



THE BOND

S.E. PALLIATIVE CENTER

TIANCHAN NIE

04.2018

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INTRODUCTION

Population aging is one of the most important social trends in the 21st century. In 1999 the world's population reached 6 billion, about 590 million are over 65 years of age. By 2020 to 2030, almost 14% of the population will be elderly people, of whom older people over 80 will be a very fast growing group. (Census IDB, 2017) The rapidly growing age of the population will undoubtedly change the demand for goods and services such as housing, transportation and social security. Family structure and intergenerational relations will also be greatly affected.

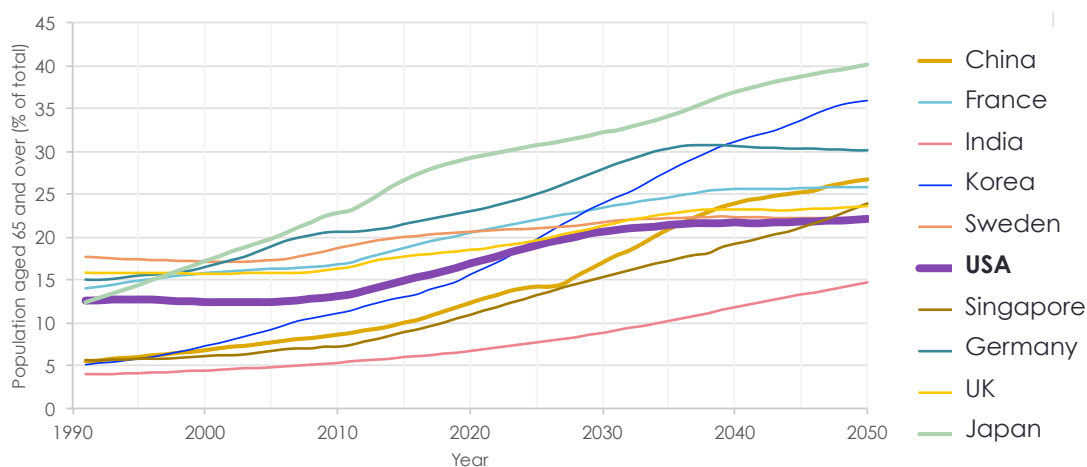
In this context, how to efficiently help the elderly to go through the final stages of their lives is an issue that humankind has always tried better. In 1974, the first palliative care center in the United States was established. Subsequently, the industry developed rapidly and the number of palliative programs increased at a rate of

nearly 17% each year. Today, the National Hospice Organization of the United States (NHO) is running and planning more than 3100 hospice programs in 50 states.

Palliative care is targeted at those who are dying, that is, patients who are usually diagnosed for only 6 months or less. (According to statistics, even if the data continues growing in recent years, the time that patients spent in palliative care center is still much shorter than six months.) Palliative care based on the principle of "good death" is a concept that is being promoted in recent years. The World Health Organization (WHO) defines palliative care as helping patients and their families face problems caused by life-threatening diseases and assessing pain, psychological, social and spiritual problems early to improve the quality of life. According to regulations, palliative care centers do

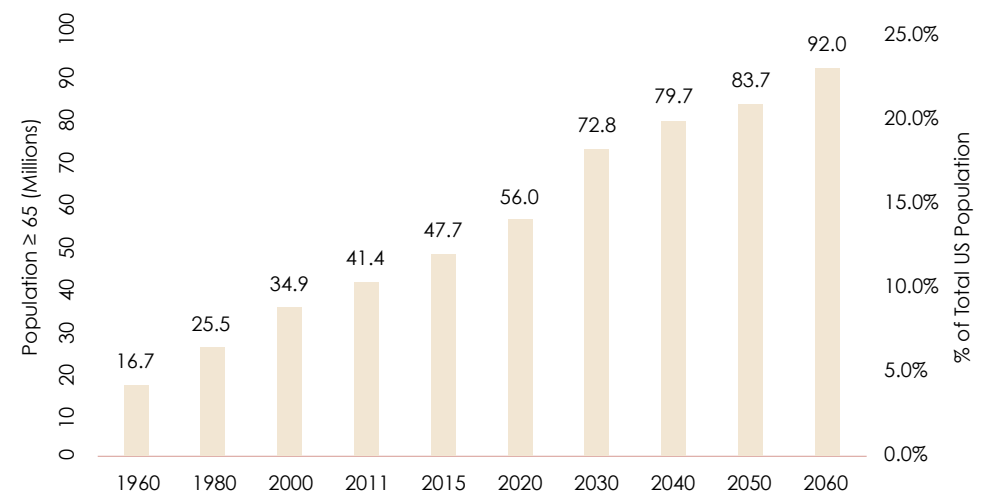
not provide treatment to patients. The purpose of palliative care centers is neither to cure illness or prolong life, nor to accelerate death. In fact, the quality of personal life is improved by providing palliative care, pain control and symptom management. All in all, the dignity of the patients is the concern for palliative care. Palliative care emphasizes the emotional, psychological, social, economic, and spiritual needs of patients and their families.

Population Aged 65 and Over



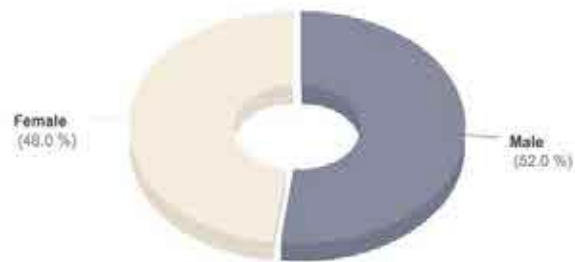
(Census International Data Base (IDB), 2017)

US Population Aged 65 and Over



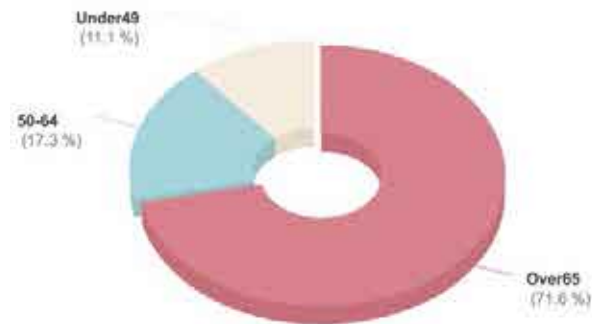
(US Census Bureau, 2017)

Percentage of Gender in Palliative Care Centers



In 1995, 52% of the patients in palliative care centers were male and 48% were female. Among the male patients, 71% were over 65 years old, 17.2% were 50-64 years old; 11% were under 49 years old. Of the female patients, 74% were aged 65 and over, 16.7 were between 50 and 64; 9.6% were under 49 years of age. (The Economist Intelligence Unit(EIU), 2015) Unlike the elderly population distribution, more women live longer, but more male patients chose to come to palliative care centers, which should be caused by the difference in the independent living ability of people of different genders. From some graphics we can see that people are living longer and living with chronic conditions, which means that it will be benefit for old patients to live together with specialized care. Research shows that every dollar spent on health insurance for hospice care can save up to \$1.52 in health

Age of Male in Palliative Care Centers

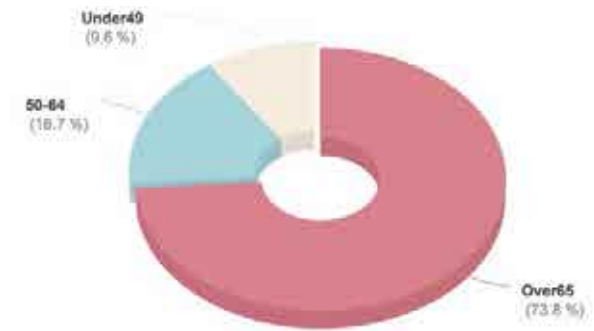


insurance costs. The source of savings are the patient's treatment costs, drug costs, hospital fees and nursing fees. In the last year of life, hospice patients spent \$2,737 less than those who did not use palliative care. In the last month of life, this saves a total of 3,192 US dollars.

To return to the nature and decentralized treatment are the trends of the future. On the other hand, they are also effective forces to promote the use of palliative care during the final stages of life for more patients. Developing in communities is an advantageous direction for palliative care centers which caters to these trends. Moreover, while developing in the community, palliative care facilities themselves can also benefit from not breaking away from social support.

The hospice average length of treatment has increased year by year with the popularity of institutions and

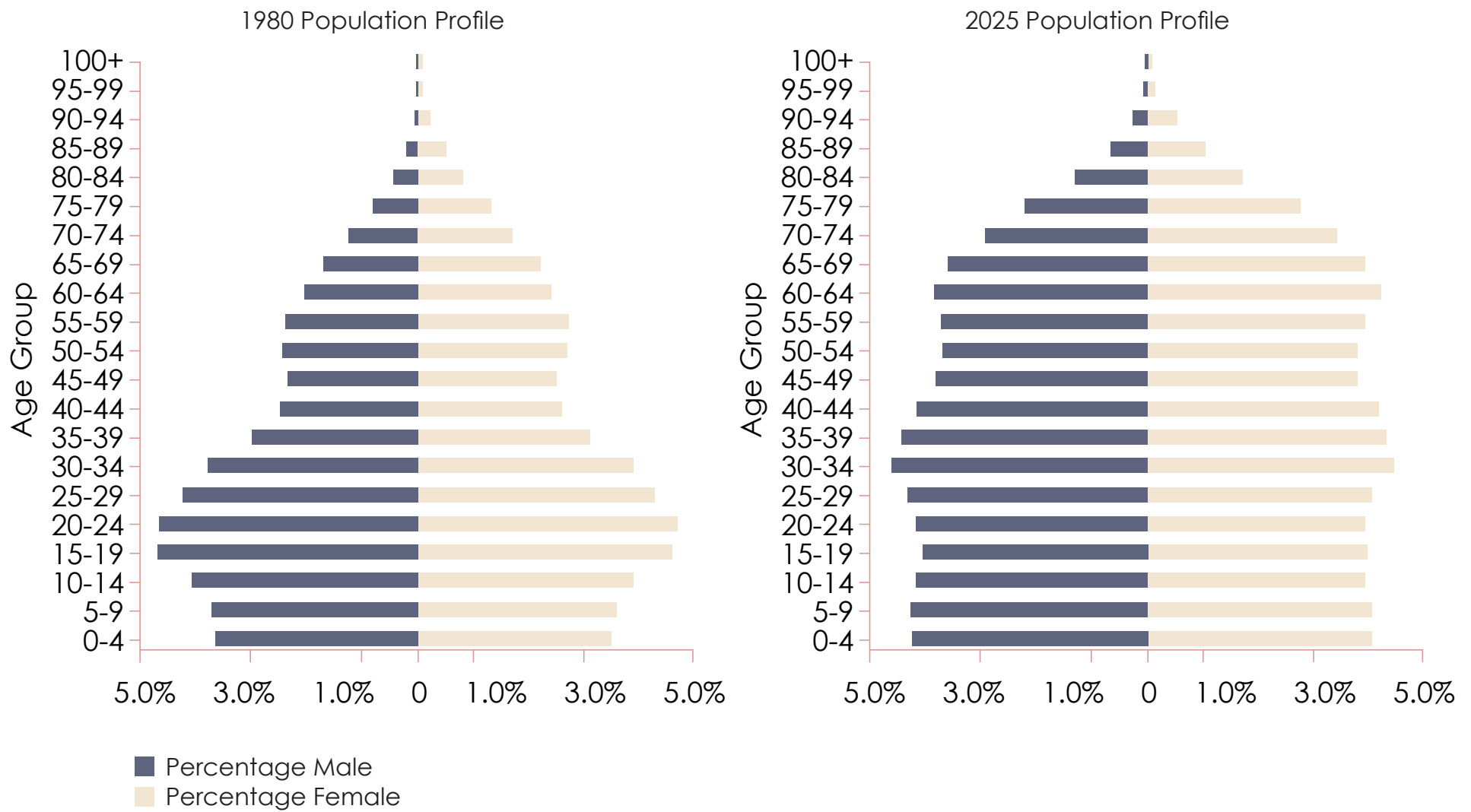
Age of Female in Palliative Care Centers



