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## Aesthetically Pleasing: Rehabilitating a Community

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# Aesthetically Pleasing: Rehabilitating A Community

Joseph D'Oria  
Graduate Thesis Seminar  
Master of Architecture  
Roger Williams University  
January 22nd, 2012





Aesthetically Pleasing: Rehabilitating A Community:  
Trenton Rehabilitation Center

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Author

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Thesis Advisor

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**ad-dic-tion**  [uh-dik-shuhn]

*noun*

the state of being enslaved to a habit or practice or to something that is psychologically or physically habit-forming, as narcotics, to such an extent that its cessation causes severe trauma.

# Table of Contents

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Manifesto.....	6
Problem Statement.....	8
Methodology.....	10
Project statement.....	11
Design Themes/Architectural Views.....	12
Program.....	13
Site Information.....	20
Precedents- Major.....	42
Precedents- Minor.....	61
The Meaning of Color.....	66
The Feeling of Shape.....	74
Skematic Design.....	78
Second Design.....	84
Final Design.....	88
Appendix	
A - Project Boards.....	112
B - Model Photos.....	128
C - Weather Charts.....	150

# Manifesto

Webster's dictionary describes architecture as "the art or science of building: the art or practice of designing and building structures and especially habitable ones, formation or construction resulting from or as if from a conscious act, and a unifying or coherent form or structure." To me when defining architecture there is no one true answer. Architecture has different meanings to each person who studies it, which is why every architect has different views on what is important or should be incorporated into a building design. There are a few things that are important to me, which I try to incorporate into each project I design: these include light, natural ventilation, sustainability, exterior space and site.

Incorporating light in unique ways into my designs is very important to me. Light can play a huge role in the overall environment of a building and how the inhabitant feels living in the building. A room can have a much different effect on a person if it is full of light rather than dimly lit. I believe a perfect balance of light and shadow must be found in any architectural design.

Natural ventilation is another aspect of architecture that is important to me. I never want to design a building that is hot and stuffy but a building that uses the natural elements to cool itself. This will not only make the building more comfortable for its inhabitants but also be cost efficient.

The exterior of a building and the site are also very important. The building and site should flow together and create one seamless space from the inside to the outside of a building.

The last aspect of architecture that I like to focus on is sustainability. I believe sustainability is the future of architectural design. Not only is how a building uses its energy, but how it produces energy is becoming more important in designing it. For example I often incorporate a green roof in my designs, not only to try collecting rain water and cooling the building, but also create a space for the inhabitants of the building to utilize.

Architecture as a profession is something that should be more respected as architecture plays a bigger role in most people's life than they think. Architecture can make you feel and act a certain way. Architecture is everywhere; a person can not go a single day without experiencing architecture. However this doesn't mean I think anyone can be an architect. Designing a building is more than just building what you want; it is about combining form and function to create a building that is best at the site it is placed on and the people who inhabit it.

Architecture is a way of looking at the world. I believe that architecture and how it appears could represent the place a person is in the world. Each place and culture has its own individual style of architecture. Architecture acts as a symbol of where you are and who inhabits it. I believe this was useful thousands of years ago before maps and roads identified where a person was or who lived in a village upon approaching just by looking at its buildings.

Architecture is a form of art. A building acts as a habitat or individual environment, each city containing multiple environments. A building can evoke emotion and determine how a person acts. Architecture affects every individual in a different way. People are affected by not only how it makes them feel but also by how the building itself feels. The materials inside each building cause each person who experiences it to act or feel a different way. Architecture is about creating an experience, or an environment that the inhabitant will like and thrive in.

Architecture is for anyone and everyone. Architecture is always changing, constantly evolving to create a better space for the inhabitant. Architecture is for creating an atmosphere, a feeling, a thought. Architecture is the who, what, where, when, and how, of how a building works, and what it is used for. Without architecture every building would be a windowless cube symmetrical in every way. Architecture is about definition, symbolism, and individualism.



# Problem Statement

Each year for the past decade the city of Trenton has been on a slow decline. In the late ninety's gang started to slowly move in and mark there territory. Wholesome neighborhoods where turned into drug dens and war zones and local businesses closed down due to lack of customers coming to the stores. With busi-nesses closing and gangs everywhere you turn, this downward spiral on the city is having a negative effect on the youth in Trenton and the surrounding areas. Being that gangs have an overwhelming presence in the city, drug use among teens is on the rise. But there are no centers to prevent drug use, or some kind of safe haven for kids in the area to go to on the weekends. There is also a huge lack of rehabilitation centers to help cure and prevent drug addiction. This is mainly due to lack of funding, location, and ability to stay open/ willingness of patient to seek help. Towards the end of my high school career I started to notice more and more of my friends trying pills and smoking weed, but nothing that seemed out of control. Once I went on to college it got much worse. Six months couldn't go by with out my father calling me telling me another one of my friends had either been arrested, passed away, or entered rehab. At this point it began to concern me about what was going on in my town and if things were changing. It was brought to my attention that it was a serious problem when one of my friends passed away. After the first death four more of my friends passed away in the next two years.

This was when I decided a drug rehabilitation center/ community center was needed in my town. There needs to be a place where people with drug problems cannot only go to get help, but also go to hang in in a drug free environment. When speaking with close friends when I was home I found that the majority of these deaths/ addictions were mainly do to the fact that these addicts were placed in an environment from which they could not escape. This being the case it seems that without a place like this for teens to go to there is no hope of ever getting off of drugs.

The ten slash marks on the left of this page represent the ten people in my life who have been af-fected from drugs. To clarify, by affected I mean in some extreme way. Five of the slashes represent five of my friends who have passed, three who have entered rehab, and two who are in jail. If something is not done about this problem soon many more teens in my town will fall to drugs.



# Methodology

For my thesis project there are a few themes in particular that I would like to focus on. These themes include interaction through public spaces, sustainability, innovative shading devices based on mood and feeling, gardens, and community living.

Along with these themes I also have a few theoretical positions that I would like to explore. The first of which is, to explore how urbanism could affect a persons ability to get sober just by inhabiting and living in a single building.

I would like to explore is the effects of light on peoples mood and willingness to make an effort to be productive (or in this case change their ways). For guidance I will be referring to rehab facilities around the country to look at there program, floor plan, schedules, everything they offer even down to the food they serve. Although I have dealt with friends who have been to rehab I myself have never went so all the sources I will be investigating for the first time. Throughout this semester I want to teach myself a lot. I want to learn more about how architecture effects feelings the most and in what ways, I want to teach myself new system and details, that may be cost or energy efficient, and I want to teach myself how to use the research I have done to the best of my ability to design a space that is not only needed, but also functions.



[http://2.bp.blogspot.com/\\_Y8dcJE-QgAU/TE76u5HK8KI/AAAAAAAAAb4/N69SASsqRA8/s1600/pills.jpg](http://2.bp.blogspot.com/_Y8dcJE-QgAU/TE76u5HK8KI/AAAAAAAAAb4/N69SASsqRA8/s1600/pills.jpg)

# Project Statement

My thesis project calls for a drug rehabilitation facility in either Trenton or Hamilton, New Jersey with an attached community center. The new design will be a part of an existing building in efforts to revitalize a community and its architecture.

The following are questions that I would like to address and answer during the process of designing my building. By being able to answer the following questions, it will allow me to be able to design a building that is based purely on the inhabitants needs.

-How does light effect the mood of a recovering addict?

-What kind of mood do public interactive spaces have in the actions of recovering addicts?

-Do garden spaces help calm a recovering addict?



"Make Sure Your Pills Don't Become Ills - Pharmacy Technician Certification." Pharmacy Technician Certification. [http://www.pharmacy-technician-certification.com/?page\\_id=38](http://www.pharmacy-technician-certification.com/?page_id=38) (accessed August 3, 2011).

# Design Themes/ Architectural Views

-Themes include:

- Interaction through public spaces
- Sustainability
- Innovative shading devices based on mood and feeling
- Gardens
- Community living

Incorporating light in unique ways into my designs is very important to me. Light can play a huge role in the overall environment of a building and how the inhabitant feels living in said building. A room can have a much different effect on a person if it is full of light rather than dimly lit. I believe a perfect balance of light and shadow must be found in any architectural design. Natural ventilation is another aspect of architecture that is important to me. I never want to design a building that is hot and stuffy but a building that uses the natural elements to cool itself. This will not only make the building more comfortable for its inhabitants but also be cost efficient. The exterior of a building and the site are also very important to me. The building and site should flow together and create one seamless space from the inside to the outside of a building. The last aspect of architecture that I like to focus on is sustainability. I believe sustainability is the future of architectural design. For example I often incorporate a green roof in my designs, not only to try collect rain water and cool the building, but also create a space for the inhabitants of the building to utilize.

The inhabitant of a building is can only perform and act as well as the built environment he or she is in. The aesthetics of a building are not just there to look good, but to create a mood of the people in and around it. When designing this building I want to create a place that evokes interaction through public spaces. Within the buildings actual design and structure I also want to incorporate sustainable aspects such as a roof garden or a rain water collection system. When thinking about light and how it enters and inhabits the building I am challenged to create an innovative shading devices based on mood and feeling that can be changed and operated by the inhabitant of the building. Lastly In this building design I want to create a garden space on the exterior that will pose as a transitional community space from the exterior of the building to the interior. The building as a whole will act and feel more like a home rather than health facility.

# Program

For my thesis I am going to design a Drug Rehabilitation Center and Community Space. My Site is located in a semi urban area of Hamilton, New Jersey. Finding a set list of programmatic elements for a drug rehabilitation center seemed to be hard for me. It seemed as though ever center I looked at was designed for its own specific location or design geared toward its own views and systems of patient care. There were still many things that each center all seemed to have, key spaces that were needed no matter what the location.

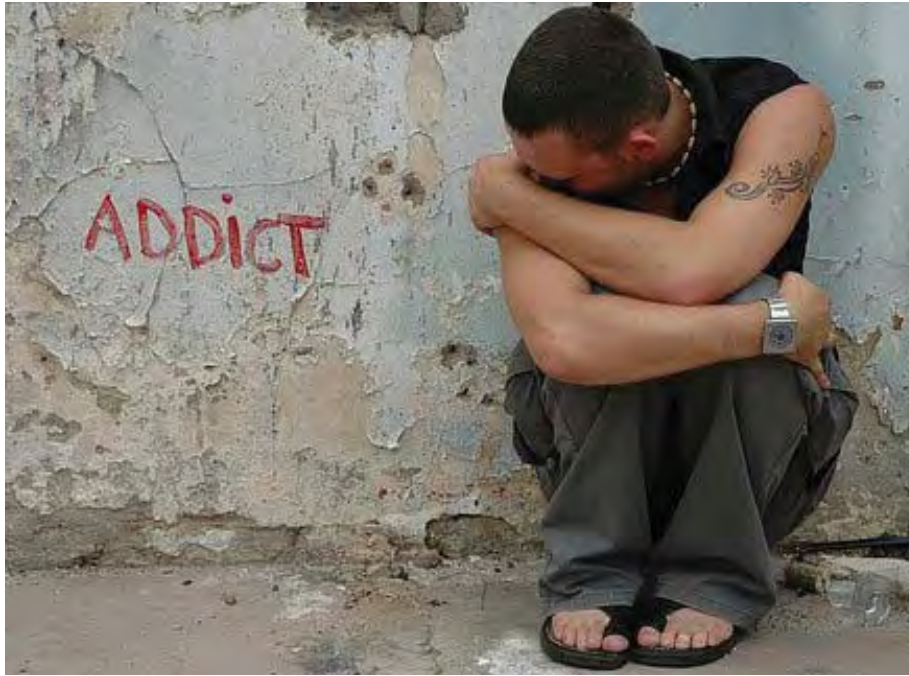
After researching other rehabilitation centers across the country my program includes spaces I felt were necessary to include in my building: forty bedrooms (single and double each with a bathroom), public bathrooms, public and private lounge spaces, a community kitchen, a serving space, day storage, cooler/ freezer, patient receiving rooms, examination rooms, group therapy rooms, office space, lobby space, a projection/ media room, and a exterior garden space. After figuring out the square footage of each room I calculated the total and then multiplied it by twenty percent to account for storage and mechanical space. The rough square footages of each of these spaces can be seen on the program table.



“Google Image Result for [http://farm1.static.flickr.com/126/405529065\\_70871a4166.jpg](http://farm1.static.flickr.com/126/405529065_70871a4166.jpg).” Google. [http://www.google.com/imgres?imgurl=http://farm1.static.flickr.com/126/405529065\\_70871a4166.jpg&imgrefurl=http://phmmarket.com/ticonderoga-positive-quotes-for-recovering-addicts/&usq=\\_\\_JoCTRsdSKka-9YMgVkf-Tk\\_dD8c=&h=500&w=344&sz=121&hl=en&start=29&zoom=1&](http://www.google.com/imgres?imgurl=http://farm1.static.flickr.com/126/405529065_70871a4166.jpg&imgrefurl=http://phmmarket.com/ticonderoga-positive-quotes-for-recovering-addicts/&usq=__JoCTRsdSKka-9YMgVkf-Tk_dD8c=&h=500&w=344&sz=121&hl=en&start=29&zoom=1&) (accessed February 18, 2011).

Although I have come up with the spaces needed to form a drug rehabilitation center, creating a floor plan that flows, creates positive feeling, and forms relationships between connecting rooms is my main priority. The building will be placed on a semi urban site because that is where the majority of the problem is coming from so I want to solve the problem at the source. My first objective is to creating a welcoming entrance to the community space right off the sidewalk of a crowded street, but also to create a good separation of that space

Room Type	# of Rooms	Size of Room	Total Square Feet
Bedroom	20	15x20=300	6,000
Bathroom (private)	10	6x10=60	600
Bathroom (public)	tbd		
Lounge Space (private)	1	20x40=800	800
Lounge Space (public)	1	100x200=20,000	20,000
Storage/ Mechanical	tbd		
Kitchen	1	15x30=450	450
Dinning	1	40x40=1600	1600
Serving	1	10x15=150	150
Cooler/ Freezer	1	10x10=100	100
Patient Reciving	2	8x10=80	160
Examine Room	6	8x10=80	480
Therapy Room	2	15x20=300	600
Office Space	1	20x40=800	800
Lobby	1	40x40=1600	1600
Projection Room/ Media Room	1	40x80=3200	3200
Exterior Garden Space	1	200x100=20000	20,000
Total			56,540
Mechanical/ Storage			x15
Total Square Footage			65,021



<http://vancityguy.wordpress.com/2008/10/27/harm-reduction-need-a-tourniquet-heres-a-band-aid/>



<http://prescriptiondrugusestudy.com/images/kids-abusing-prescription-pills-01-af.jpg>

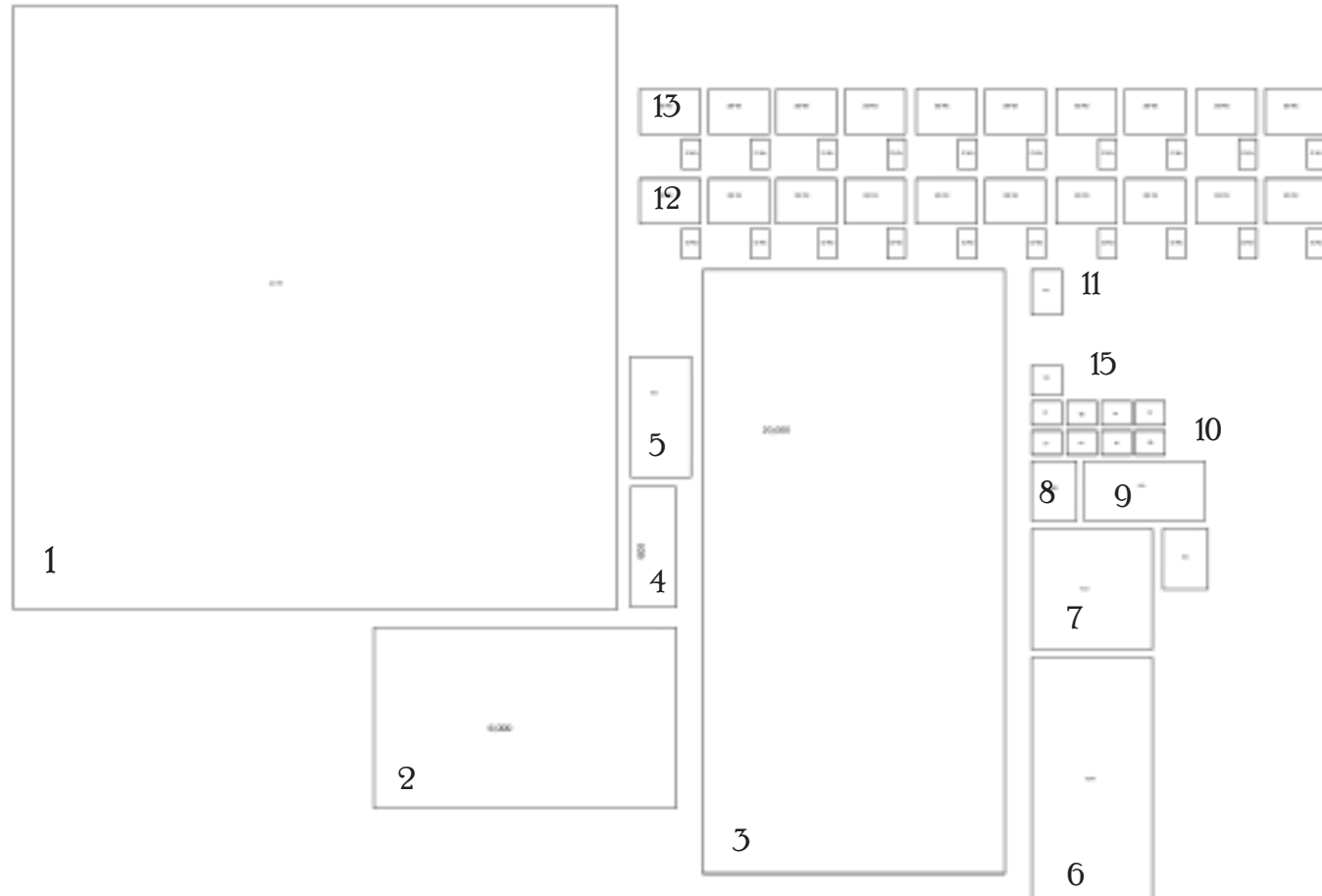
with the more private space such as the patient's rooms. The building should go from more public on the street side, and increase to more private as an inhabitant moves towards the back of the building which would be the garden side. So, for example, in this case I would imagine the sequence of rooms an inhabitant would pass on this walk would go from a community space (public), to a series of offices or therapy rooms (semi-private), to the patient rooms (private). Teens and other people living in the neighborhood would have access to the community facilities as well as the patients. I want this to not only be a center to help current drug addicts get better, but to also to help teens who aren't on drugs to stay off drugs and to do something positive for their community.

I imagine the Community Room to be street side and full of light. The community room would be the center of activity and interaction and space would be vibrant and full of life. It would give a chance for people and patients to co-mingle, a chance for patients to take their mind off their treatment and struggles and have fun and see that there is a way to live without being hooked on a substance, and that there is hope.

Leaving this space and pass through the lobby and proceed deeper into the building arriving to the Offices, Group Therapy Rooms, Dining, and Kitchen. This is area is the heart of the whole building, it is where progress is made, problems are fixed, and goals achieved. It is a chance for the patients to bond as a unit and over come their addictions. I would also describe this space as a sort of "school" portion of the building. The back of the building will be where all the bedrooms are to allow for an element of privacy for the patients.

