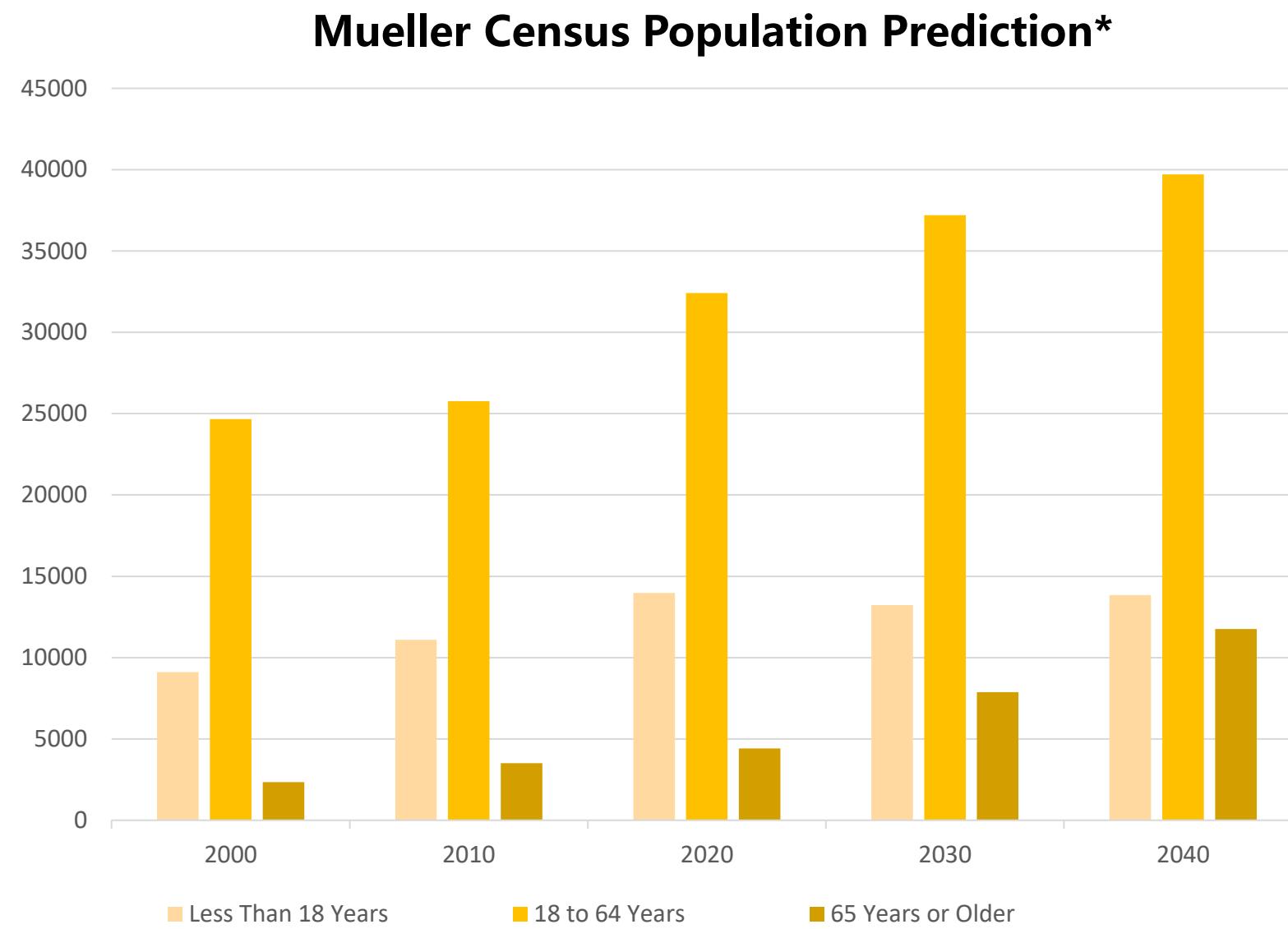
- Civic/Institutional
- Austin Film Society, Fire Station
- Yard Houses
- Row Houses/Shop Houses
- Mixed Use Commercial
- Mixed Use Residential
- Open Space



Mueller Design Book, Austin, Texas. By Catellus Development Corporation. September 2017. p20.

Population Prediction

- By 2040, there will be **11,754** people over 65 years in Mueller.
- About **764** older people living in nursing homes and assisted living facilities.
- Children's share of the total population is declining while the senior **population** and their portion is **increasing** dramatically.



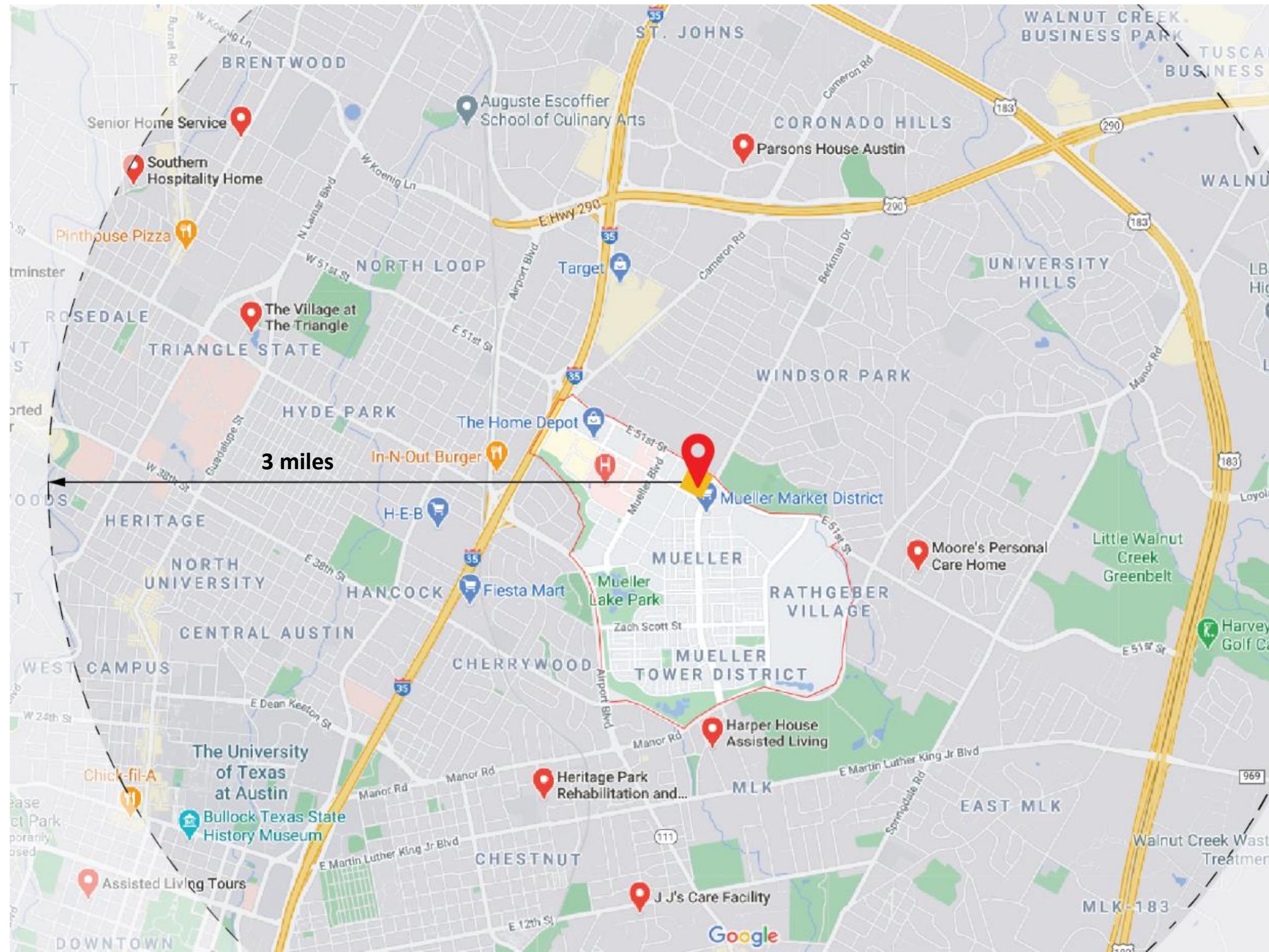
*Based on 2017 Austin Census Data from United States Census Bureau, Aging Service Council of Central Texas for age groups increased rate, and population of Mueller Community from austintexas.gov

<https://www.agingservicescouncil.org>
<https://www.census.gov/data/tables/time-series/demo/popest/pre-1980-county.html>
https://www.austintexas.gov/search-pages?search_api_fulltext=census+data&department=&sort_order=DESC&sort_by=search_api_relevance
[https://www.ncbi.nlm.nih.gov/books/NBK51841/#:~:text=Only%204.5%20percent%20\(about%201.5,million\)%20live%20in%20the%20community.](https://www.ncbi.nlm.nih.gov/books/NBK51841/#:~:text=Only%204.5%20percent%20(about%201.5,million)%20live%20in%20the%20community.)

Institute of Medicine (US) Food Forum. Providing Healthy and Safe Foods As We Age: Workshop Summary. Washington (DC): National Academies Press (US); 2010. 2, Size and Demographics of Aging Populations. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK51841/>

Age Group	Percent Change 2000 ~ 2400	2000	2010	2020	2030	2040
<18	7.26%	9,106	11,102	13,970	13,238	13,844
18 to 64	23.04%	24,656	25,757	32,410	37,206	39,702
≥65	14.40%	2,349	3,512	4,420	7,873	11,754
Live in nursing homes assisted living facilities		153	228	287	512	764

Nursing Home And Assisted Living Facilities Nearby



The map shows **nursing home** and **assisted living facilities** within 3 miles of Mueller. There is **no** nursing home or assisted living facilities in the **Mueller** Community. The nearest assisted living (Moore's Personal Care Home) is **1 mile** away.

Implications:
By 2040, more than **764** **older adults** live in nursing homes or assisted living in Mueller. Proper arrangement is needed to accommodate older adults within Mueller.

GREEN SPACE

Community Park



1
Bartholomew Park
10-20min walk
52.6 ac



2
Bartholomew Municipal
Pool
Children playground
Delwood Sports Complex



3
Mueller Lake Park
15min walk
30ac



4
Browning Hangar
Mueller Lake
Amphitheater
Shade corridor



5
Southwest Greenway
25min walk
36.0 ac



6
Butterfly Garden
Pond
Woody



Classification	Acres	Service Radius (mile)
Mini Park	< 1	0.25
Neighborhood park	1 – 15	0.25 - 0.75
Community Park	16 – 99	1 - 2
Metropolitan Park	100 - 499	> 2

GREEN SPACE

Neighborhood Park



4
Northwest Greenway
13min walk
11.7 ac
(Liner park)



Trails
Playground
Shade corridor



5
Ella Wooten Park
18min walk
2.98 ac



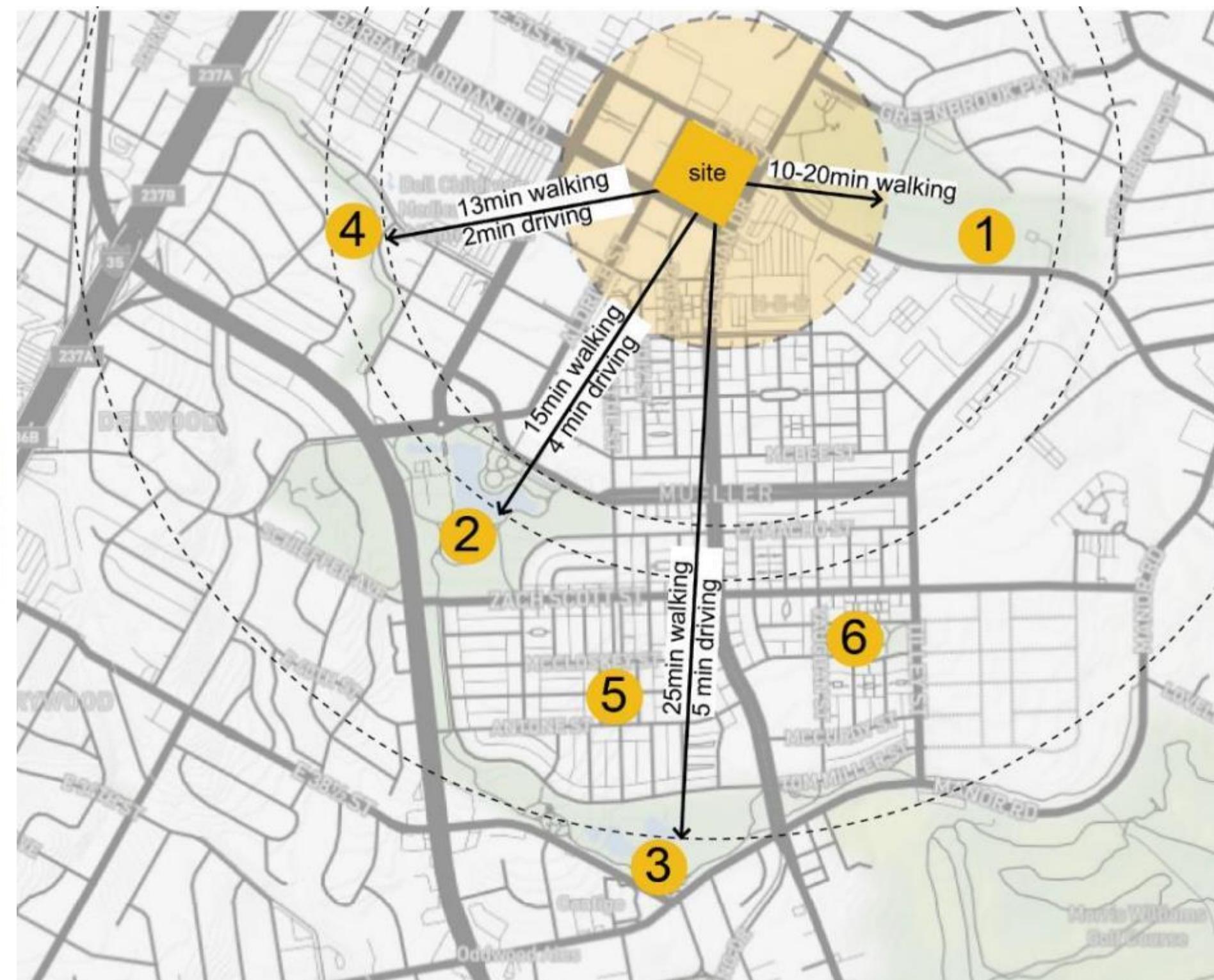
Swimming pool
children playground
a basketball court
open lawn
lack shadowing



6
John Gaines Park
20min walk
3.65 ac



Swimming pool
outdoor seats
Container gardens



Implications:

Our site is neighborhood park. Shortcut from the intergenerational apartments to Bartholomew Park for kids.

Service radius: 10min walk. Mainly for nearby neighborhood.

Feature: Aging-friendly park, intergenerational interaction

CIRCULATION

The site is surrounded by four roads, two **main roads** with **high traffic volume** and bike lanes (E 51 ST, Berkman Dr). The other two roads are **pedestrian-friendly** roads with **lower traffic volume** and street trees (Aldrich St, Barbara Jordan Blvd).

Legend

- 51st Street
- Community Boulevard
- Aldrich Street
- Neighborhood Community Street
- Park Boulevard
- Greenway Extension Street
- Neighborhood Local Street
- Off-Street Shard Path
- In-Street Bike Lanes
- Cycle Tracks



CIRCULATION



1
E 51ST
65ft width
High traffic density
4 driving lanes +
1 cycling lane

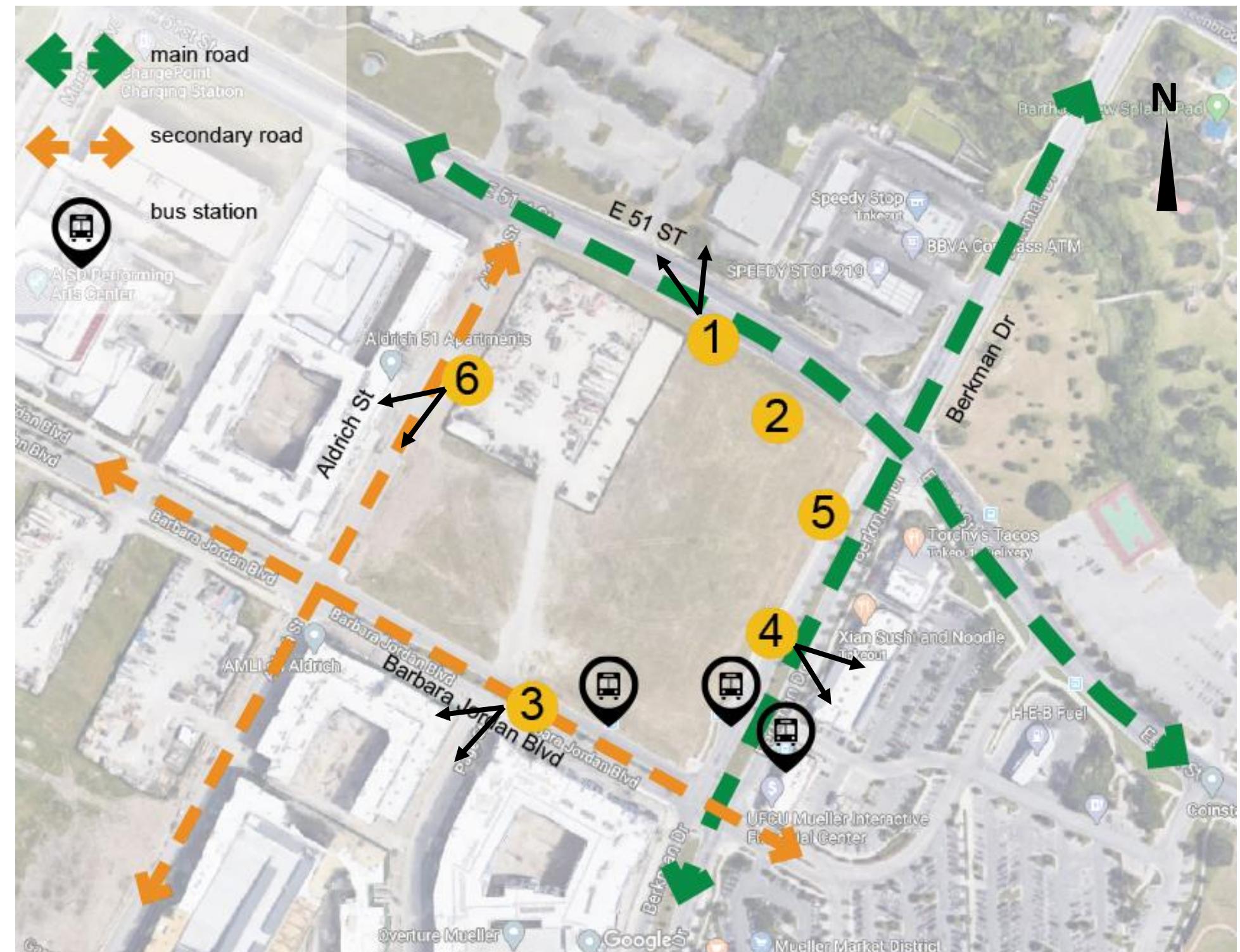


3
Barbara Jordan Blvd
63.5ft width
Less vehicles
four driving lanes +
green planting



5
Bus station
at Berkman Dr
Metro 10, 335

6
Aldrich St
40.5ft width
Less vehicles
3 driving lanes.
Parking on both
sides of the road.



Implications:

Buffer zones are needed near E 51 ST and Berkman Dr. Optimal locations for the **main entrances** to the buildings are on the Aldrich St, Barbara Jordan Blvd with less traffic.

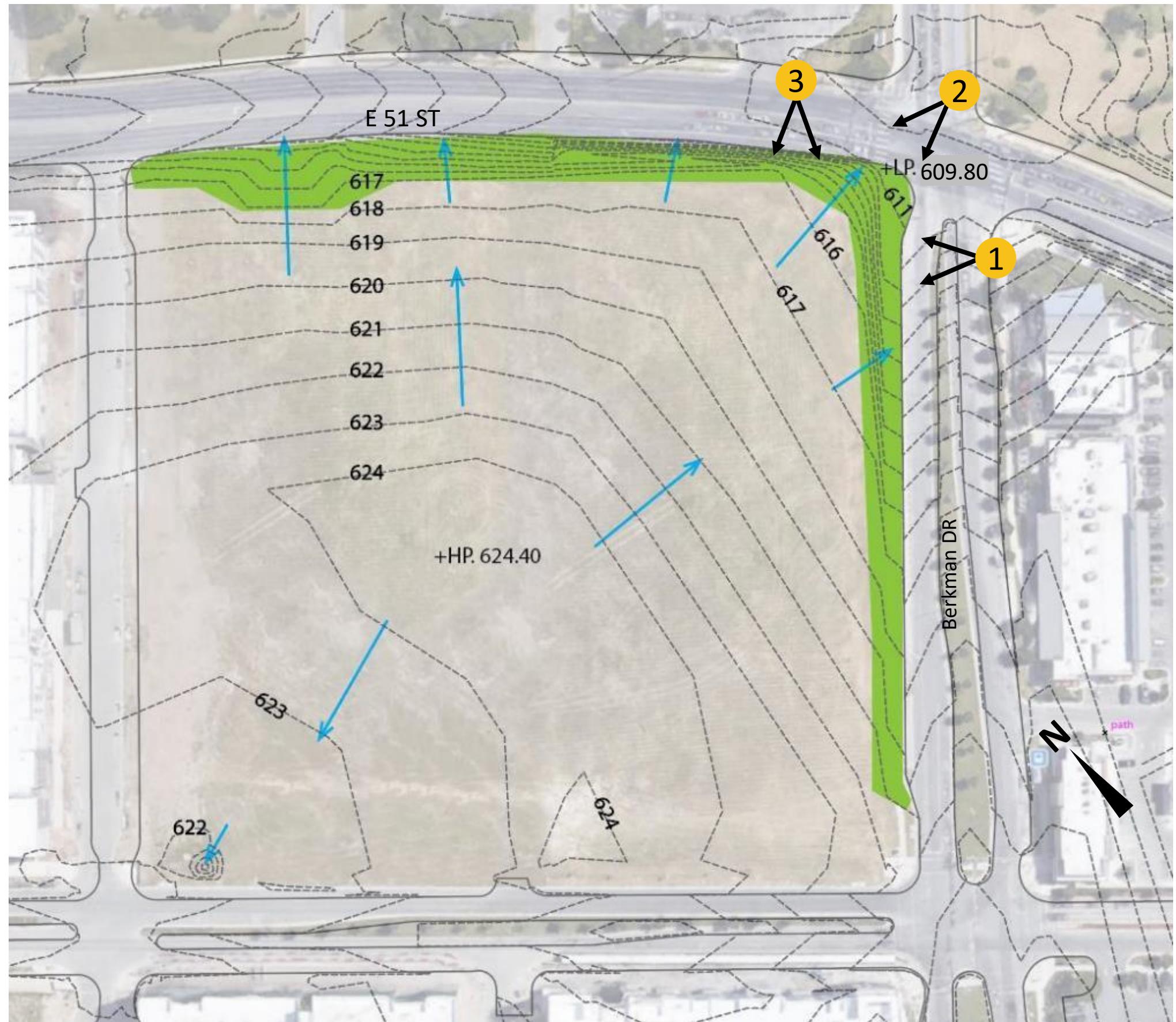
TOPOLOGY



- Low Point=609.8 ft; High Point=624.4 ft; **Difference=15.6 ft**
- The steeper slope is located at the northeast corner along the Berkman Drive and E 51 ST; the major water runoff direction is from the center to southwest and northeast.