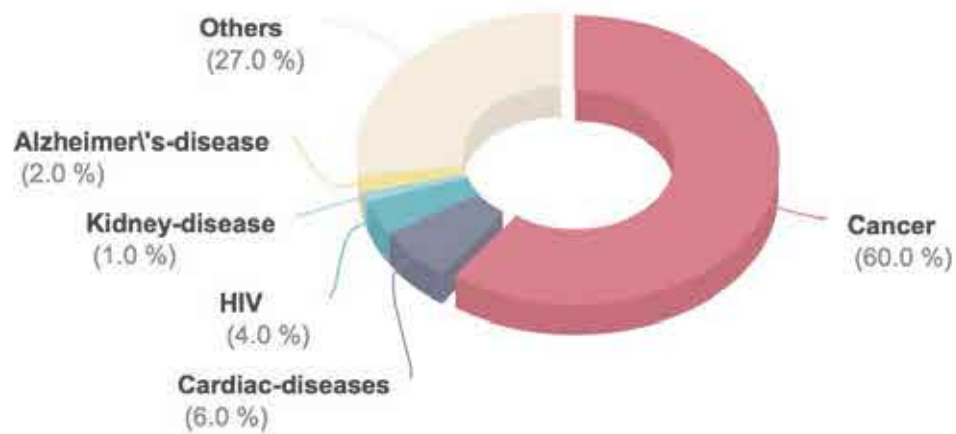
the development of science and technology. By 2017, this average has reached 72 days.

Their diseases vary a lot, in the United States, most of the patients are suffering from cancer. For patients in palliative care center, they won't be treated by radiotherapy or chemotherapy, they will spend the 72 days like a normal people.

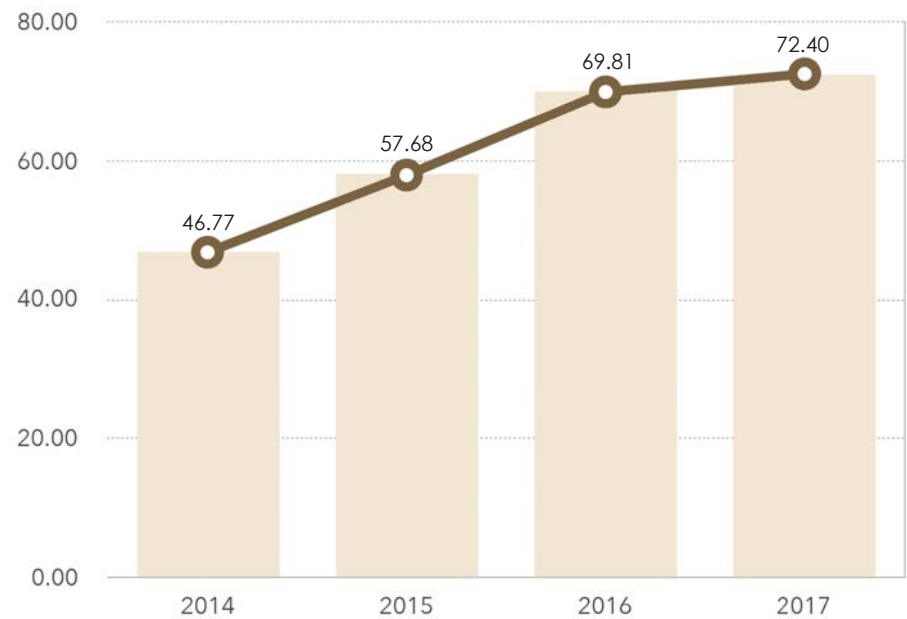
US Population by Gender



Diseases of Patients in Palliative Care Center



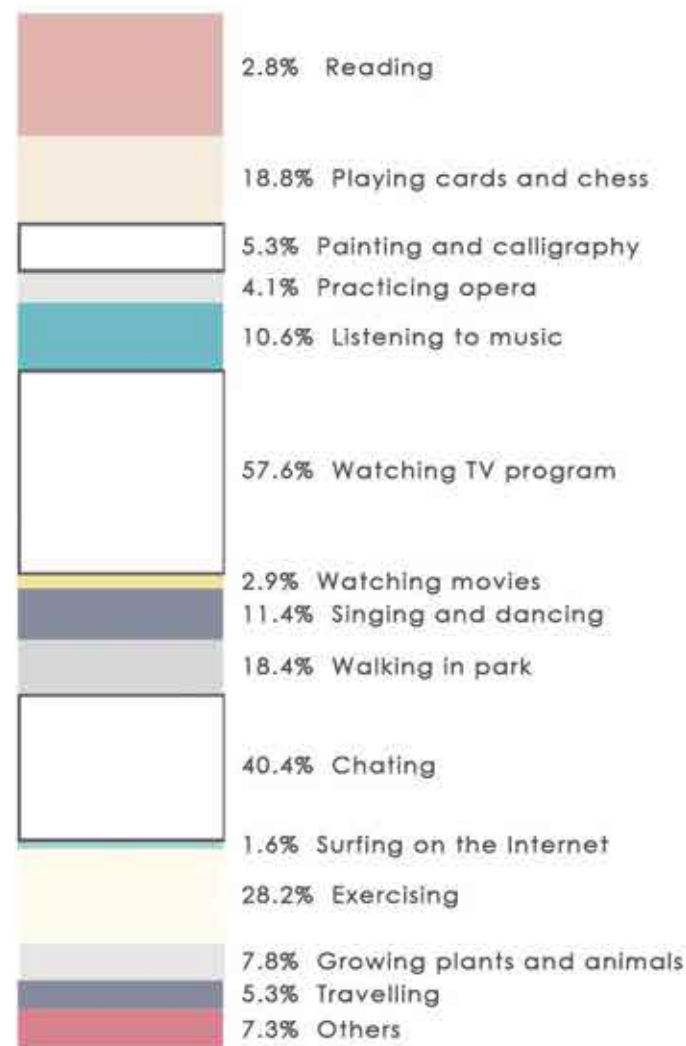
Hospice Average Length of Treatment (Days)



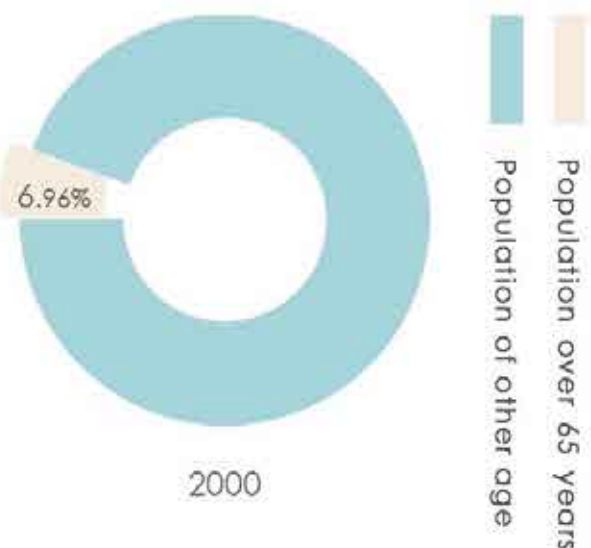
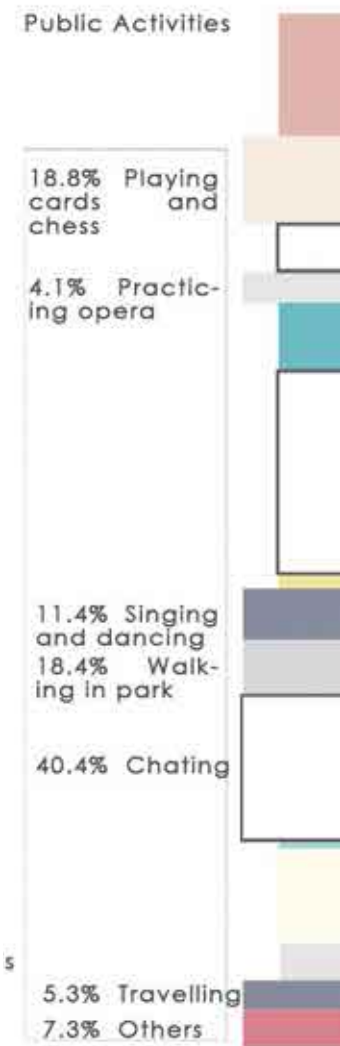
In order to provide the sick with a more intimate experience, I envision my design as a place very similar to their original living environment. All of their original living needs will be met, even better than before. The activities that they can perform in the original environment can also be carried out in the terminal care center. For this reason, I found some statistics on how ordinary seniors allocate their spare time.

The data shows that they spend a lot of time each day chatting with others. The objects of the chat can be family members, neighbors (other patients living in hospice care), friends, and people with common interests and hobbies. They might need a corridor system in the structure to chat. Also they spend a lot of time on watching TV and other personal things. Enough private space is important for them. Other functions such as multi-media player and exercises are required as well.