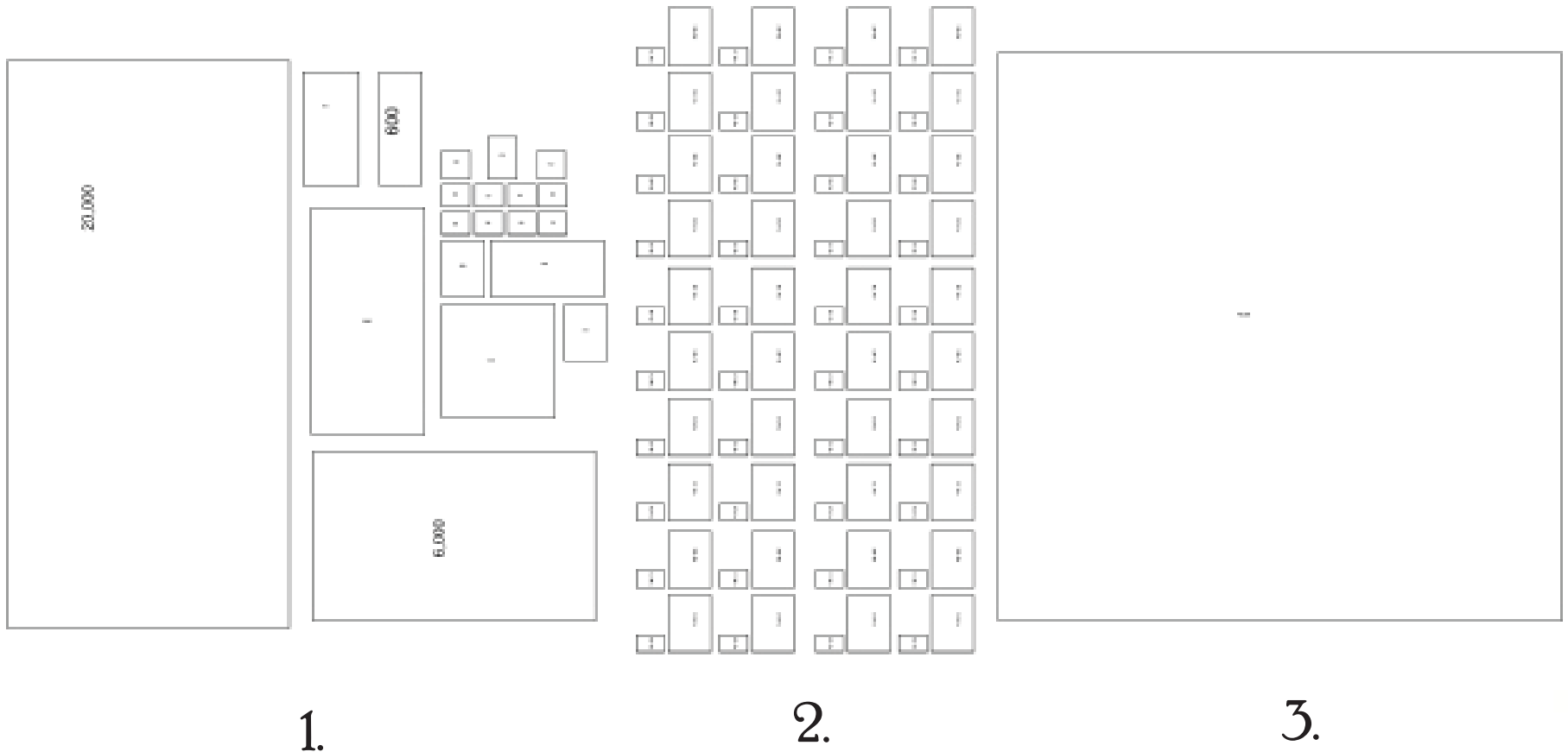
## Programatic Elements (No Scheme)

1. Exterior Garden Space
2. Dining Hall
3. Lounge/ Community Space
4. Kitchen
5. Office Space
6. Projection/ Media Room
7. Lobby Space
8. Therapy Room
9. Lounge Space (private)
10. Patient Recieving/  
Examine Room
11. Serving Space
12. Bedroom
14. Bathroom (private)



I want the bed rooms to face the garden because it has a more peaceful look and would create a more conducive feel to healing than a busy street. A view of a street with fast moving cars, busy people, in general just a stressful site. However a garden shows peace and tranquility, a site of happiness and stress free. Although a view may just be a small detail to a patient in the grand scheme of things, I believe that a view may partially dictate what the patient's mood is and consequently how he or she may act during their stay as well as their ability to get better. The bedroom space will be the patient's own personal space, a private space where he or she can meditate and reflect on their progress, and what they need to change or keep doing in order to get better.





## Scheme A

In scheme A the program is organized in a sense of Public to Private from the left of the building to the right. One would enter the building on the left hand side into a community space and proceeded to filter their way through the building. After the community space the inhabitant would start to make their way through the offices and meeting rooms and which would complete the program on the first floor. On the second floor would be all the patients bed rooms. This floor would be more private where as day to day inhabitants of the building would not access this floor, only the patients. As you make your way through the patients rooms and through the building you will be led to the third floor, which would be a occupiable roof garden. This building is one of the tallest buildings in the surrounding blocks allowing it to provide views of the whole city. These views include Sovereign Bank Arena, the Delaware River, and Downtown Trenton.



## Scheme B

Scheme B differs slightly from Scheme A in a few ways. The first is that in scheme B each floor will contain public space, patient rooms, and garden space. Allowing for the patients to coexist with the public who inhabit the space. The second is alternating each floor in mirrored patterns to play with the structure and facade of the building. The existing building has an all brick facade with no windows. My goal is to incorporate my new facade in with the old facade and to have them coexist with each other just as the public and the people who are attending the rehab center will coexist and interact on a daily basis. This scheme could present some potential difficult spaces for me to design being that there is less separation between the public and the private aspects of the building.

After closely thinking about each theme, I have come to decide that instead of picking one particular theme would be too limited. I can imagine the new building as a collaboration of both scheme A and scheme B. One of the biggest ideas of this project, if not the biggest, is to have the patients and the public/ community to interact. By not segregating the patients rooms and treatment center, from the community aspects in the program, it will allow for the inhabitants, both addicts and community members to interact on a daily basis. This will allow for them to use each other as a support system, and this will start to create a live/ learn environment.



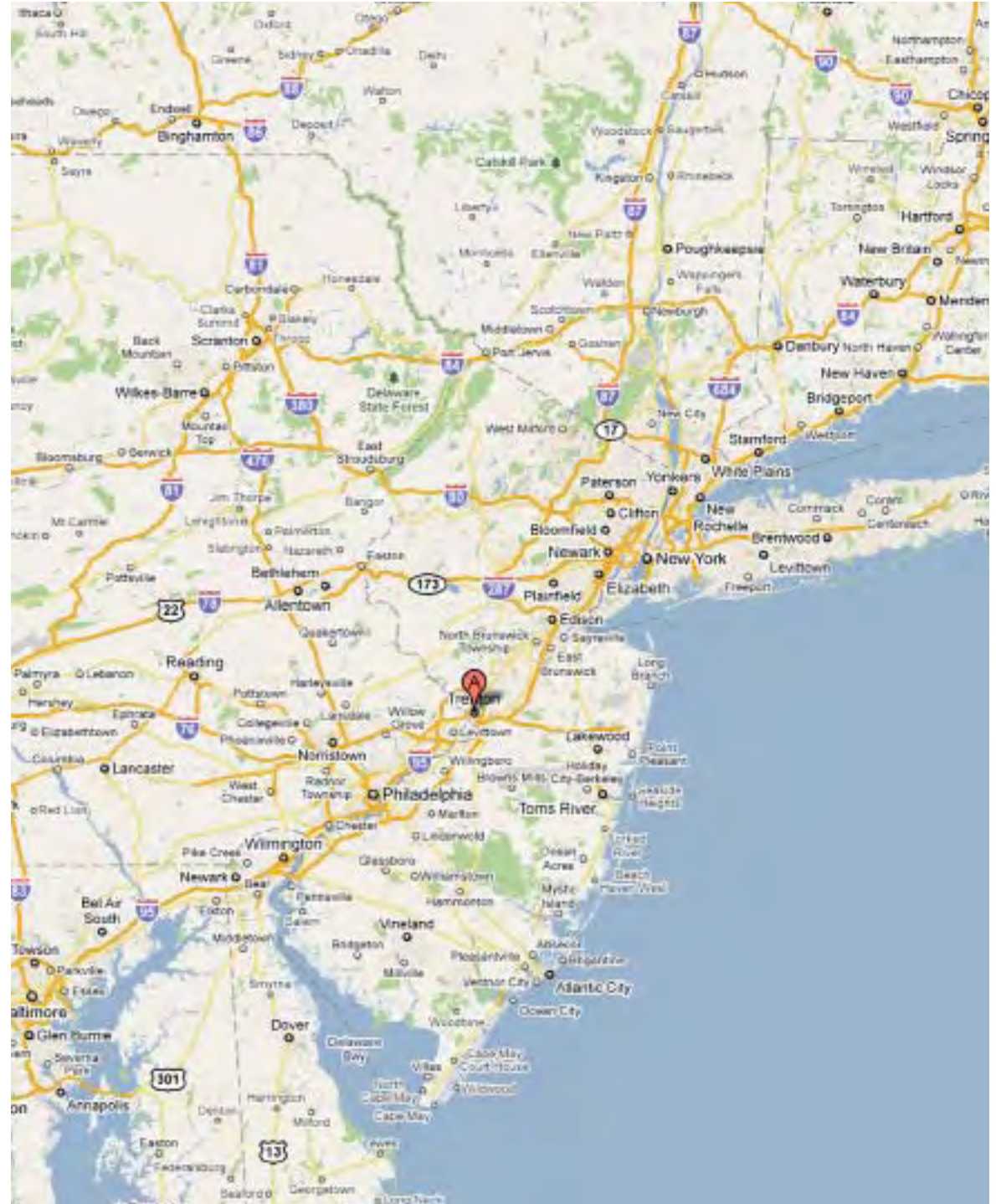
Site Information & Analysis

# Trenton, New Jersey

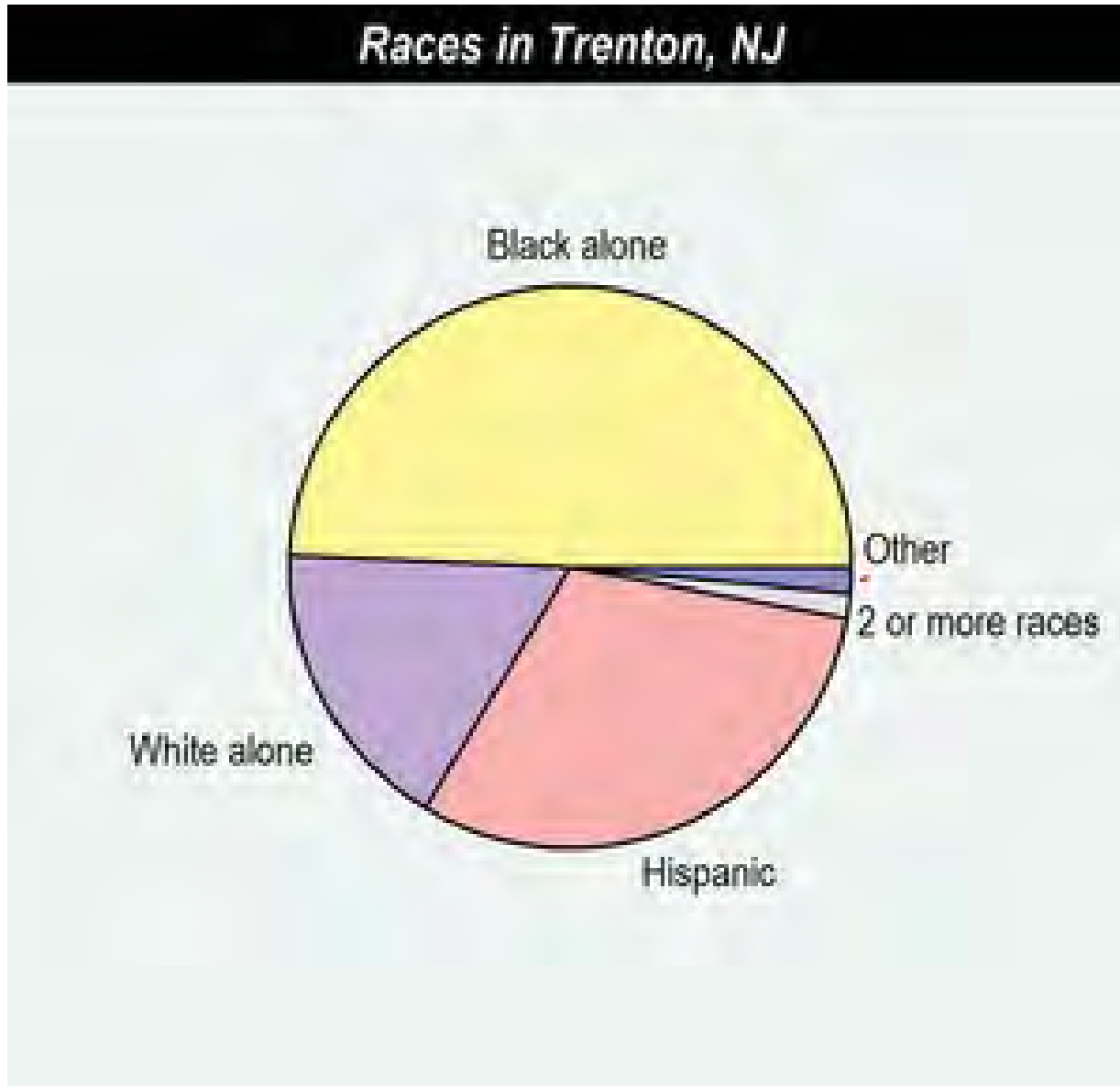


For my design I chose to separate the program onto two different sites. The first site I chose to design my building on is located at 920 South Broad Trenton, NJ. The site is located where the old C.Y.O building stands. The second site I chose is 461 Genesee St. Trenton, NJ. This site is located where the old Harrison Elementary school was. There are a few reasons why I picked these particular sites. The first is because of their locations. The sites are located right on the border of Hamilton Square and Trenton, New Jersey. These are the two towns that are being effected the most by drugs use. This sites are also located within walking distances to parks, shops, hospitals, and entertainment.

The sites are within five miles from four surrounding high schools. Another reason I chose the first site is because this building is an old C.Y.O center which has been losing interest in the past decade. Its only use to this day is the occasional weekend basket ball game and weeks of summer/ day camp. Each year that goes by this building is occupied less and less due to issues in the surrounding area, such as, drugs, gangs, and crime. A main reason I chose the second site is because it is an old elementary school that is no longer in use, but has good size rooms that would make great use of the program.



# TRENTON DEMOGRAPHIC



Graph of Races Throughout Trenton, New Jersey

Trenton, New Jersey is currently part of Mercer county, which in 2010, had a population of 84, 913 people. This consisted of 43, 790 males and 41, 123 females. The average age at that time was around 32 years old. In this same time frame the estimated average income per household in Trenton was \$32,887, whereas the average income per household in the state of New Jersey was \$68, 342. Trenton is very diverse when it comes to race and culture. African Americans make up 49.8%, Hispanics make up 33.7%, White alone makes up 13.5%, Two or more races consists of 1.5%, Asian alone make up 1.1%, American Indian alone consists of .3%, Native Hawaiian and other Pacific Islanders alone make up .04%, and all other races alone consist of .15.

For the current population of adults 25 years and over in Trenton 62.4% have a high school diploma or higher, 9.2% have a bachelor degree or higher, 3.5% have a graduate or professional degree or higher, and 10.5% are unemployed. The average travel time for each of them is around 24.1 minutes. That means that the majority of the Trenton population does not even work in Trenton. For the current population of teens 15 and over in the city of Trenton 42.9% never married, 34% are currently married, 4.7% are separated, 8.3% are widowed, and 10.1% are divorced.

Currently Trenton takes up a total land area of 7.66 square miles. That being said, the population density equals 11,090 people per square mile. In 2007 there were roughly 1200 home sales per quarter selling at a median price of \$230,000. Since 2007 both sales and numbers have greatly declined. In 2012 there were roughly 250 sales per quarter selling at a median price of \$50,000. Not only have home sales decrease in recent years but so have the construction of new buildings. In 2010 building permits being filed in the city of Trenton have decreased about 2/3 since 1995. However this may large be due to the cost of building going up. Since 1995 the average cost of building has double. That is up until a few years ago. As of 2009 building has almost stopped completely due to the economy.

Crime in Trenton by Year												
Type	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Murders</b>	8	14	13	19	13	18	31	18	25	19	17	15
per 100,000	9.4	16.1	15.1	21.8	15.1	21.0	36.2	21.3	29.9	23.1	20.6	18.0
<b>Rapes</b>	58	74	72	67	36	47	21	31	15	23	26	13
per 100,000	68.4	84.9	83.6	76.8	41.8	54.7	24.5	36.6	18.0	28.0	31.5	15.6
<b>Robberies</b>	566	628	716	706	645	576	805	632	595	546	512	500
per 100,000	667.5	720.1	831.5	809.7	748.9	670.5	940.8	746.1	712.1	664.7	619.8	598.4
<b>Assaults</b>	621	658	697	739	824	716	658	593	530	401	599	670
per 100,000	732.4	754.5	809.4	847.6	956.7	833.4	769.0	700.1	634.3	488.2	725.1	801.9
<b>Burglaries</b>	1,399	1,351	1,521	1,173	1,073	987	962	806	852	724	824	865
per 100,000	1650.0	1549.2	1766.3	1345.4	1245.8	1148.9	1124.3	951.6	1019.7	881.4	997.5	1035.3
<b>Thefts</b>	2,575	2,533	2,723	2,400	2,514	2,027	1,940	1,211	1,408	1,404	1,399	1,289
per 100,000	3036.9	2904.6	3162.1	2752.6	2918.8	2359.4	2267.3	1429.7	1685.2	1709.3	1693.5	1542.8
<b>Auto thefts</b>	1,060	1,111	1,222	1,095	1,090	791	672	460	385	508	401	362
per 100,000	1250.1	1274.0	1419.0	1255.9	1265.5	920.7	785.4	543.1	460.8	618.5	485.4	433.3
<b>Arson</b>	56	65	36	47	26	26	27	23	21	27	23	45
per 100,000	66.0	74.5	41.8	53.9	30.2	30.3	31.6	27.2	25.1	32.9	27.8	53.9
City-data.com crime index (higher means more crime, U.S. average = 319.1)	759.9	796.2	875.1	825.1	787.5	704.4	763.0	605.0	592.4	547.2	575.7	559.0

Data Chart by Year in Trenton, New Jersey

- New Jersey is positioned between the major industrial markets of New York and Pennsylvania and has been referred to as the "crossroads of the east."
- New Jersey is a gateway state, with major interstate highways, roadways, airports, seaports, and other infrastructures capable of accommodating voluminous amounts of passenger and cargo traffic not only from both the eastern and western parts of the United States, but from around the globe. New Jersey is an ideal strategic corridor as well as a vulnerable corridor for transportation of drug contraband and illicit currency.
- Cocaine is the most popular drug in New Jersey and is the drug of choice for many abusers within the state.
- Crack remains widely available throughout the state and remains the drug of choice in many lower income communities.
- New Jersey is a major artery for international cocaine trafficking organizations.
- Cocaine arrives into New Jersey directly from South American ports as well as the Southwest Border via commercial and private vehicles.
- Marijuana is the most readily available illegal drug in New Jersey.
- Marijuana is brought into the New Jersey area via automobiles, tractor-trailers, vessels, US Postal Service, overnight services, parcel post, and commercial air from Southwest Border States.
- The majority of the marijuana encountered in New Jersey comes from Mexico.
- Marijuana from Canada and Jamaica has also been encountered in New Jersey, but on a smaller scale.
- Marijuana is also produced locally at indoor and outdoor grows in New Jersey.
- New Jersey has the highest concentration of pharmaceutical and chemical firms in the nation.
- Doctor shopping, prescription forgery, and organized script rings are the predominant source of diverted legitimate pharmaceutical drugs in the New Jersey Division.
- The most commonly abused pharmaceuticals in New Jersey are Percocet, OxyContin, Xanax, Vicodin/Vicodin ES, and Hydrocodone/Hydrocodone products. Additionally, the most commonly abused chemicals are GBL, Pseudoephedrine, and Ephedrine.
- The existence of street gangs in New Jersey is now a notable priority for law enforcement.
- Intelligence gaps exist in relation to the intelligence surrounding the integration of street gangs in the drug trade in certain areas of the New Jersey.
- The New Jersey State Police has begun "Operation Cease Fire" to address the gang situation in the big cities in New Jersey, to include the cities of Elizabeth and Plainfield in Union County.
- Intelligence data received shows that the CRIPS are the most powerful gang in Elizabeth, New Jersey, over the BLOODS who have many more members than the CRIPS.