Implications:

The steep areas **along the north and east sides** highlighted in green are not suitable for construction or heavy activity use. These areas can serve as **buffers** with vegetation to protect/stabilize the slope and screen the pollutant and noise from high traffic.



WEATHER

Average Annual Low/High Temperature: 41°- 97°

- November - February (Coolest Months)
- March - October (Hottest Months)

Average Annual Low/High Rainfall: 1.9" – 4.4"

- April - June and October - May with the highest rainfall

Average Annual Low/High Humidity: 5% - 80%

- November - April (Least Humid)
- May - September (Muggiest)

Average Annual Low/High Wind Speed- 7.9mph/10.9mph

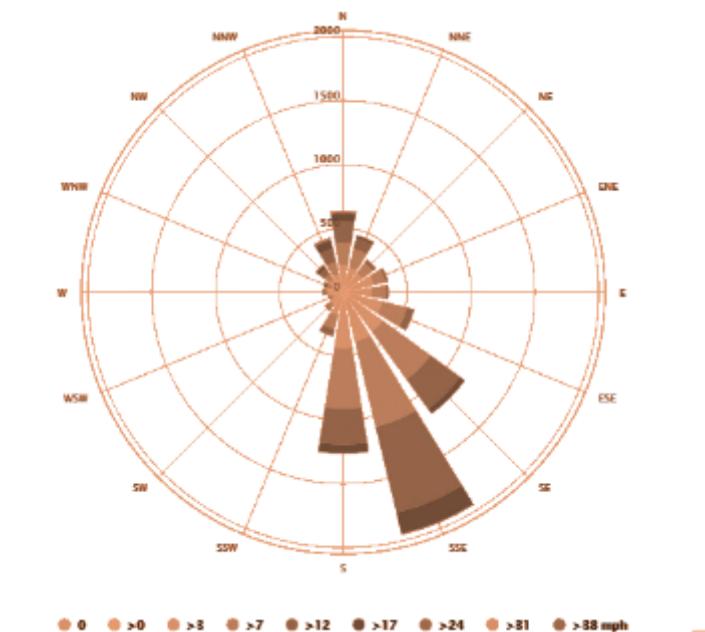
- November - June (Highest Wind Speeds)
- July – October (Lowest Wind Speeds)

Prevailing wind: From **southeast** to northwest

Implications:

- The arrangement of buildings and other site elements should respect the summer **prevailing wind** to ensure proper air circulation and cooling.
- Austin has heavy **rainfall** in summer and fall, requiring to consider non-slip **paving and permeable paving** in outdoors, and stormwater collection and management strategies.

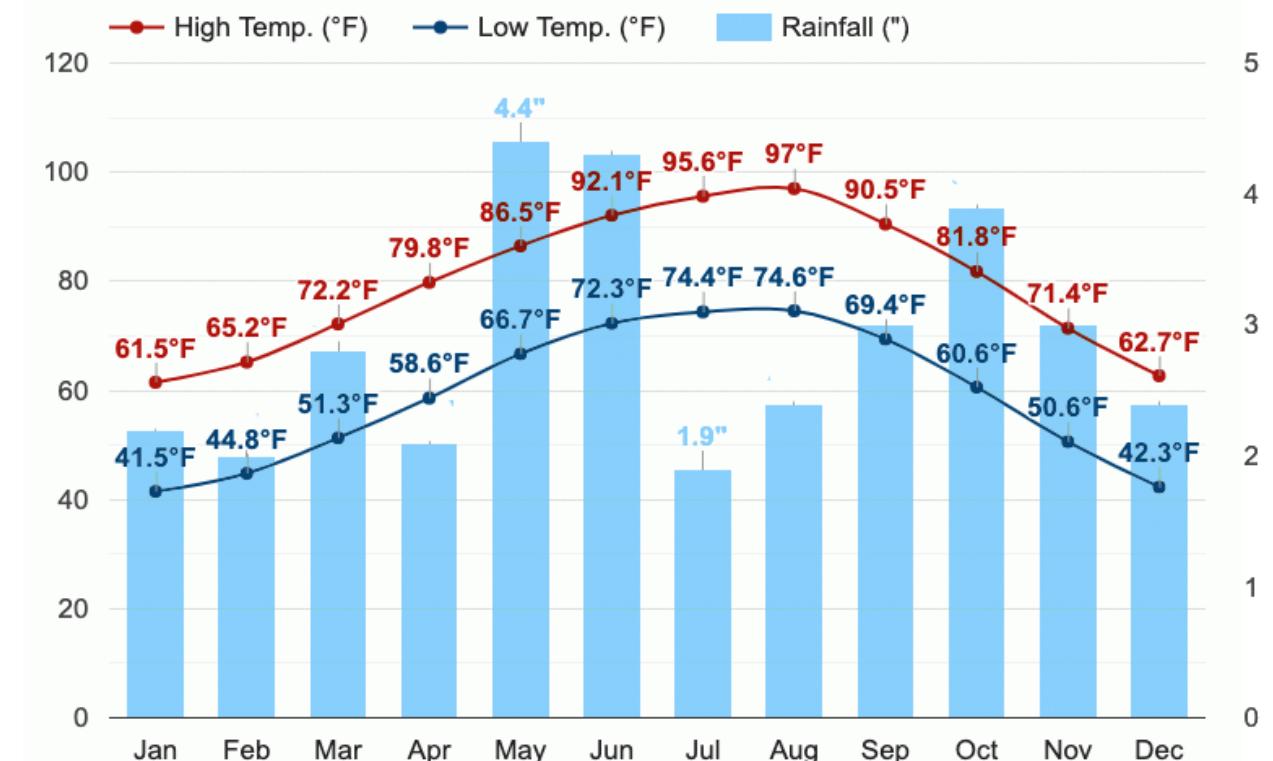
Wind Rose



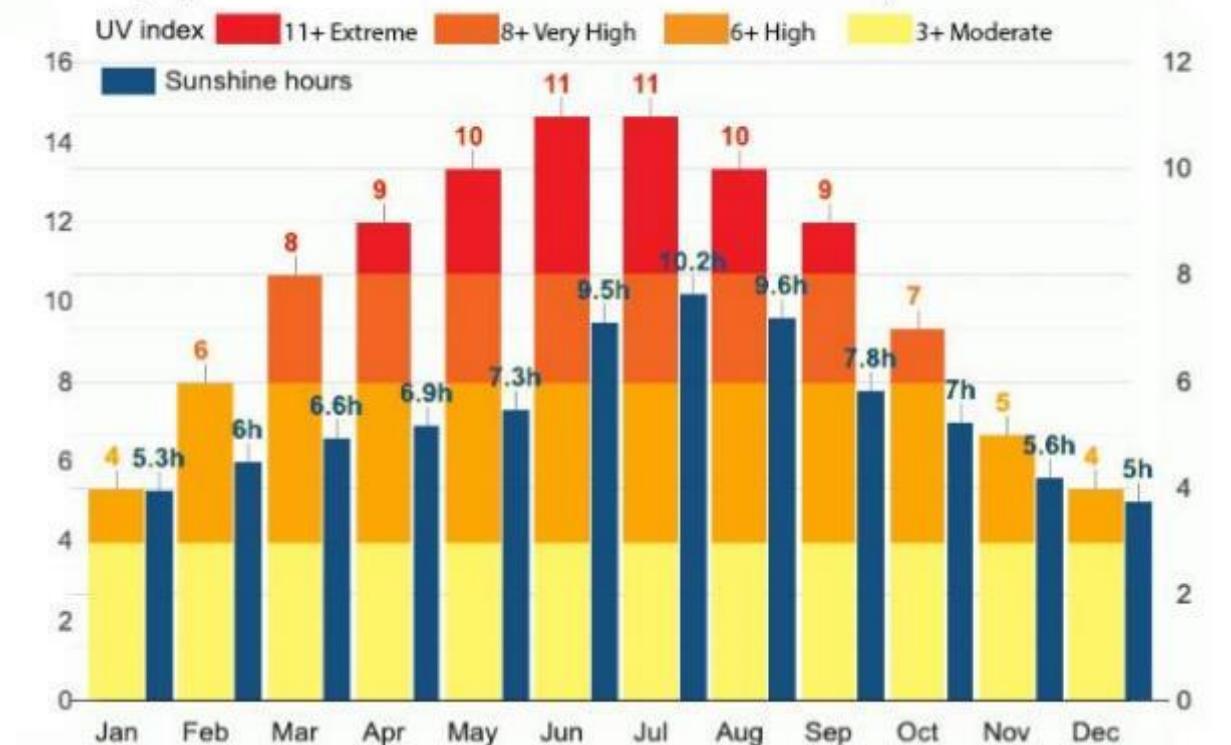
https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/austin_united-states-of-america_4671654

<https://uv.willyweather.com/tx/travis-county/austin.html>

Temperature - Rainfall - Austin, TX



Daylight hours / Sunshine hours - UV index - Austin, TX



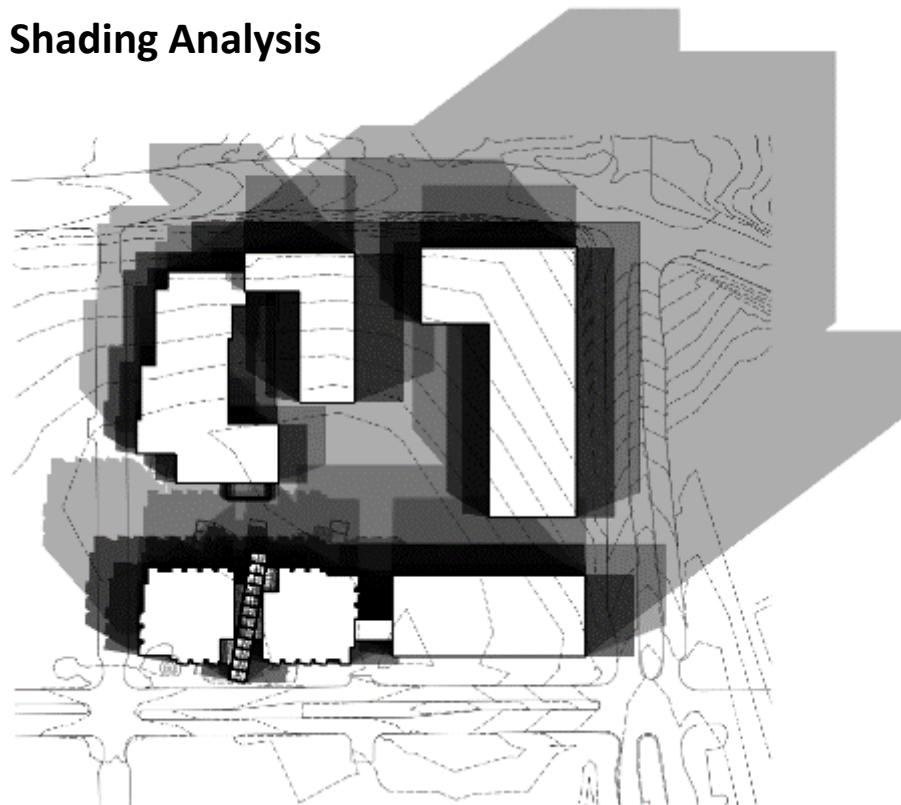
SOLAR

Sunrise and Sunset Times in Austin, TX

	January	February	March	April	May	June	July	August	September	October	November	December
Sunrise	7:30am	7:30am	7am	7am	6:30am	6:30am	6:30am	7am	7am	7:30am	7am	7am
Sunset	5:30pm	6pm	6:30pm	7pm	8pm	8:30pm	8:30pm	8:30pm	8pm	7pm	6pm	5:30pm

<https://www.timeanddate.com/sun/usa/austin?month=12&year=2020>

Shading Analysis



Implications:

- The **hot** and long summer weather requires the site plan to provide abundant **shade and pleasant microclimatic conditions** with **architecture, pavilions and trees**.
- In **summer**, Building **shade** could provide **comfortable** space for vulnerable populations.
- Vacant** places without shade in **winter** should be considered as places for enjoy **sunshine**.



Strength

- The majority of the site is **flat** easily accommodating most land uses and construction activities.
- The site is cleared and has no existing vegetation except grass.

Weakness

- **Significant elevation differences** from the adjacent sidewalk to the site along the northern property border creating challenges to ensuring **connectivity** for pedestrians and road infrastructure.
- The site is owned by two different entities **different demands and consumer demographics.**

Opportunity

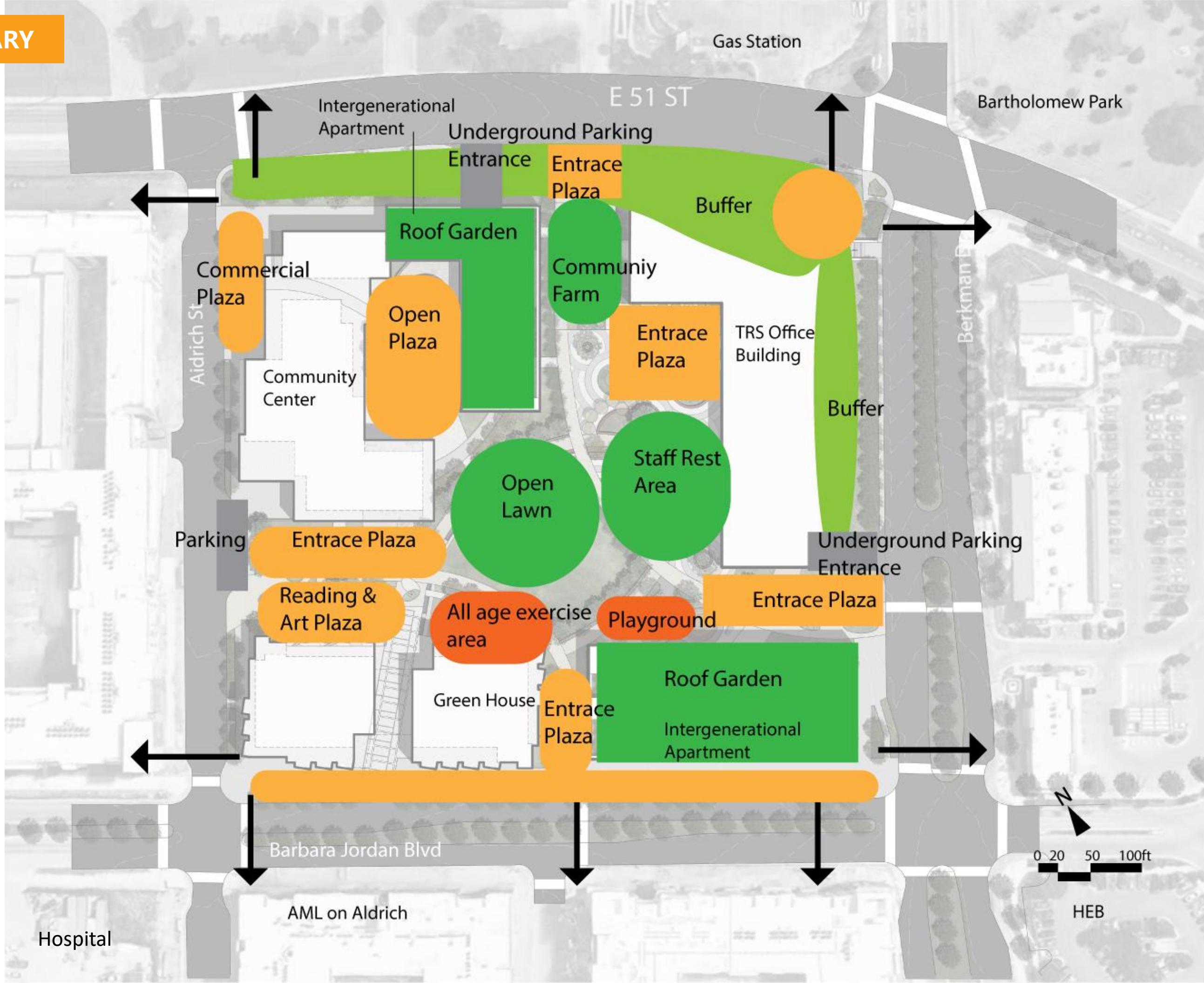
- The site is conveniently located adjacent to a major grocery store (**HEB**) and a **commercial center** of the Mueller with many daily destinations.
- It has easy access to abundant **green space including** three community parks within an easy walking distance.
- The site is adjacent to two existing multifamily housing developments, creating a nice residential atmosphere.

Threat

- The site is adjacent to major arterial roads with heavy **traffic volume** (E 51 Street and Berkman Drive).
- It needs to accommodate the diverse needs and requirements of diverse users and stakeholders.

SITE ANALYSIS SUMMARY

- **Buffers** on the north and east sides due to the **steep slope and high traffic**
- The **buildings along the road** to create a **centrally located** green space for intergenerational interaction and to provide summer **shade**
- The main **entrances** in the **south** for easy **access** to HEB and the hospital.





<https://www.designspiration.com/save/17853509760513/>

M

MASTER PLAN & SITE DESIGN

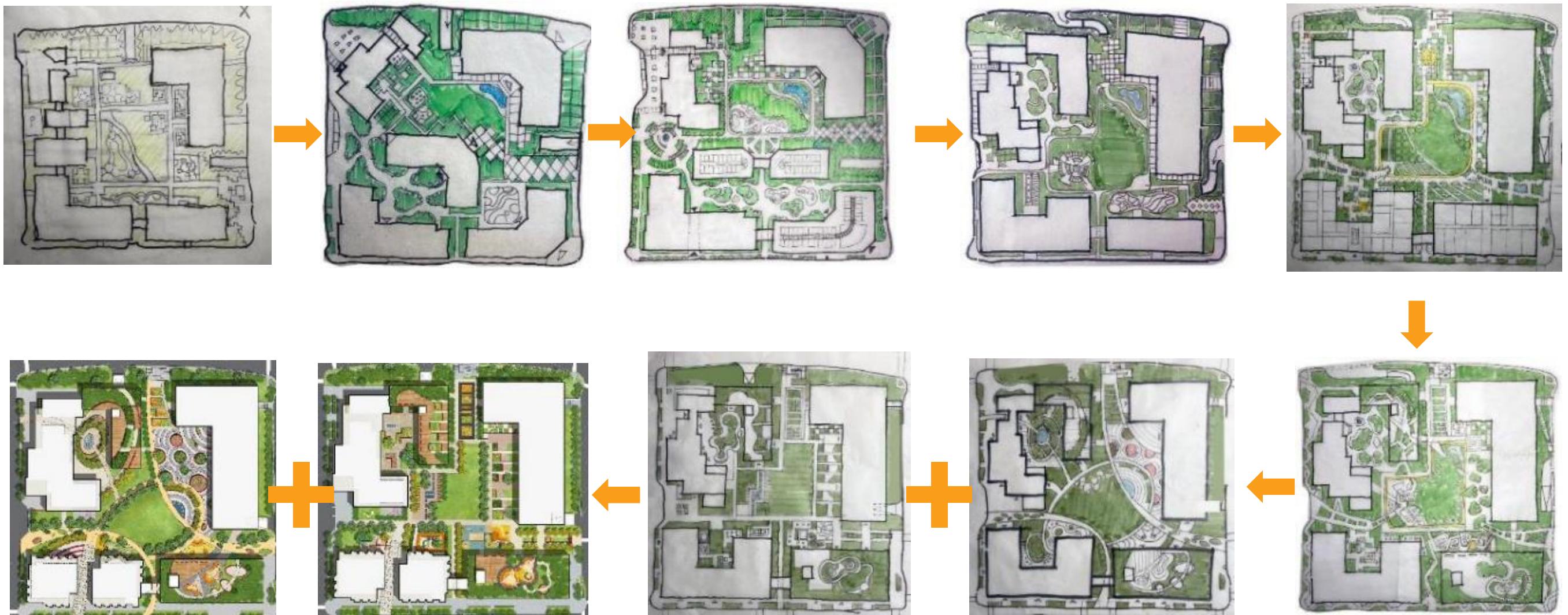
Plan generarion_01
Masterplan_02
Two Version Comparation_03
Building Analysis_04
Circulation Analysis_05
Concept Plan_06
Site Design_07

PLAN ALTERNATIVES

Layout of Buildings



Development of The Masterplan



The Final TWO Options Selected

ONE Vision: Same functional programs and materials throughout the site

TWO Solutions: Different design languages in terms of the form – circular versus rectilinear



Solution 1. Curve & Circle

Interplay of **circular forms** representing a cycle of human life and a life cycle of trees

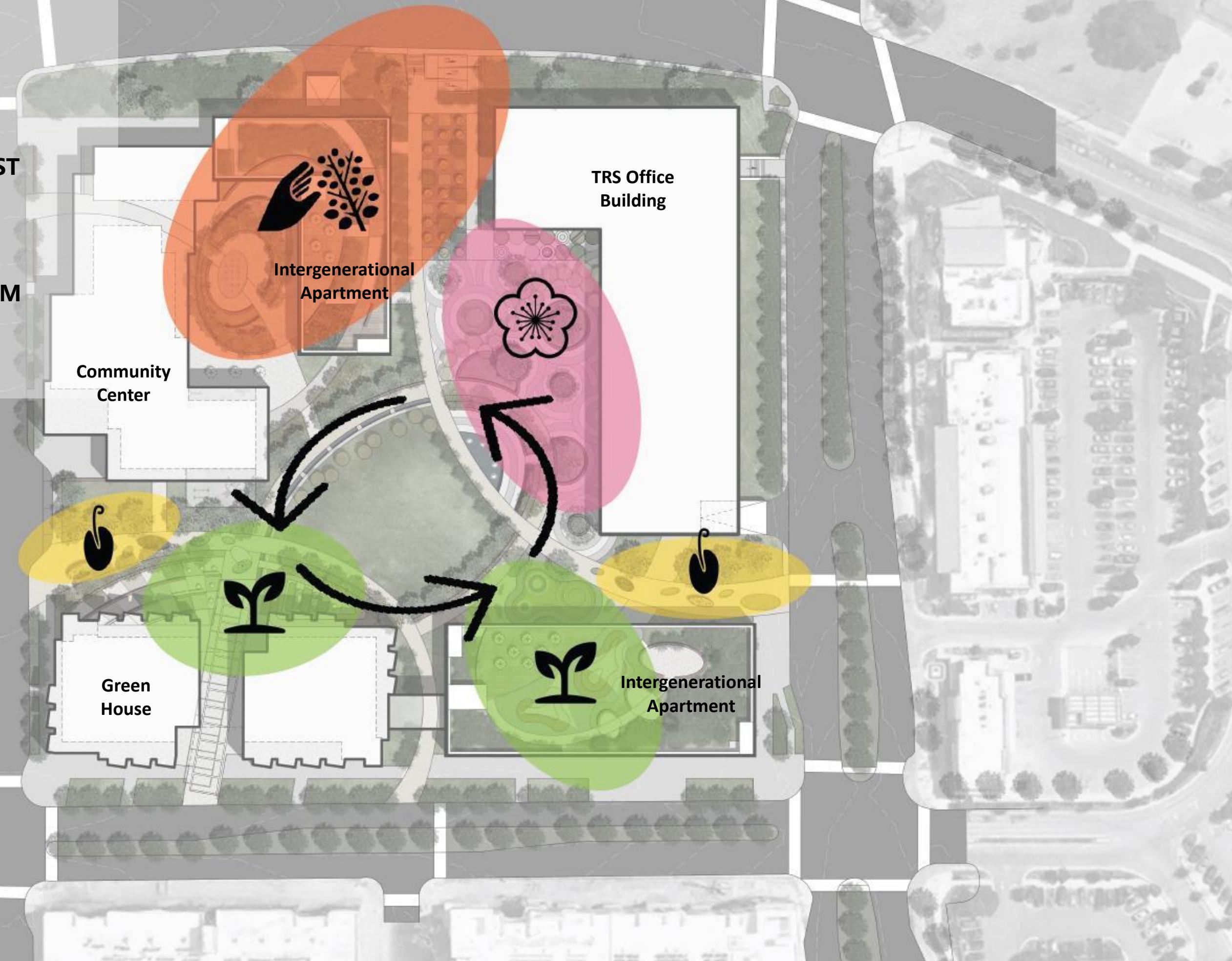


Solution 2. Straight & Rectangle

Interplay of **rectilinear forms** representing the interplay of different age groups

MASTER PLAN 1 CONCEPT

Cycle of Life Cycle of Tree



MASTER PLAN 1

 **SPROUT**
Roof Garden

 **HARVEST**
Sensory Garden

 **SEED**
Entrance &
Walking loop

 **SPROUT**
Learning Space
Therapeutic Walkway

Intergenerational
Apartment

E 51 ST

Gas station

Bartholomew Park

 **HARVEST**
Community Farm

TRS Office
Building

Berkman Dr

 **BLOSSOM**
Blossom Plaza
Multifunction Lawn

 **SPROUT**
Intergenerational
Playground
Roof Garden

Green House

Intergenerational
Apartment

Barbara Jordan Blvd

AML on Aldrich

0 20 50 100ft

HFR

MASTER PLAN 2



TWO MASTERPLAN COMPARISON

- The two masterplan solutions share a **similar concept, layout, and function** throughout the site.
- The tables show the percentage of paving and green space in each subarea.