How Elderly Use Their Spare Time

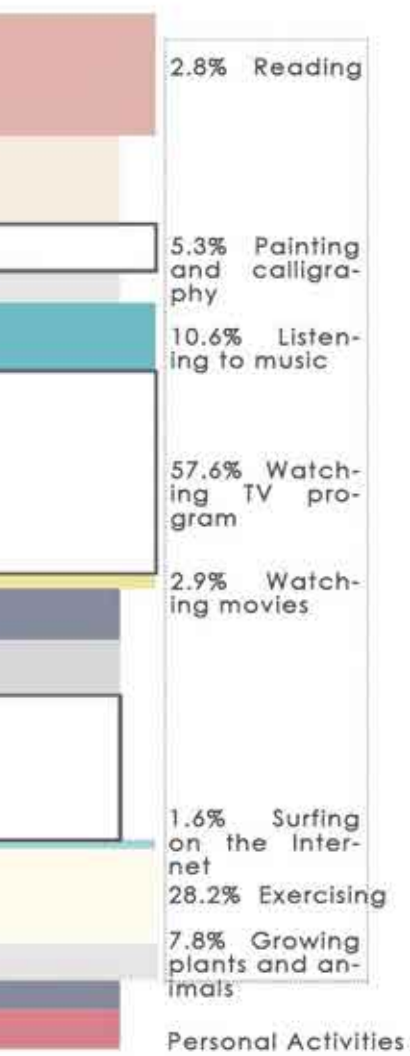


How Public and Personal Activities

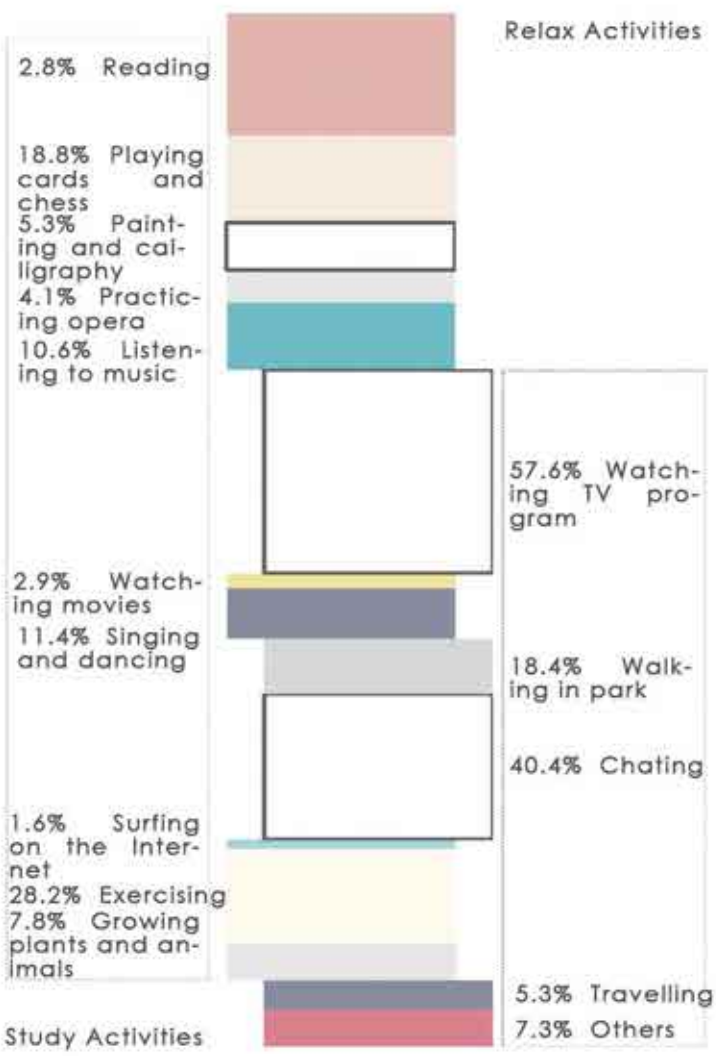


ANALYSIS

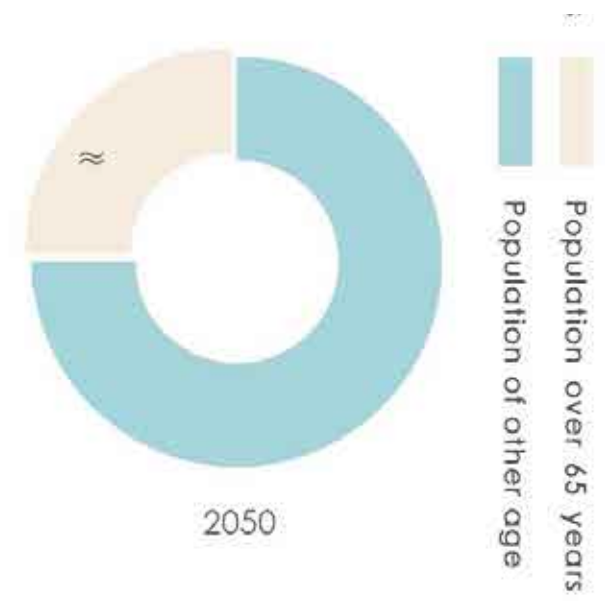
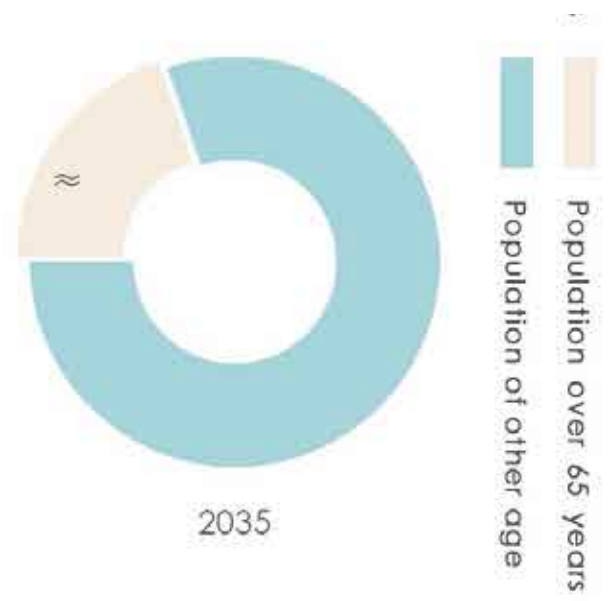
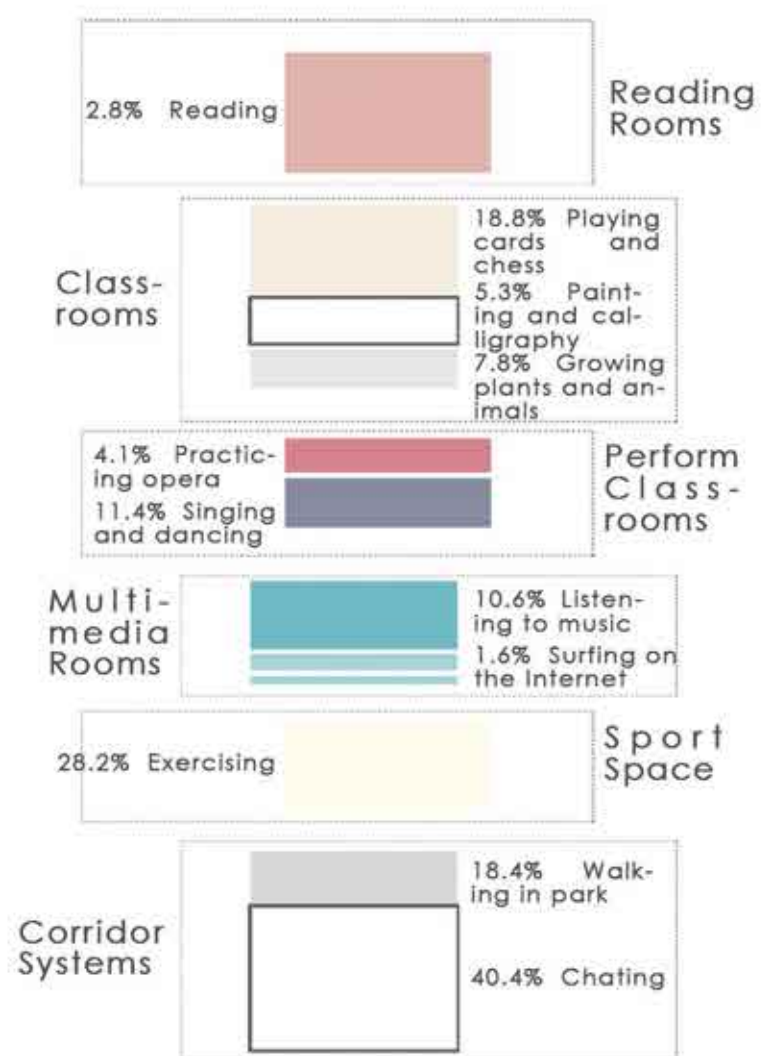
Personal Activities Spered