- In Union County, New Jersey there are 867 "verified gang members" and 447 "unverified gang members."
- Since the dismantling of numerous major local drug trafficking organizations in New Jersey, particularly the ET HAK Organization, gangs have taken over the drug trade.
- It is reported that the BLOODS, CRIPS and LATIN KINGS gangs control the Greater Newark area of New Jersey as follows: the North Newark District (Mulsburg to South Orange) is controlled by the LATIN KINGS; the South Newark District (W. Kinney St., Central Ave. to the Elizabeth border) is controlled by the Bloods; the East Newark District (High St. to the borders of Jersey City and Kearny) are controlled by the CRIPS; and the West Newark District (Martin Luther King Blvd. to Irvington and Hillside) is controlled by the BLOODS. The CRIPS are also prevalent in Irvington, New Jersey.
- In the Southern part of New Jersey, there has been a street war between two rival BLOODS sets: Sex, Money, Murder and the Gangster Killer Bloods. This street war has resulted in multiple shootings and assaults in Trenton, New Jersey.
- Members of the BLOODS street gang have also been seen conducting narcotics transactions from residences in beach towns such as North Wildwood, New Jersey.

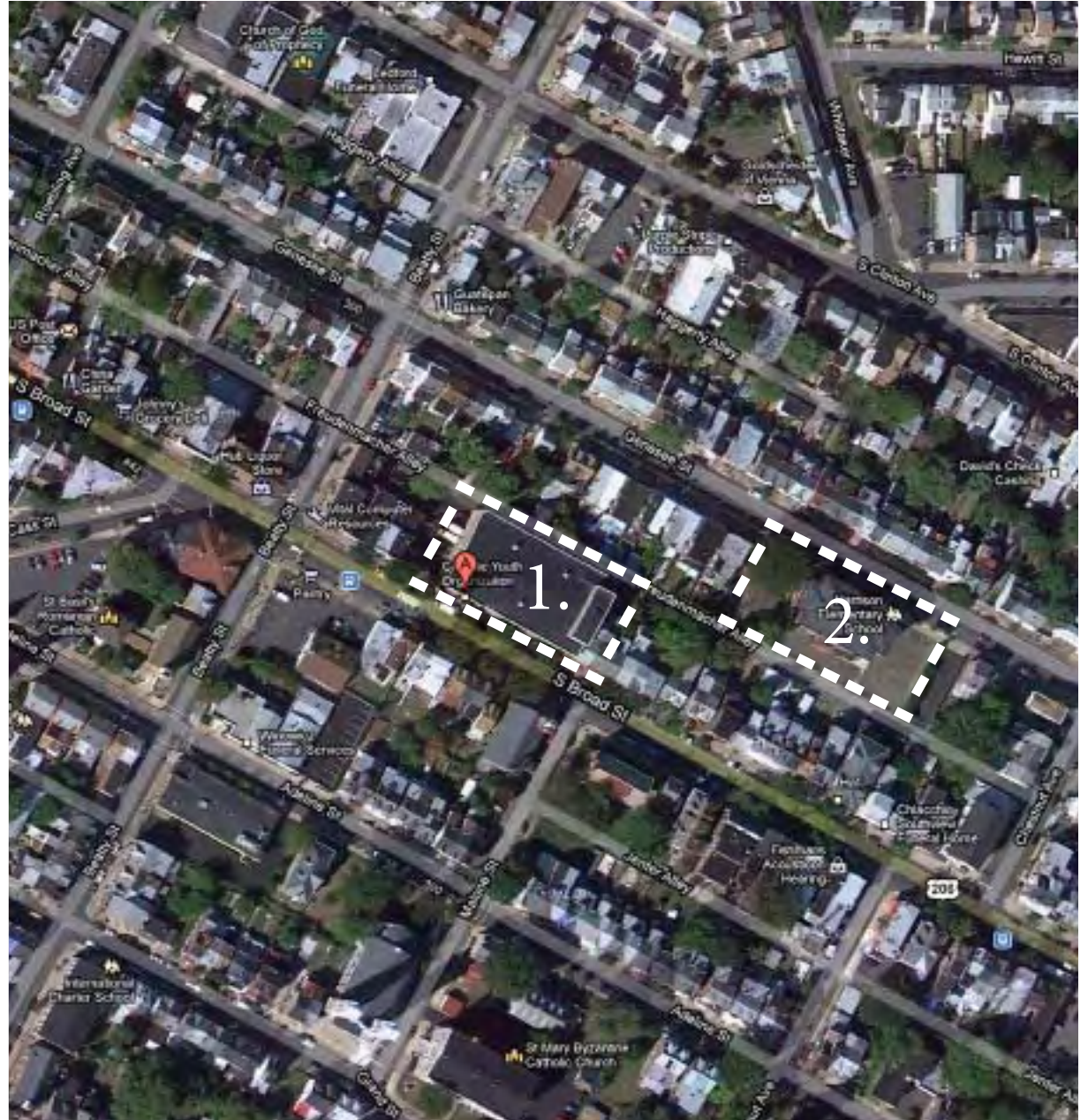
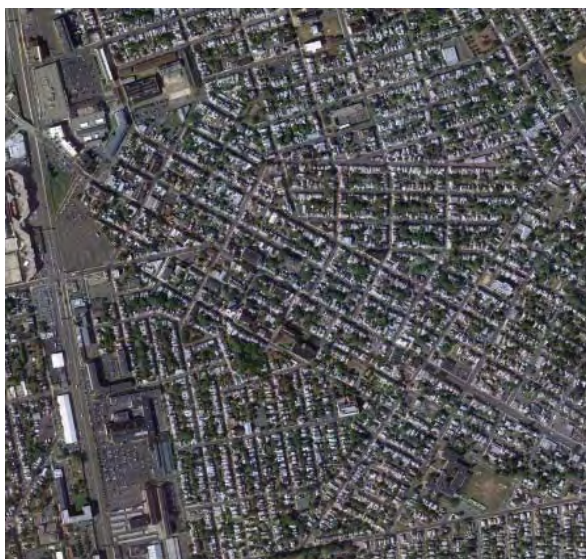
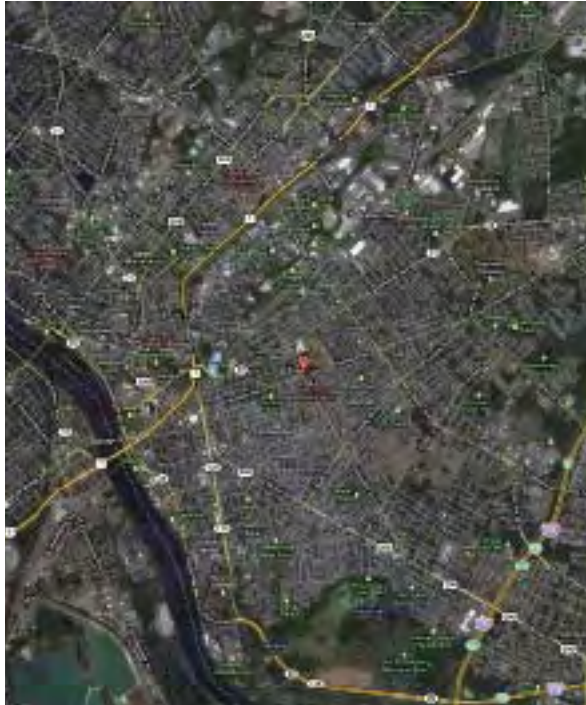
STATE	Age	White	Hispanic	Caucasian	Black	Hispanic	Hispanic
AGE GROUP	Pop.	Pop.	Pop.	Pop.	Pop.	Pop.	Pop.
Total	14,300	6,800	6,272	5,001	1,343	5,071	28,000
18-24	1,000	10.4	11.3	8.8	3.4	30.4	40.7
25-34	800	14.7	15.0	10.2	25.3	31.1	44.0
35-44	800	14.7	15.0	10.2	25.3	31.1	44.0
45-54	800	14.7	15.0	10.2	25.3	31.1	44.0
55-64	800	14.7	15.0	10.2	25.3	31.1	44.0
65-74	800	14.7	15.0	10.2	25.3	31.1	44.0
75-84	800	14.7	15.0	10.2	25.3	31.1	44.0
85-94	800	14.7	15.0	10.2	25.3	31.1	44.0
95-104	800	14.7	15.0	10.2	25.3	31.1	44.0
105-114	800	14.7	15.0	10.2	25.3	31.1	44.0
115-124	800	14.7	15.0	10.2	25.3	31.1	44.0
125-134	800	14.7	15.0	10.2	25.3	31.1	44.0
135-144	800	14.7	15.0	10.2	25.3	31.1	44.0
145-154	800	14.7	15.0	10.2	25.3	31.1	44.0
155-164	800	14.7	15.0	10.2	25.3	31.1	44.0
165-174	800	14.7	15.0	10.2	25.3	31.1	44.0
175-184	800	14.7	15.0	10.2	25.3	31.1	44.0
185-194	800	14.7	15.0	10.2	25.3	31.1	44.0
195-204	800	14.7	15.0	10.2	25.3	31.1	44.0
205-214	800	14.7	15.0	10.2	25.3	31.1	44.0
215-224	800	14.7	15.0	10.2	25.3	31.1	44.0
225-234	800	14.7	15.0	10.2	25.3	31.1	44.0
235-244	800	14.7	15.0	10.2	25.3	31.1	44.0
245-254	800	14.7	15.0	10.2	25.3	31.1	44.0
255-264	800	14.7	15.0	10.2	25.3	31.1	44.0
265-274	800	14.7	15.0	10.2	25.3	31.1	44.0
275-284	800	14.7	15.0	10.2	25.3	31.1	44.0
285-294	800	14.7	15.0	10.2	25.3	31.1	44.0
295-304	800	14.7	15.0	10.2	25.3	31.1	44.0
305-314	800	14.7	15.0	10.2	25.3	31.1	44.0
315-324	800	14.7	15.0	10.2	25.3	31.1	44.0
325-334	800	14.7	15.0	10.2	25.3	31.1	44.0
335-344	800	14.7	15.0	10.2	25.3	31.1	44.0
345-354	800	14.7	15.0	10.2	25.3	31.1	44.0
355-364	800	14.7	15.0	10.2	25.3	31.1	44.0
365-374	800	14.7	15.0	10.2	25.3	31.1	44.0
375-384	800	14.7	15.0	10.2	25.3	31.1	44.0
385-394	800	14.7	15.0	10.2	25.3	31.1	44.0
395-404	800	14.7	15.0	10.2	25.3	31.1	44.0
405-414	800	14.7	15.0	10.2	25.3	31.1	44.0
415-424	800	14.7	15.0	10.2	25.3	31.1	44.0
425-434	800	14.7	15.0	10.2	25.3	31.1	44.0
435-444	800	14.7	15.0	10.2	25.3	31.1	44.0
445-454	800	14.7	15.0	10.2	25.3	31.1	44.0
455-464	800	14.7	15.0	10.2	25.3	31.1	44.0
465-474	800	14.7	15.0	10.2	25.3	31.1	44.0
475-484	800	14.7	15.0	10.2	25.3	31.1	44.0
485-494	800	14.7	15.0	10.2	25.3	31.1	44.0
495-504	800	14.7	15.0	10.2	25.3	31.1	44.0
505-514	800	14.7	15.0	10.2	25.3	31.1	44.0
515-524	800	14.7	15.0	10.2	25.3	31.1	44.0
525-534	800	14.7	15.0	10.2	25.3	31.1	44.0
535-544	800	14.7	15.0	10.2	25.3	31.1	44.0
545-554	800	14.7	15.0	10.2	25.3	31.1	44.0
555-564	800	14.7	15.0	10.2	25.3	31.1	44.0
565-574	800	14.7	15.0	10.2	25.3	31.1	44.0
575-584	800	14.7	15.0	10.2	25.3	31.1	44.0
585-594	800	14.7	15.0	10.2	25.3	31.1	44.0
595-604	800	14.7	15.0	10.2	25.3	31.1	44.0
605-614	800	14.7	15.0	10.2	25.3	31.1	44.0
615-624	800	14.7	15.0	10.2	25.3	31.1	44.0
625-634	800	14.7	15.0	10.2	25.3	31.1	44.0
635-644	800	14.7	15.0	10.2	25.3	31.1	44.0
645-654	800	14.7	15.0	10.2	25.3	31.1	44.0
655-664	800	14.7	15.0	10.2	25.3	31.1	44.0
665-674	800	14.7	15.0	10.2	25.3	31.1	44.0
675-684	800	14.7	15.0	10.2	25.3	31.1	44.0
685-694	800	14.7	15.0	10.2	25.3	31.1	44.0
695-704	800	14.7	15.0	10.2	25.3	31.1	44.0
705-714	800	14.7	15.0	10.2	25.3	31.1	44.0
715-724	800	14.7	15.0	10.2	25.3	31.1	44.0
725-734	800	14.7	15.0	10.2	25.3	31.1	44.0
735-744	800	14.7	15.0	10.2	25.3	31.1	44.0
745-754	800	14.7	15.0	10.2	25.3	31.1	44.0
755-764	800	14.7	15.0	10.2	25.3	31.1	44.0
765-774	800	14.7	15.0	10.2	25.3	31.1	44.0
775-784	800	14.7	15.0	10.2	25.3	31.1	44.0
785-794	800	14.7	15.0	10.2	25.3	31.1	44.0
795-804	800	14.7	15.0	10.2	25.3	31.1	44.0
805-814	800	14.7	15.0	10.2	25.3	31.1	44.0
815-824	800	14.7	15.0	10.2	25.3	31.1	44.0
825-834	800	14.7	15.0	10.2	25.3	31.1	44.0
835-844	800	14.7	15.0	10.2	25.3	31.1	44.0
845-854	800	14.7	15.0	10.2	25.3	31.1	44.0
855-864	800	14.7	15.0	10.2	25.3	31.1	44.0
865-874	800	14.7	15.0	10.2	25.3	31.1	44.0
875-884	800	14.7	15.0	10.2	25.3	31.1	44.0
885-894	800	14.7	15.0	10.2	25.3	31.1	44.0
895-904	800	14.7	15.0	10.2	25.3	31.1	44.0
905-914	800	14.7	15.0	10.2	25.3	31.1	44.0
915-924	800	14.7	15.0	10.2	25.3	31.1	44.0
925-934	800	14.7	15.0	10.2	25.3	31.1	44.0
935-944	800	14.7	15.0	10.2	25.3	31.1	44.0
945-954	800	14.7	15.0	10.2	25.3	31.1	44.0
955-964	800	14.7	15.0	10.2	25.3	31.1	44.0
965-974	800	14.7	15.0	10.2	25.3	31.1	44.0
975-984	800	14.7	15.0	10.2	25.3	31.1	44.0
985-994	800	14.7	15.0	10.2	25.3	31.1	44.0
995-1004	800	14.7	15.0	10.2	25.3	31.1	44.0

Population in New Jersey: 8,717,925  
 State Prison Population in New Jersey: 26,757  
 Probation Population in New Jersey: 143,315  
 Violent Crime Rate in New Jersey:  
 National Ranking: 26  
 2007 Federal Drug Seizures in New Jersey:  
 Cocaine seizures in New Jersey: 864.5 kgs.  
 Heroin seizures in New Jersey: 86.1 kgs.  
 Methamphetamine seizures in New Jersey:  
 105 kgs.  
 Marijuana seizures in New Jersey: 533.8 kgs.  
 Hashish seizures in New Jersey: 90.5 kgs.  
 MDMA seizures in New Jersey: 0.0 kgs./3,376 du.  
 Meth Lab Incidents in New Jersey: 1  
 (DEA, New Jersey, and local city Law Enforcement)



# Site Problems





## Site Locations:

- 1) 920 South Broad Street, Trenton, New Jersey
- 2) 461 Genesee St, Trenton, New Jersey

# CYO Building

Previously RKO Theater



Side entrance to the CYO building in front of the parking lot.



Back alley view of the CYO building.



Front entrance facade of the CYO building on South Broad Street.



Back alley of the CYO looking north-west.



Interior class room perspective 1.



Interior class room perspective 2.



Interior perspective of the gym which was previously a movie theater.

Site 1

920 South Broad Street, Trenton, NJ

# Harrison Elementary





Site 2

461 Genesee Street, Trenton, NJ



- The first settlement which would become Trenton was established by Quakers in 1679, in the region then called the Falls of the Delaware.
- By 1719, the town adopted the name "Trent-Towne."
- During the American Revolution, the city was the site of George Washington first military victory on December 26, 1776.
- After the war, Trenton was briefly the national capital of the United States in November and December of 1784.
- Trenton was a major manufacturing center in the late 1800's and early 1900's; one relic of that era is the slogan "Trenton Makes, The World Takes." The city adopted the slogan in the 1920's to represent Trenton's then leading role as a major manufacturing center for steel, rubber, wire, rope, linoleum and ceramics.
- Some well-known Americans born in Trenton include comedians Jon Stewart and Ernie Kovacs, football pro bowlers Troy Vincent, Gary Stills and pro football hall of famer Elvin Bethea, basketball star Dennis Rodman, Notre Dame football coach Charlie Weis, former New York City mayor David Dinkins, Supreme Court Justice Antonin Scalia, General Norman Schwarzkopf and former Mobile Oil executive William Granville.