SOLUTION 1. CURVE & CIRCLE



SOLUTION 2. STRAIGHT & RECTANGLE



COMPARISON CHART

Land Use Classification		Perviousness	Units (Area-sq.ft. Length-ft.)	1. Curve & Circle	2. Straight & Rectangle
SEED/ Entrance Plaza	paving	impervious area	12747	11047	
	parking	impervious area	510	510	
	over structure	impervious area		168	
	green	pervious area	11982	10749	
	tree	number	23	32	
SPROUT Reading & Art Studio	paving	impervious area	4262	3094	
	soft paving	pervious area	3192	4254	
	structure	impervious area	560.285	334	
	Exhibition board	length	40	73.5	
	green	pervious area	6071	11354	
	table&seats	number	5	4	
	tree	number	14	12	
SPROUT Therapeutic Walkway	soft paving	impervious area	2363	4767	
	seating spaces	length	40	35	
	green	pervious area	2944	4754	
	tree	number	6	8	
SPROUT Intergenerational Playground	soft paving	impervious area	3108	5432	
	seating spaces	length	147.2	187.4	
	green	pervious area	2780	4892	
	tree	number	10	13	

Land Use Classification		Perviousness	Units (Area-sq.ft. Length-ft.)	1. Curve & Circle	2. Straight & Rectangle
BLOSSOM	paving	impervious area	15414	10816	
	seating spaces	impervious length	545	137	
	water feature	impervious area		382	
	shade structure	area	1582		
	green	pervious area	7974	5615	
BLOSSOM	tree	number	10	12	
	paving	impervious area	1734.5	1566	
	green	pervious area	984	780	
BLOSSOM	water feature	area	123	156	
	paving	impervious area	5715	4554	
	seating spaces	impervious length	195	232	
Water Feature	water feature	impervious area	858	572	
	v	area		2438	
	green	pervious area	1465	1972	
	tree	number	9	5	
BLOSSOM	paving	impervious area	10296	7088	
	seating spaces	impervious length	241	259.5	
	water feature	impervious area	552		
	shade structure	area	1017		
	green	pervious area	20518	20519	
	tree	number	10	18	

Land Use Classification		Perviousness	Units (Area-sq.ft. Length-ft.)	1. Curve & Circle	2. Straight & Rectangle
HARVEST	paving	impervious area	2985	3627	
	seating spaces	pervious area	3101	3196	
	planting area	impervious length	75	126	
	green	pervious area	1908	2068	
	tree	number	2251	3622	
HARVEST	paving	impervious area	10929	8420	
	seating spaces	impervious length	397.9	240	
	spray plaza	impervious area	742	754	
	green	pervious area	5287	5800	
	umbrella & seat	number	3	0	
Roof Garden South	tree	number	14	15	
	paving	impervious area	8742	7996	
	soft paving	pervious area	2406	2263	
	walking path	impervious length	322.5	519	
	seating spaces	impervious length	293	222	
Roof Garden North	green	pervious area	12992	13881	
	umbrella & seat	number	5	6	
	paving	impervious area	1476	750	
	wooden paving	impervious area	5860	6441	
	seating spaces	impervious length	159	179	
Roof Garden North	green	pervious area	8177	8934	
	umbrella & seat	number	5	7	

TWO MASTER PLAN SOLUTIONS



Solution 1. Curve & Circle

Cycle of life & a life cycle of a tree

Strengths: Artistic, Soft, Contrast

- Strong curvilinear and coherent forms lined with the meaning of life
- Curved paths facilitating easy and smooth walking without sharp turns
- More memorable and sculptural forms with strong visual appeal for the visitors/users and the residents viewing from their windows
- Each area with strong themes



Solution 2. Straight & Rectangle

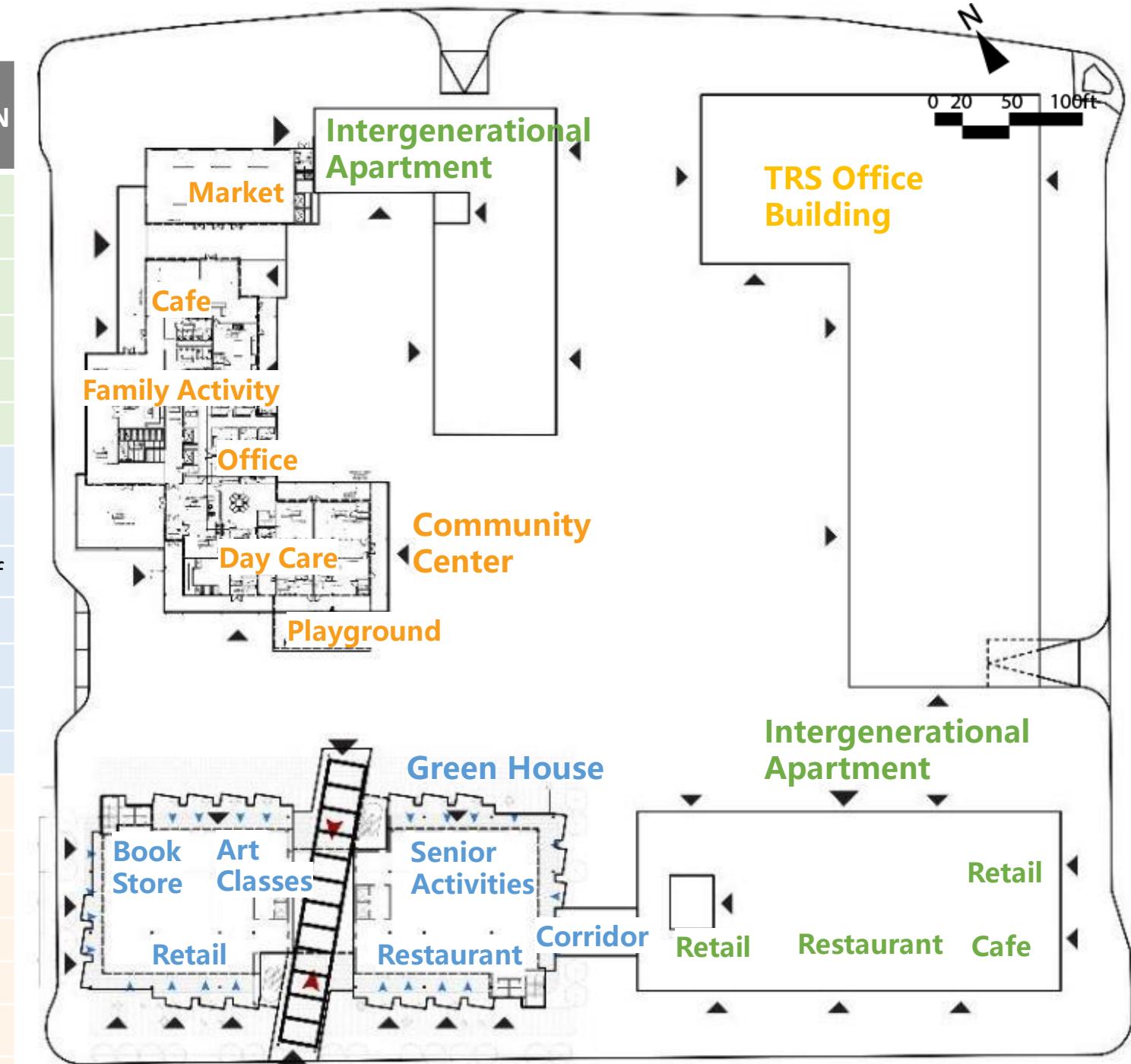
Interplay of rectilinear forms and interplay of different age groups

Strengths: Logical, Clear, Formal

- Easy to implement, especially if needed to implement the site design for the left half
- Consistent with the architectural forms/arrangements
- Clear boundaries and hierarchies between different areas
- Flexible and efficient use of spaces and circulation
- Clarify in forms and orientation
- Easier implementation with the phased construction

BUILDING ANALYSIS

BUILDING	USER	FUNCTION	DGSF (SF)	GROUND FLOOR (SF)	FLOOR	FIRST FLOOR FUNCTION
Intergenerational Apartment	Families with Different Ages	Long-term Living	320,760	80,190	5	Family Room Office Recreation Center Gym Café & Restaurant Retails
Green House (Ruomeng Li)	Senior Adults	Independent Living and Assistant Living	132,000	24,000	5	Book Store 1200 sf Art Classes 1200 sf Senior Activities 1200sf Groceries 2000 sf Pharmacy 2000 sf Shops 2*400 sf Restaurants 2*2000 sf
Community Center (Danielle Smith)	The Disabled					Family Activity Area Market & Retails Day care Children Playground Office Café
TRS Office Building	Employees	Office Room	192,500	48,125	4	Commercial Kitchen Market Office
	Retired Teachers	Rest and Activity Area				Retails



Implications:

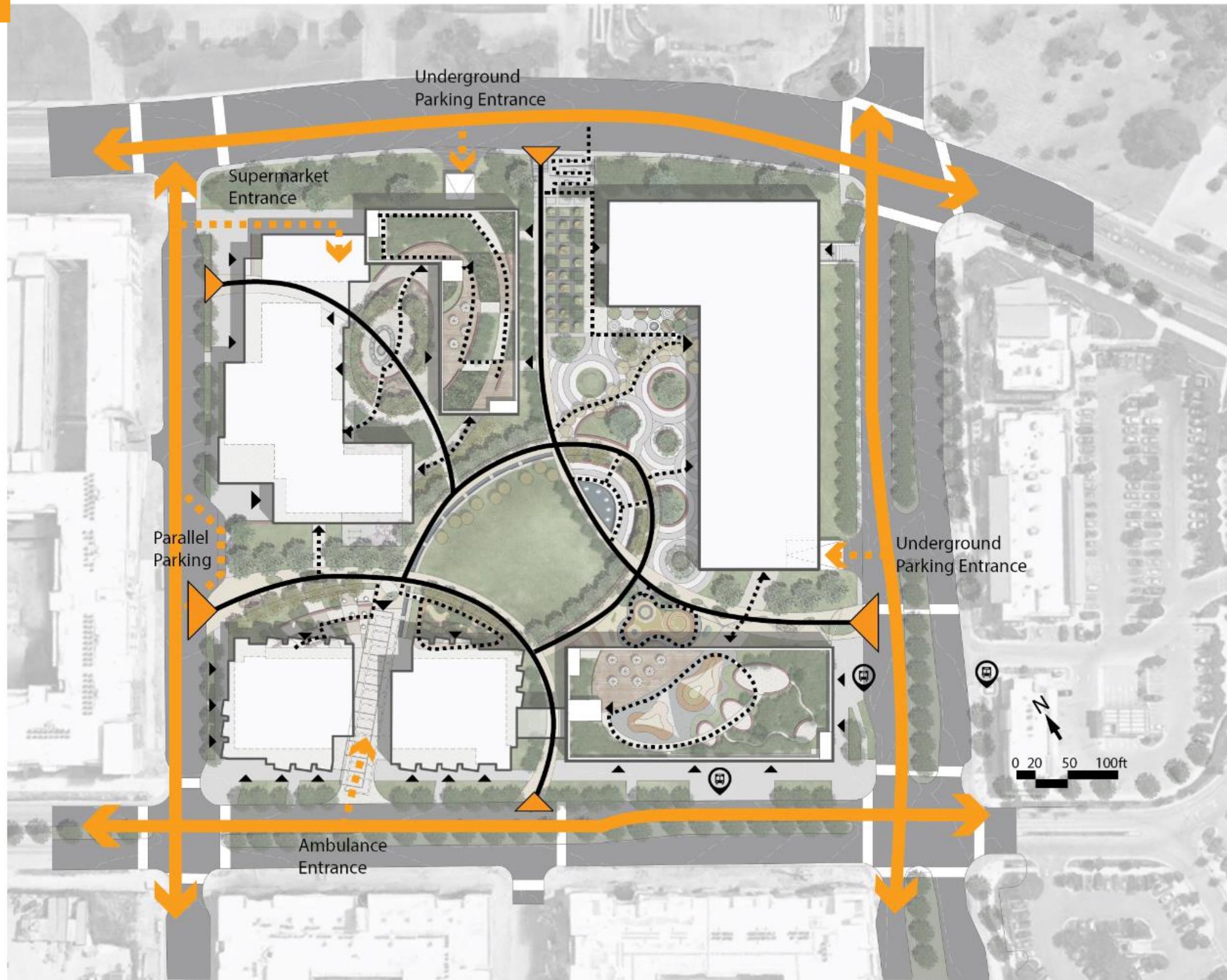
- Interaction between indoor and outdoor spaces.
- Community Center:** Hall, family activity area – open plaza
Market – open plaza for a flea market on weekends
- Green house:** Bookstore – outdoor reading plaza
Art classroom – Outdoor handcraft studio, art exhibition board
- Intergenerational Apartment:** Recreation Center – Playground
Gym – Adult exercise area, multifunction exercise area
- TRS Office Building:** Office - rest area for staff

CIRCULATION ANALYSIS

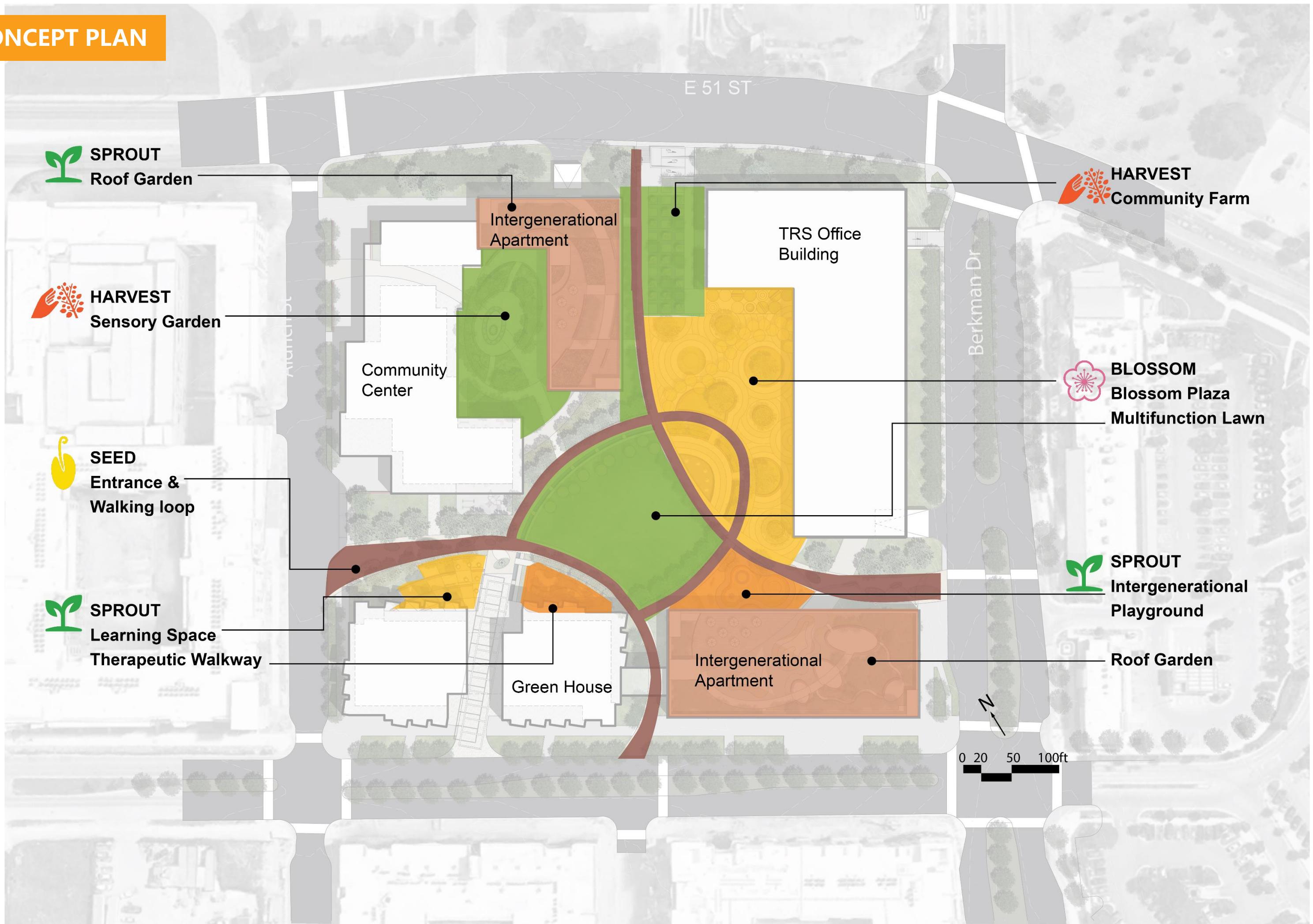
SAFETY STRATEGIES FOR CIRCULATION

- The driveway of the **ambulance** entrance locates at south of the road for the greenhouse
- Most roads of the site mainly serve **pedestrians**, wide enough for two **wheelchairs** to pass at the same time
- **Fire engines** could work along the roads outside

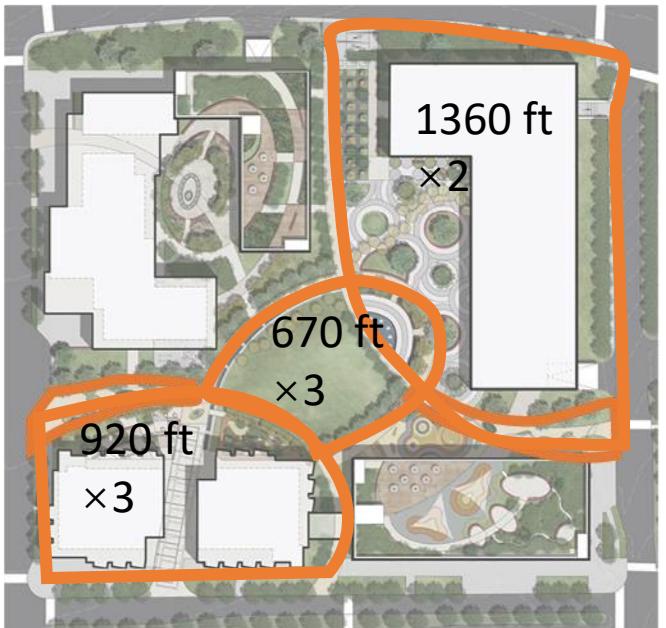
- ▶ Main Entrance
- ▶ Building Entrance
- 📍 Bus Station
- ↔ Frontage Streets
- ↔ Community Driveway
- Sidewalk
- Trail



CONCEPT PLAN



ENTRANCE AND WALKING LOOP

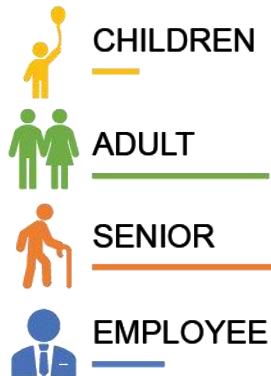


ACTIVITIES:

Wandering
Walking, Jogging
Walking the dog

PARTICULAR STRATEGIES:

Walkability
Accessibility
Safety and security



PHYSICAL ACTIVITY FOR OLDER ADULT

(Centers for Disease Control and Prevention):

- Brisk walking **30 minutes a day**, five days a week.
- The average walking speed for a senior (65-80 years old) is **2.8 miles per hour**.
- Walking **7400 feet per day** is required for older adults.
- The sum of the three circles is approximately 3000 feet.
- To meet their daily exercise needs, older people should walk the circle **two to three times**, while adults should walk four times.

https://www.cdc.gov/physicalactivity/basics/older_adults/index.htm

<https://www.healthline.com/health/exercise-fitness/average-walking-speed#takeaway>





ARCHWAY

The archway is used as an entrance feature to the community. The arch reflects the theme of CYCLE OF LIFE with lighting at night.



VEGETATION

The majority of plants are native plants that are easy to care for, require little maintenance, and provide a beautiful view for a long time.



ACCESSIBILITY

All of the roads are accessible with a level, non-slip paving. This provides a safe and accessible environment for people with disabilities and people in wheelchairs.