How Study and Relax Activities Spered



Spaces and Functions



2

P R E - P H A S E A N A L Y S I S

11 - 15

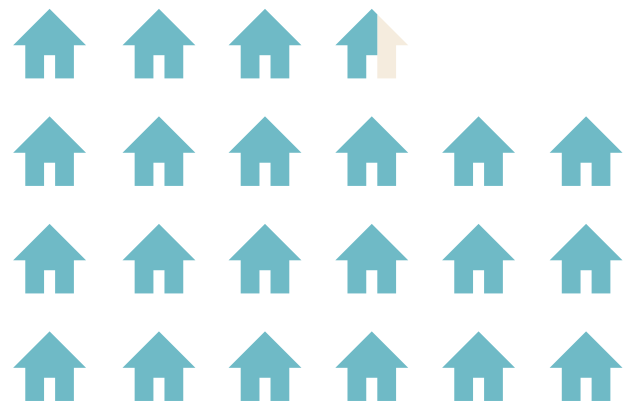
CITY STATUS

16 - 17

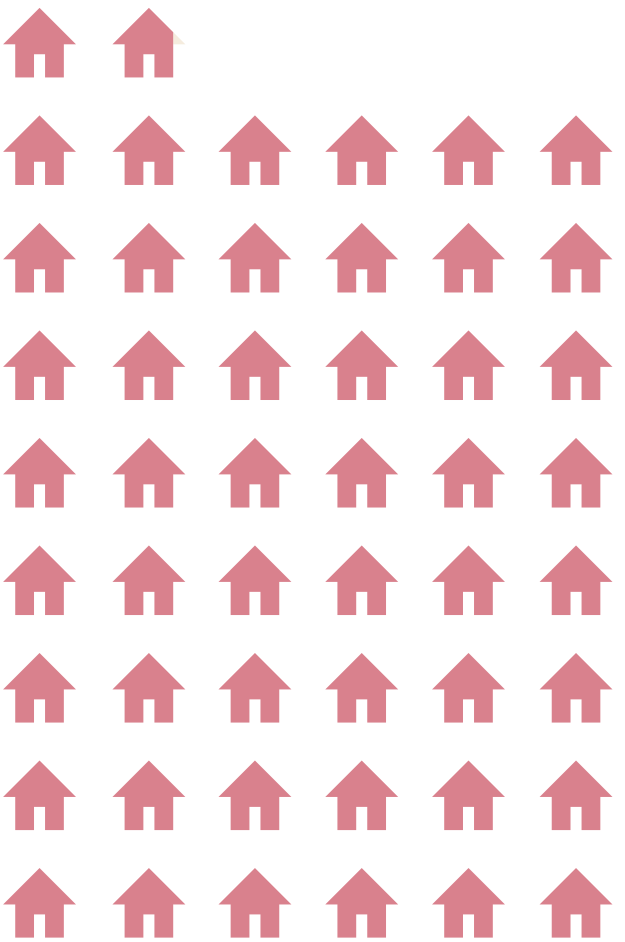
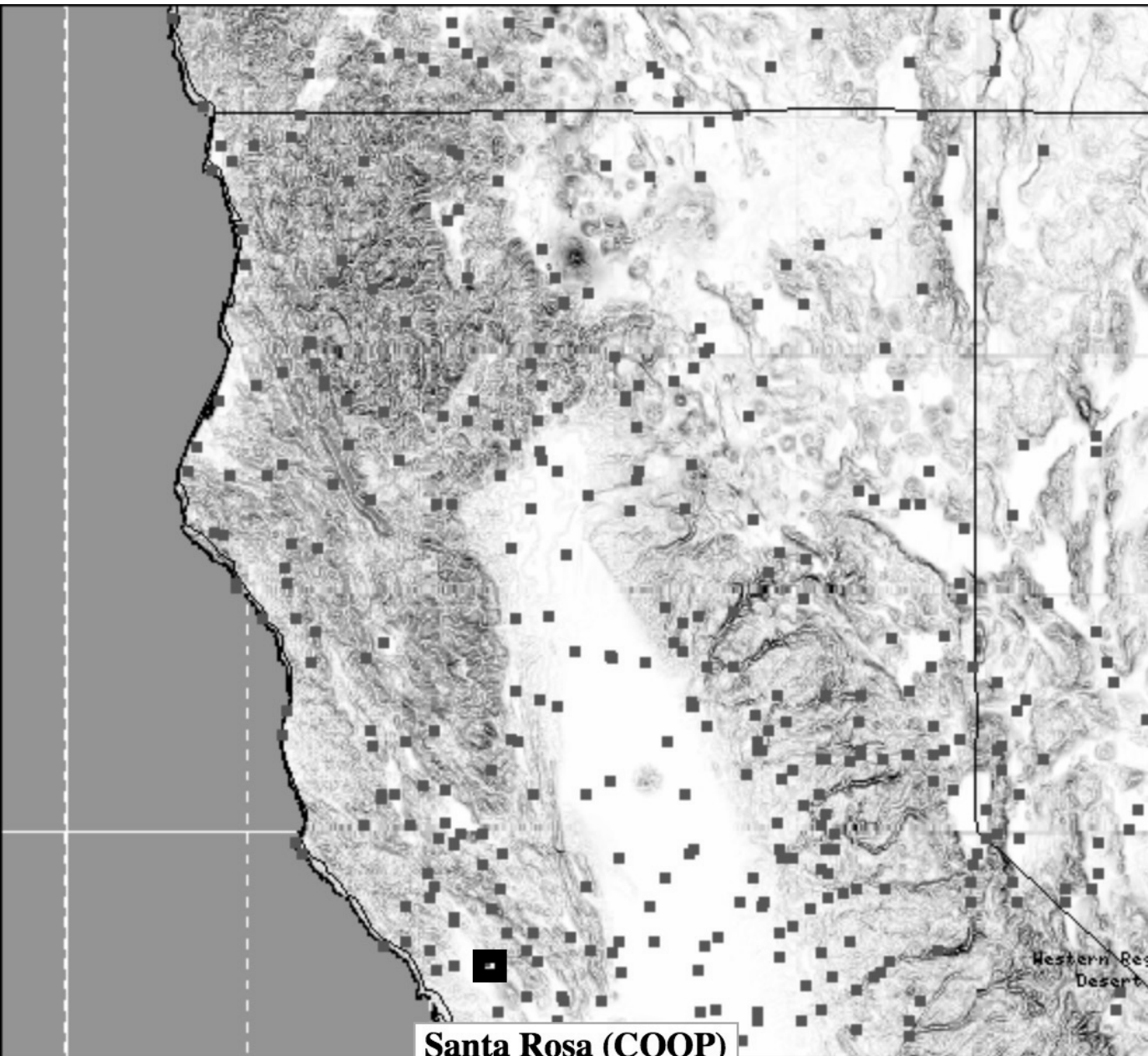
CONCEPT

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SITE PICK UP & ANALYSIS



Housing Costs - USA
\$211,704

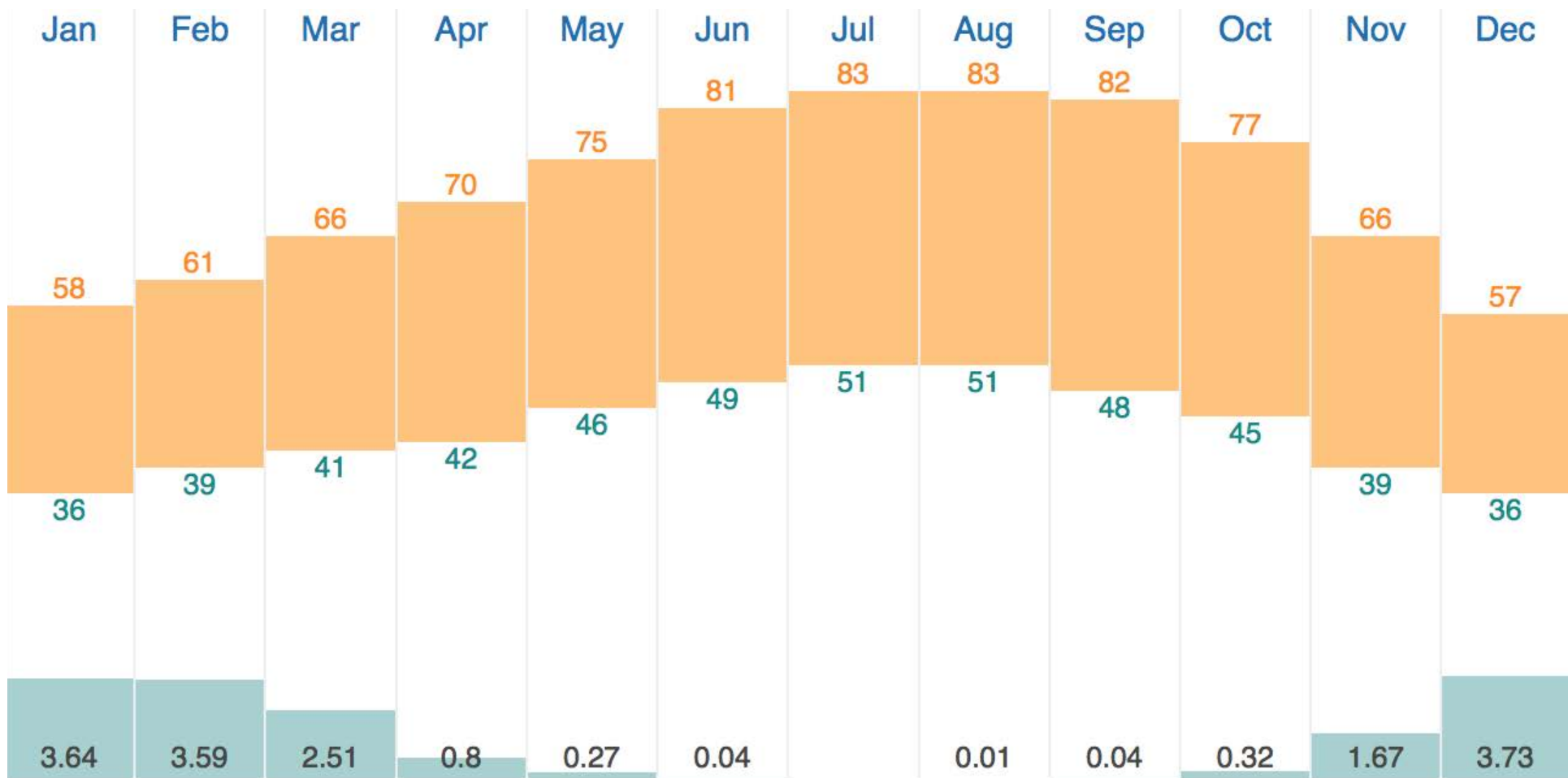


Housing Costs - Santa Rosa
\$498,115

Santa Rosa (COOP)

C I T Y S T A T U S

Since the project's client lives in California, California cities have become the first choice when considering the site. Santa Rosa, located in northern California, is a city with comprehensive conditions suitable for the palliative care center. First of all, like many cities with beautiful nature view in California, Santa Rosa's housing prices are not low at all, which is almost twice the average house price in the United States. Today's palliative care facilities are profitable as their transitions from most charitable unpaid enterprises to paid facilities. Second, it is a very safe city. For many years, the crime rate of Santa Rosa was very low. This is a necessary guarantee for the dwelling of elderly and weak patients. In addition, the year-round climate is also a major advantage. Patients are often more likely to feel cold than normal, and places with warmer climates are more suitable for patients.

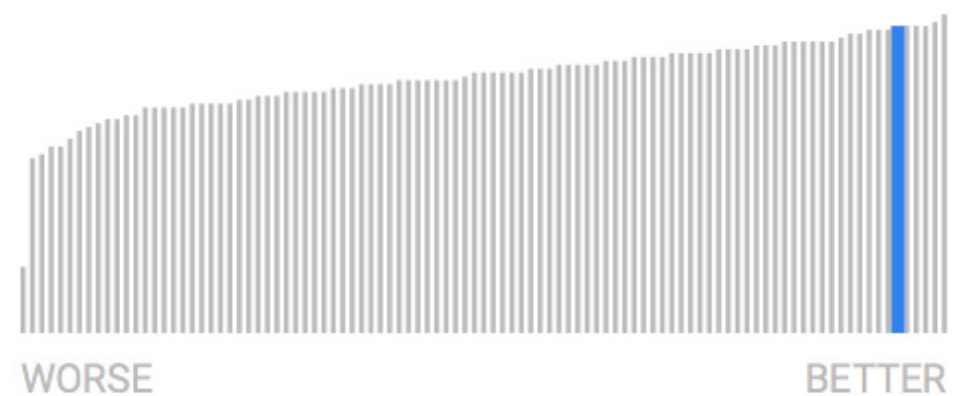


(Data from U.S. Climate Data, 2017)

Crime Index

Index Score: **7.9** /10

How we calculate this.



👍 *Santa Rosa has a lower crime rate than similarly sized metro areas.*

(Data from City of Santa Rosa 2015 CAFR)



495,078

METRO POPULATION



\$50,540

AVERAGE ANNUAL



71.0° / 44.2°

AVG HIGH/LOW TEMPERATURE

(Google Map, 2017)

Santa Rosa's location is unique. It faces the sea on the west side and has the vegetation of the Sierra Nevada in the east. Due to the long-term sunshine in California and the large temperature difference between day and night, a large number of vineyards have been planted for the wineries here. These red wines and natural surroundings with

a comfortable atmosphere nourish the residents of Santa Rosa. For many years, Santa Rosa has been one of the preferred migrant cities for retired American families. Because of this, the median age of Santa Rosa is quite large. From this we can reasonably infer that, in Santa Rosa's general community, more elderly people are living than elsewhere.