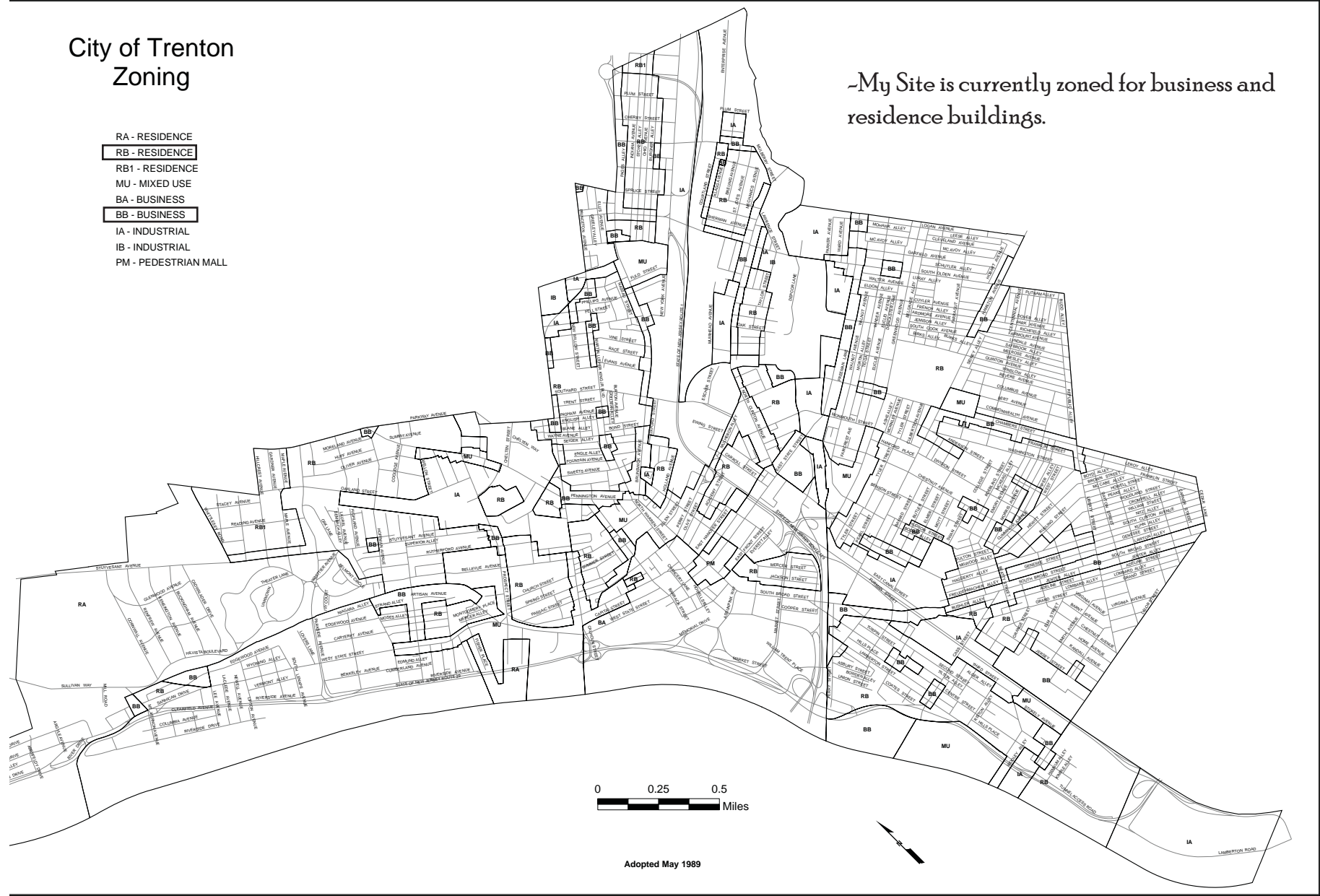
## Site History

<http://www.trentonnj.com/directory/history>

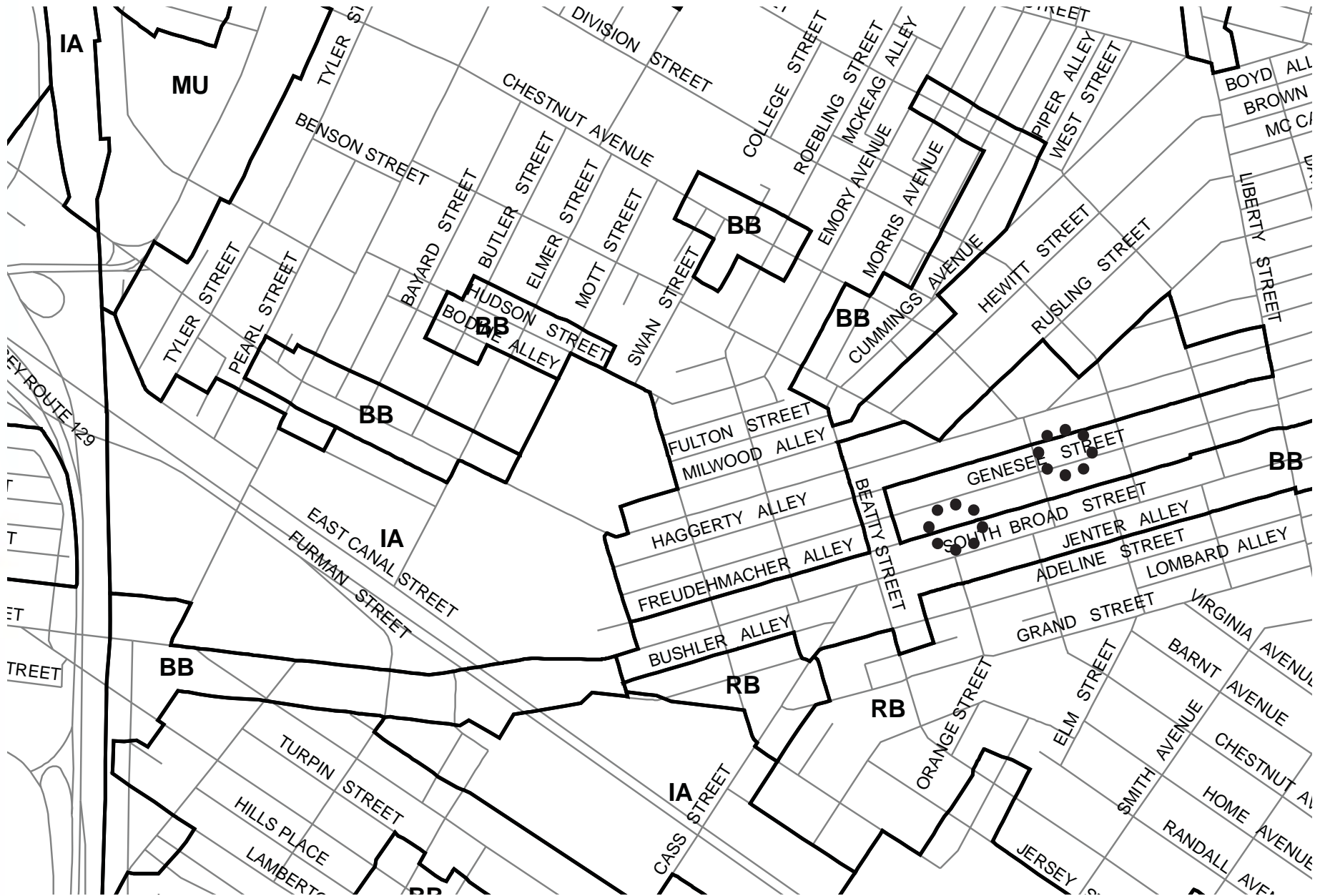
# City of Trenton Zoning

- RA - RESIDENCE
- RB - RESIDENCE**
- RB1 - RESIDENCE
- MU - MIXED USE
- BA - BUSINESS
- BB - BUSINESS**
- IA - INDUSTRIAL
- IB - INDUSTRIAL
- PM - PEDESTRIAN MALL

-My Site is currently zoned for business and residence buildings.



# Site Zoning



# Site Zoning (cont.)



The dotted circles represents where the sites are located. The first site is located at 920 South Broad Street, Trenton, New Jersey. This site is located on the boundary between residence and business zones. The second site, on the right, is located at 461 Genesee St. This site is zoned for residences.





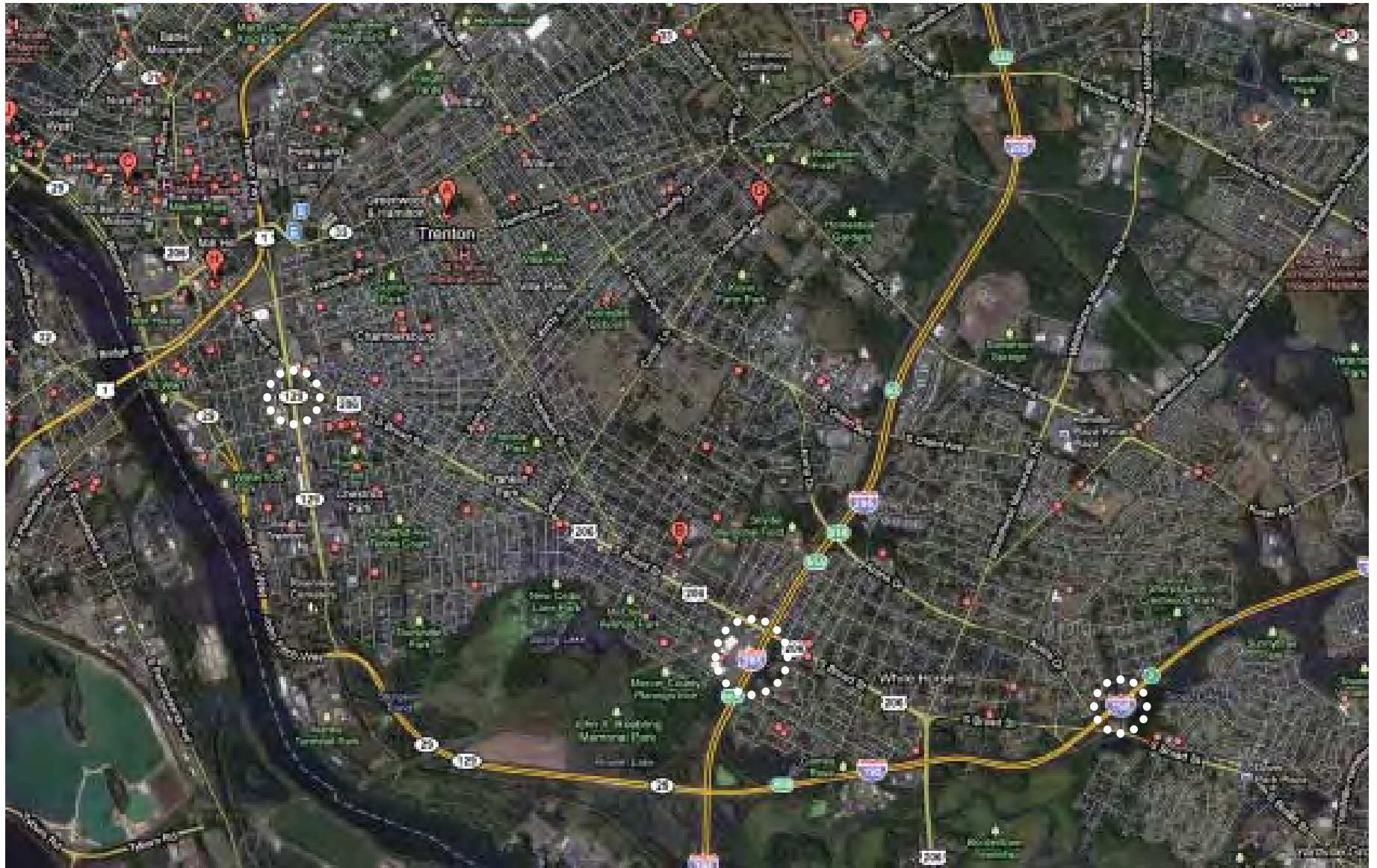
A. MOCS Museum of Contemporary Sciences  
 B. Sovereign Bank Arena  
 C. Roebling Market

D. Home Rubber Company 1881  
 E. Waterfront Park  
 F. Trenton Prison

## Site Surrounding Buildings



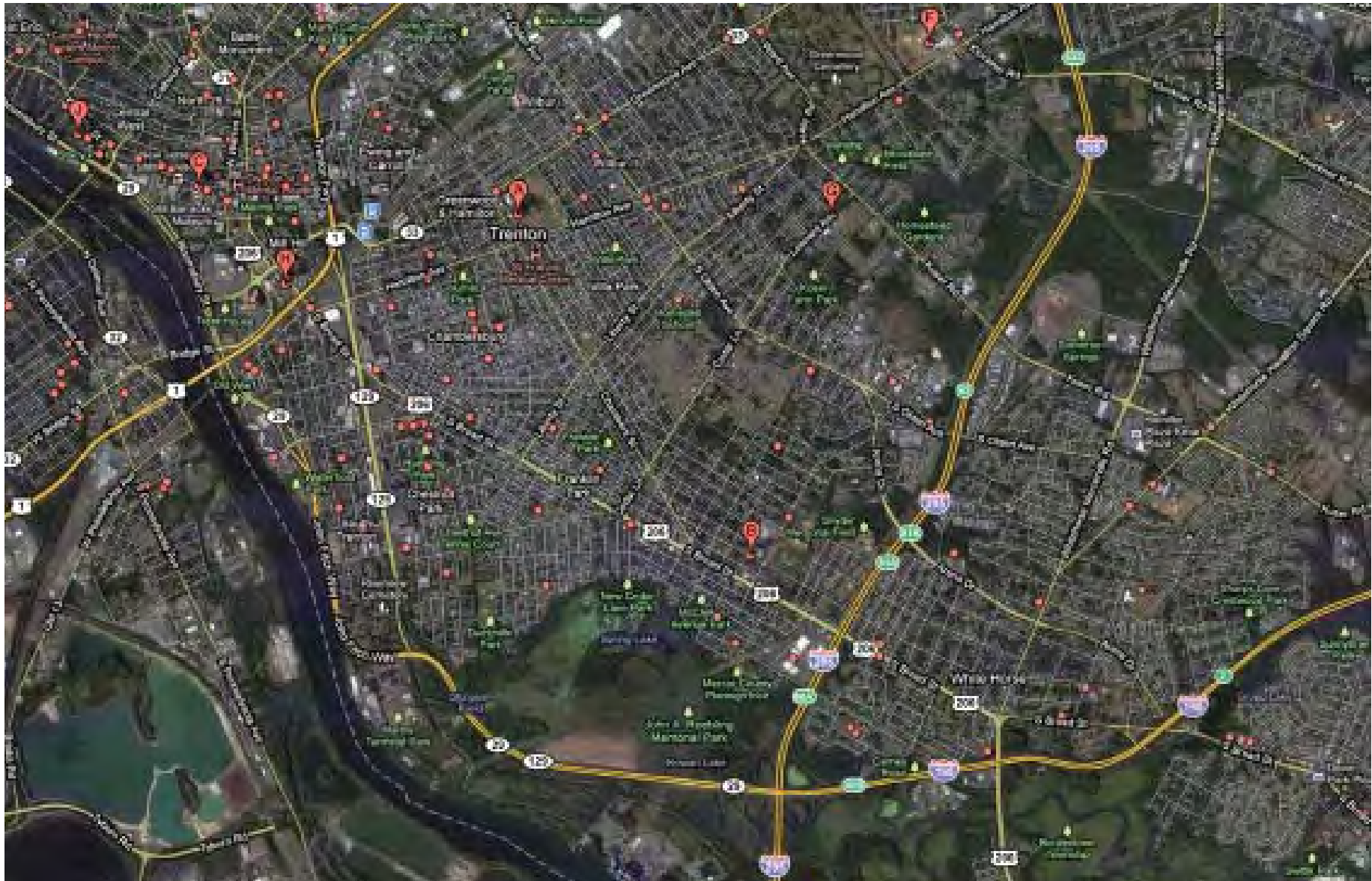
	1.) 409	2.) 409	3. 601	4. Train
Site	603	603		Station
Transportation	613	613		



Site  
Major Highways

-295  
-Route 1

-195  
-129 to 29



## Site K-8 Schools

C.) Foundation Academy Charter School J.)  
 Trenton Community Charter School H.)  
 Sacred Heart School

Although there are other schools listed on the map, they have either been turned into high schools, office building, or have since been abandoned. These three K-8 schools are the only three that are within a mile of the site.



Site  
High Schools

1. Trenton Catholic High School
2. Trenton Central High School
3. Hamilton- West High School



## Site Parks

A.) John Roebling Park  
B.) Chesnut Ave Tennis Court  
C.) Pat Pone Park  
D.) Shard Garden  
E.) Beech Playgrounds  
F.) Waterfront Park  
G.) Franklin Park

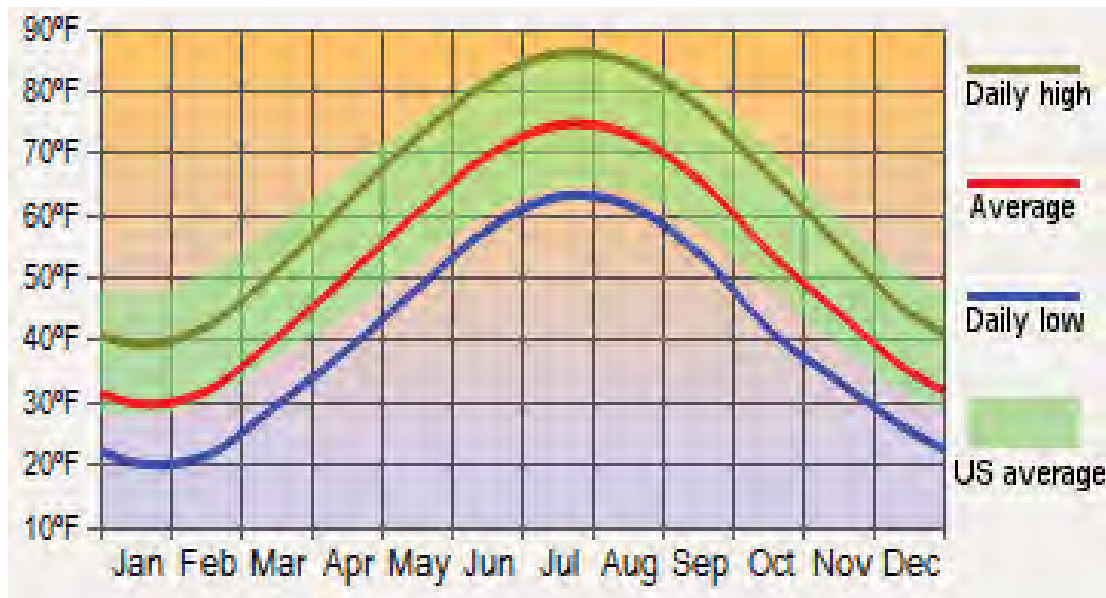
H.) Homedell School Park  
I.) Wetzel Fields  
J.) Agabati Square  
K.) New Lamberton Street  
Playground

Latitude: 40.2 N

Site  
Environmental Analysis

# Local Climate Analysis

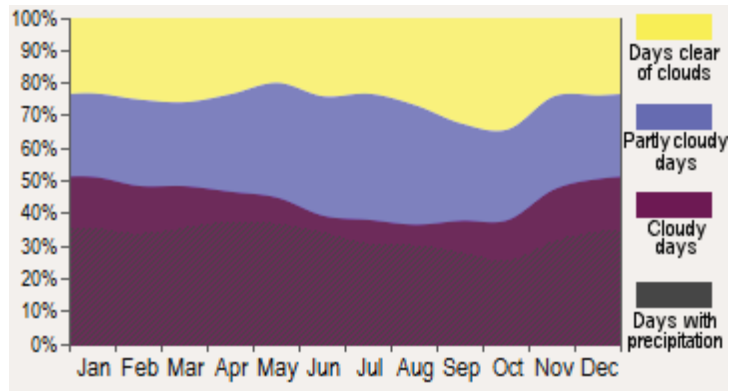
## Average Temperature Chart



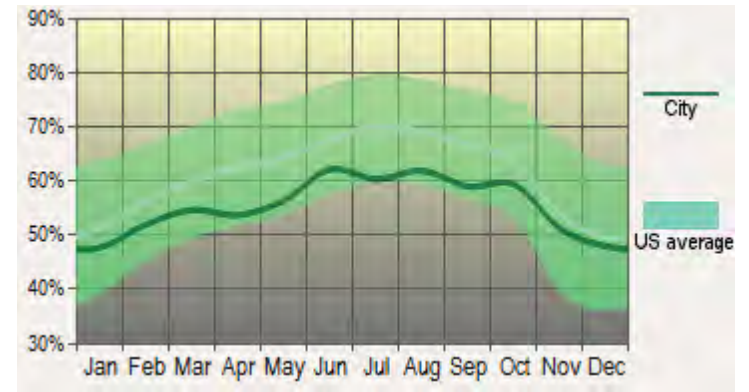
Trenton, New Jersey, is among the national average when it comes to climate. The average temperature in March is 35 degrees, the average temperature in June is 70 degrees, the average temperature in September is 68 degrees, and the average temperature in December is 32 degrees. The precipitation fall for Trenton, New Jersey, is about the national average. The national average is around 36 inches per year, whereas in Trenton it is 45 inches per year. The humidity in Trenton, New Jersey is among the national average with the morning humidity ranging from fifty to sixty percent and the afternoon humidity ranging from seventy five to eighty five percent. The average sunshine for Trenton, New Jersey is roughly five percent to ten percent below the national average for any given month.