ACTIVITIES:

- Making handcraft
- Attending performances
- Viewing Art exhibition
- Adults reading books with children
- Homework Help
- Eating outside
- Meeting friends

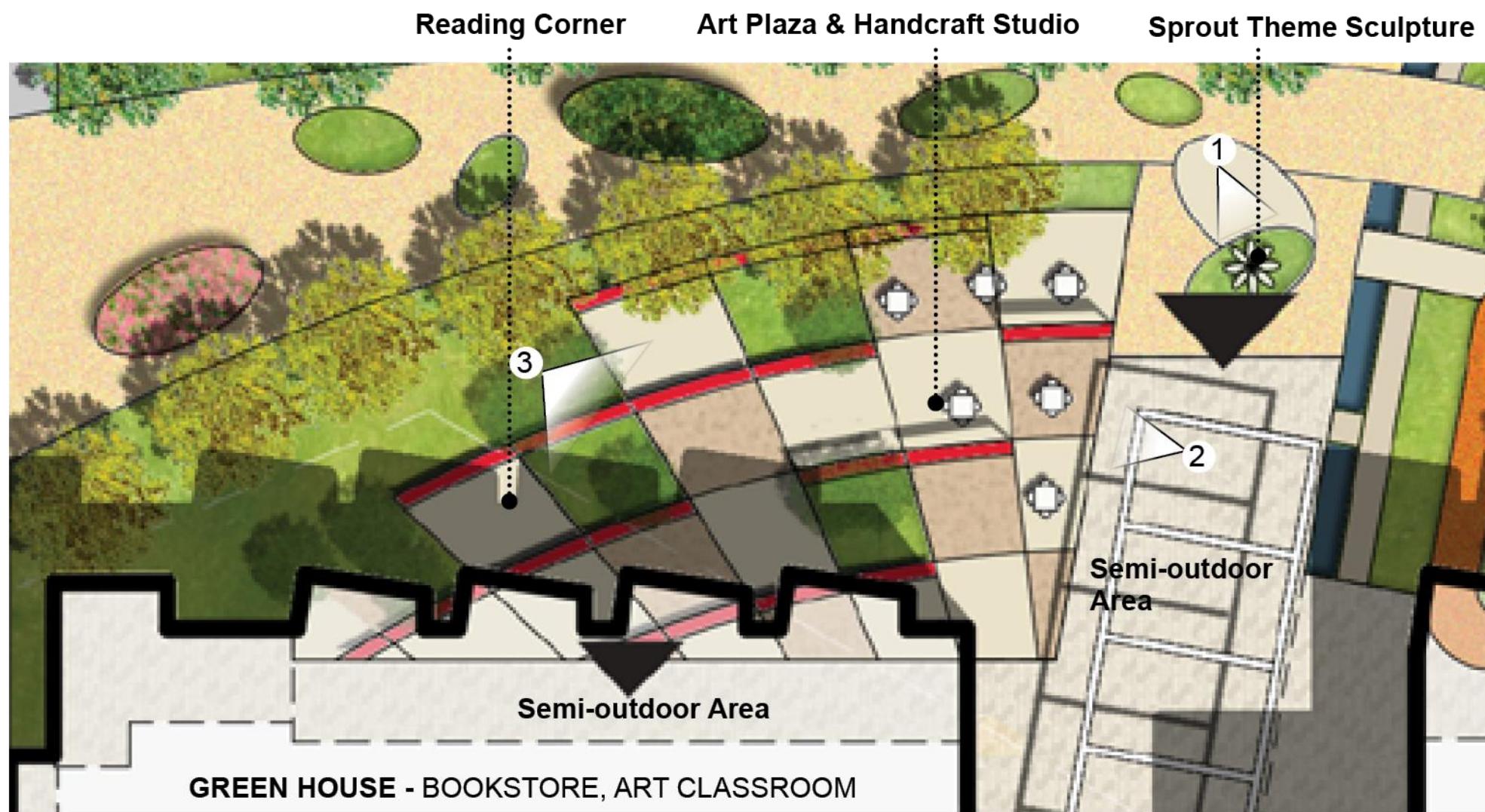
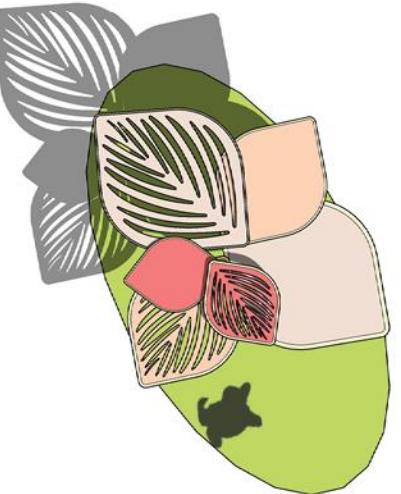
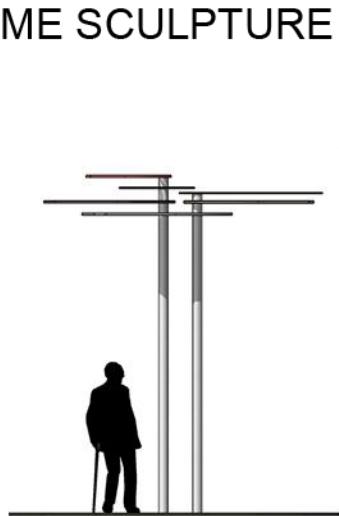
PARTICULAR STRATEGIES:

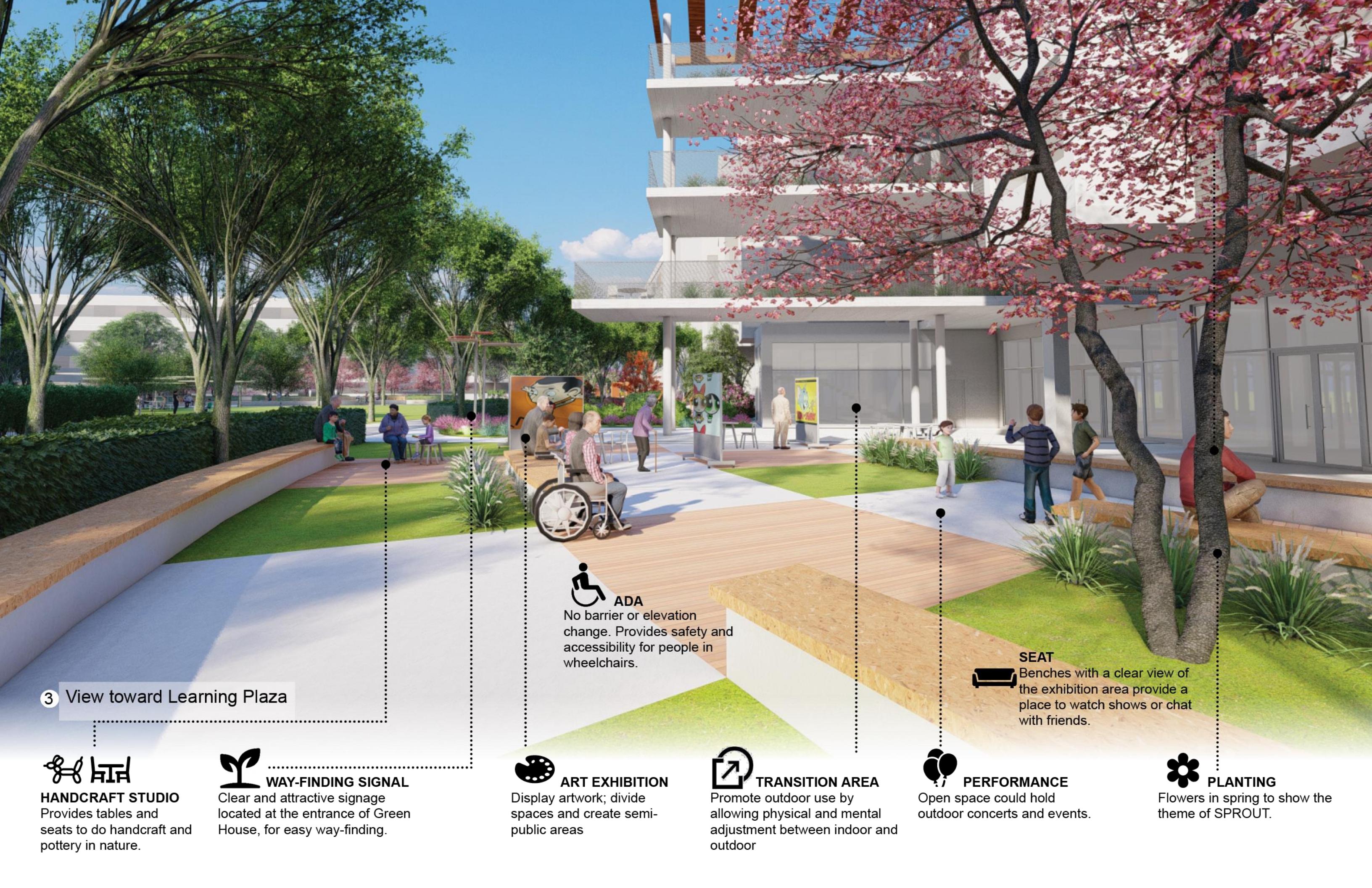
- Social Engagement
- Comfort
- Accessibility
- Walkability



SPROUT THEME SCULPTURE

The leaf light sculpture represents the SPROUT theme at the greenhouse's entrance.





3 View toward Learning Plaza



HANDCRAFT STUDIO
Provides tables and seats to do handcraft and pottery in nature.



WAY-FINDING SIGNAL
Clear and attractive signage located at the entrance of Green House, for easy way-finding.



ART EXHIBITION
Display artwork; divide spaces and create semi-public areas



ADA

No barrier or elevation change. Provides safety and accessibility for people in wheelchairs.



TRANSITION AREA
Promote outdoor use by allowing physical and mental adjustment between indoor and outdoor



PERFORMANCE
Open space could hold outdoor concerts and events.



PLANTING
Flowers in spring to show the theme of SPROUT.

THERAPEUTIC WALKWAY



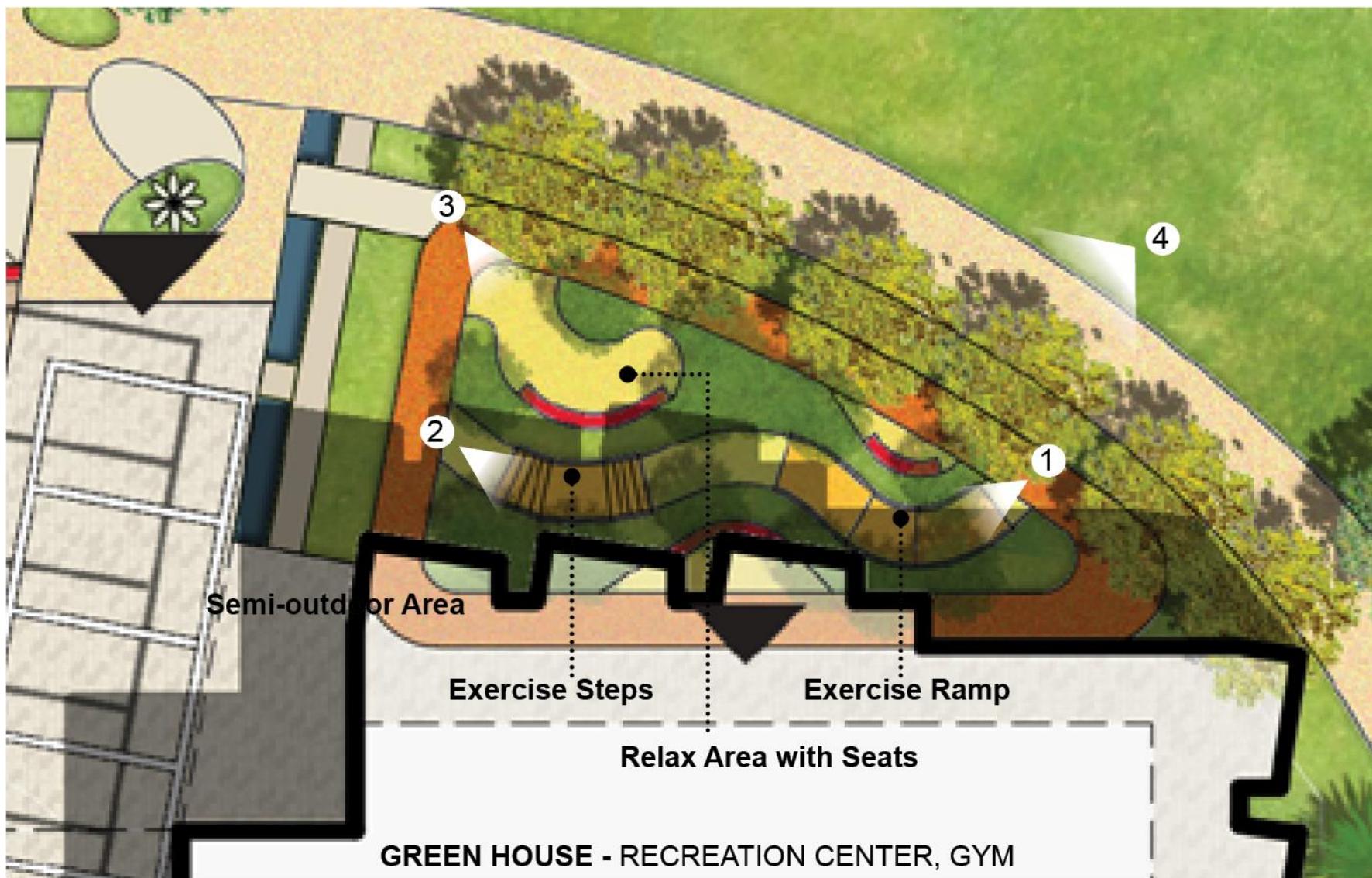
ACTIVITIES:

Therapeutic walking
Enjoying nature
Chatting

PARTICULAR STRATEGIES:

Therapy
Accessibility
Walkability
Biophilia
Comfort

- CHILDREN
- ADULT
- SENIOR
- DISABILITY





SELECTED PLANTS

Selected plants that flower and change color in different seasons. Avoid plants that are poisonous, have thorns, fall down big fruits, or attract unwanted insects, pest or animals.



THERAPEUTIC WALKWAY

Gently curved paths wind encouraging walking. Alternate paths with ramps, stairs and a variety of surfaces provide opportunities for therapy.



WINDOW VIEW

Provides an attractive window view from seniors' living room.



PHYSICAL THERAPY STEPS

Patients exercise their upper body strength with steps and handrails.

HIGH SEAT

Comfy seats connect with a good view of the vegetation to provide a resting place for seniors.



INTERGENERATIONAL PLAYGROUND

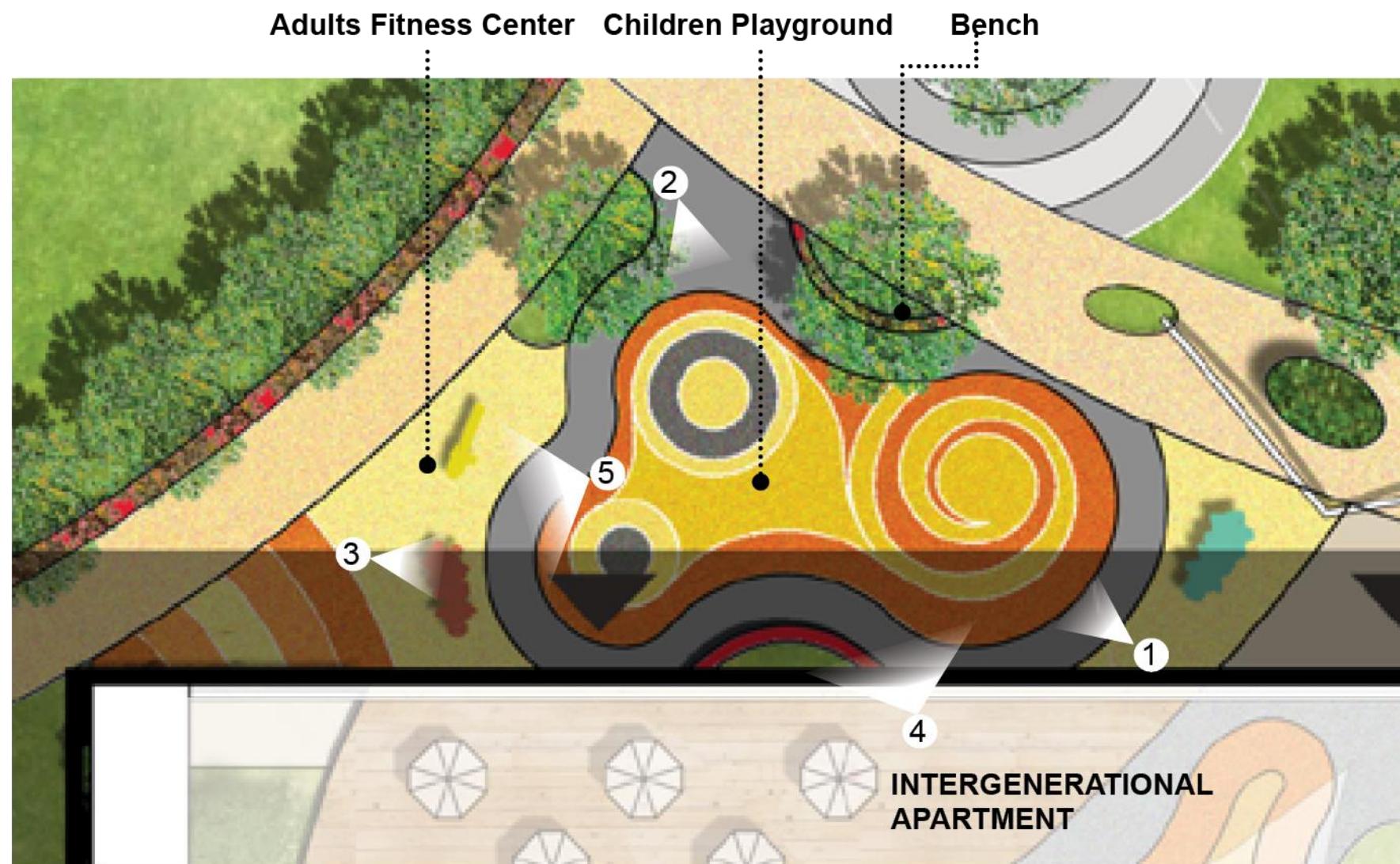


ACTIVITIES:

Children playing
Exercising

PARTICULAR STRATEGIES:

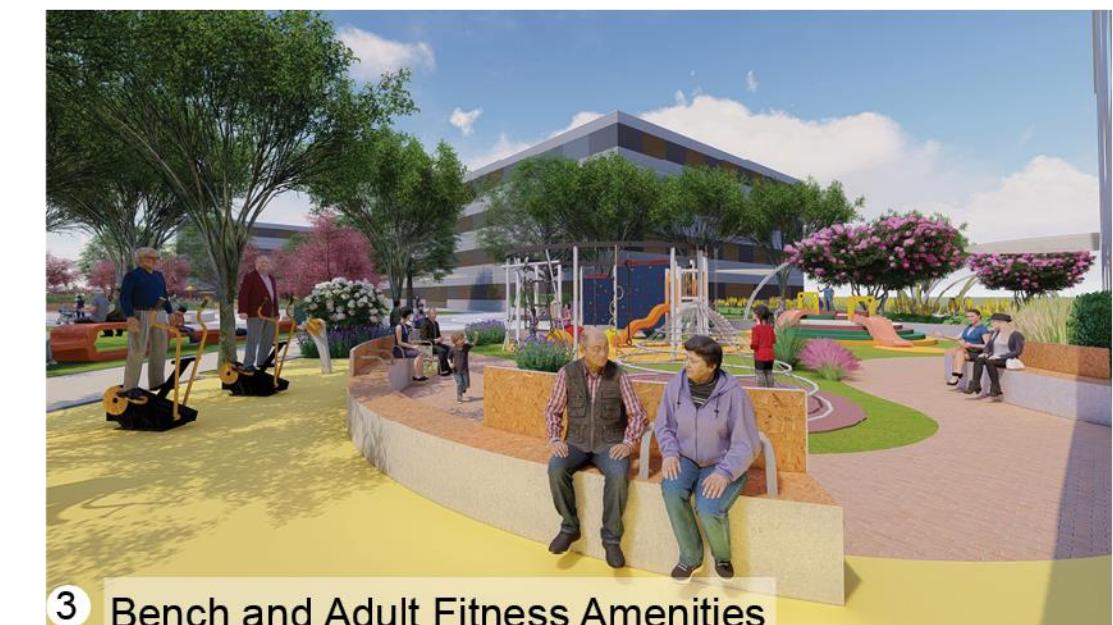
Social Engagement
Accessibility
Comfort
Safety and Security



1 Children Playground



2 Children Playground



3 Bench and Adult Fitness Amenities



ADULT FITNESS CENTER

Various adult exercise facilities were organized outside of the children's playground so that adults could keep an eye on the children while also exercising.

Low-impact exercise equipment to improving core muscle strength, flexibility, balance, and overall well-being of its users.



CHILDREN PLAYGROUND

A variety of amenities are arranged in three circles for children to play and climb.



SEAT

The curved seats surround the children's playground, providing a place for parents to rest and care for their children while also acting as a protective wall.



SHADE

Residents are shielded from the hot summer sun by the shadows cast by architecture and trees.



DIFFERENT FORMS OF SEATS

There are various types of seats available to meet the needs of people of various ages.



SEATS FOR THE SENIORS

The benches face the adult exercise area and have backs and handrails.



SEATS FOR CHILDREN WATCHER

The benches face the children playground.



AREAS FOR WHEELCHAIR

Make room for people in wheelchairs next to the seats



LINER FLEXIBLE FURNITURE

It could be used as a bench and loungescapes for residents to sit and lie on, as well as a climbing structure for kids to climb up and down.

BLOSSOM PLAZA



ACTIVITIES:

- Watching Blossom
- Meeting Friends
- Eating Out
- Playing Chess
- Reading
- Watching Water Features

PARTICULAR STRATEGIES:

- Social Engagement
- Walkability
- Comfort
- Accessibility
- Biophilia
- Safety and Security





1



FUN CORNER

The fun corner features a fountain, an outdoor bookshelf, ground chess, play amenities, and seating for TRS employees to relax in nature.



2



WATER FEATURE

The double-layer fountain provides the residents with a lively sound of water and incredible scenery, which lows the temperature in the summer.