All these conditions make it possible to use natural resources rationally and to make positive relations between the palliative care center and the neighbourhood.

ON



40.8 ^[1]

MEDIAN AGE



4.0% ^[2]

UNEMPLOYMENT RATE

SALARY



\$498,115 ^[2]

MEDIAN HOME PRICE



\$1,320 ^[2]

AVG MONTHLY RENT

MPS



36.3 inches ^[3]

AVG ANNUAL RAINFALL



25.0 minutes ^[4]

AVG COMMUTE TIME

(1. Santa Rosa QuickFacts. United States Census Bureau, 2017

2. City of Santa Rosa 2015 CAFR

3. U.S. Climate Data, 2017

4. <https://srcity.org>)

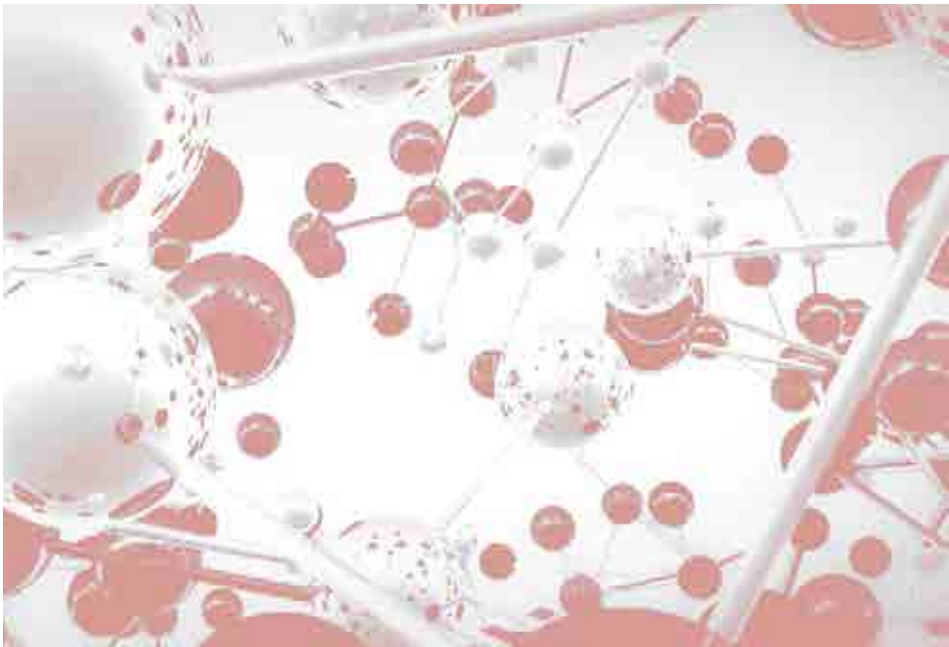
C O N C E P T

Before I went to visit a palliative care center on a small island in Venice, I had never thought that people should seek a special place for a "good death."

The Venetian palliative facility of course shocked me at the time. In its huge and lush garden for the patient to walk and rest, I took a picture of it in an undefinable shock. I thought at the time that I probably hadn't even seen a beautifully manicured, better-managed garden. In the palliative care facilities, we should provide an environment that is even better than that visited by healthy people.

Since then, I have been trying to make designs that allow nature to better integrate into buildings. Coincidentally, this project happens to have a south-facing lake and a base in the woods. I want to make this building and natural environment like different natural elements organically combined by chemical bonds, give full play to their respective advantages, and eventually fuse into a whole. At the same time, as a palliative care center with a large number of residents in the north, I hope that the building itself can promote the relationship between the patients living here and their nearby peers, instead of an individual place where the dying people live together, and the environment is cut fragmented as well. This building, like a chemical bond, will bear the bond between the environmental material and the patient's spiritual duality.





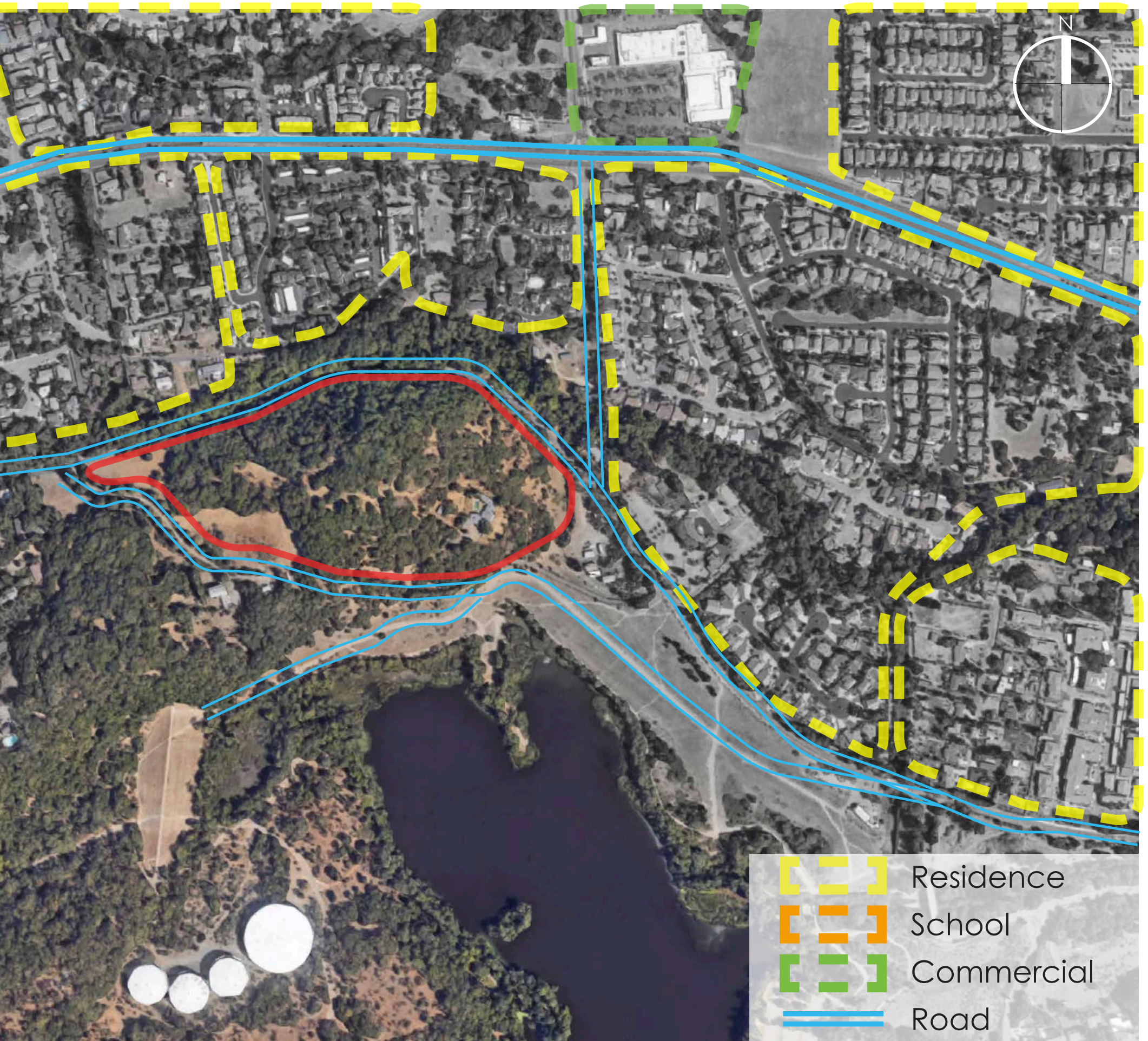
From the map of the city area of Santa Rosa, we can see the site of the project is on the same way with three other palliative facilities (blue signs). I am doing this on purpose, aiming to make it more effective for patients and families to compare and to select one palliative care centers whenever they need. In addition, the red sign represents a general hospital closest to the site. These four buildings and the project site are located on the main urban road in Santa Rosa, which are easily accessible.





When zooming in on the map, we can see that there are a large number of residential areas on the north side of the site, as we saw before. In addition, the site is very close to California's highway. Though traffic there is large, the distance makes the site convenient enough but the noise pollution will not be a problem. The current green conditions of the site are very nice. Therefore, considering the original buildings that must be avoided, the structure needs to use open space as much as possible to reduce the damage to the environment.





3

D E S I G N D R A W I N G S

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PLANS & FUNCTIONS

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SECTIONS

28 - 31

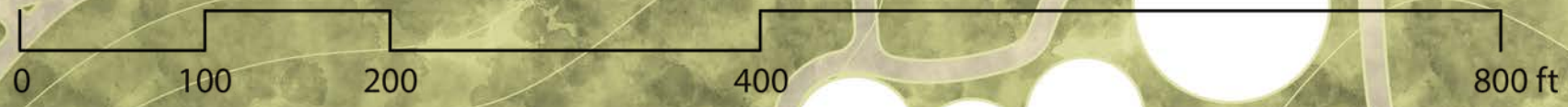
ELEVATIONS

32 - 33

DETAILS

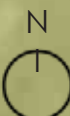
34 - 55

RENDITIONS

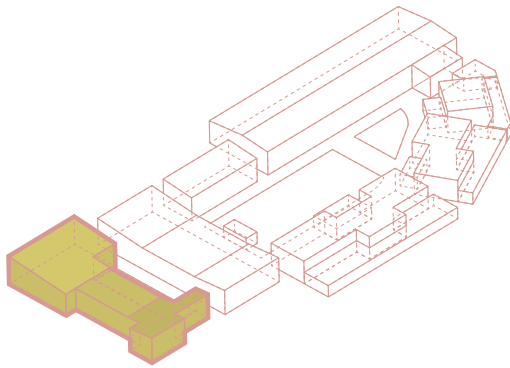




0 10 20 40 80 Ft

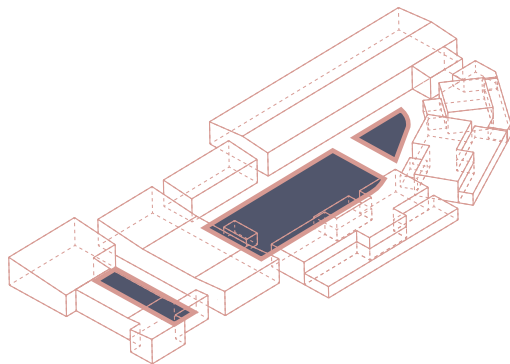


PUBLIC



Lobby - Reception - Activity Room

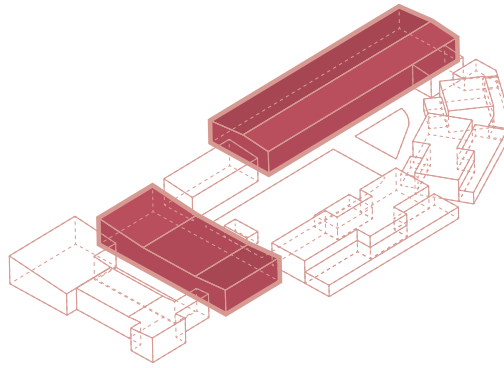
Indoor public space for patients, doctor and nurses, patients' families and visitors.