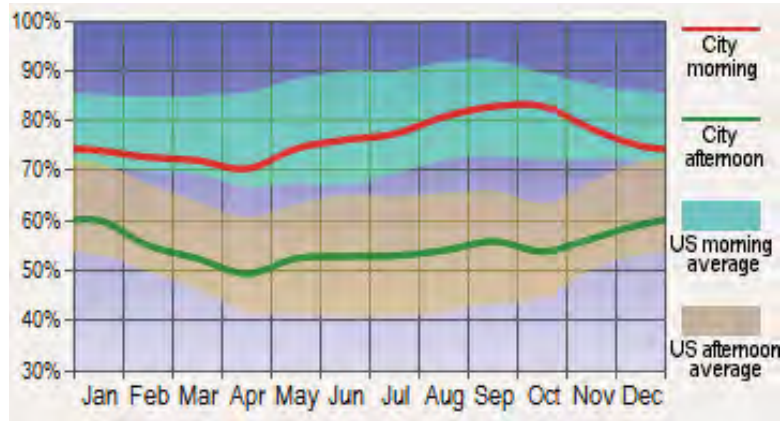
### Cloudy Day Chart



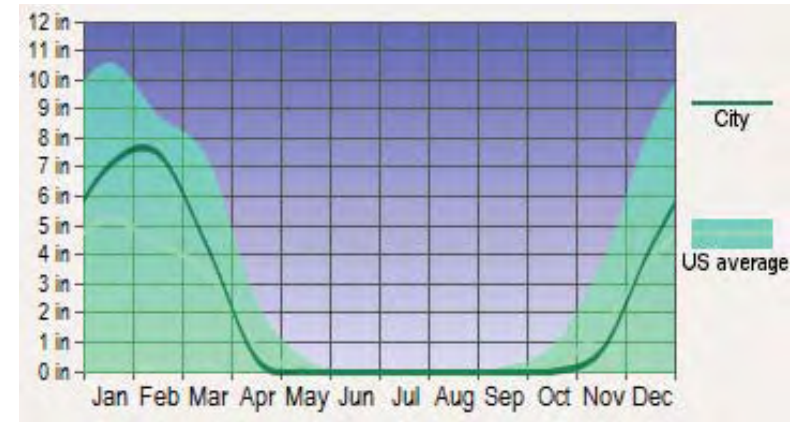
### Sunshine Chart



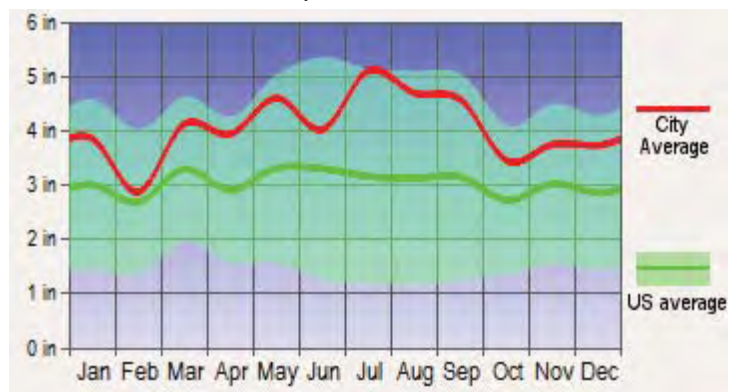
### Humidity Chart



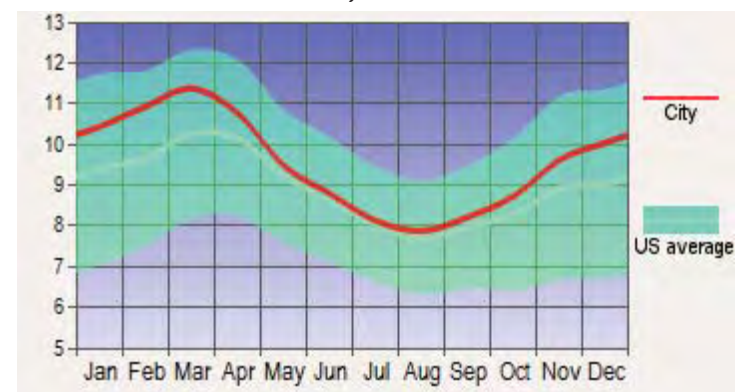
### Snow Fall Chart



### Percipitation Chart



### Wind Speed Chart



Silodam

The Chapel at Ronchamp

The Arab World Institute

The Jewish Museum

## Precedents

In the process of doing research I came across four precedents whose form, function, aesthetics and ideas represent themes I am looking to include in the design of this building. These precedents include Silodam by MVRDV, The Chapel at Ronchamp by Le Corbusier, The Arab World Institute by Jean Nouvel, and The Jewish Museum by Daniel Libeskind. Some common architectural themes used in these buildings include use of light, views created by materials and constructions techniques, different ways to create community spaces, and the size and shape of spaces to create emotion in the inhabitant.

# Silodam

Amsterdam,  
The Netherlands  
MVRDV

-Completed: 2002

-Architects: MVRDV

Winy Maas

Jacob van Rijs

Nathalie de Vries

Frans de Witte

Eline Strijkers

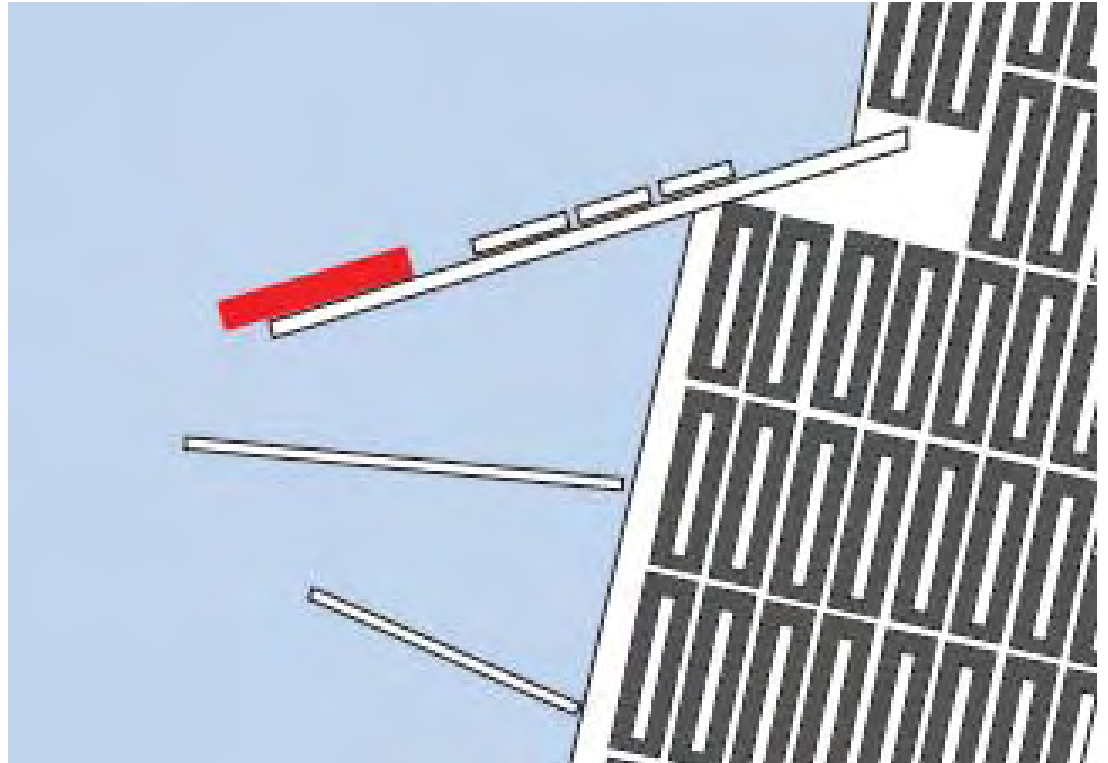
Duzan Doepel

Bernd Felsinger

-Site area: 2,600 square meters

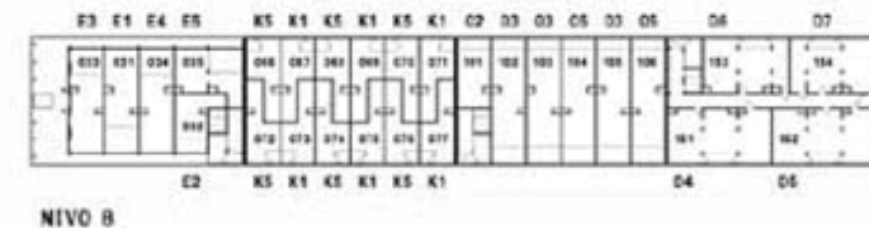
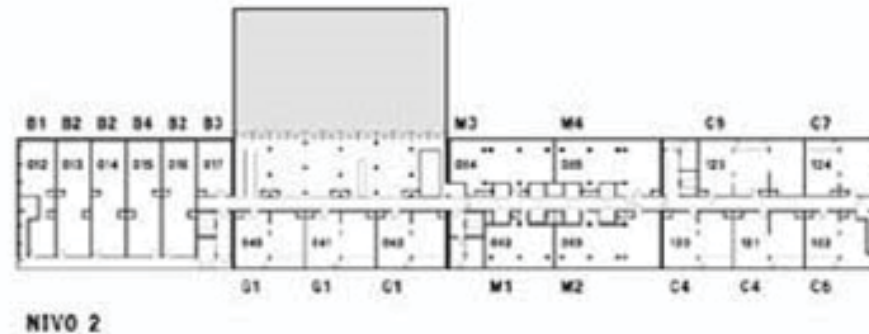
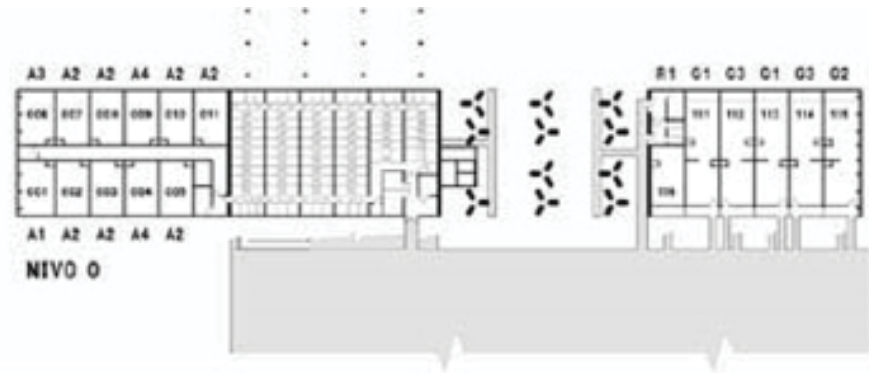
Building area: appr. 26,000 square meters

-15 different apartment types

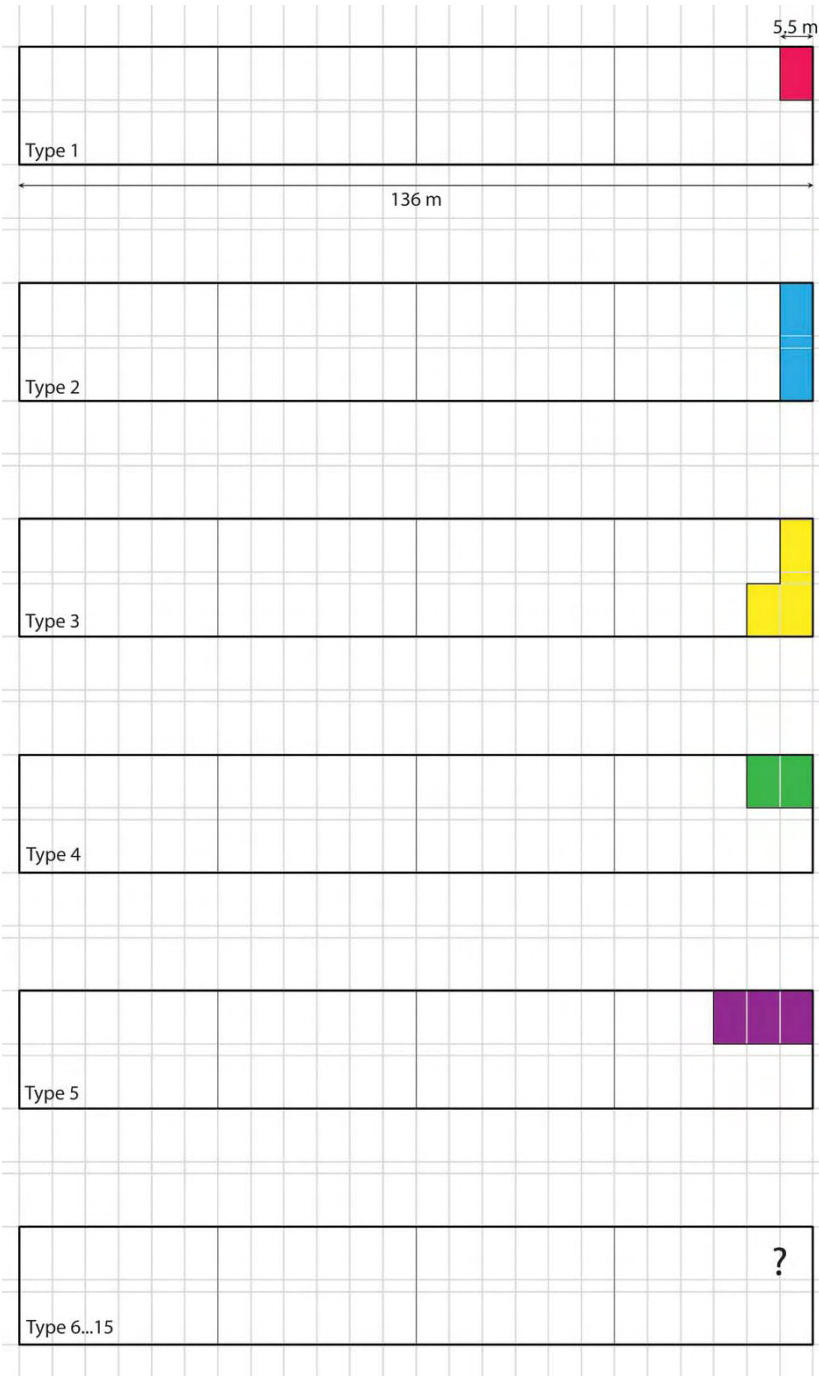


- 15 different Apartment types
- 157 apartments
- 10 stories high, 20 meters wide
- 8 different housing types
- Made out of old shipping containers (reuse of old materials)
- Containers have movable interior walls that change depending on the resident.
- Subterranean parking
- Community spaces

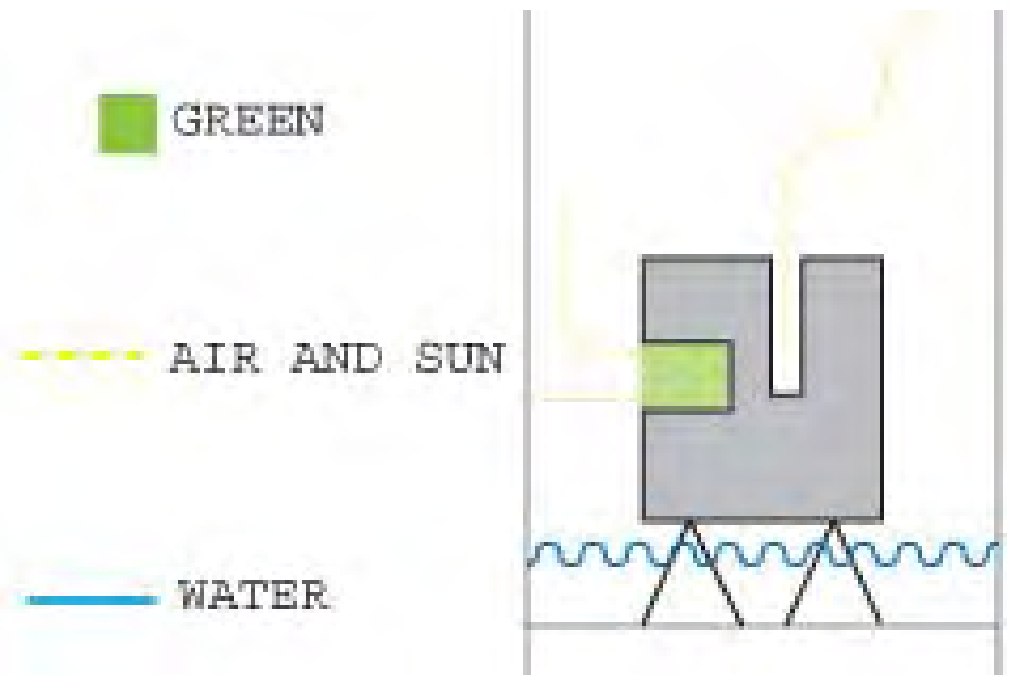
Silodam is a apartment style community located on an old pier right outside of Amsterdam Central. The apartments are made out of old shipping containers. There are five different housing types. The building relates to the site by using this old pier as the buildings foundation. Each floor is a different color and is unique in its design. This would be a good design tool to carry onto the design of a rehabilitation center. By making each floor a different color or shape, it will allow for the inhabitants to remember how to get to certain places much easier by just remembering a color.



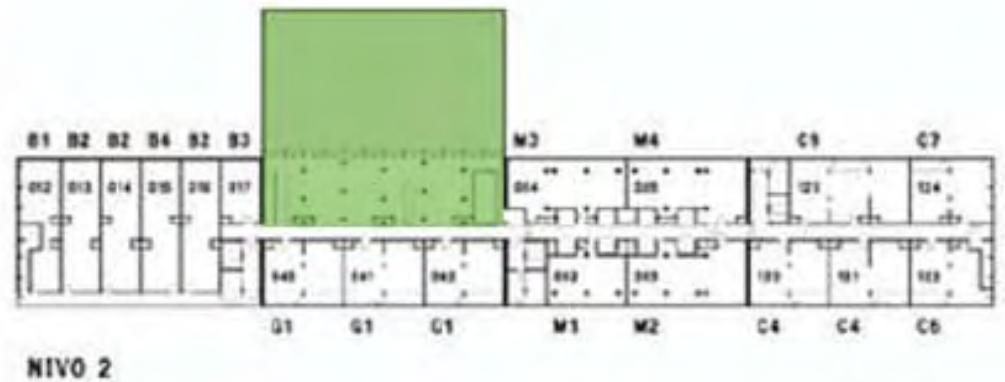
# Apartment Types and Shapes







Community spaces on the dock level and first floor. Stairs from one community space to the other not only act as circulation but also as seating to influence public interaction. These community spaces also serve as means of creating green space and allowing for natural ventilation and air to flow freely through the community spaces.

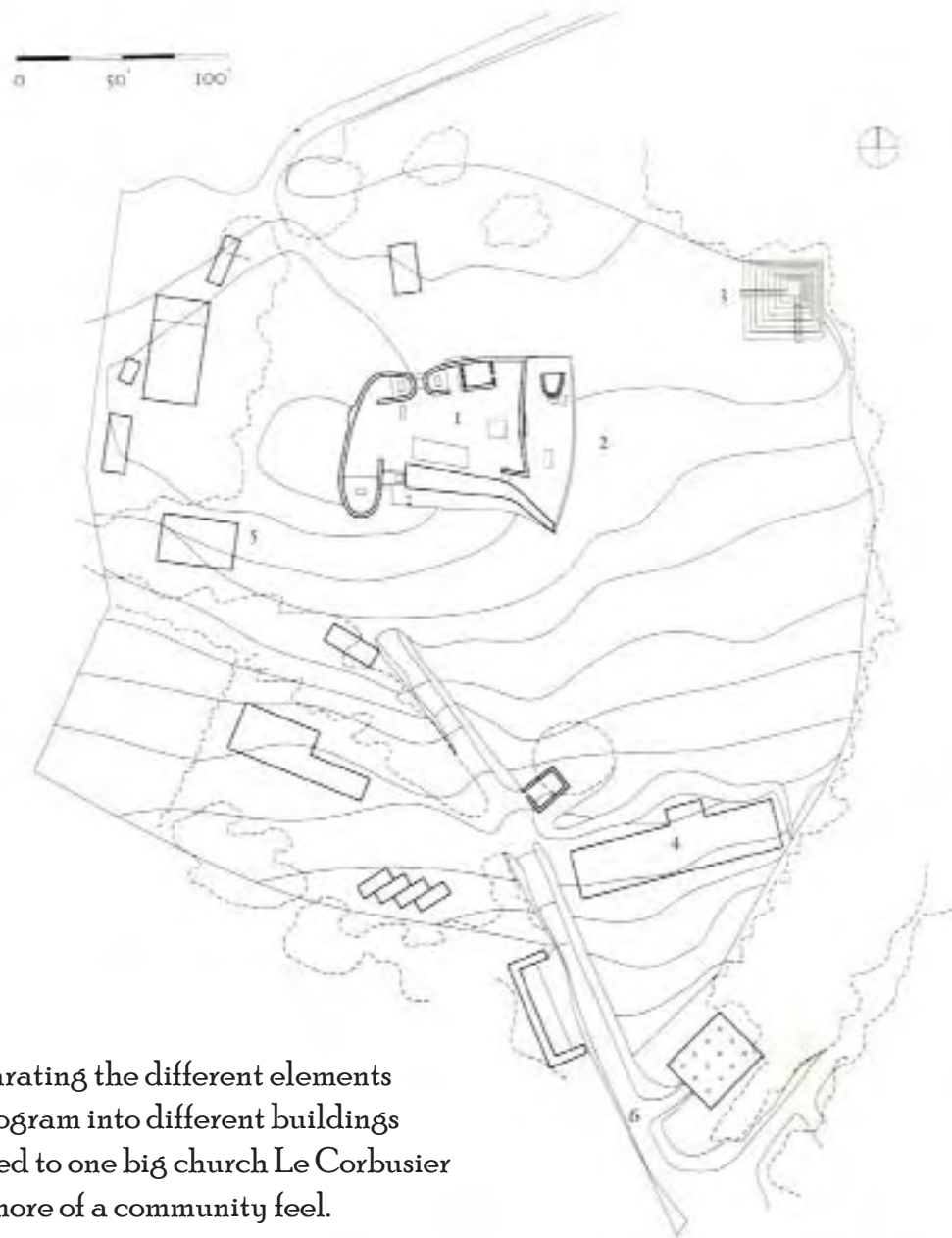


# The Chapel at Ronchamp, Franche-Comte Region, France Le Corbusier

The Chapel at Ronchamp completed in 1954 has both indoor and outdoor alter depending on the service and attendees. The chapel uses lightwells in walls to create different lighting experiences inside. Le Corbusier slopes the ground to influence occupants views and focus their attention to different parts of the chapel. This could be an interesting technique to use in the design of a rehabilitation center. Addicts attention is wild, and sporadic, subtle design choices like this will help put there focus on daily activities and recovery. Le Corbusier also uses different paver patterns to control circulation and views. Although I believe it is very important for an addict who is trying to recover to make their own choice of where to walk and what route to take, as stated before, subtle design aspects such as paver patterns to influence circulation is a great way to get the desired route of travel for the building.