3



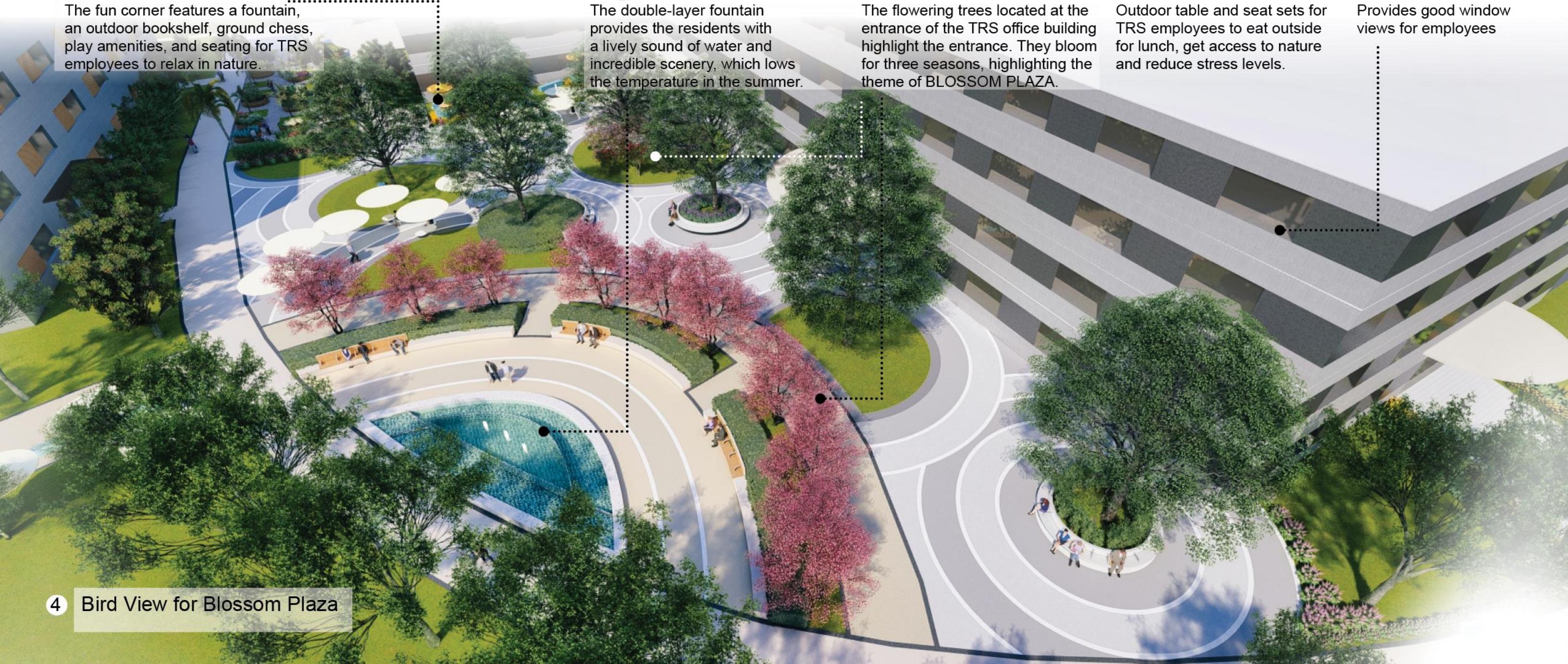
BLOSSOM FLOWER TREE

The flowering trees located at the entrance of the TRS office building highlight the entrance. They bloom for three seasons, highlighting the theme of BLOSSOM PLAZA.



OUTDOOR DINING AREA

Outdoor table and seat sets for TRS employees to eat outside for lunch, get access to nature and reduce stress levels.



4 Bird View for Blossom Plaza

TRS OFFICE BUILDING

Provides good window views for employees

MULTIFUNCTION LAWN

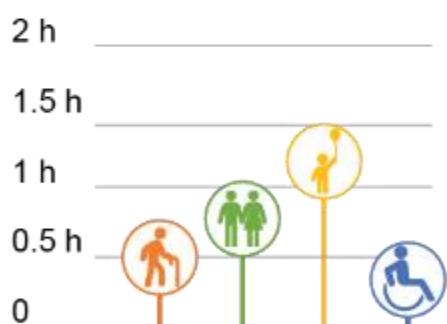


ACTIVITIES:

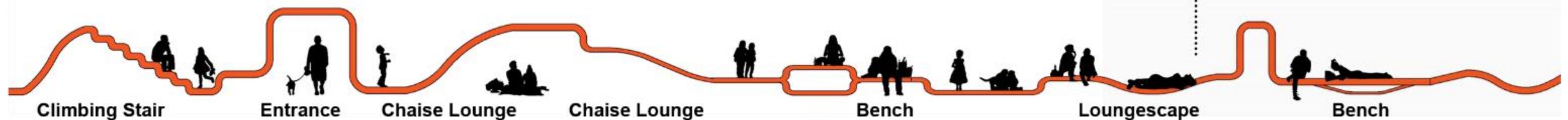
Social conversation
Sunshine Bathing
Playing Balls,
Picnic

PARTICULAR STRATEGIES:

Social Engagement
Accessibility
Walkability
Biophilia
Comfort
Safety and Security



Liner Flexible Furniture





LINER FLEXIBLE FURNITURE

It could be used as a bench and loungescape for residents to sit and lie on, as well as a climbing structure for kids to climb up and down.



MULTIFUNCTION LAWN

Make available open spaces for various activities such as ball games, sunbathing, and picnics.



SHADED SEATING AREA

Protect residents (especially the older adults and children) from sunshine during the hot summer.





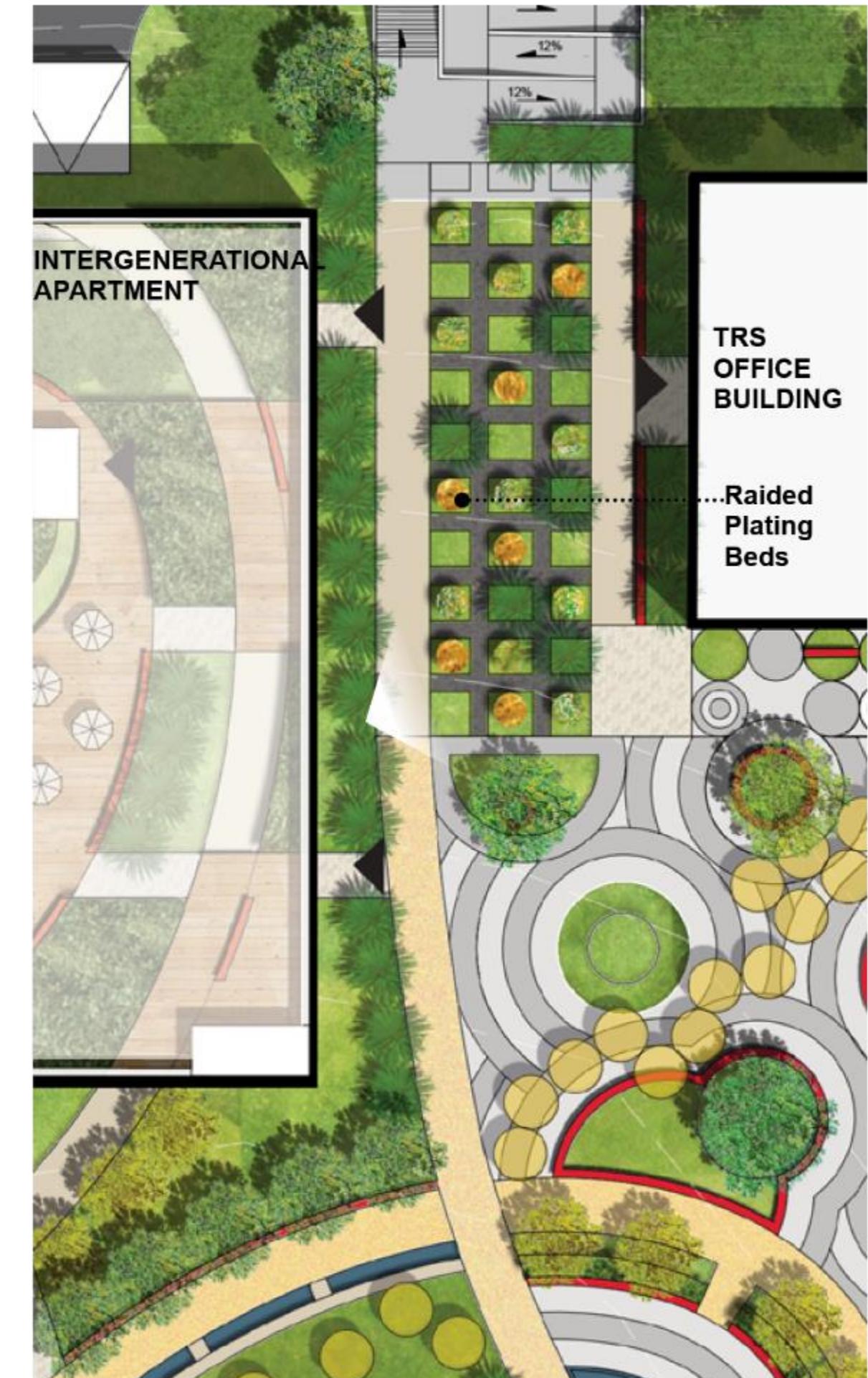
ACTIVITIES:

- Picking fruits
- Planting
- Gardening
- Social activity
- Enjoying sunshine

PARTICULAR STRATEGIES:

- Social Engagement
- Accessibility
- Biophilia
- Therapy
- Separation

- The community farm acts as a barrier between the **intergenerational apartment** and the **TRS office building**, allowing **work and home life** to be separated.





ORCHARD

The orchard along the roads allows residents to pick mature fruits and eat at the nearby picnic tables.



SHARED GARDENS

Encourage interactive interaction including planting, watering, gathering through gardening and provide community market or flea fair for food exchange.



RAISED PLANTING BED

Makes gardening more accessible to people in wheelchairs.



GATHERING PLAZA

Provides open space to gather fruits and vegetables in the fall.



SEAT

Provides rest area for residents after gardening



Pervious Color Concrete

SENSORY GARDEN



ACTIVITIES:

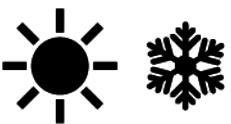
Sensory stimulation:
Touching, smelling, watching, hearing,
tasting
Dry fountain play
Fountain light show with music

PARTICULAR STRATEGIES:

Therapy (Sensory Stimulation)
Biophilia
Social Engagement
Accessibility
Walkability
Comfort



The model of community center is made by Danielle Smith.



SEASONAL VIEW

Different trees and flowers create various views with beautiful flowers, leaf color and fruits, to provide a beautiful and changeable environment for residents.



SENSORY STIMULATION

Provides different vegetation for watching, hearing, touching, smelling and tasting to stimulate different senses of residents for healing therapy, especially for dementia residents.



DRY FOUNTAIN

Provides children a place to play with water and brings coolness in summer. There are special light and music shows connected to the fountain during summer nights and special events.

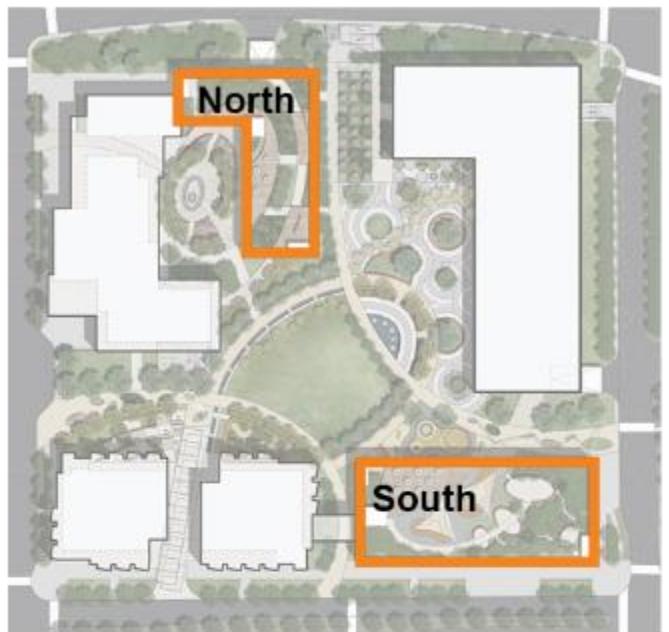


LINER BENCH

The liner bench along the road provides a good place for residents to enjoy the sensory garden.



ROOF GARDEN

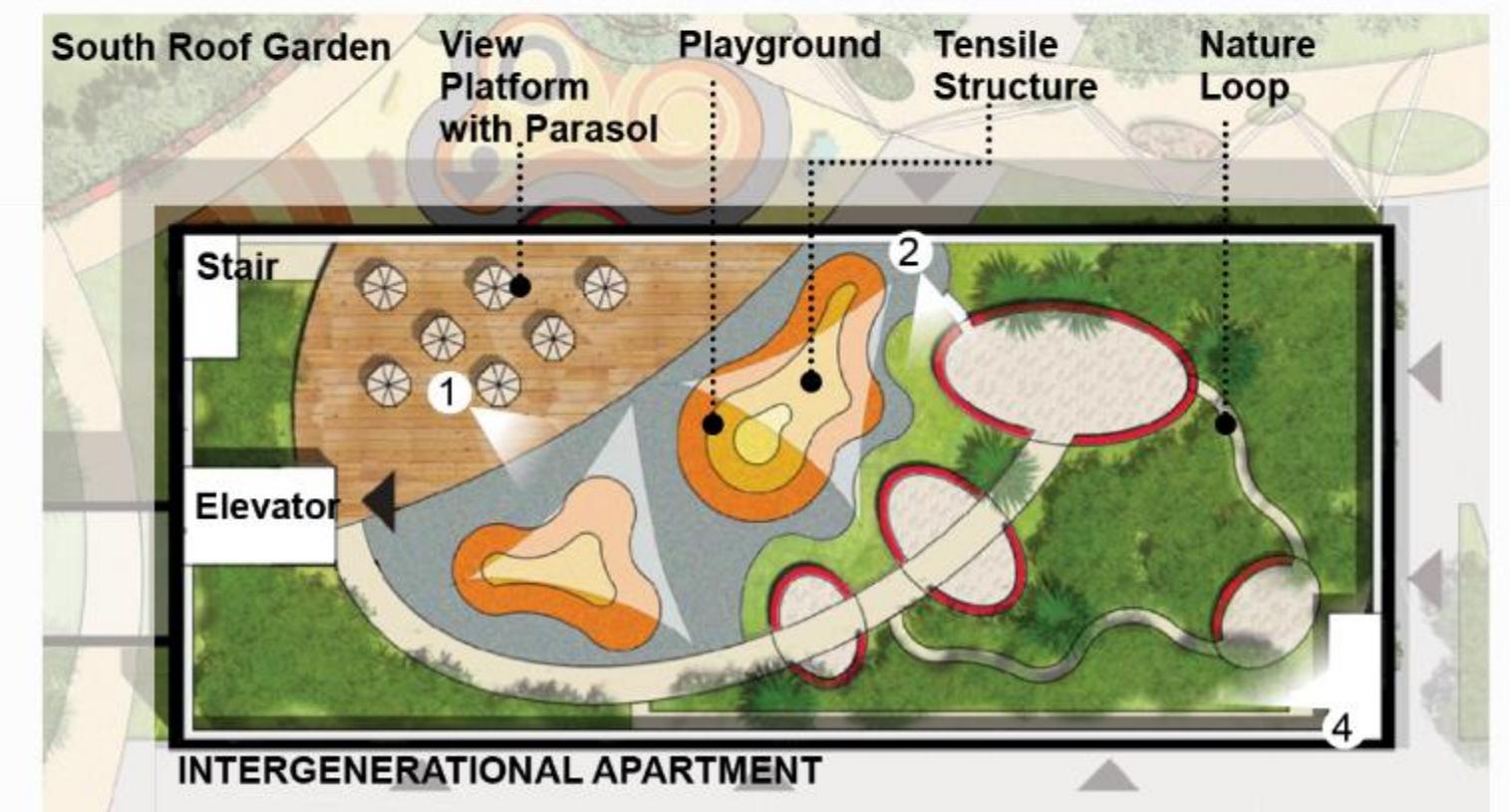
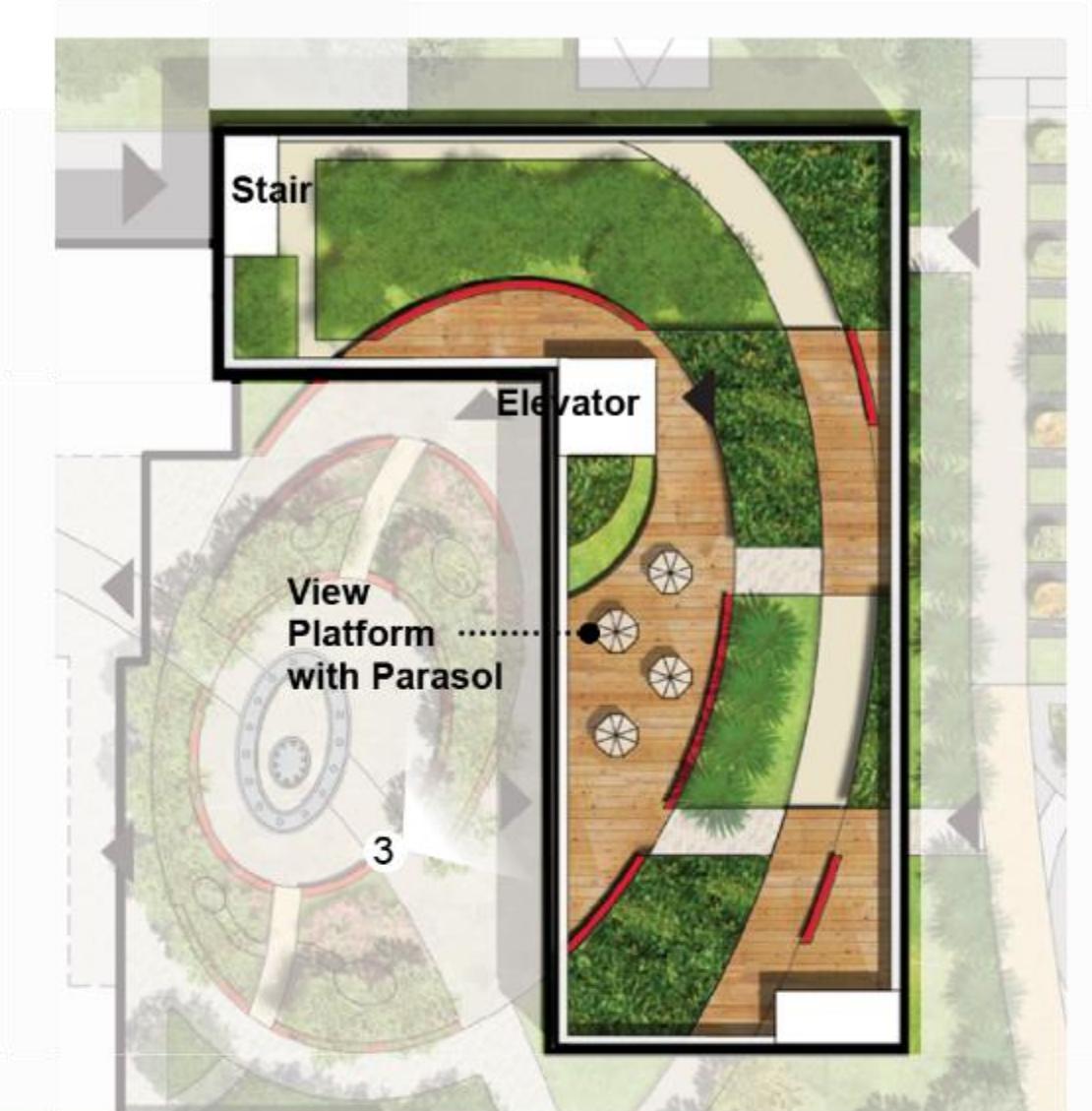


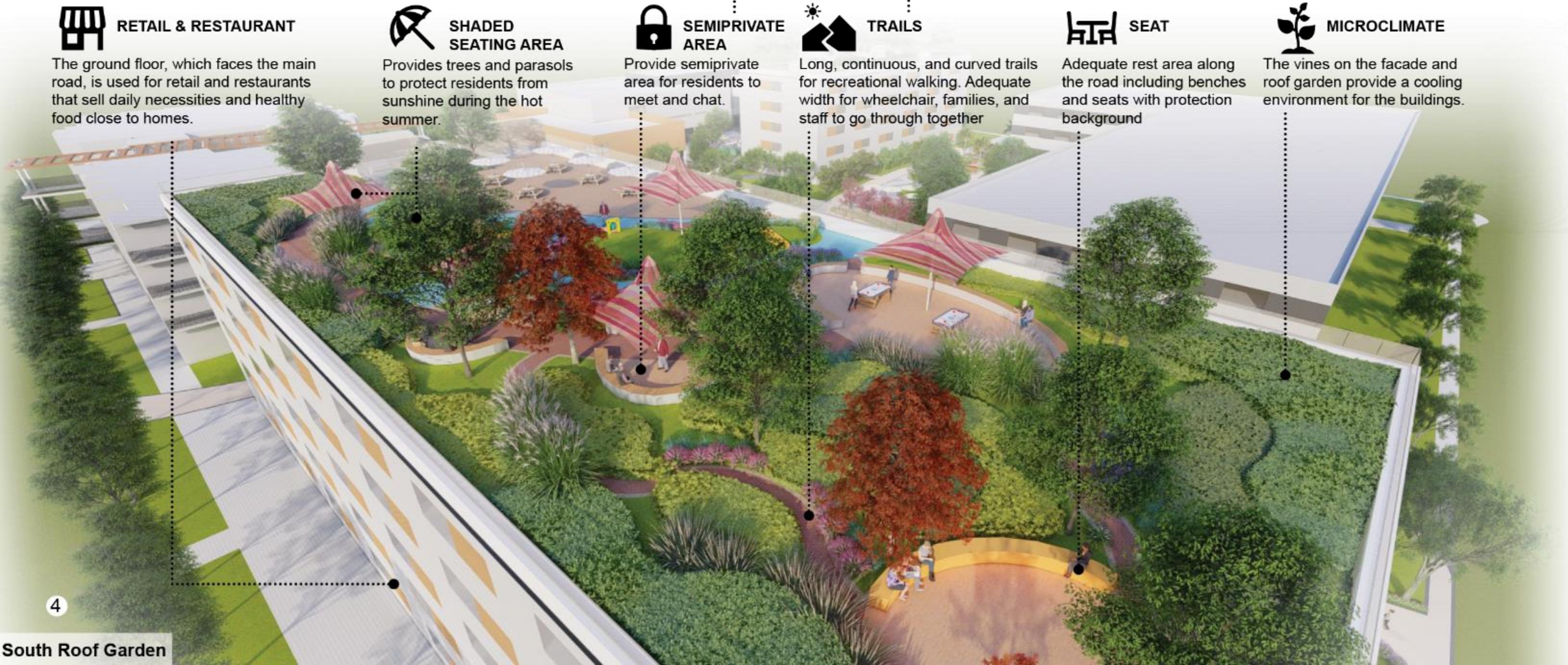
ACTIVITIES:

Sightseeing
Shopping
Dining

PARTICULAR STRATEGIES:

Biophilia
Social Engagement
Accessibility
Walkability
Comfort





RETAIL & RESTAURANT

The ground floor, which faces the main road, is used for retail and restaurants that sell daily necessities and healthy food close to homes.



SHADED SEATING AREA

Provides trees and parasols to protect residents from sunshine during the hot summer.



SEMPRIVATE AREA

Provide semiprivate area for residents to meet and chat.



TRAILS

Long, continuous, and curved trails for recreational walking. Adequate width for wheelchair, families, and staff to go through together



SEAT

Adequate rest area along the road including benches and seats with protection background



MICROCLIMATE

The vines on the facade and roof garden provide a cooling environment for the buildings.