3 Courtyard

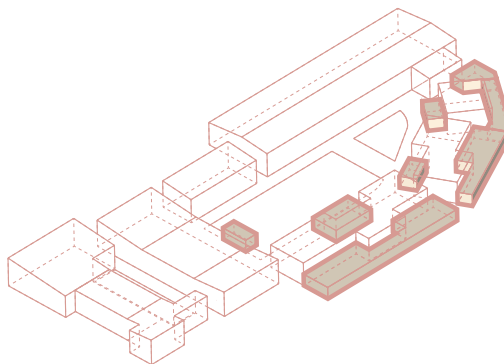
The biggest one in the middle including covered outdoor space for patients and their families, seatings with same height of wheel chair for patients and rising garden. The small two can only allow gardeners in. They are only for helping wayfinding and some necessary interrupt of view.

SEMI-PRIVATE



Laundry - Dining - Swimming Pool

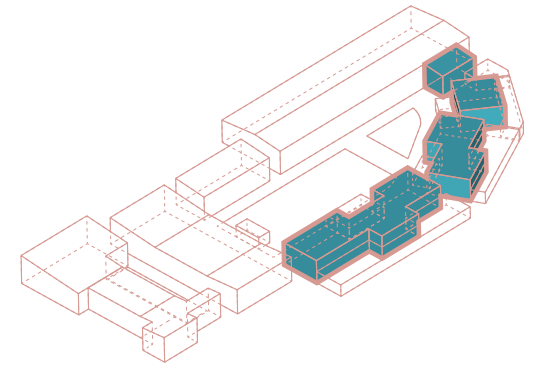
For patients and staff work there. The pool is also open to some members from outside.



Corridor System

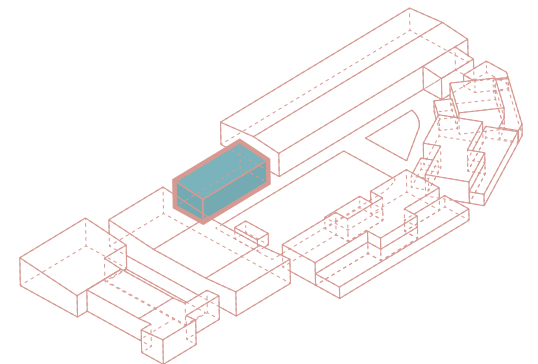
For patients and their families and visitors the chat and to spend time together. The spaces in the system are also divided into public, semi-private and private parts.

PRIVATE



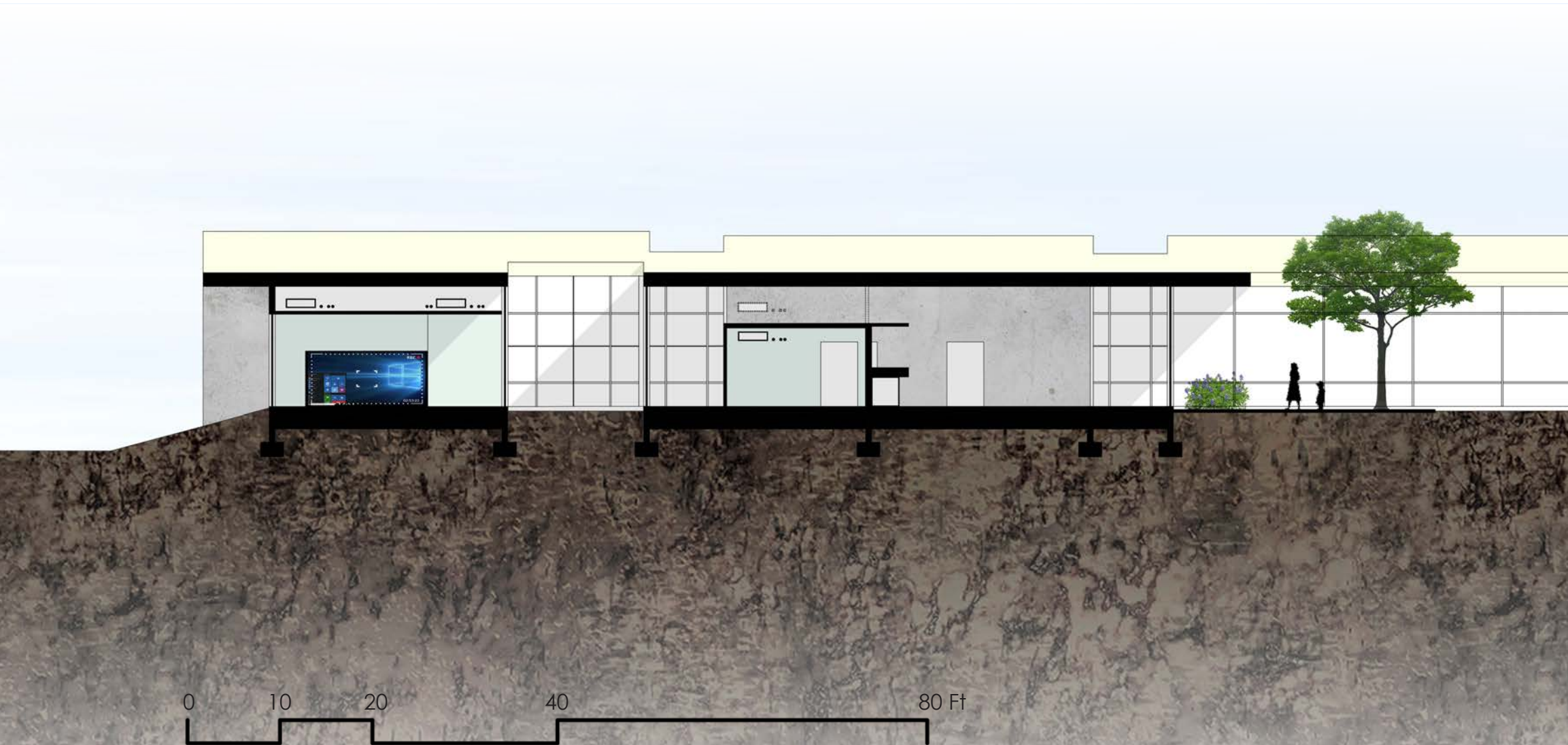
Patient Room - Family Unit

Every room wins a huge place on the wooden deck outside. The space belongs to corridor system, is a more private part only for patients and their families.

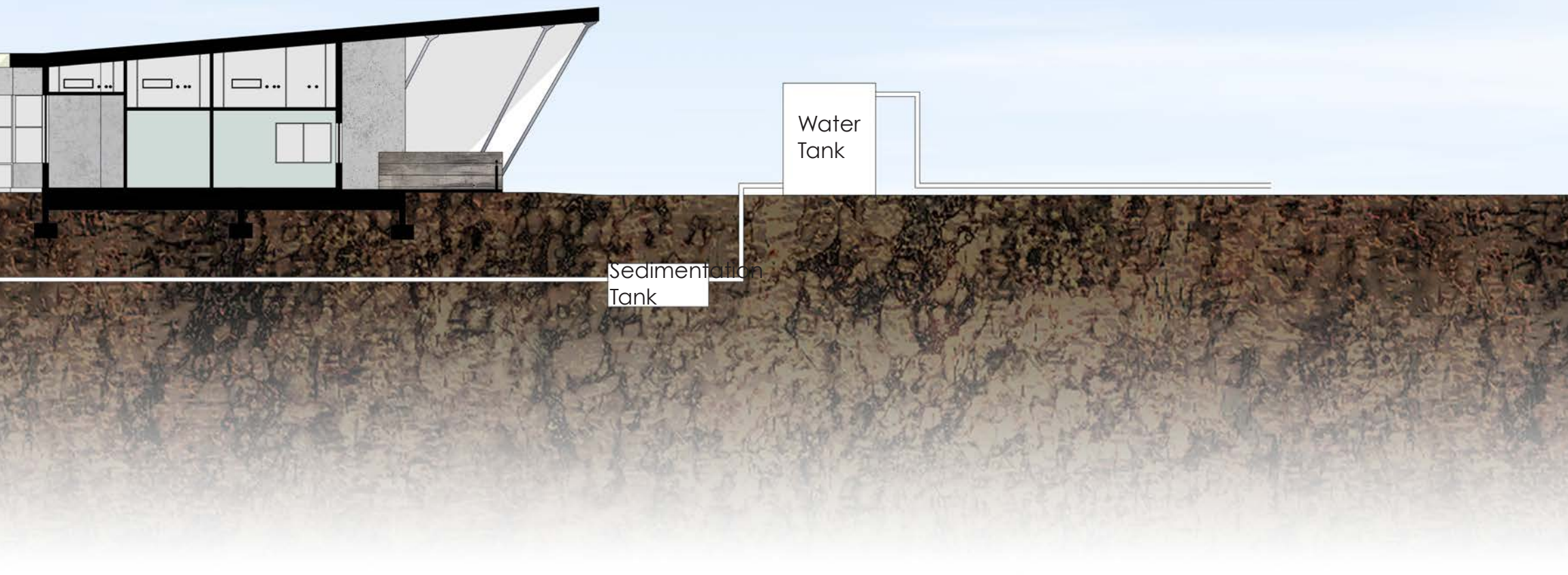


MEP - Storage

Only for delivery, storage and maintenance.