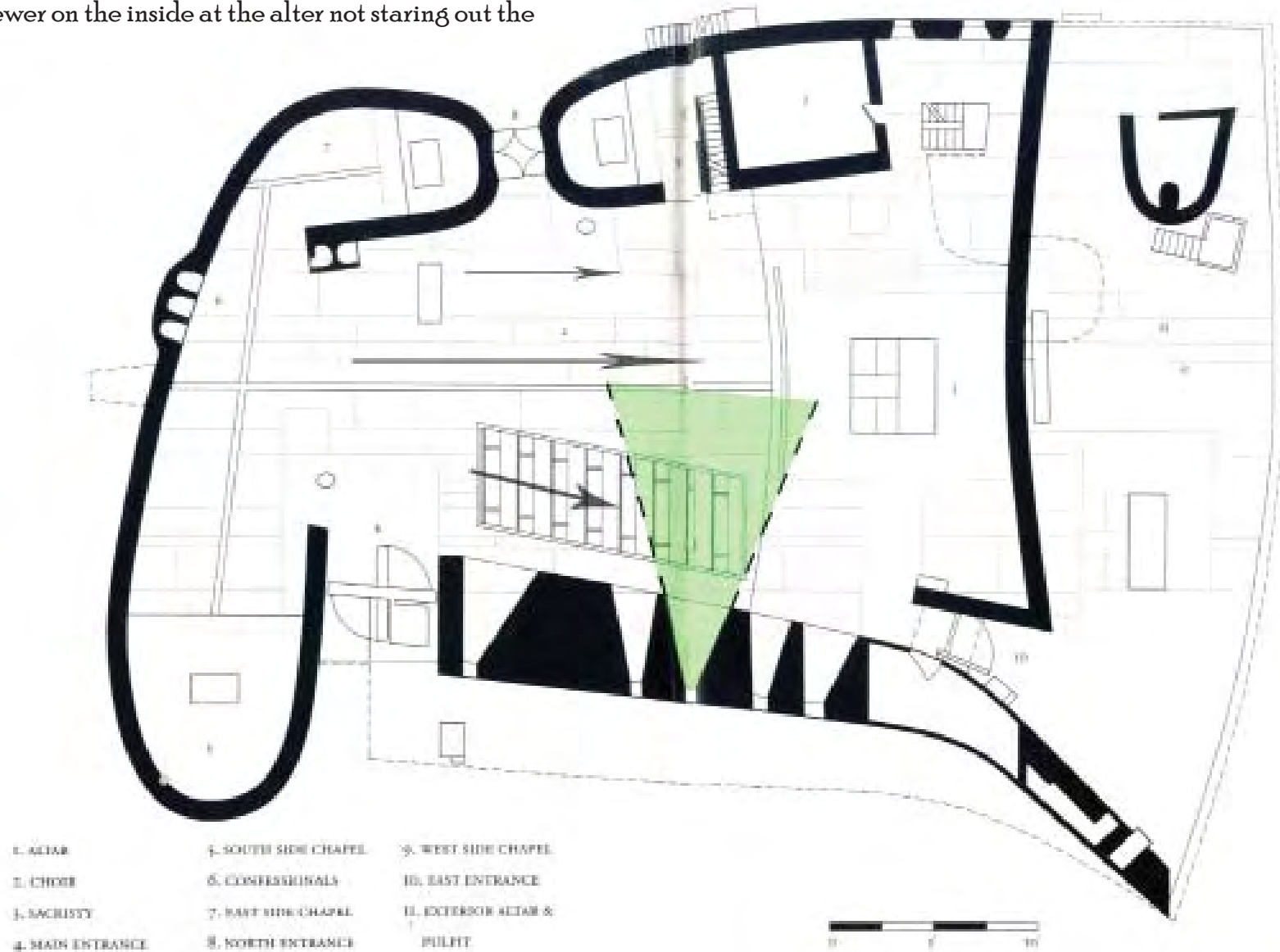


-By separating the different elements of the program into different buildings as opposed to one big church Le Corbusier creates more of a community feel.

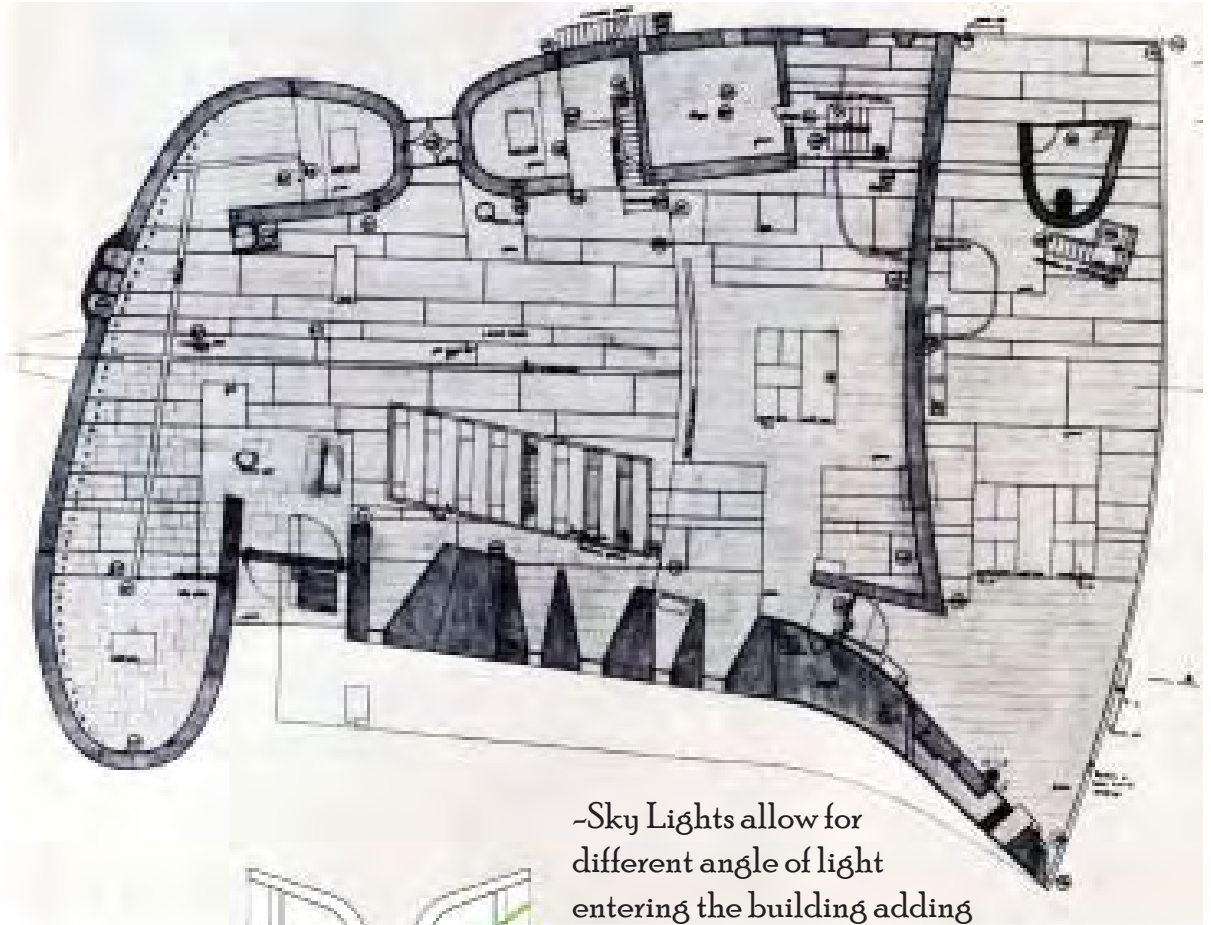
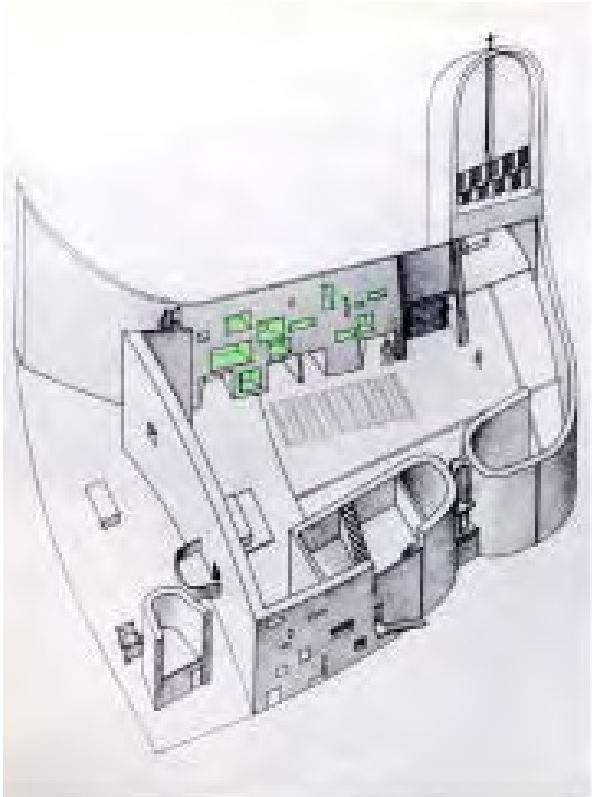
- |                     |                      |                      |
|---------------------|----------------------|----------------------|
| 1. CHAPEL           | 3. OUTDOOR CHAPEL    | 5. CARETAKER'S HOUSE |
| 2. MEMORIAL PYRAMID | 4. PILGRIMS' HOUSING | 6. PATH TO SUMMIT    |



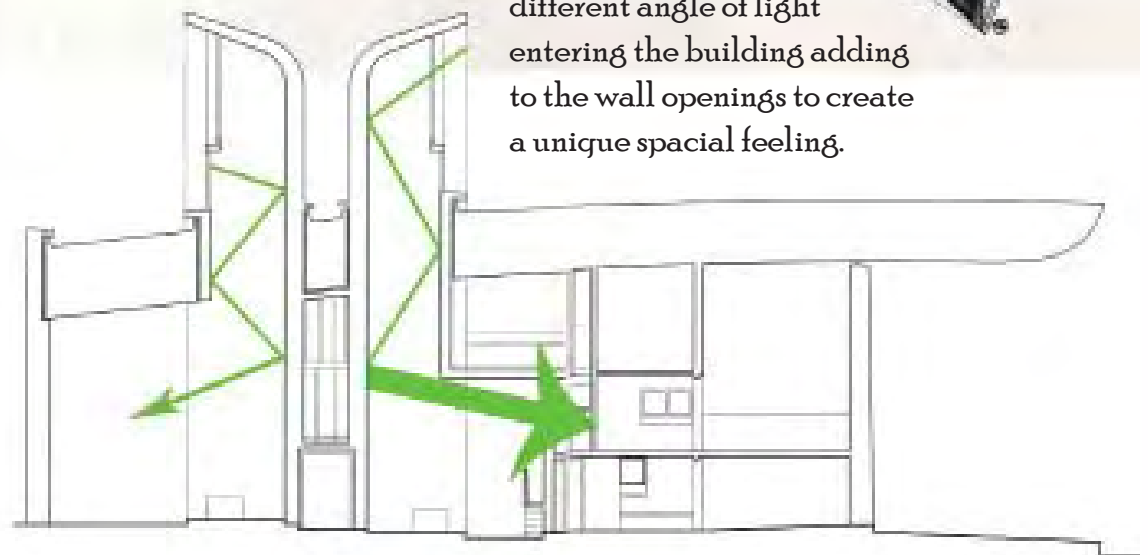
-The use of paver patterns, slanted slabs, and diagonal seating, Le Corbusier can control where and how the occupants view the Chapel. Le Corbusier also uses light scoops to control how light enters the building and uses the direction of light to convey emotion. By uses small windows that widen to the inside it allows for the dramatic expression of light but also keeps the focus of the viewer on the inside at the alter not staring out the window.

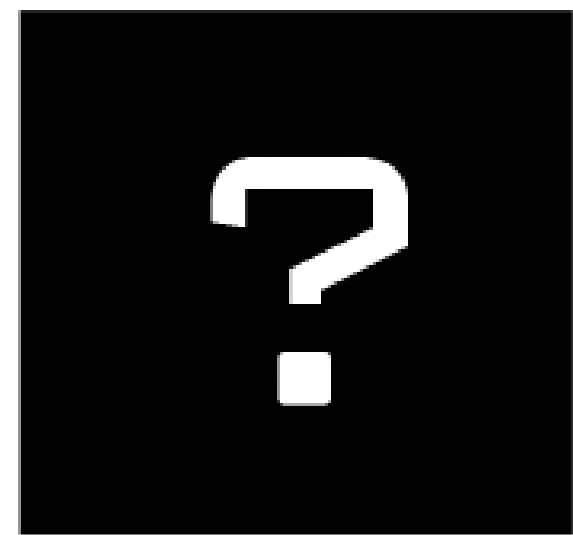
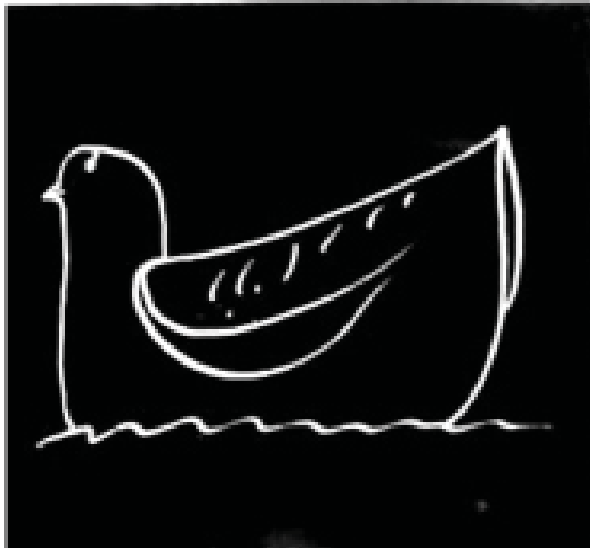
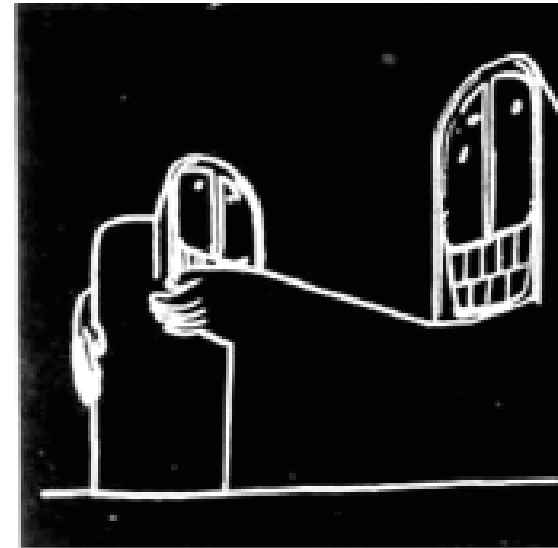
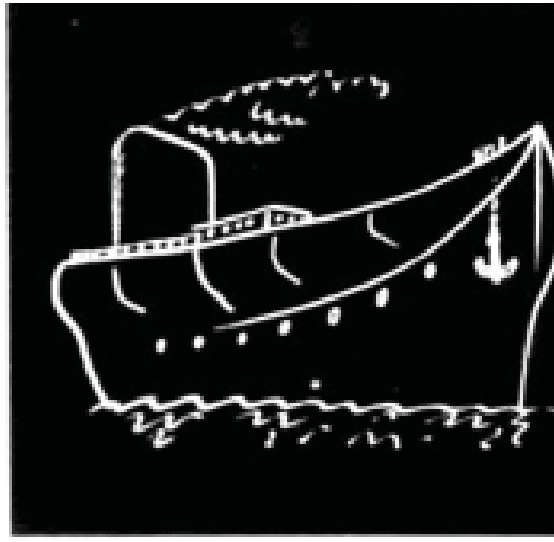
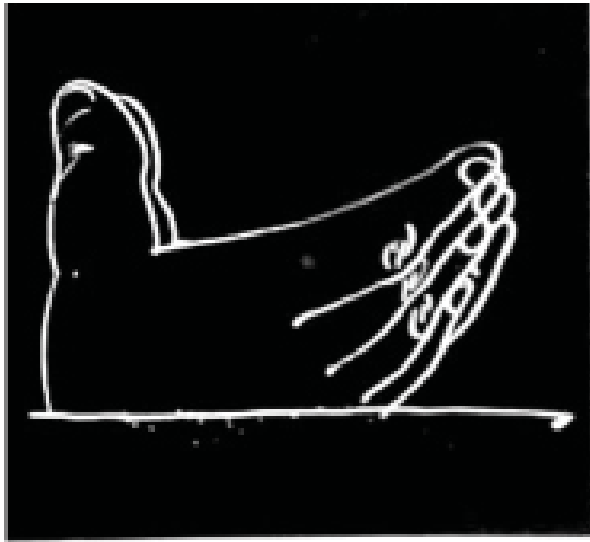


-Carved out Windows allow for privacy on the exterior with maximum lighting on the interior.

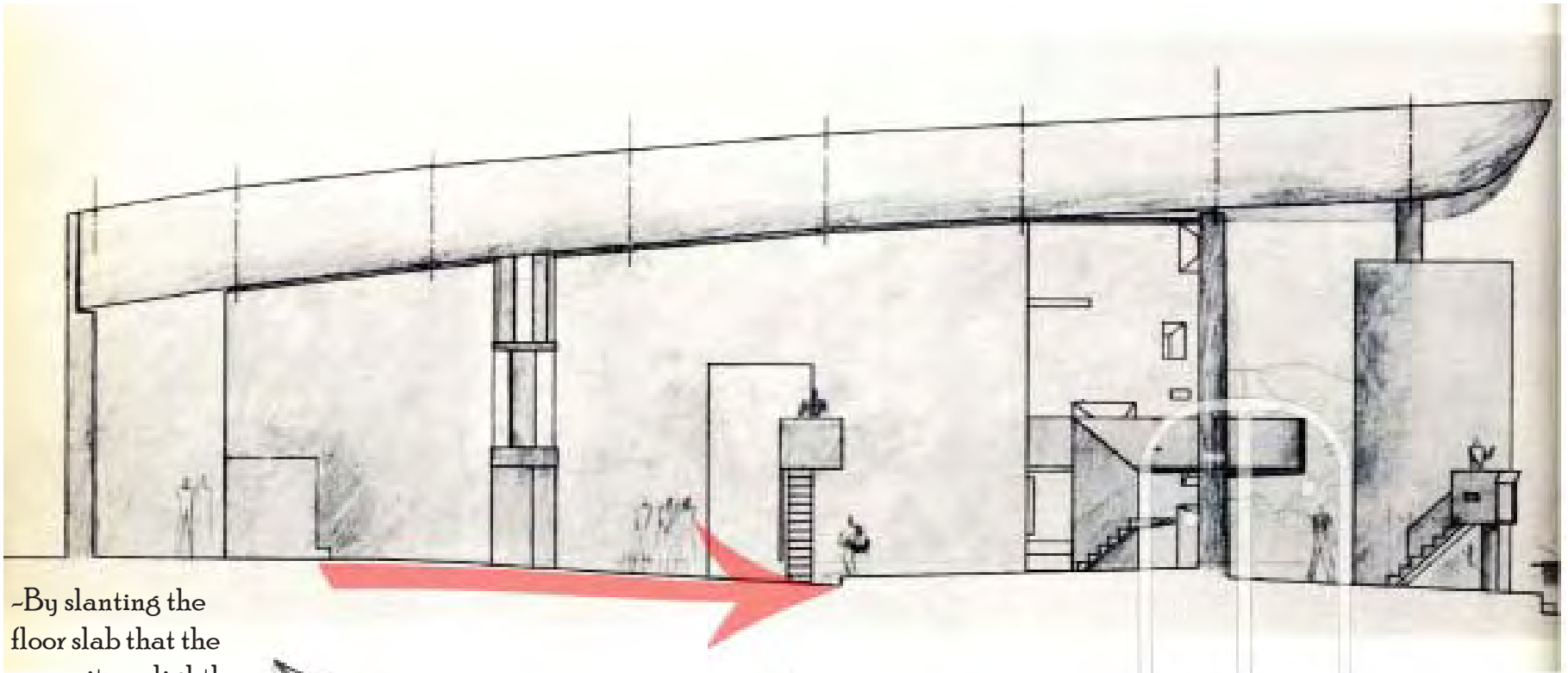


-Sky Lights allow for different angle of light entering the building adding to the wall openings to create a unique spacial feeling.