SUMMARY



Safety and Security

- Non-slip paving
- Enough seats with handrail and back
- Sufficient lights
- Good visibility and supervision in outdoor space



Comfort

- Temperature moderation/ control
- Shadowing in hot area
- Comfortable seat with backrest, handrail



Walkability

- Trails without crowds and collisions
- No trip hazards
- Low-glare paving



Accessibility

- Easy access to nature
- Easy wayfinding
- Appropriate walking distance



Therapy

- Sensory Stimulation
- Exercise and active living programs
- Therapeutic landscape for seniors and disabled
- Amenities to promote outdoor activities
- Engagement activities related to art, music, nature



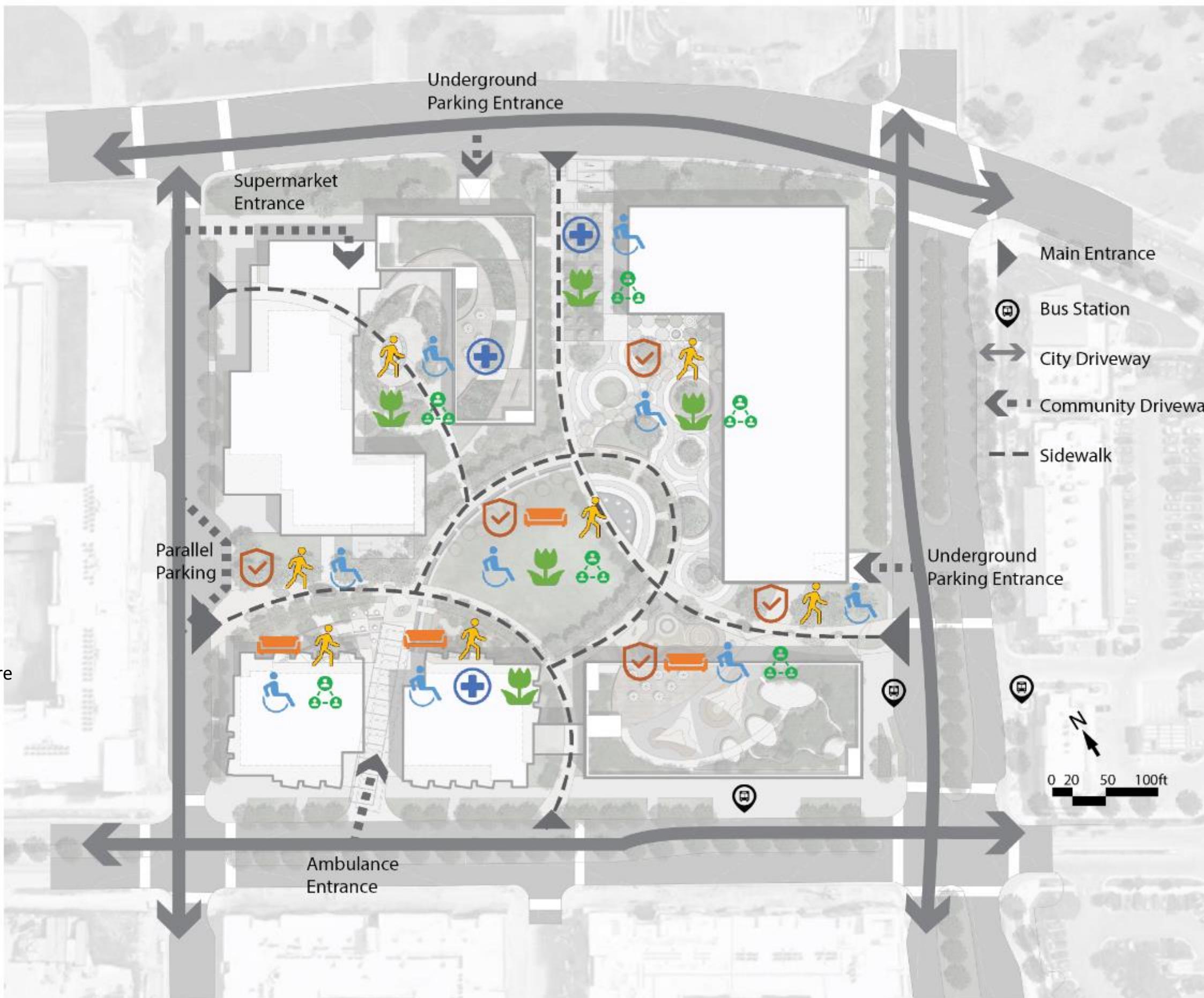
Biophilia

- Path in nature
- Community farm for gardening
- Local microclimate environment



Social Engagement

- Public area for social participation
- Urban agriculture for intergenerational interaction
- Social integration events for all ages
- Intergenerational interaction that are mutually beneficial





<https://www.designspiration.com/save/17853509760513/>

DESIGN ANALYSIS

- Intergenerational Interaction_01
- Parking Analysis_02
- Topography Analysis_03
- Section_04
- Planting Analysis_05
- Next Step_06
- Conclusion_07

Residents, Homeless People, and Visitors in Community Center



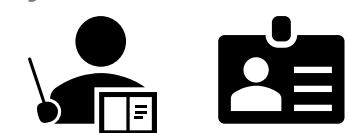
Senior Adults and Those with Disabilities in Greenhouse



Families in Intergenerational Apartments



Employees and Retired Teachers in Teaching Retirement System



AGE

Residents – all ages

- 73.7% ≥ 24 ,
- 7.5% 18-24,
- 18.8% < 18

- Senior residents ≥ 65
- The disabled- all ages

- Children and teenager 0-18
- Young people 19-34
- Middle age 35-64
- Seniors ≥ 65

- Employees ≥ 18
- Retired teachers ≥ 65

NEEDS

- Commercial and retail spaces
- Community engagement spaces
- Public green spaces
- Shelters for homeless people
- Job training and opportunities
- Therapy for mental disorders

- Independent living
- Assistant living
- On-site health care services
- Safety
- Participate into social activities

- Affordable housing
- Playground
- Educational area & amenities
- Health and fitness facilities

- Green space for break time
- Enough space for a large number of people flow during rush hours

INTERGENERATIONAL INTERACTION

- Take care of kids
- Learn experience from senior adults
- Organize events for memorial day
- Organize a yard sale or flea market

- Help kids with their homework
- Give free music/art/handcraft classes to kids and the homeless
- Plant trees, flowers, fruits in community farm
- Learn new(internet) skills

- Plant trees, flowers, fruits in community farm
- Give internet class/online guidance to senior adults and homeless people

- Plant trees, flowers, fruits in community farm
- Job training for the homeless

- Age-Friendly Communities

A place with policies, services, settings, and structures that encourage all residents to actively **age in place** and maintain their functional capacity over their entire lifetime, including early life, adult life, and older age.

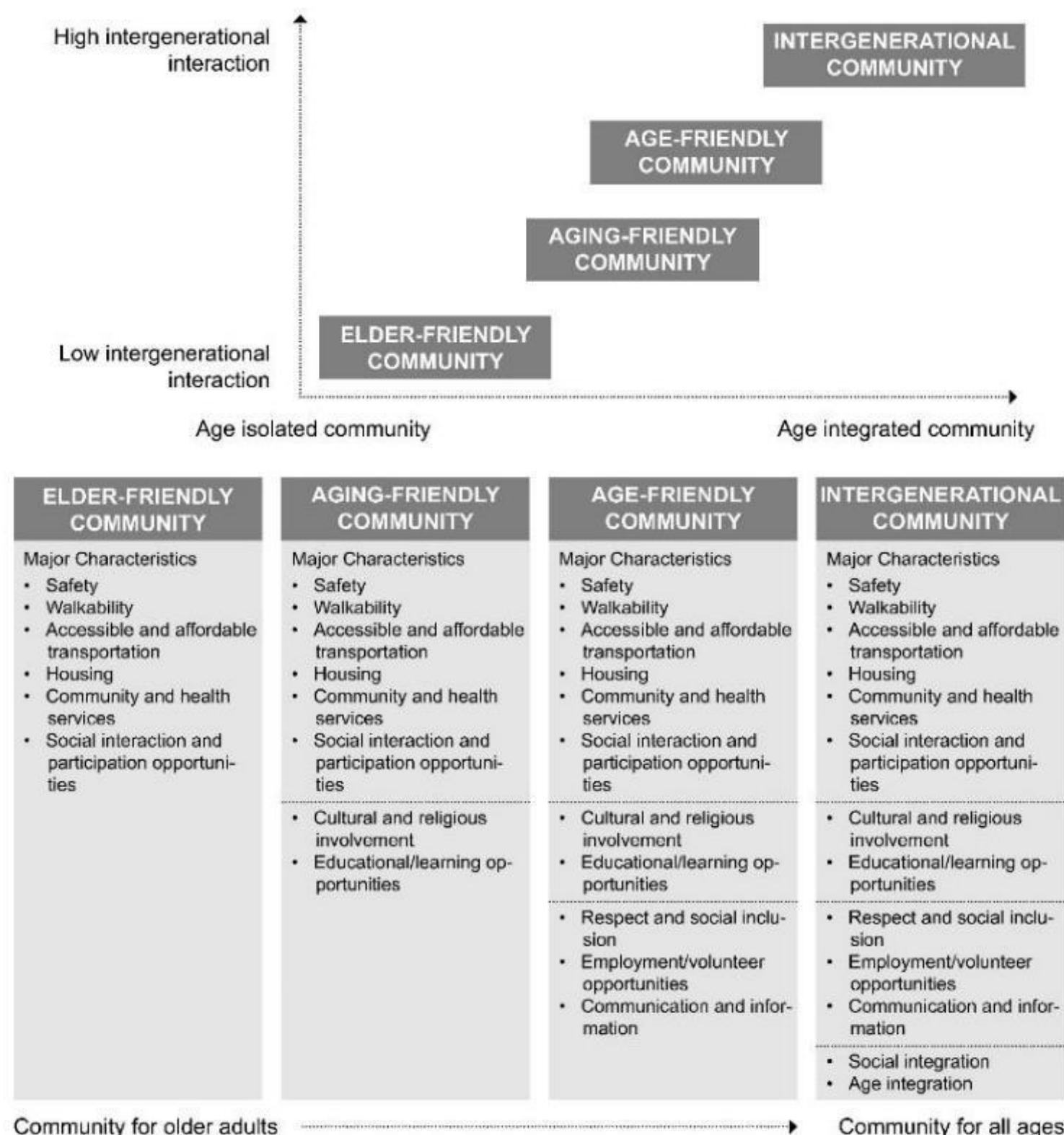
Design principles

Category	Subcategory
Landscape Features	Aesthetics, Legibility, Soundscape and Air Quality, Sunshine and shade, Cultural heritages
Infrastructures and Facilities	Trails, Intersections, Seating
Maintenance	Recreational facilities, Business settings and toilets, Cleanliness, Security
Accessibility	The proximity of green space, Travel modes other than walking, Interactions with others

Intergenerational Communities

- Provides adequately for the safety, health, education and basic necessities of life for people of **all ages**;
- Promotes programs, policies, and practices that **increase cooperation, interaction, and exchange** between people of different generations;
- Enables all ages to share their talents** and resources and **support each other** in relationships that benefit both individuals and their community.

Type of Communities

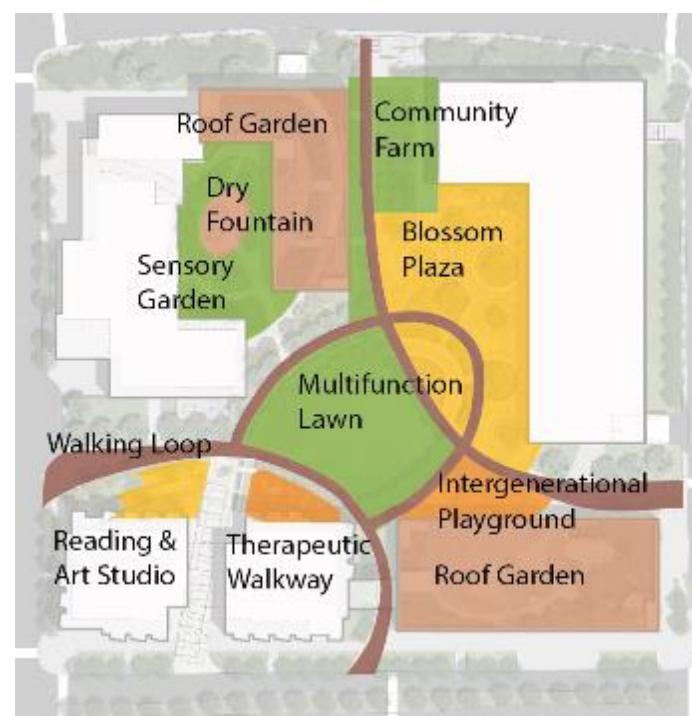
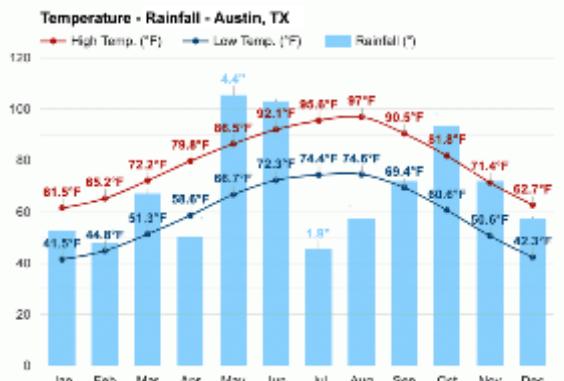
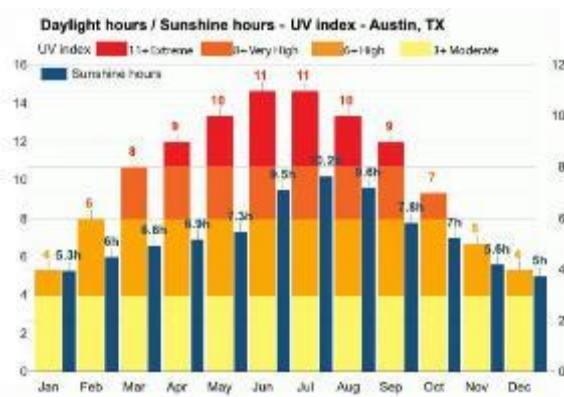


Seasonal Activity Schedule

Sunrise and Sunset Times in Austin, TX

	January	February	March	April	May	June	July	August	September	October	November	December
Sunrise	7:30am	7:30am	7am	7am	6:30am	6:30am	6:30am	7am	7am	7:30am	7am	7am
Sunset	5:30pm	6pm	6:30pm	7pm	8pm	8:30pm	8:30pm	8:30pm	8pm	7pm	6pm	5:30pm

Best month to enjoy outdoor	Activities
Daytime	Sunshine bathing
Night	Watch Sky
	Movie Night
	Music Show
	Light Music Show in Spray Plaza



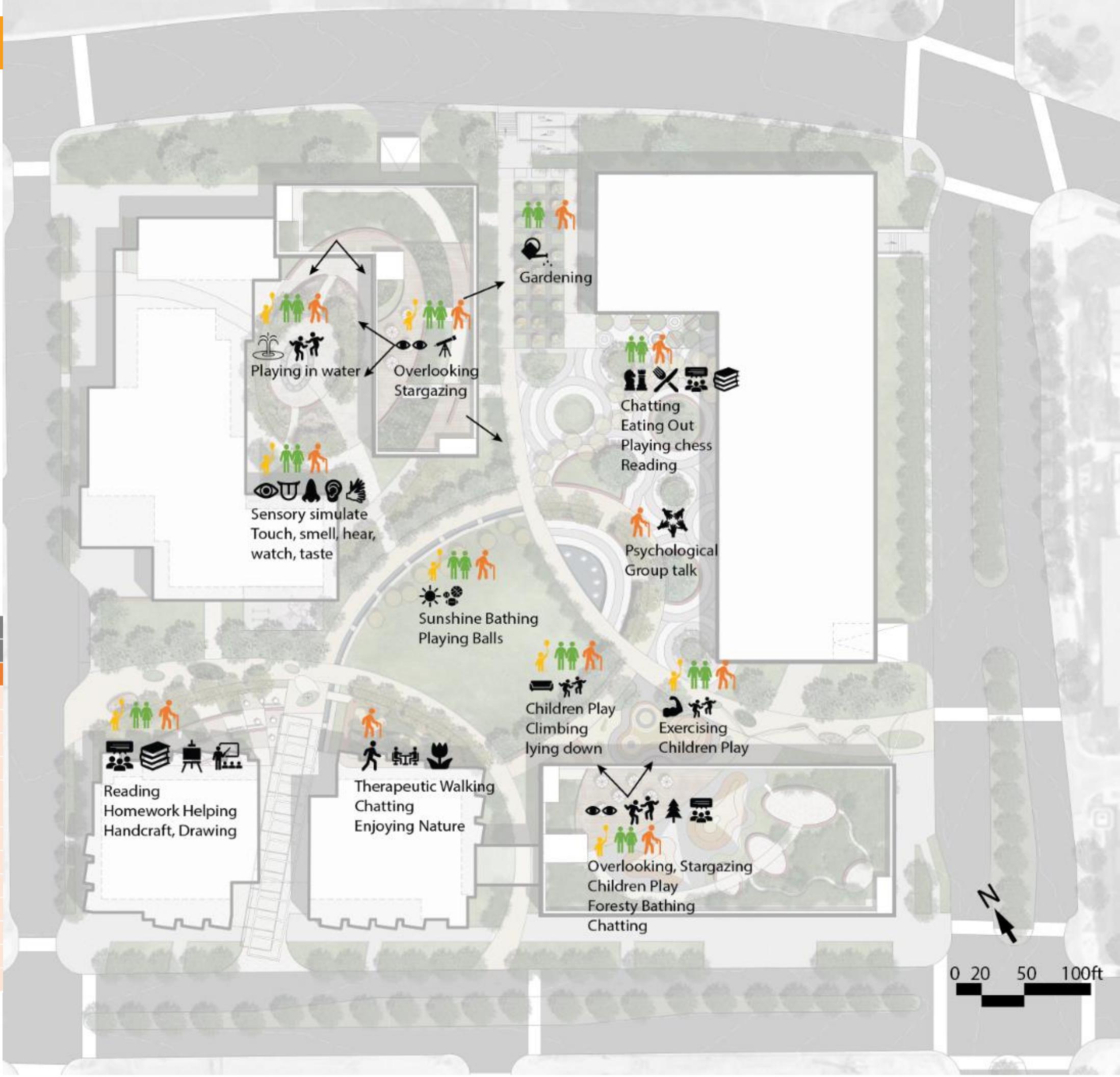
https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/austin_united-states-of-america_4671654
<https://www.timeanddate.com/sun/usa/austin?month=12&year=2020>
<https://uv.willyweather.com/tx/travis-county/austin.html>

SITE	SEASON SCHEDULE			
	Spring	Summer	Fall	Winter
Roof Garden	Chatting, Children Play			
	Stargazing, Overlooking			
Community Farm	Gardening			
	Sowing	Pruning	Gathering	
Reading Corner	Reading Book, Homework Helping			
	Music, Dance Show, Art Show			
Art Studio	HandCraft Making			
	Children Play, Exercising			
Intergenerational Playground	Watching Blossom			
	Meeting Friends, Eating Out, Playing chess, Reading			
Blossom Plaza	Siting and lying down, Children Play, Climbing			
	Walking, Running			
Liner Flexible Furniture	Playing with Water, Fountain Light Show			
	Smelling, Touching, Watching, Tasting, Hearing			
Walking Loop	Therapeutic Walking, Chatting			
	Sunshine Bathing, Playing Balls, Picnic			
Dry Fountain	Siting and lying down, Children Play, Climbing			
	Walking, Running			
Sensory Garden	Playing with Water, Fountain Light Show			
	Smelling, Touching, Watching, Tasting, Hearing			
Therapeutic Walkway	Therapeutic Walking, Chatting			
	Sunshine Bathing, Playing Balls, Picnic			
Multifunction Lawn	Siting and lying down, Children Play, Climbing			
	Walking, Running			

Weekday Activities

On weekday afternoons, seniors could **look after children** and spend time together doing activities. Such as **homework helping** in the learning plaza, **playing together** at the intergenerational playground and the dry fountain.

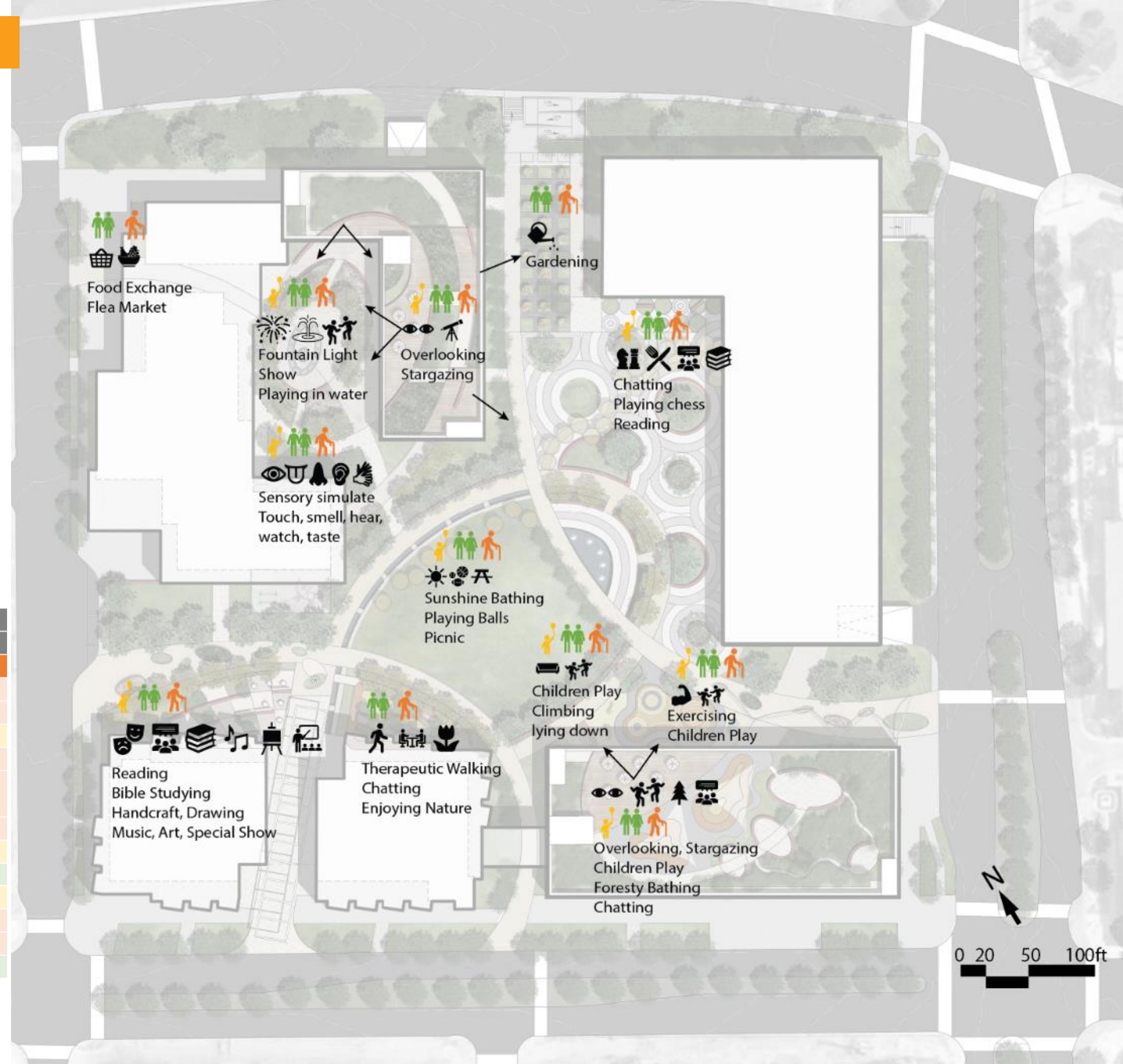
SITE	WEEKDAY		
	Children	Adult	Senior
Roof Garden	4-9pm	6-10pm	8am-9pm
Community Farm		6-8am,pm	7am-6pm
Reading Corner	4-6pm		10am-6pm
Art Studio	4-6pm		10am-6pm
Intergenerational Playground	4-7pm	5-7pm	7am-7pm
Blossom Plaza		8am-5pm	10am-6pm
Liner Flexible Furniture			4-7pm
Walking Loop		4-8pm	7am-6pm
Dry Fountain		4-8pm	10am-6pm
Sensory Garden		4-6pm	10am-6pm
Therapeutic Walkway			7am-7pm
Multifunction Lawn		4-8pm	10am-6pm



Weekends Activities

On weekends, there are more public activities for all ages, such as **fountain light shows** in the **sensory garden**, **music or art shows** in the **learning plaza**, and **flea markets** in the **community center plaza**.