NORTH-SOUTH SECTION

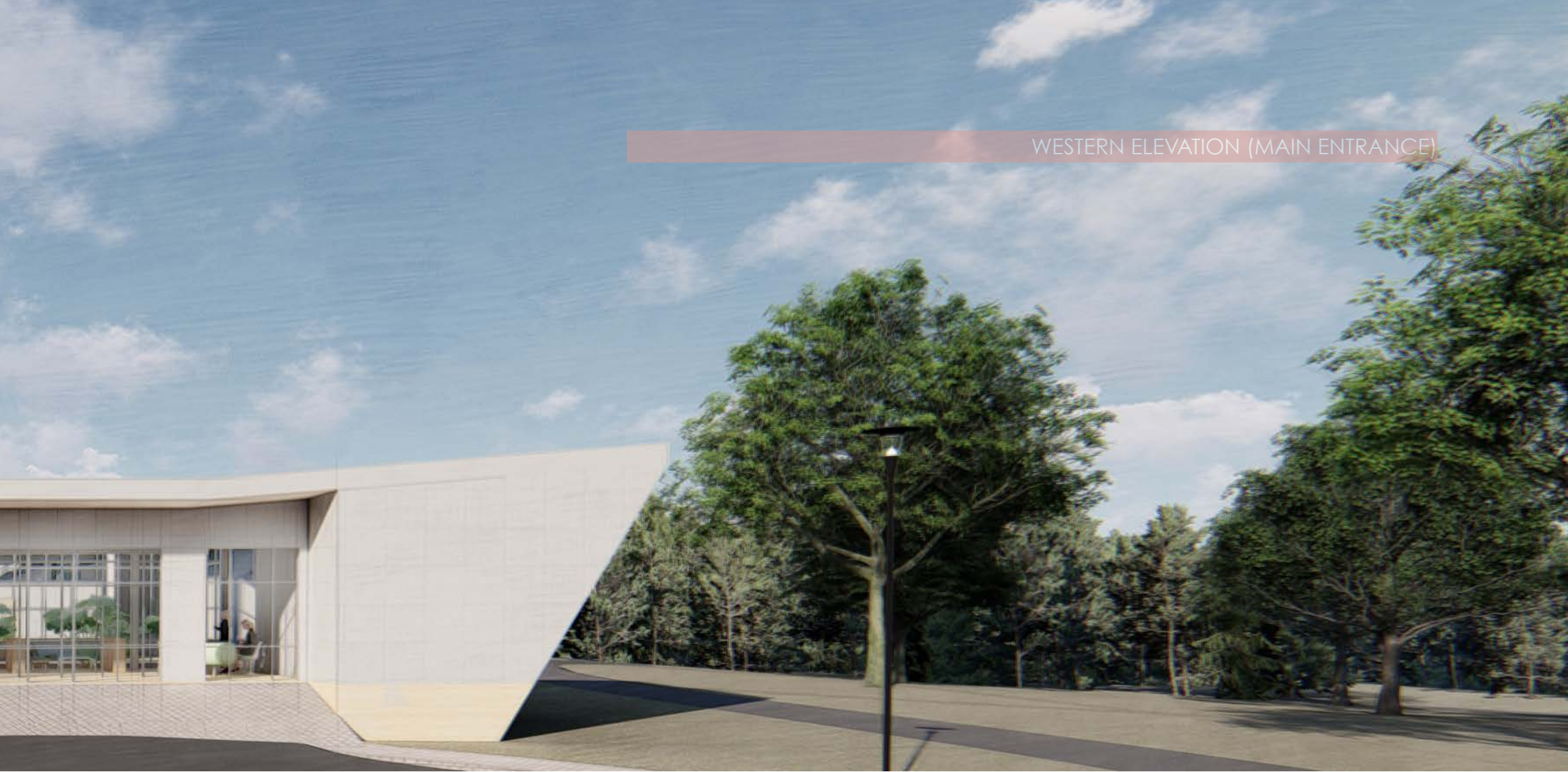


EAST-WEST SECTION



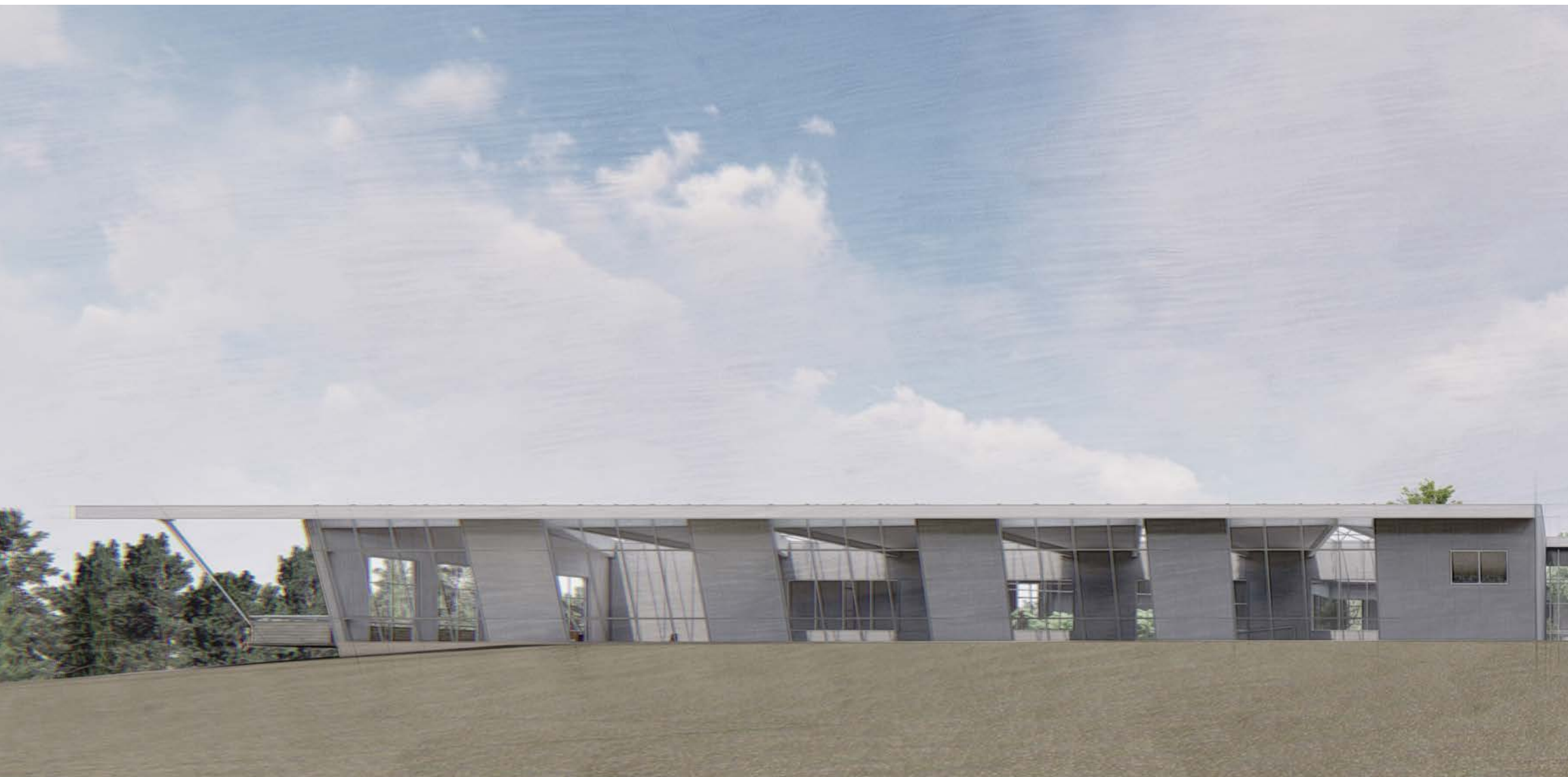


WESTERN ELEVATION (MAIN ENTRANCE)



EASTERN ELEVATION



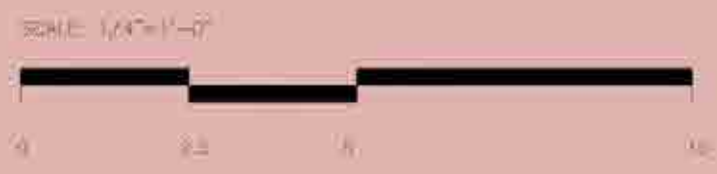
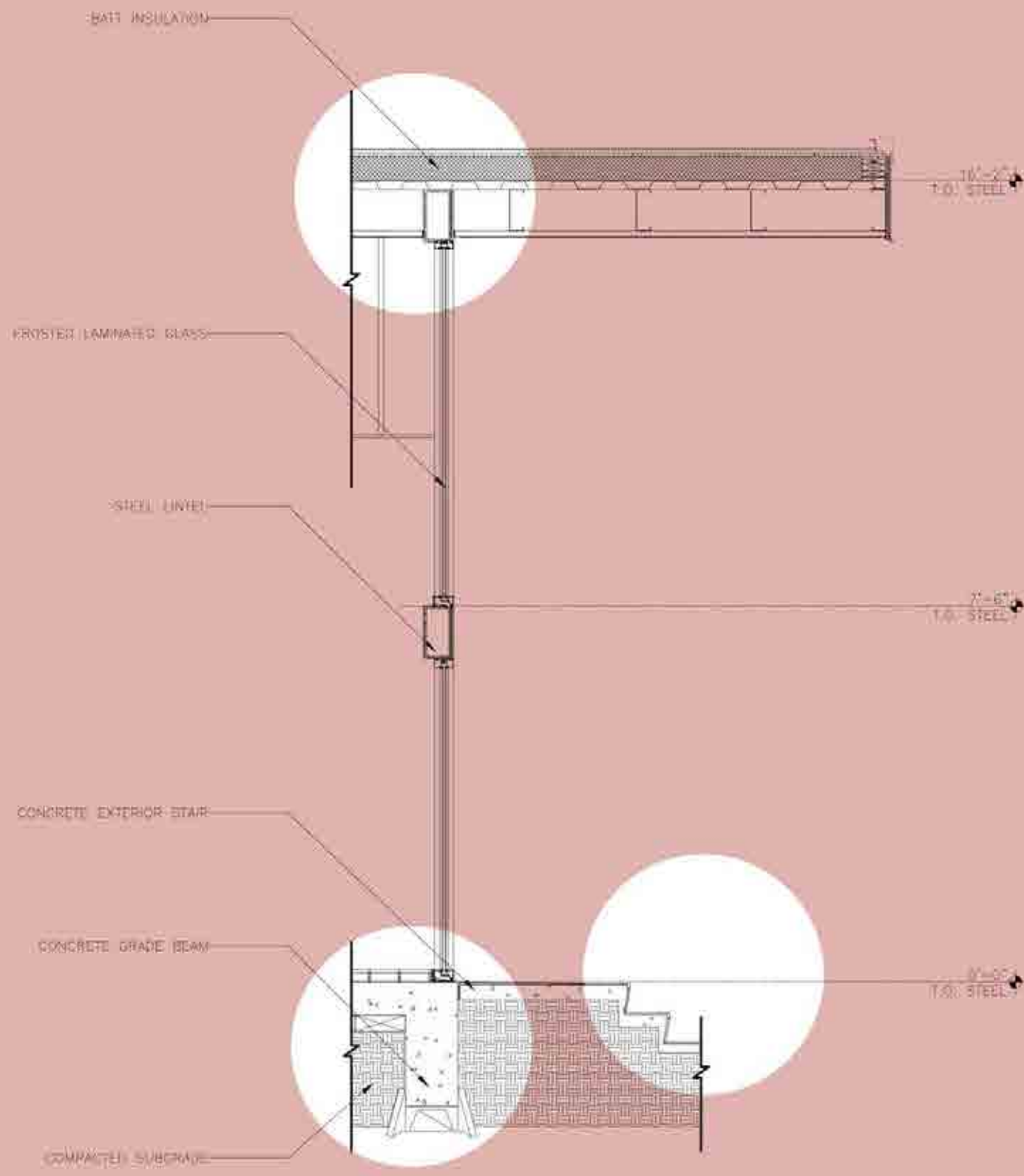