-Not only making connections in his design to the site, Le Corbusier also makes connections to the ideas the building will represent and how it functions. Each one of these sketches takes the shape of the building and can be viewed as inspirational shapes and themes.



-By slanting the floor slab that the pews sit on slightly forward the occupant is forced to focus on what is in front of them. Le Corbusier uses this technique in the seating area so during the service the inhabitants will focus on prayer instead of being distracted by things going on around the chapel.



# The Arab World Institute, Paris, France Jean Nouvel

-Completed in 1987

-Museum for Arabian Art

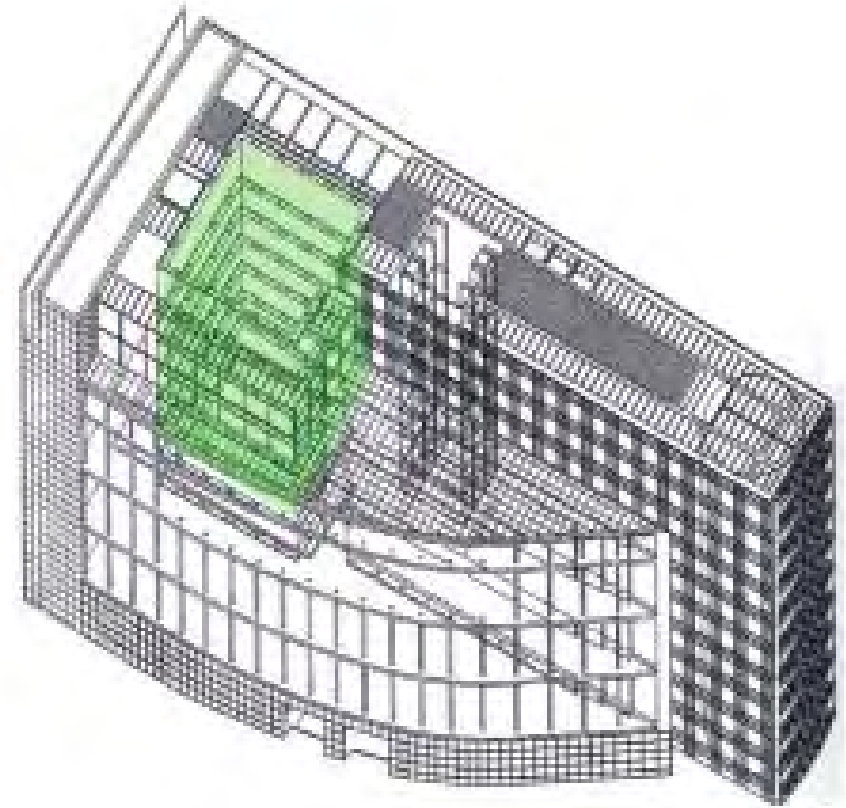
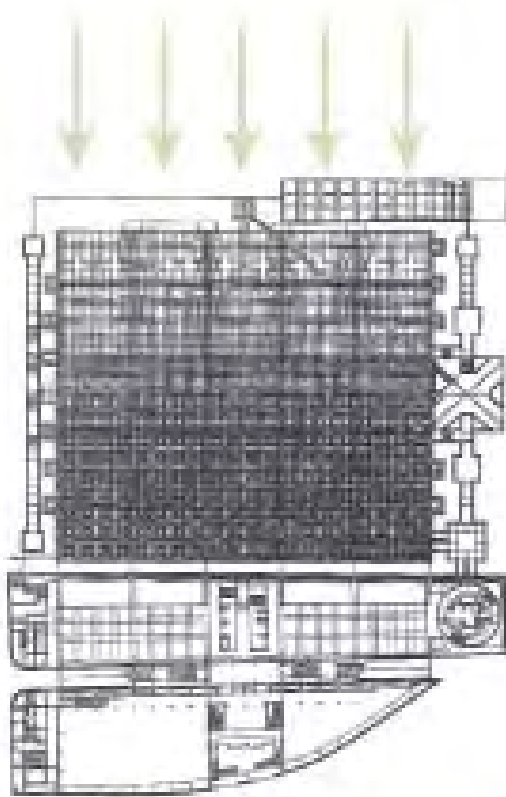
The museum plays with geometry and light in an interesting way. Shadows change hourly due to the facade changing shapes, and opening and closing. Makes contrasts to the hidden and revealed, the light and dark.

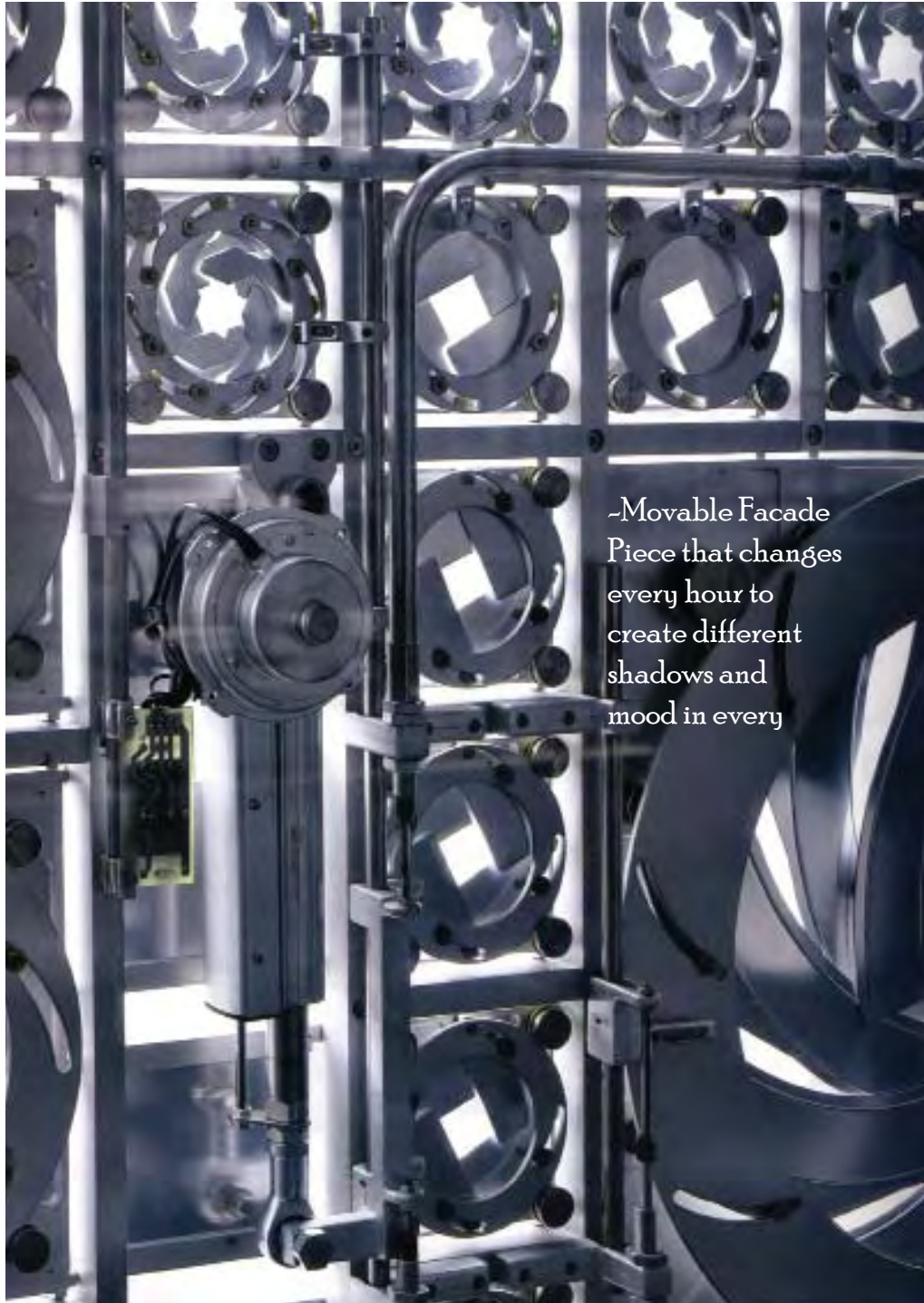
- “Expanding and confined spaces alternate in an otherworldly atmosphere created by the successive filters of the facades, the backlit shadows of the slim, crisscrossing staircases, and by the teeming geometrical motifs, reflected, refracted, diffracted, and projected onto the walls, floors and ceilings in a kaleidoscope like a shower of shooting stars.”

Addicts entering rehab are very sensitive to light. So a facade that changes, based on not only time like this building, but based on how much light is entering a room depending on an addicts progression and sobriety is facade aspect that I will incorporate into this design.

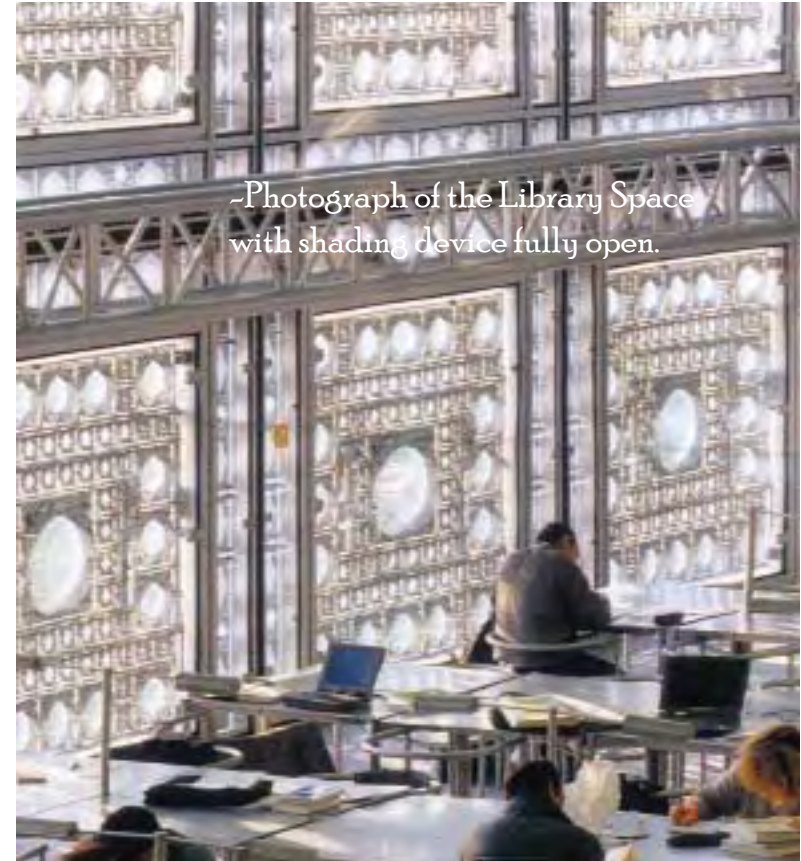


The image on the left is the ground floor plan of The Arab World Institute. The arrows on the left and axonometric view on the right with the shaded area demonstrate how light enters the building. Besides the intricate facade there is also one key lighting strategy that the Institute uses. This strategy is the use of the central courtyard to allow to allow light into the inner portion of the building where the facade may not be able to let light. This is another issue that will have to be resolved in the design of a rehabilitation center. The entire building must provide natural light. In no place in the building should any room be lit purely by ceiling lights. This will provide the inhabitant to be comfortable and not feel closed in or trapped in a space. The inner courtyard space in The Arab World Institute not only allows for light to enter the building but also allows for natural ventilation through out the building. Combining the aspects of lighting and ventilation with the idea of the courtyard will, and must, be included in the new design of a rehabilitation center.



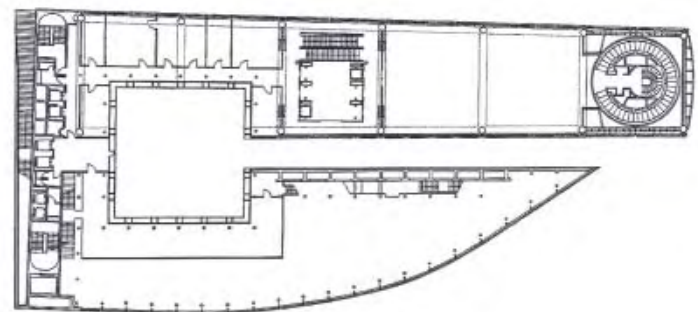


-Movable Facade Piece that changes every hour to create different shadows and mood in every



-Photograph of the Library Space with shading device fully open.

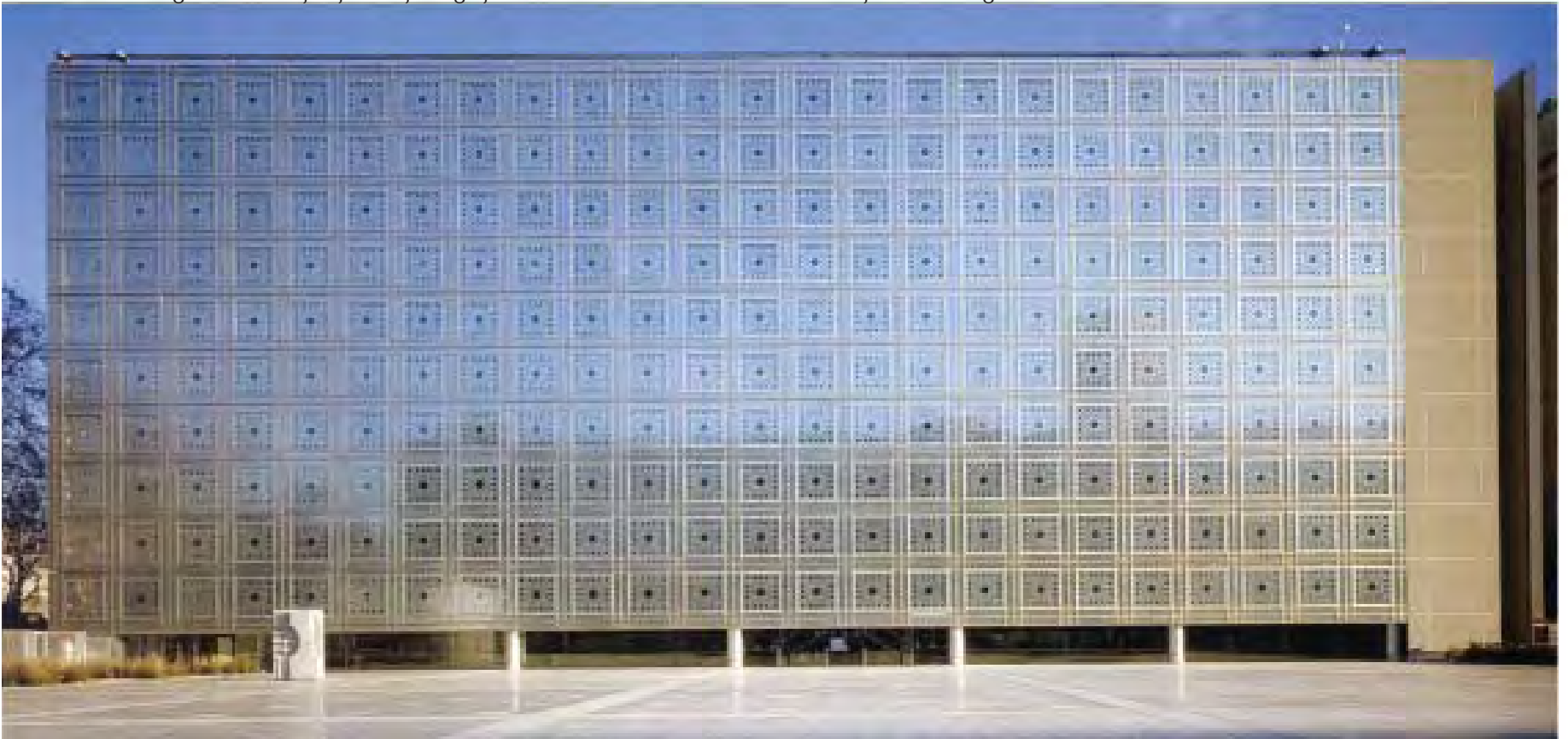
-Below is the six floor plan of the Arab World Institute. This floor includes the library, which is where the picture above is taken. This image depicts the moving facade and how when completely open how much light can enter the room, as opposed to almost closed in the picture on the left.







The above three images are interior perspective photographs of The Arab World Institute. All three depict how the light from the facade interacts with the interior.

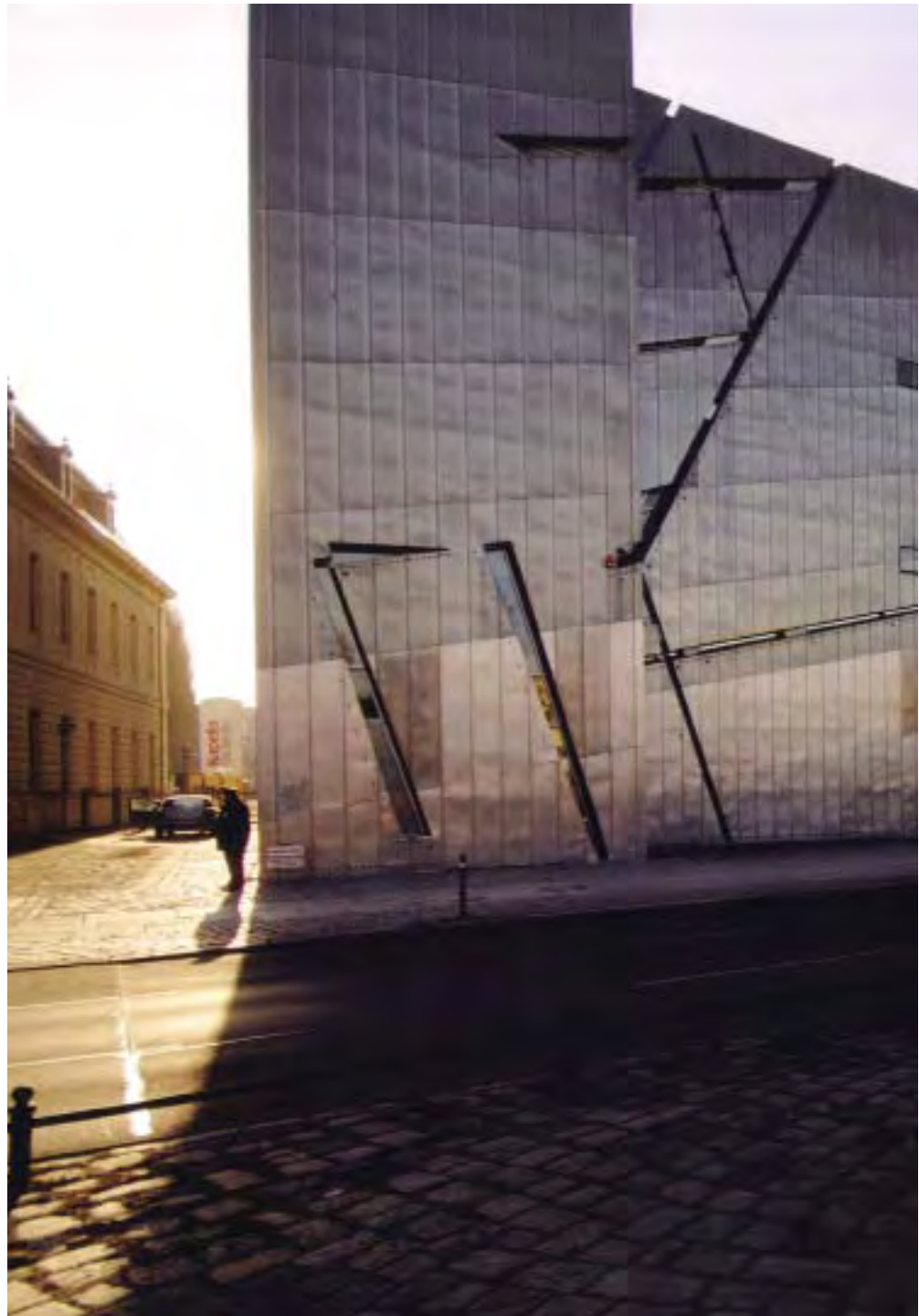


The above photograph is the entrance facade of The Arab World Institute showing the movable facade elements that were previously described.