SITE	WEEKEND		
	Children	Adult	Senior
Roof Garden	10am-9pm	10am-11pm	10am-10pm
Community Farm		8am-6pm	
Reading Corner		10am-6pm	
Art Studio		10am-6pm	
Intergenerational Playground	8am-7pm		8am-7pm
Blossom Plaza		10am-6pm	
Liner Flexible Furniture		10am-6pm	
Walking Loop		8am-8pm	
Dry Fountain		10am-10pm	
Sensory Garden		10am-6pm	
Therapeutic Walkway		10am-6pm	
Multifunction Lawn		10am-6pm	



INTERGENERATIONAL INTERACTION

Susan's One Day

Susan

AGE: 70 yrs.

JOB: Retired teacher

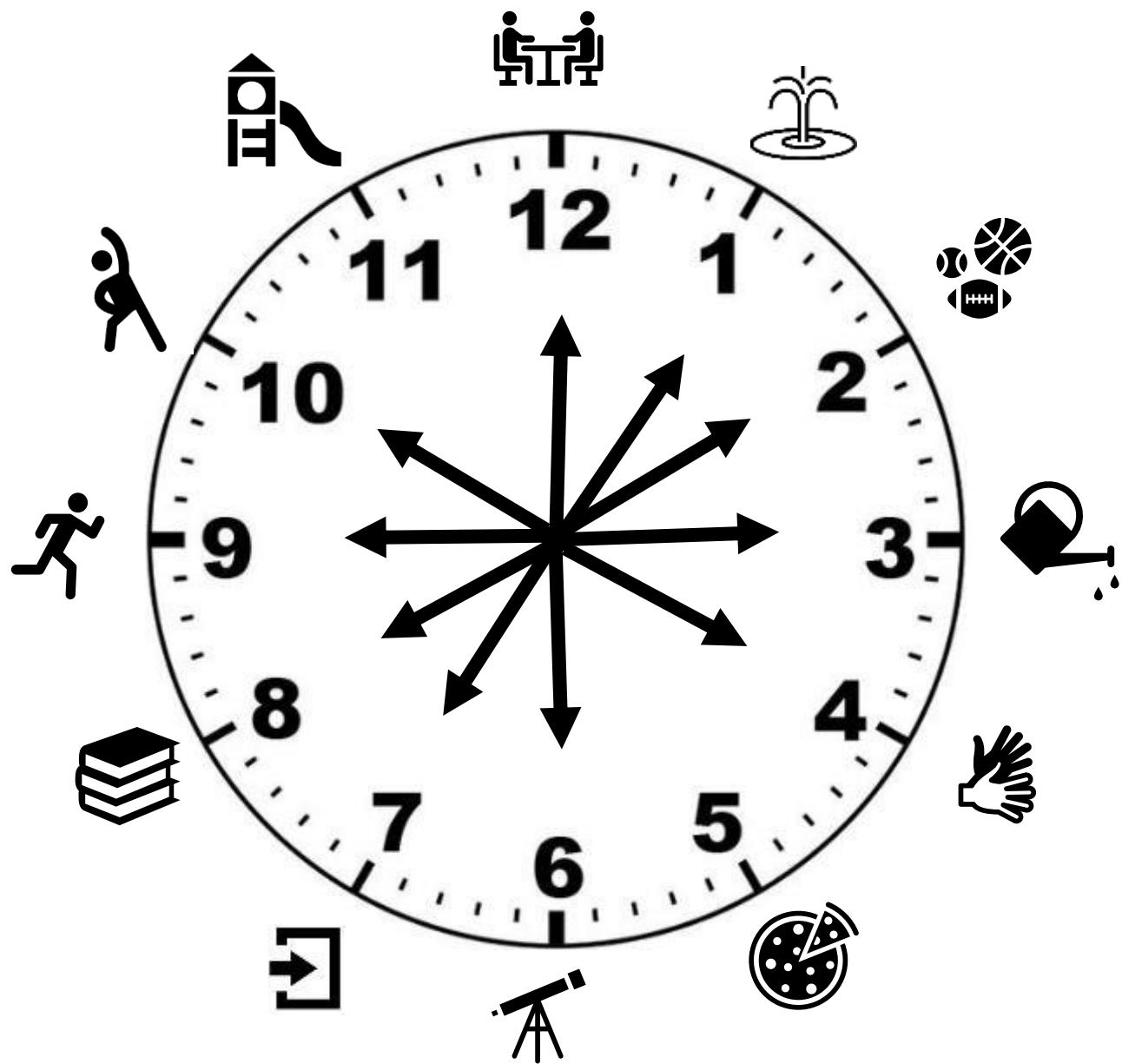
LIVE: Green house.

FAMILIES:

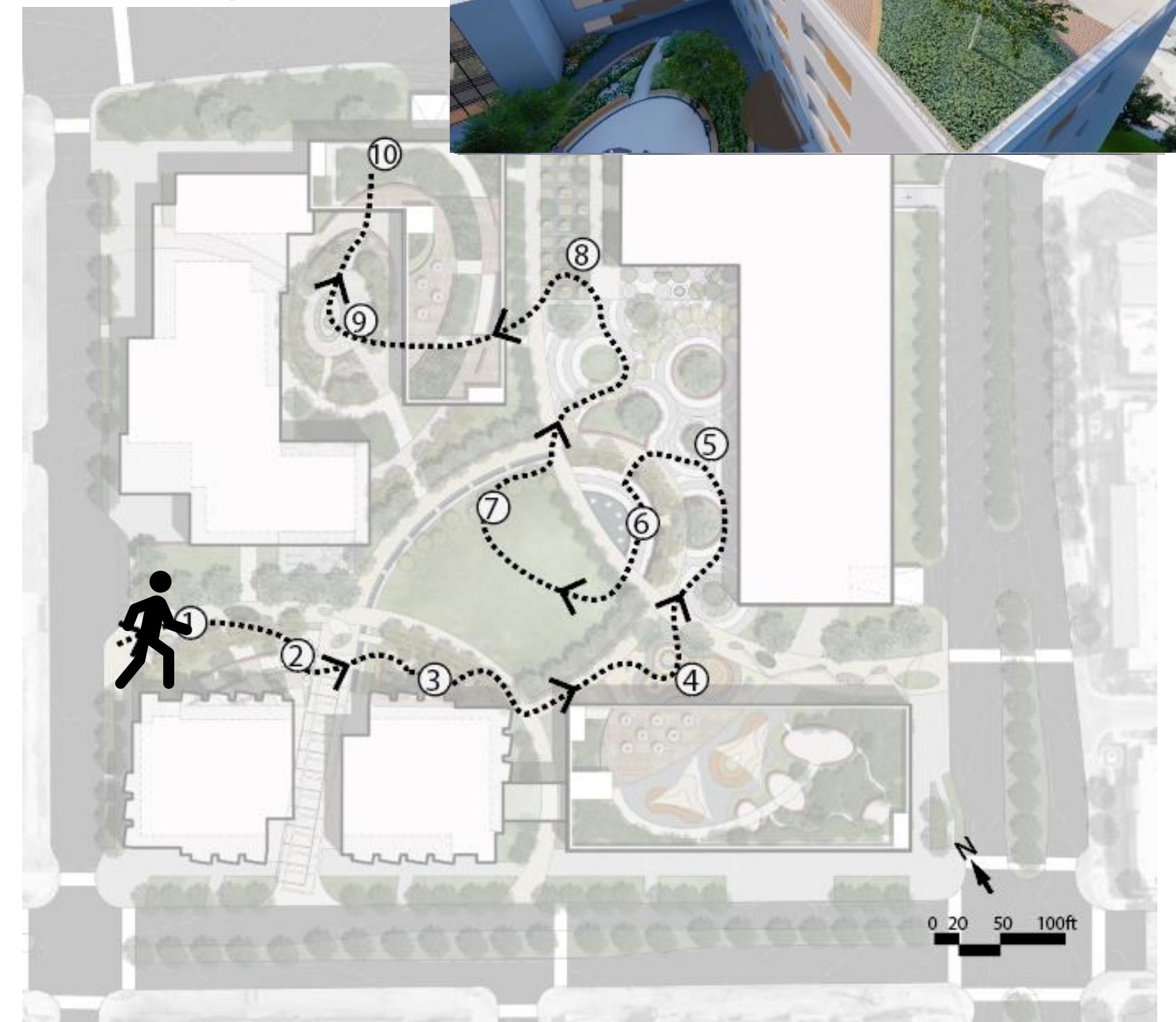
Grandchildren - Tom (7 yrs.)

Son, daughter in law (35 yrs.)

Live in **intergenerational apartment**.



Site Tour Map



9.35.120 PARKING STRUCTURE DESIGN STANDARDS

- Ramp Width & Radius:** A **two-way ramp** shall be at least **24 ft** in width. The minimum outside wall radius of a circular ramp shall be **36 ft**.
- Parking Structure Driveway Width:** Any driveway providing access to a parking structure shall have a **minimum width of 28 ft**.
- Sidewalk Width:** A sidewalk with a minimum width of **6 ft** shall be provided adjacent to the entrance driveway.
- Ceiling Height:** The minimum **height** from the floor to the lowest ceiling structure shall be **8 ft 2 inches** for areas providing access to handicapped parking.
- Ramp Transitions:** All ramps shall be provided with **transition zones** at the top and bottom of the ramp. Ramps with a grade of greater than 10 percent shall have transition zones at least **12 ft in length**.
- Parking Floor and Ramp Grades:** The grade of a straight internal **ramp** shall not exceed **15 percent**. The grade of a circular ramp shall not exceed 12 percent as measured at the outside ramp wall.

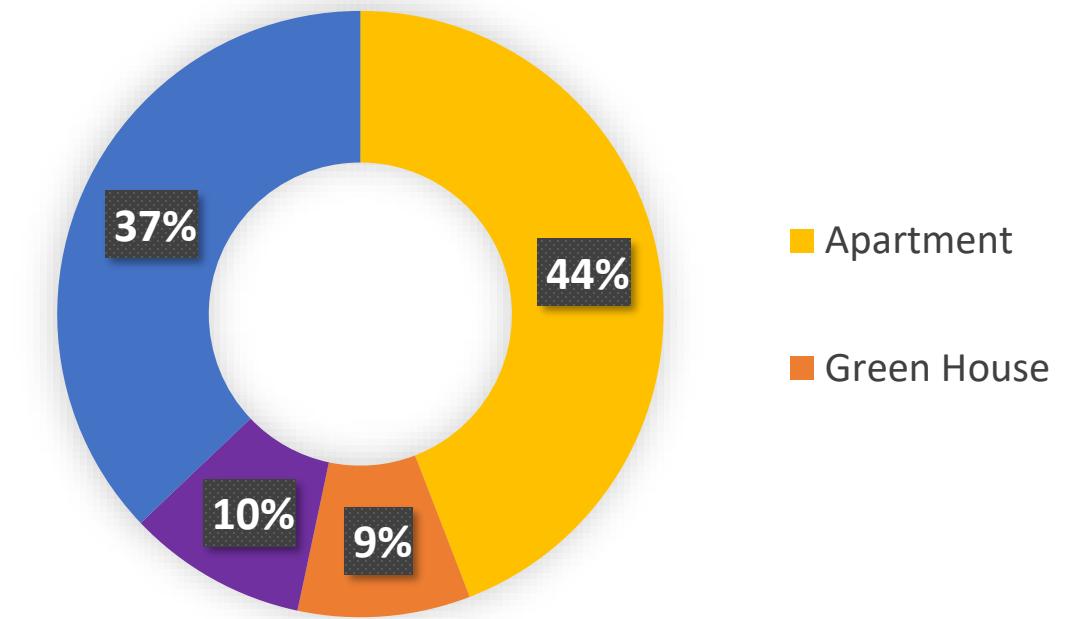
CITY OF AUSTIN PARKING RATIO REQUIREMENTS

(Excerpts from the Land Development Code Sec. 25-6 Appendix A)

RESIDENTIAL	
Land Use	Parking Ratio
Multifamily or Condominium	
Efficiency	1.0 spaces/unit
One Bedroom	1.5 spaces/unit
Two Bedroom	2.0 spaces/unit
Three Bedroom	2.5 spaces/unit
Each Addn Bedroom	0.5 spaces per bedroom per unit
Group Residential (Boarding House)	1 space/dwelling unit plus 1 space per 2 lodgers or tenants
COMMERCIAL	
Auto Sales or Rental	
Office	1 space/275 sq. ft.
Indoor Sales	1 space/500 sq. ft.
Outdoor Sales	1 space/750 sq. ft.
Admin./Prof. Office	1 space/275 sq. ft.
Meeting Halls	1 space per 50 sq. ft.
Food Sales (Conv. Store)	1 space/275 sq. ft.
General Retail Sales (Convenience or general)	1 space/275 sq. ft.
Indoor Sports and Rec. (except below)	1 space/500 sq. ft.
Personal Improvement Services	1 space/275 sq. ft.
Restaurant	
• <2,500 sq. ft.	1 space/100 sq. ft.
• 2,500+ sq. ft.	1 space/75 sq. ft.
Service Station/Lube	1 space/bay plus 3 queuing spaces/bay
Business and professional offices	1 space/275 sq. ft.

Underground Parking

- **Location:** One level underground covering most of the 7.5-acre site.
- **Cost:** Up to **\$35,000** per parking space.
- **Advantage: Safer** for vehicles in extreme weather. **No** need to **walk** in unpleasant weather. Some drivers do not like underground parking.
- **Disadvantage:** More **expensive** to build.

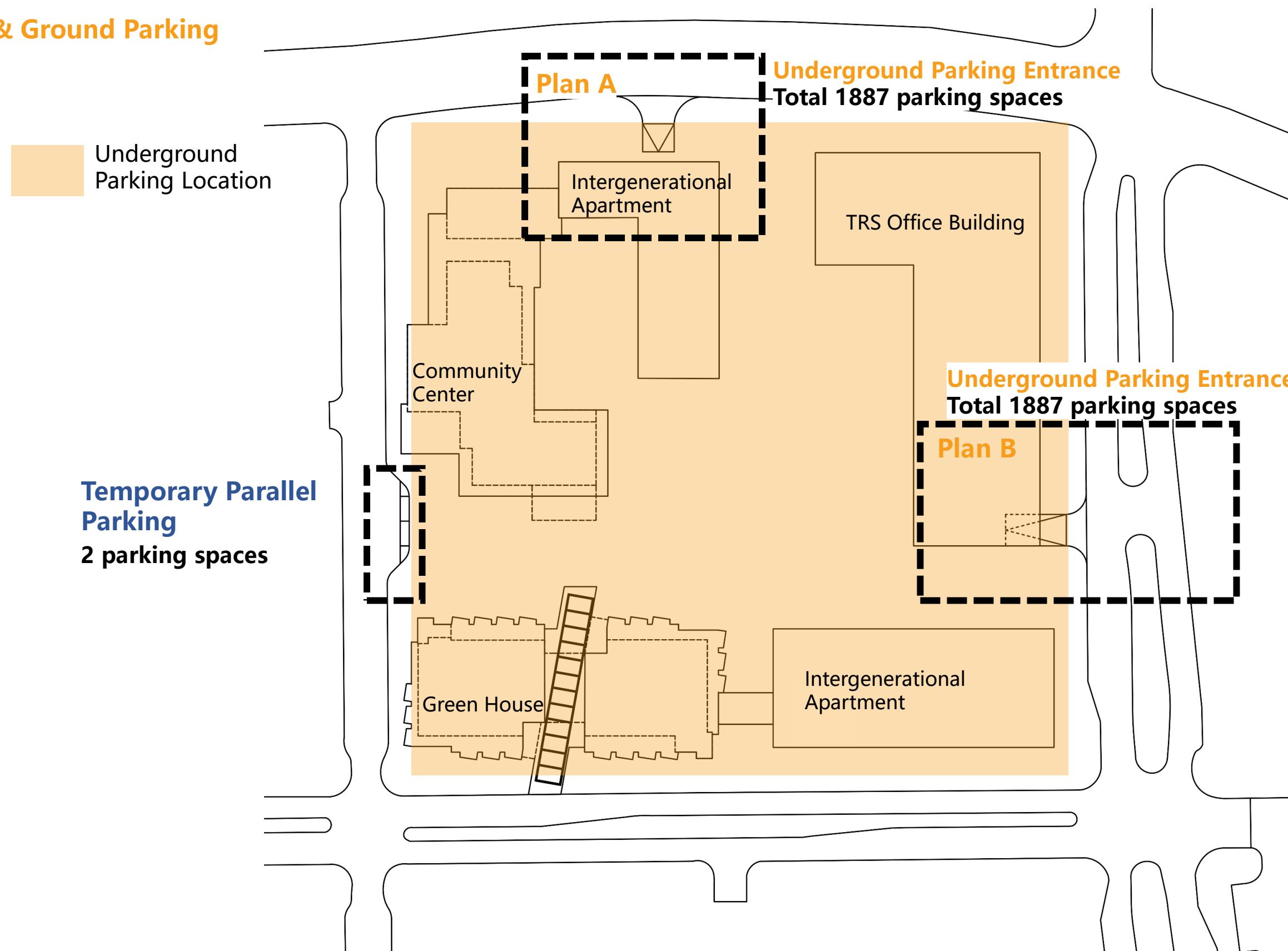


Parking Capacity

BUILDING	TOTAL	FUNCTION	GFA (SF)	PARKING RATIO REQUIREMENTS	PARKING NUMBER	PERCENTAGE
Intergenerational Apartment	833	Living Room	240570	1.0 Spaces/Unit	481	44.13%
		Restaurant	5900	1 Space/100 sf	60	
		Retail	314860	1 Space/275 sf	292	
Green House	174	Senior Living	108000	1.0 Spaces/Unit	86	9.20%
		Retail	24000	1 Space/275 sf	87	
Community Center	181		49662	1 Space/275 sf	181	9.57%
TRS Office Building	700		192500	1 Space/275 sf	700	37.10%
Total	1887		935492		1887	100.00%