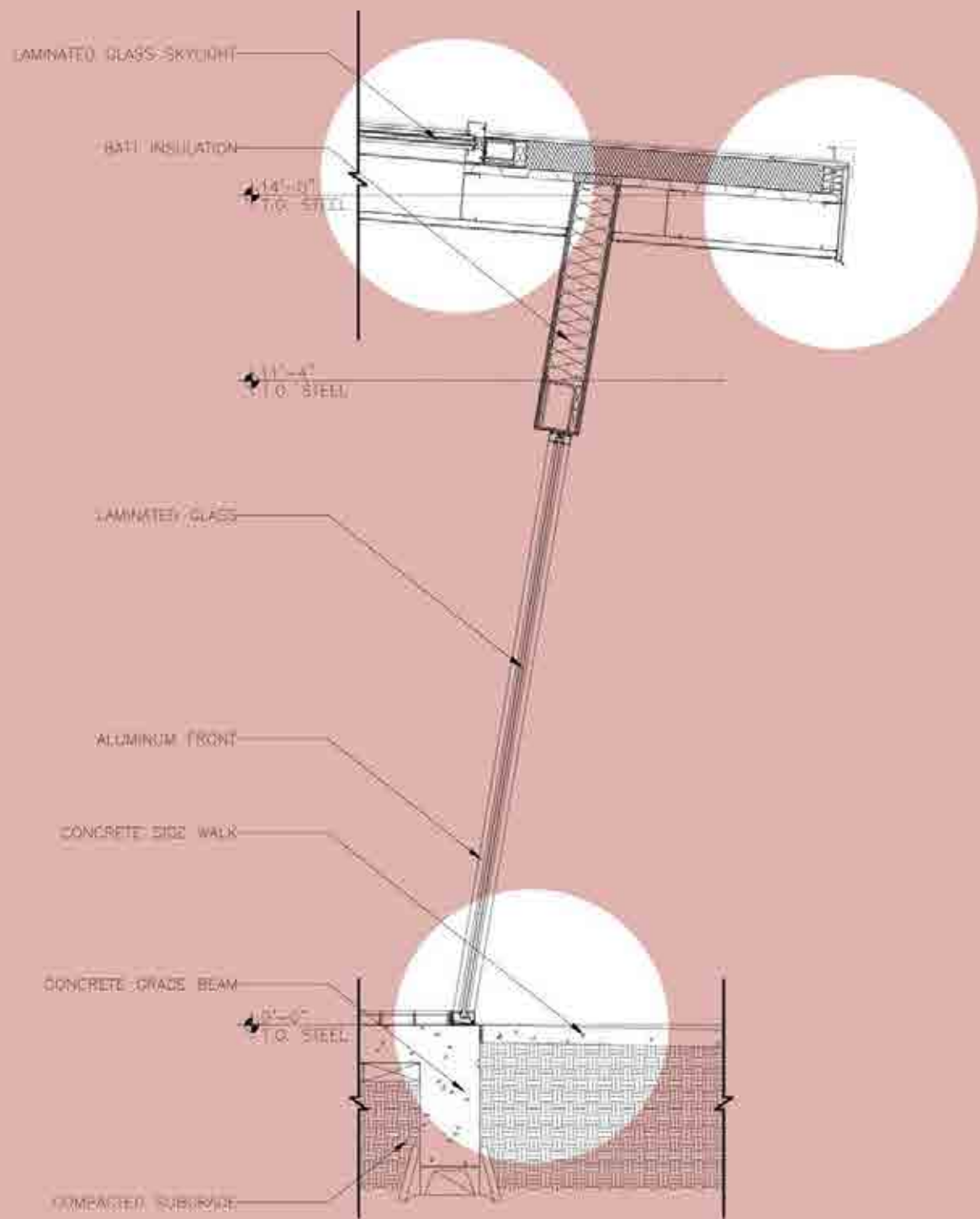
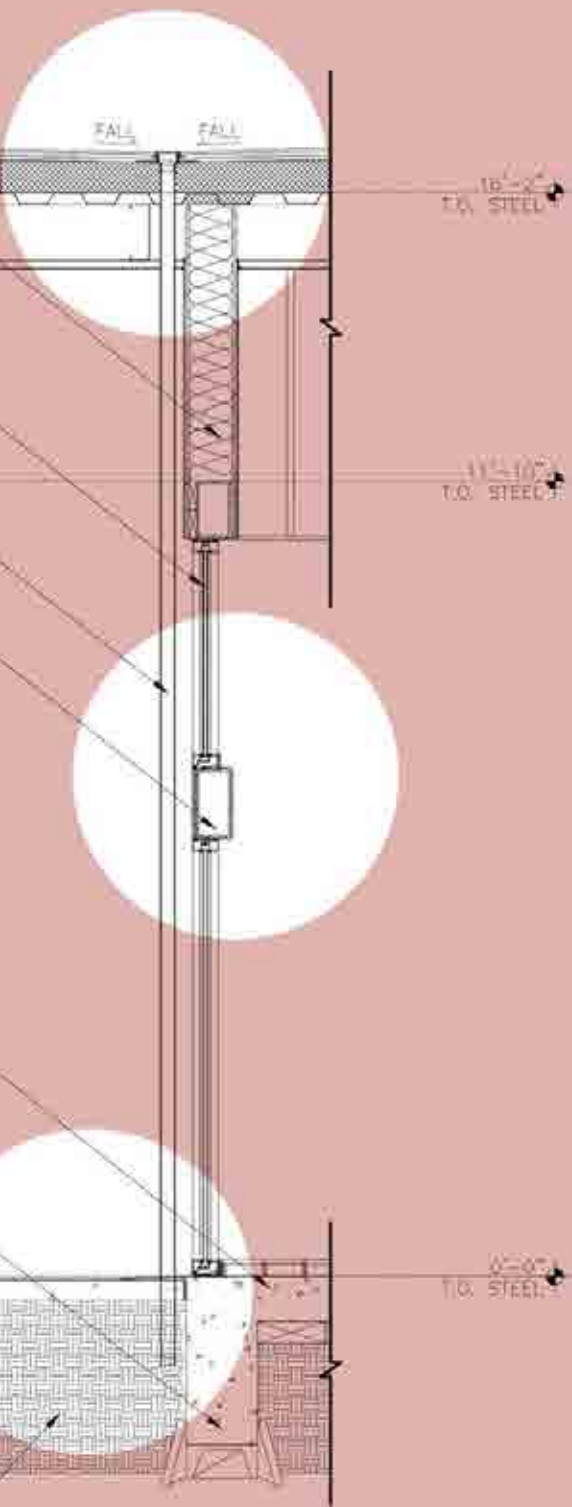
SOUTHERN ELEVATION



NORTHERN ELEVATION











ENTRANCE





BALCONY





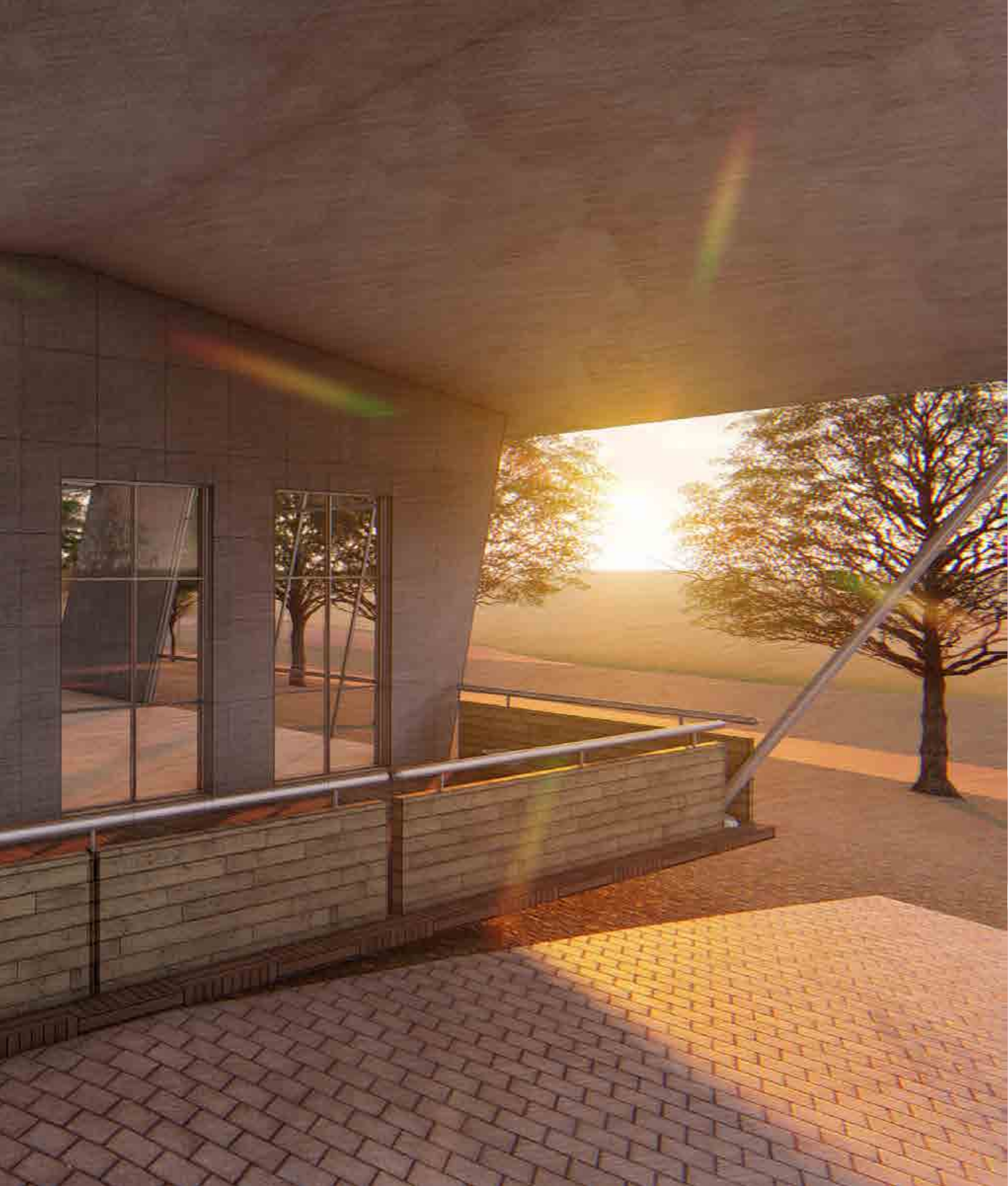
DECK





COURTYARD





PARADISE





SKYLIGHTS





FOBBY





CORRIDOR





MURRESSTATION





P O O





AERIAL VIEW

Words for ending....

This is my first attempt to do a hospice project. Although the scale is small, I learned a lot of knowledge that I had never contacted before. Today, as modular design becomes more and more popular, it seems that there is a certain amount of fanfare that specializes in such a hospice care center. From this design, I perceive that every decision in the design process needs to be evidence-based, but the way of thinking can be applied more widely. All in all, I am very grateful that this project has given me a different world.

I also thank everyone who has been with me for so long and helped me. Thank you.