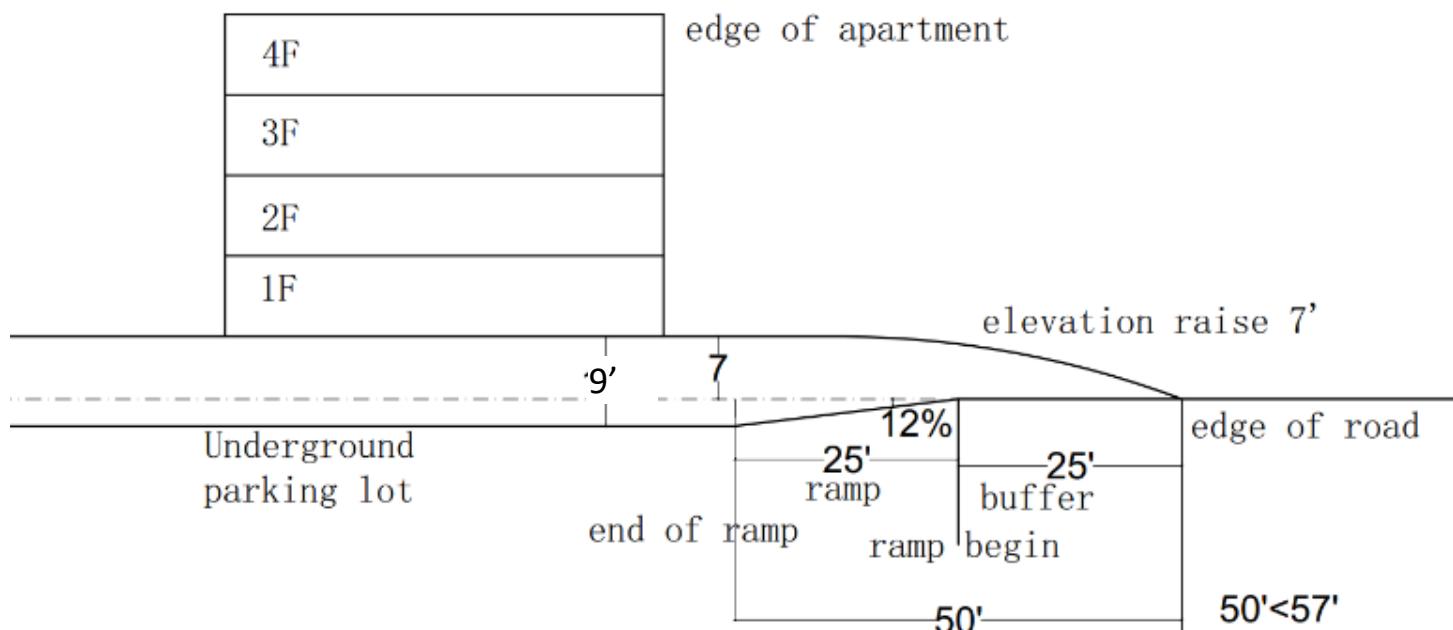
PARKING ANALYSIS

Location of Underground Parking Entrances & Ground Parking

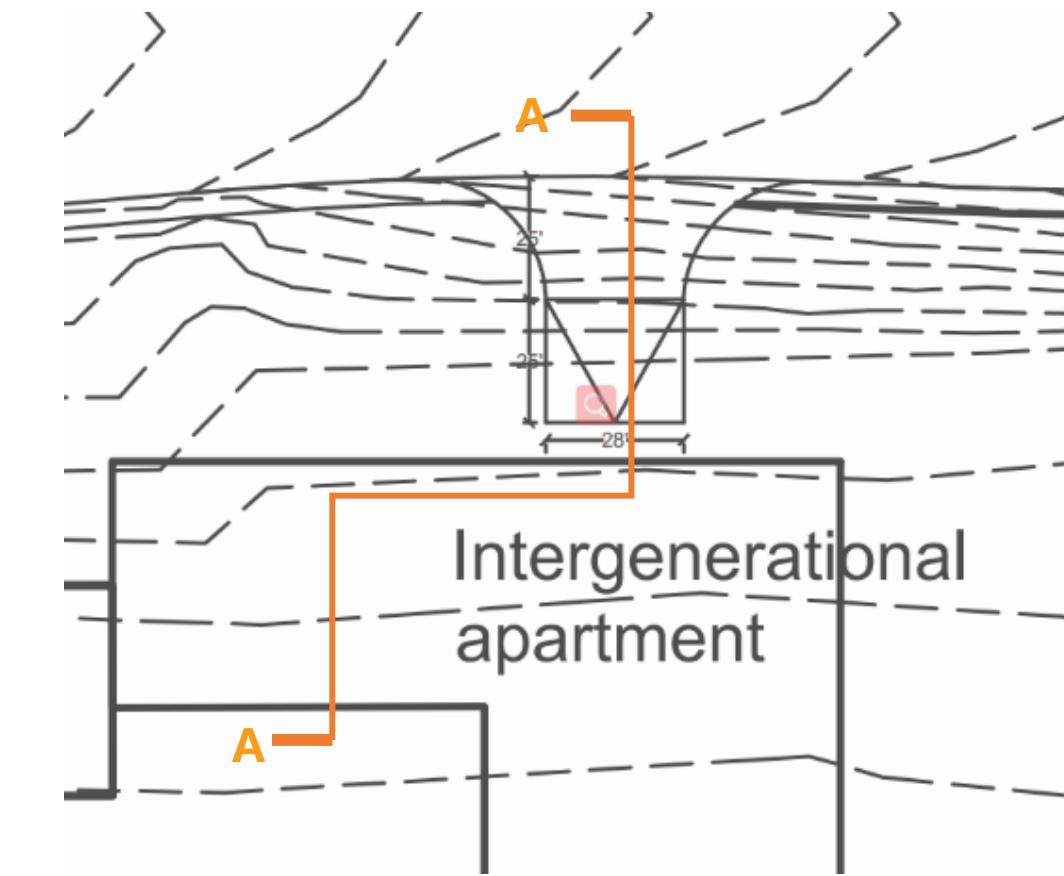


UNDERGROUND PARKING ENTRANCE

SECTION A-A

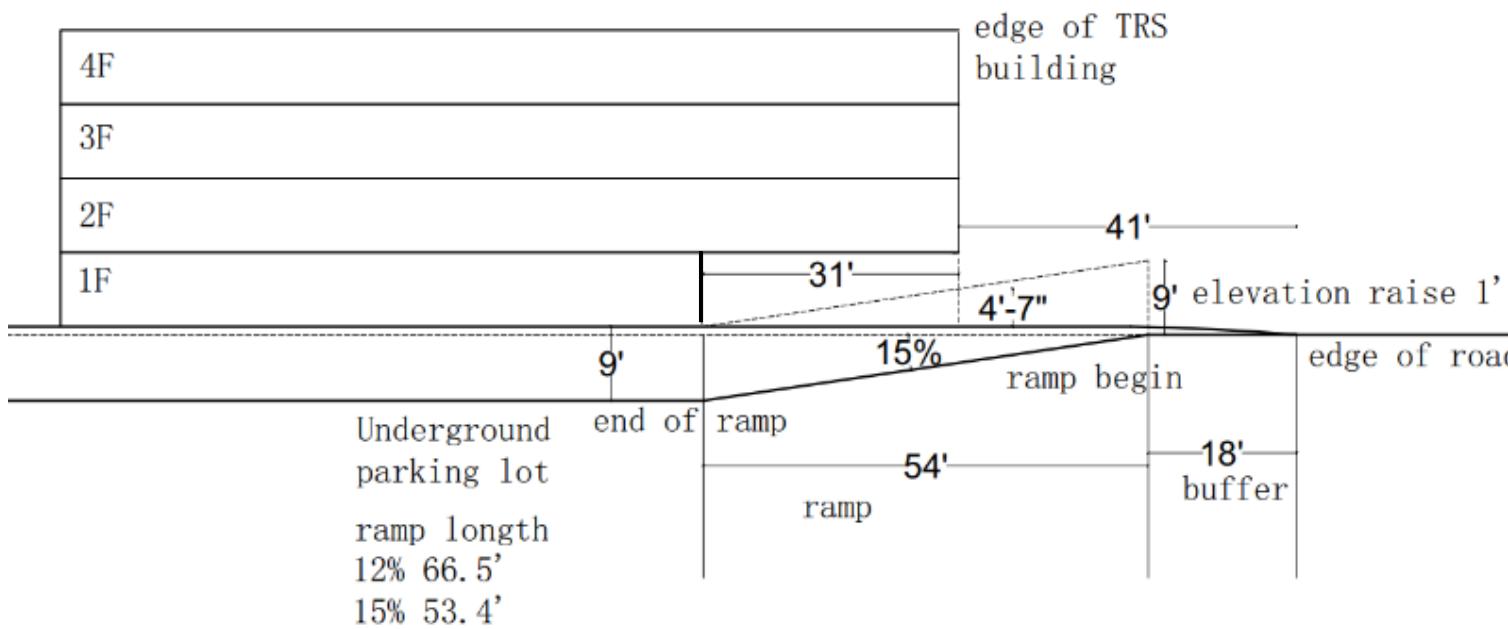


PLAN A

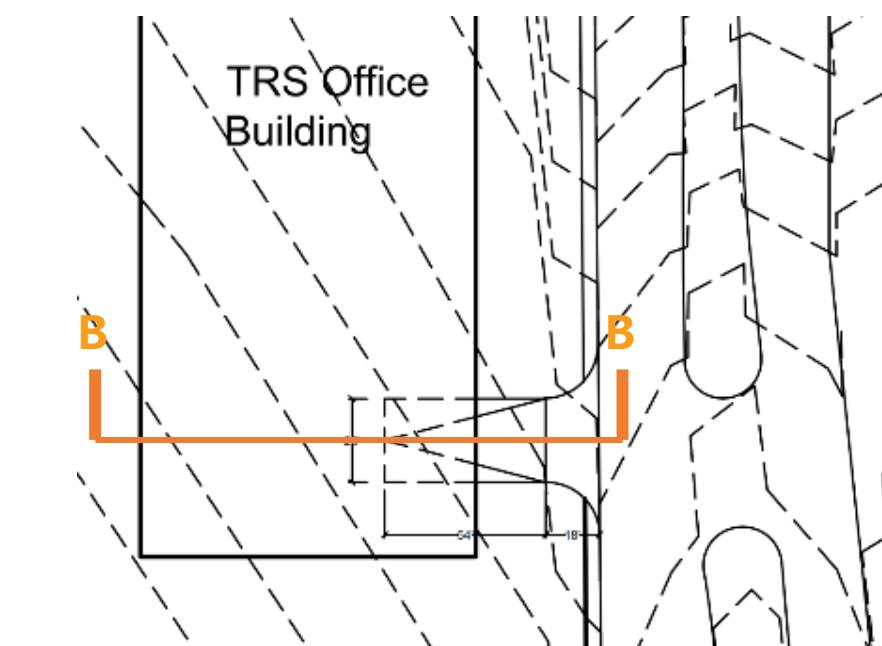


SECTION B-B

This underground parking entrance will **occupy** part of the TRS office building.

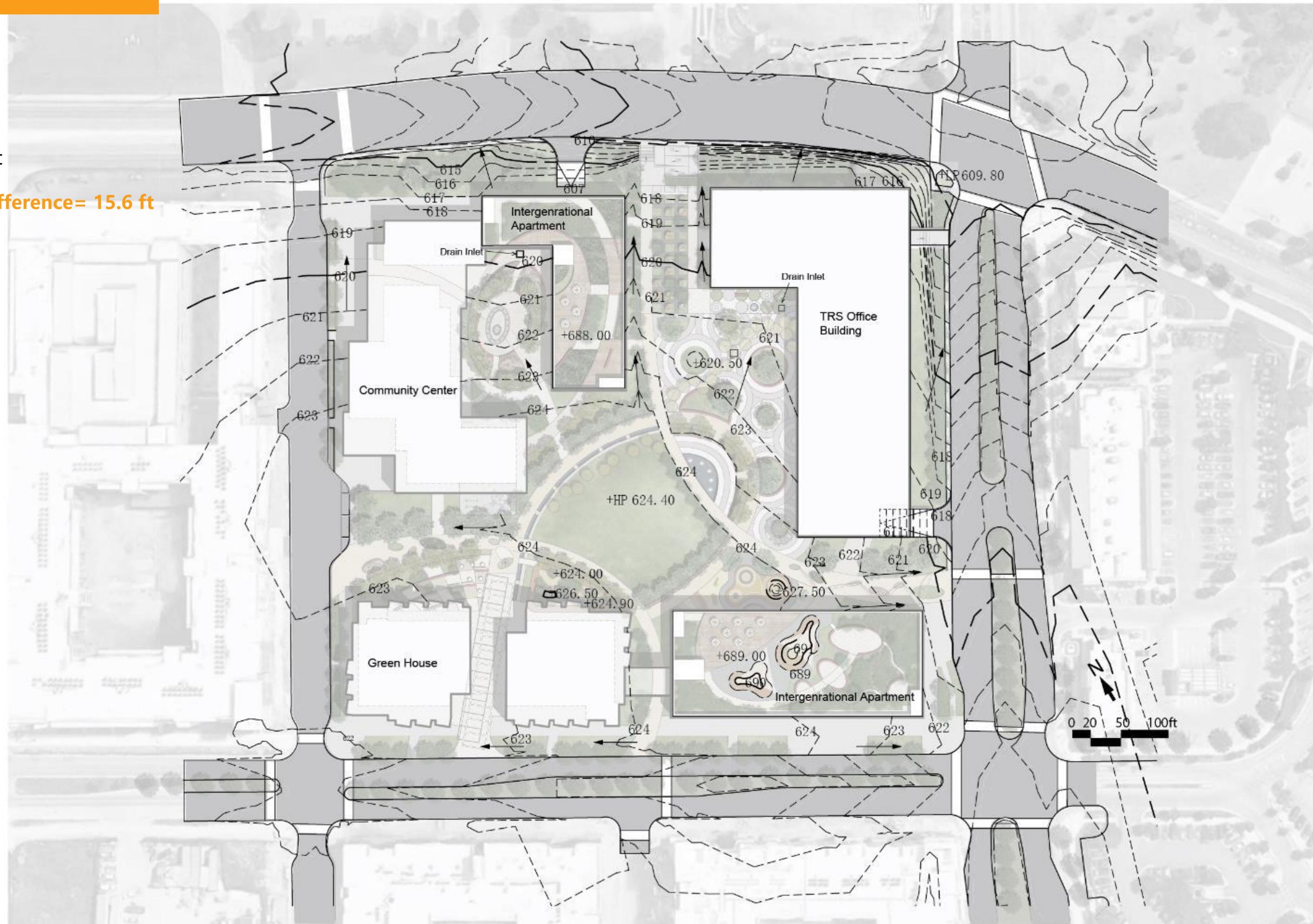


PLAN B



TOPOGRAPHY ANALYSIS

- HP=624.40 ft
- LP=609.80 ft
- **Elevation Difference= 15.6 ft**



SECTION & PAVING



SECTION A-A'

Community Farm



Blossom Plaza



Water Feature



Intergenerational Playground



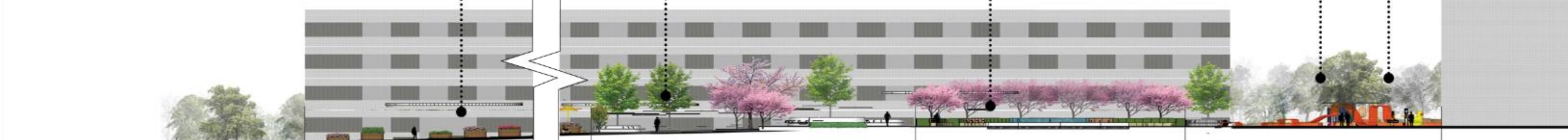
Liner Flexible Furniture



Roof Garden



0 20 40 80ft

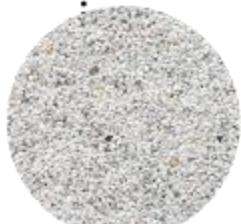


Main Road

Steps

Road

Community Farm



Pervious Color Concrete



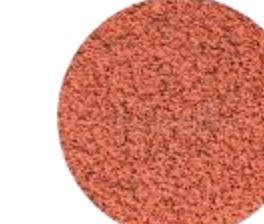
Stabilized Decomposed Granite

Blossom Plaza



Grey Granite Paving

Water Feature



Rubber Crumb Runway

Intergenerational Playground
Liner Flexible Furniture



Wood-deck



Tinted concrete



Blue Rubber Paver

PLANTING ANALYSIS



PLANTING ANALYSIS

SENSORY GARDEN PLATING DESIGN



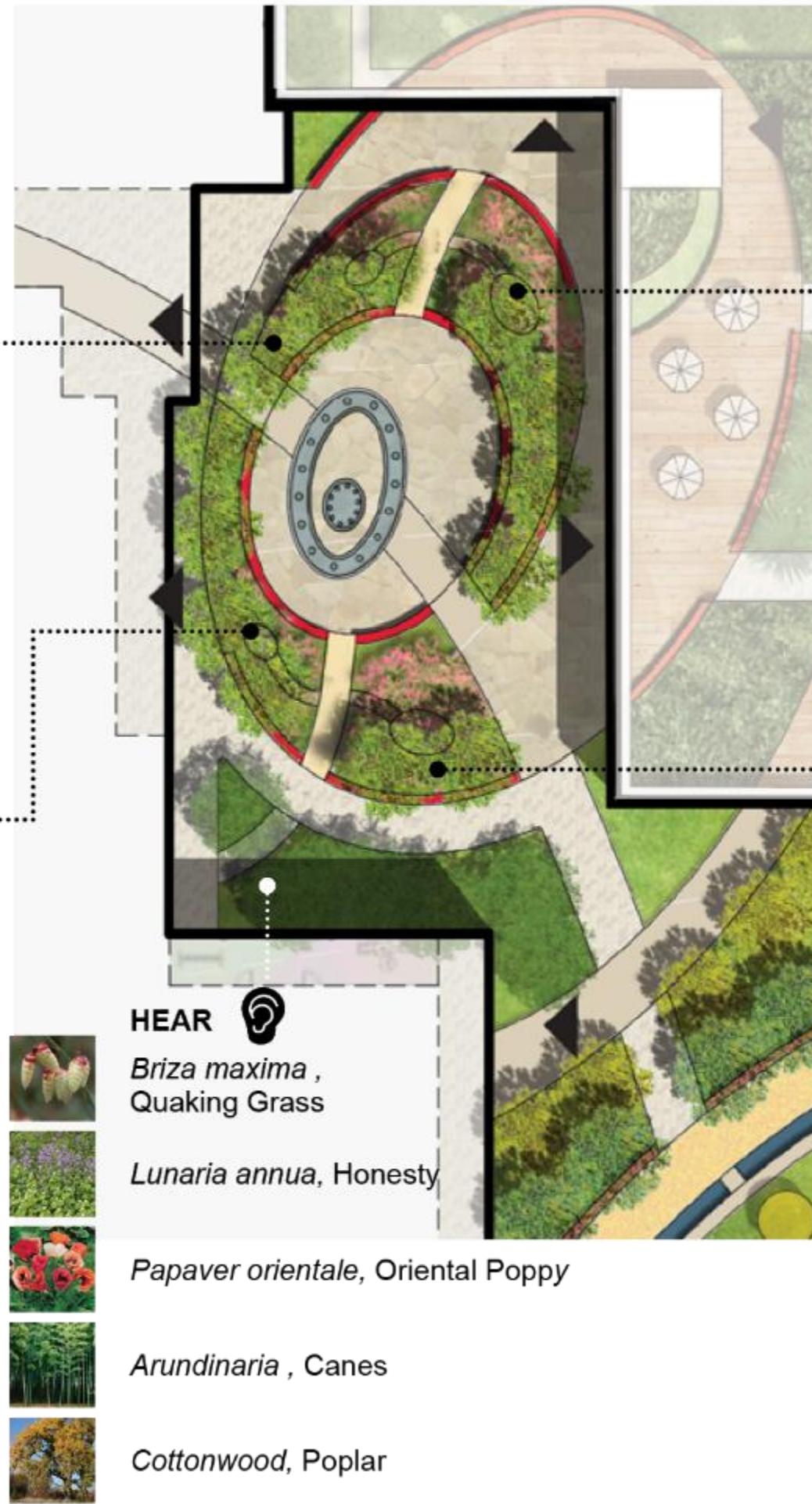
TASTE

Foeniculum vulgare, Sweet Fennel
Tagetes minuta, Muster John Henry
Hibiscus moscheutos, Rosemallow
Daucus pusillus, American Wild Carrot
Mentha spicata, Spearmint



TOUCH

Antennaria parlinii, Parlin's Pussytoes
Eryngium planum, Sea Holly
Limonium Thymus praecox, Creeping Thyme
Stachys byzantina, Lamb's Ears
Limonium carolinianum, Lavender Thrift
Fatsia japonica, Fatsia



SIGHT

Physalis franchetii, Chinese Lanterns
Helianthus annuus, Sunflowers



Sambucus, Elderberry



Buddleja, Butterflybush



Clematis fremontii, Fremont's Leather Flower



Solidago, Goldenrod

SMELL

Prosopis velutina, Velvet Mesquite



Philadelphus latus, Mock Orange



Geranium columbinum, Longstalk Cranesbill



Phlox subulata, Creeping Phlox



Nicotiana longiflora, Longflower Tobacco



TWO Solutions: Different design languages in terms of the form – circular versus rectilinear



Solution 1. Curve & Circle

Interplay of **circular forms** representing a cycle of human life and a life cycle of trees



Solution 2. Straight & Rectangle

Interplay of **rectilinear forms** representing the interplay of different age groups

Next steps:

- Improve the rectilinear model.
- Produce 5 minutes model videos for two solutions.
- Experiment with two different solutions to see how people react.

CONCLUSION



Safety and Security

- Non-slip paving
- Enough seats with handrail and back
- Sufficient lights
- Good visibility and supervision in outdoor space



Comfort

- Temperature moderation/ control
- Shadowing in hot area
- Comfortable seat with backrest, handrail



Walkability

- Trails without crowds and collisions
- No trip hazards
- Low-glare paving



Accessibility

- Easy access to nature
- Easy wayfinding
- Appropriate walking distance



Therapy

- Sensory Stimulation
- Exercise and active living programs
- Therapeutic landscape for seniors and disabled
- Amenities to promote outdoor activities
- Engagement activities related to art, music, nature



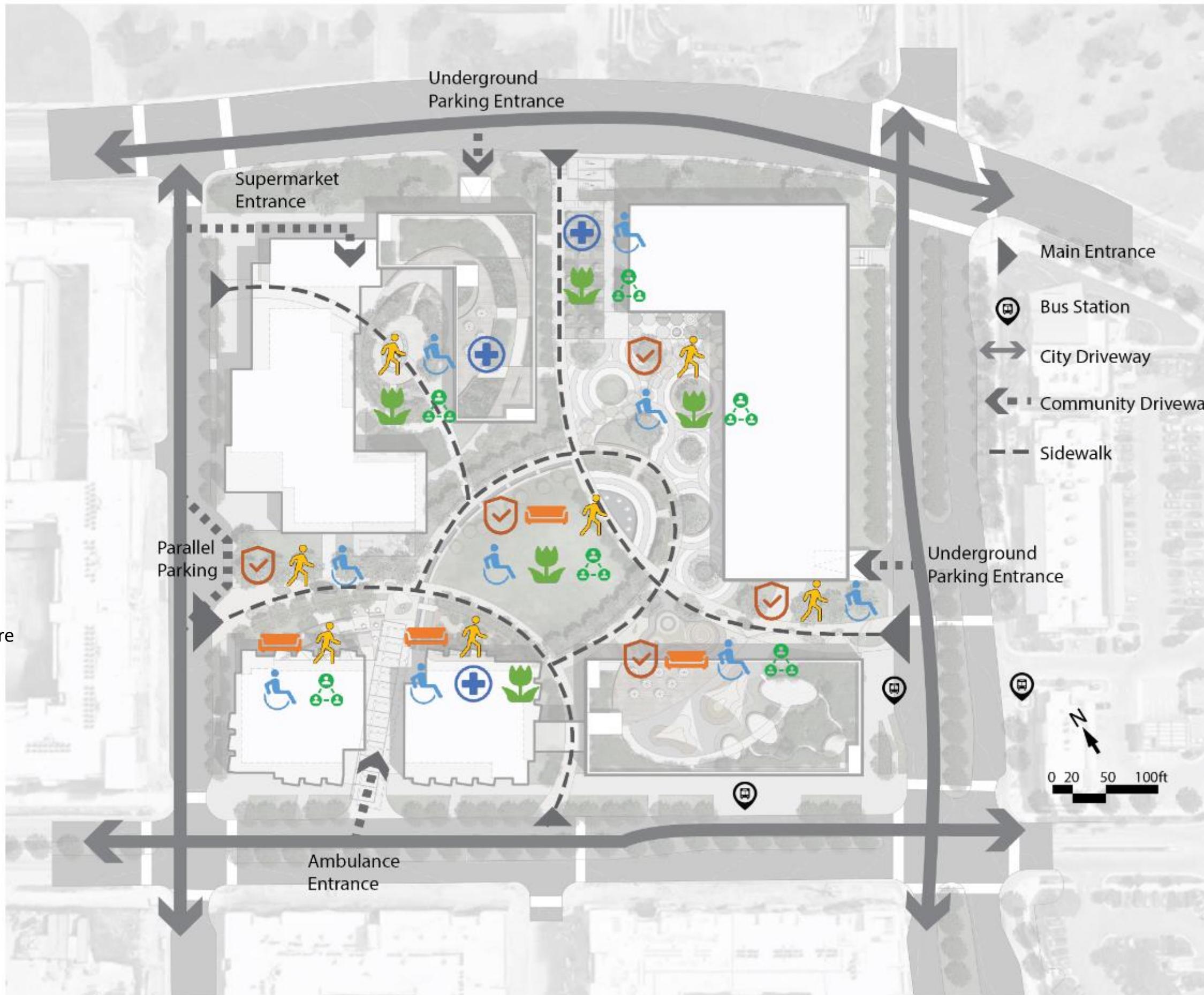
Biophilia

- Path in nature
- Community farm for gardening
- Butterfly sails
- Local microclimate environment



Social Engagement

- Public area for social participation
- Urban agriculture for intergenerational interaction
- Social integration events for all ages
- Intergenerational interaction that are mutually beneficial





THANK YOU!

FOR COMMENTS, EMAIL
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CHANAM LEE [CHANAM@TAMU.EDU](mailto:chanam@tamu.edu)