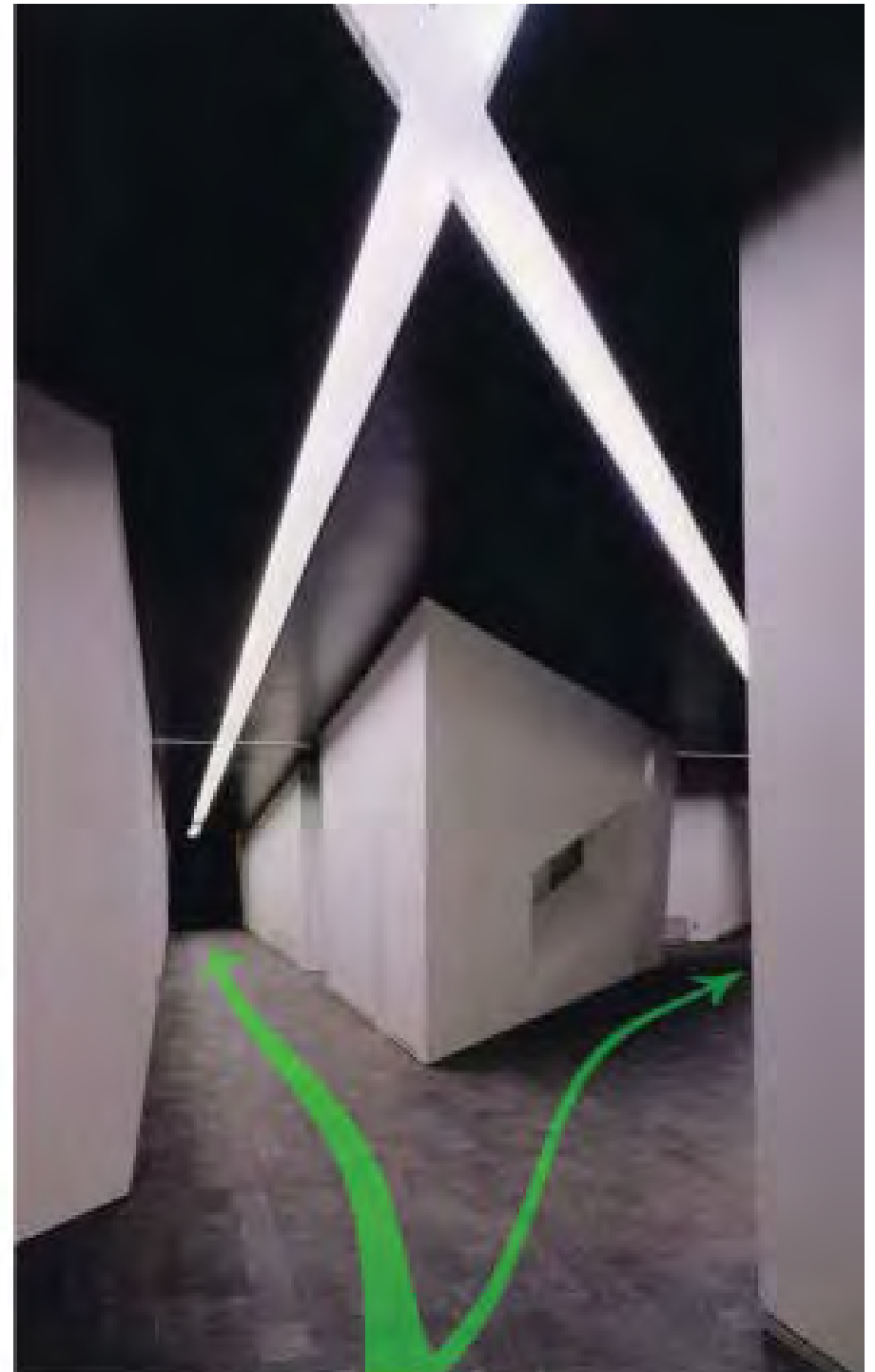
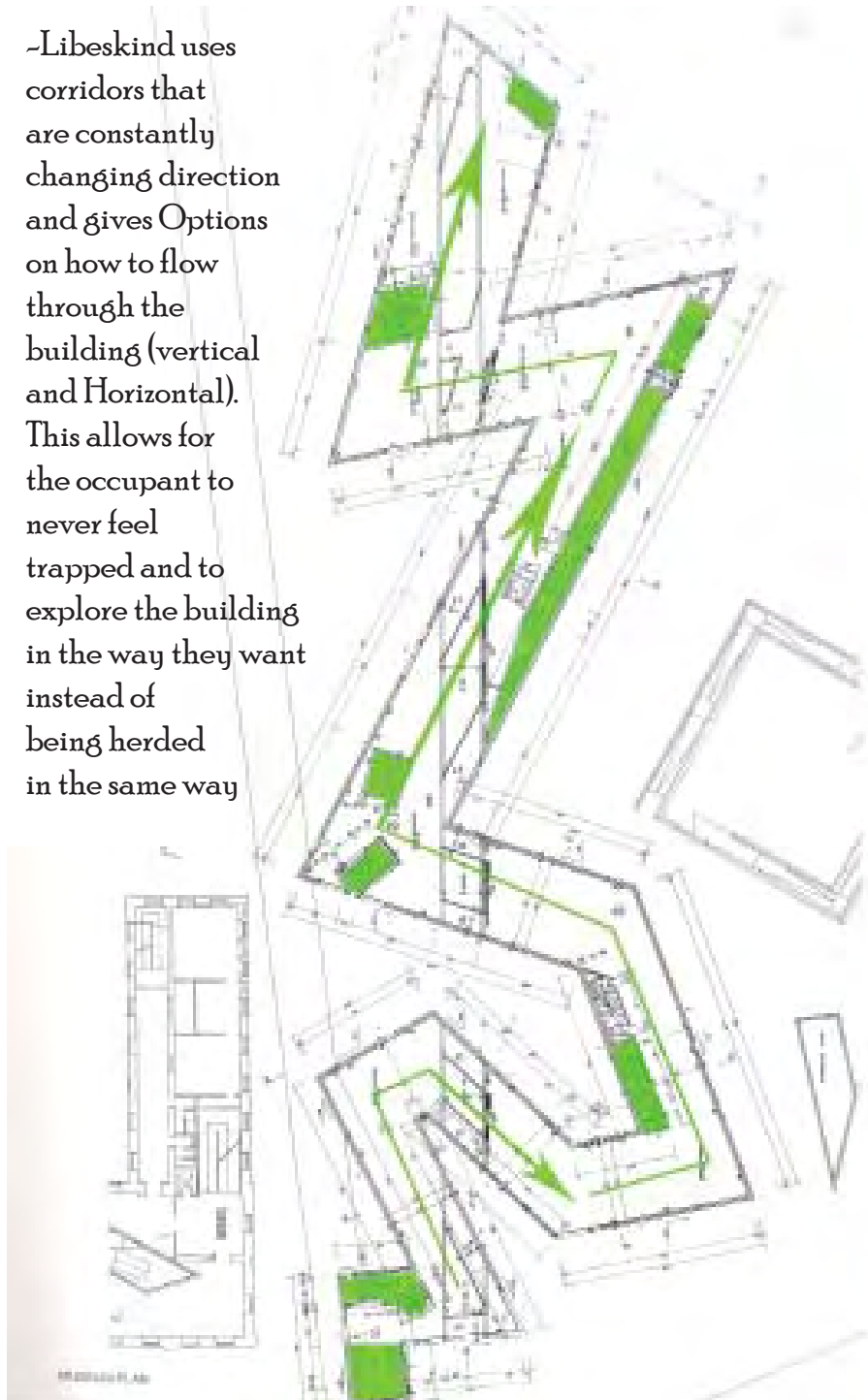
# Jewish Museum, Berlin, Germany Daniel Libeskind

The Jewish Museum opened in 2001. Spawns off the old courthouse and is not notably connected to the context. The museum creates an experience or journey as the occupant goes through the building. Libeskind provides the inhabitant with choice of what path to take through the building. This is an important aspect to think about when designing a rehabilitation center. The addicts need to feel like they are in control and feel like they can make the choice of where to go. Instead of taking one single route every time they walk through the building.

The museum also uses light and materials to influence feeling. The building creates a mood of how it wants its inhabitants to feel when viewing its subject. This is very important in any design. The design of a building shouldn't just be for an aesthetic value or to just look pretty. But the design should also evoke a mood, or feeling in a person. In my research I came across many studies that showed how light and materiality can influence not only the mood of a person, but also the potential recovering abilities of a person under the influence.



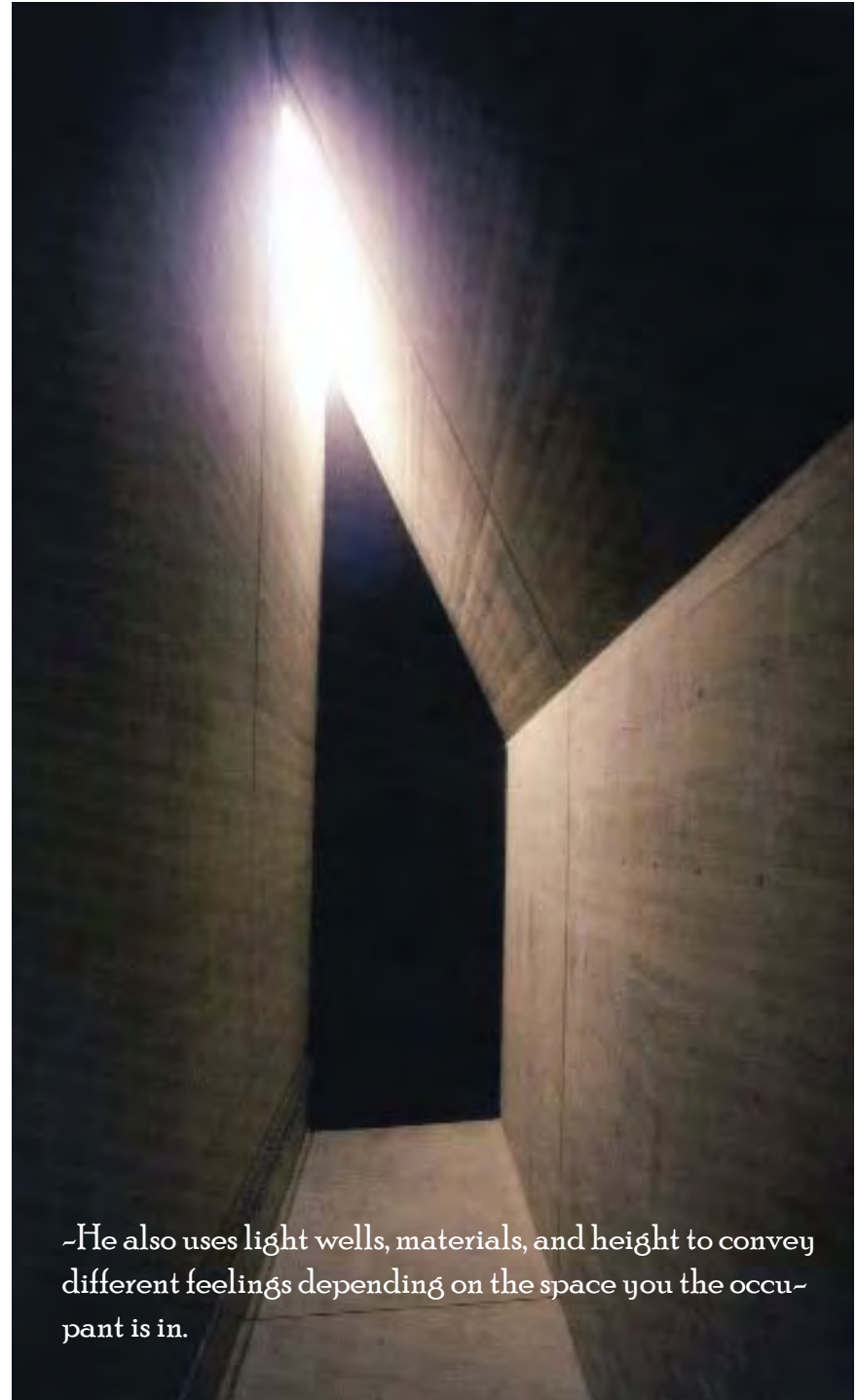
-Libeskind uses corridors that are constantly changing direction and gives Options on how to flow through the building (vertical and Horizontal). This allows for the occupant to never feel trapped and to explore the building in the way they want instead of being herded in the same way



-Libeskind uses abstract windows that make each occupant view the building (interior and exterior) different depending on height and age.



-He also uses light wells, materials, and height to convey different feelings depending on the space you the occupant is in.



## Precedents (Minor)



-Light

-The Louvre, Abu Dhabi Jean Nouvel





-Shading devices, light, materials

-Passive house in Bessancourt, by Karawitz  
Architecture





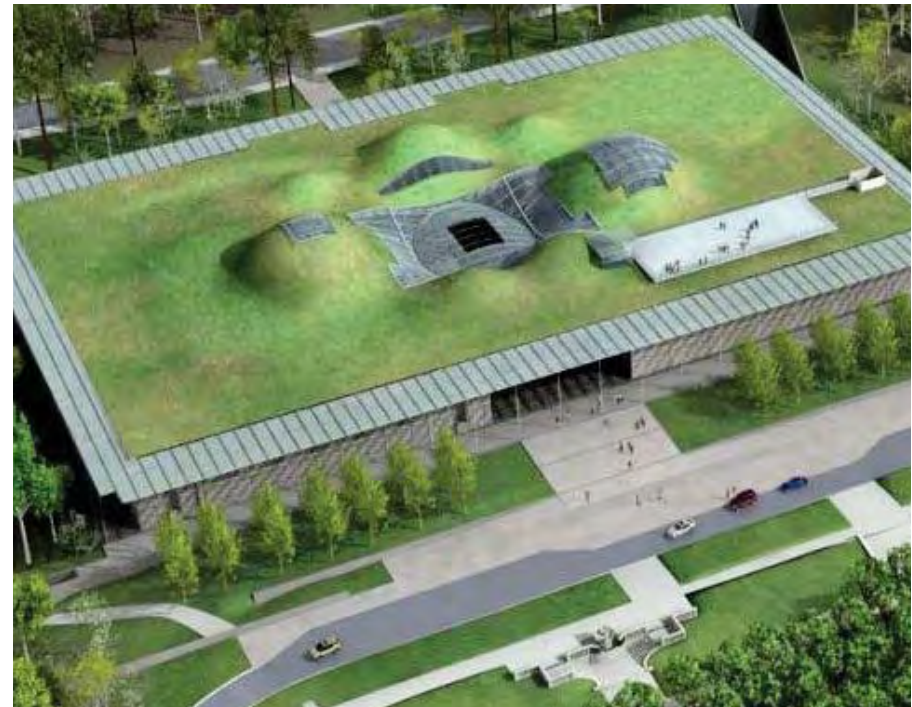
-Energy Efficiency

-Greenpix Zero Energy Wall

-The building operates as a self-sufficient organic system by harvesting solar energy during the day when the sun is out and taking that energy to illuminate the screen after at night.

- Green Roof

- California Academy of Sciences by Renzo Piano







-light, exterior space, site, green roof

-The School of Art, Media, and Design in Singapore by CPG Consultants Pte Ltd





In the process of doing research for the design of a rehabilitation center in Trenton, New Jersey, I decided it would be good to look at some precedent buildings. In doing this research there was more than just rehabilitation centers that needed to be looked at and considered. When designing this center, yes it is important to take into account the program and other aspects of already built rehabilitation centers, but it is also very important to look at successful architectural techniques that were used in other buildings across the world, which I have pointed out in the next section. Two unique aspects of architecture, which may seem minuet in detail, seemed to stand out the most to me. The first of which is the simple use of color. For many architects the use of color does not cross their mind when designing, it is simply an afterthought for the interior designer.

# The Meaning of Color

When I think of color I do not simply mean painting a wall a certain color for it to look nice. In doing my research I came across an article that provided a theory that color can evoke feeling in a room. This aspect to me seemed very interesting. With a rehabilitation center it is very important to convey a sense of healing, progression, and safety. If I could find a way to do that by changing the colors on specific walls in specific rooms, I could make architecture a process of the patients healing. Upon further research it became more clear that this could be possible. Each color has a certain meaning, and is meant to convey certain feelings. By changing the hue, tint, or opacity and how the light may hit the wall can combine an array of effects on the human psyche.

In the process of my research I came across an article called, “Blue light taps directly into your emotions” In this article the author talks about how light can tap directly into the brain in certain areas that process emotions. One quote I found interested was when the article stated, “While rods and cones in the eye process visible light, a third type of photoreceptor, particularly sensitive to blue light, mediates non-visual responses such as sleep cycles and alertness. So light may make us feel better because it helps regulate circadian rhythms.” This interested me because In my project I want to create a way to make people feel better by the use of light and how in interacts with the building to affect people’s emotions.

I also found it very interesting when the article talked about a test scientists performed. They scanned volunteers exposed to green or blue lights while a normal and angry voice played in the background. It was interesting to find that the emotion was most effected not only by the angry voice, but also by the blue light. This makes me think that maybe blue or colored lights can affect the emotion and recovery process of a recovering addict in the building I want to design.



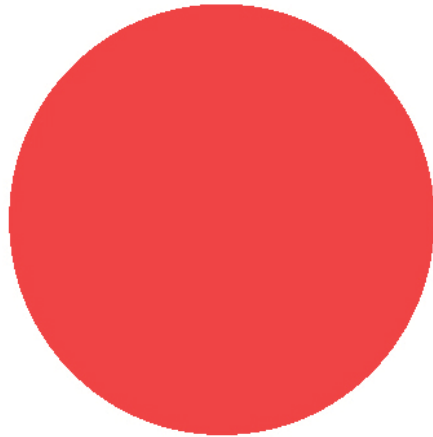
I also came across another article called, “Emotion Processing in Brain Is Influenced by Color of Ambient Light.” This article talks about scientists at the University of Liege and how they are investigating the immediate effect of light, and color composition on emotion brain processing using functional magnetic resonance imaging. I was very excited to find out that when their study was over they concluded, “That the color of light influences the way the brain processes emotional stimuli.”

This last quote made me truly believe that I can design my building to use light to my advantage in helping people recover and change their mood. The article states, “The acute effects of ambient light on emotional processing might differ from its longer-lasting effects on mood, but the present findings in healthy subjects have important implications for our understanding of the mechanisms by which changes in lighting environment could improve mood, not only in mood disorders using light therapy, but also in our day to day life, by paying more attention to our light environment at home and in the work place.” The following pages is a brief description into the main colors I used in my building, and the meaning behind each of the.



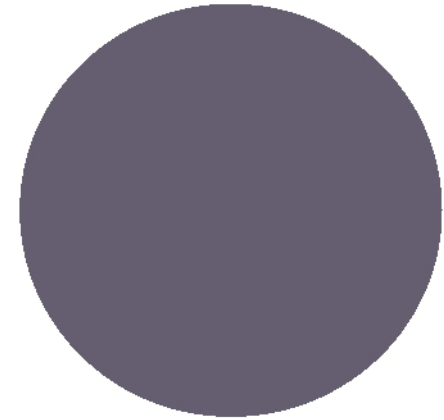
[-http://www.newscientist.com/article/mg20827845.000-blue-light-taps-directly-into-your-emotions.html](http://www.newscientist.com/article/mg20827845.000-blue-light-taps-directly-into-your-emotions.html)

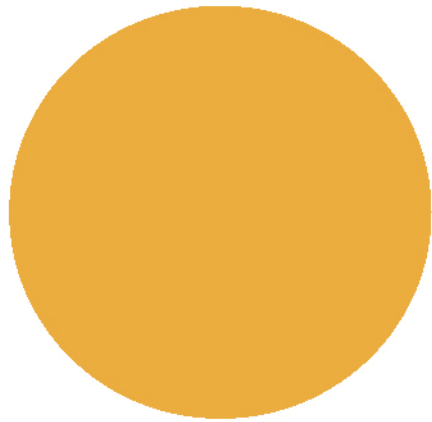
[-http://www.sciencedaily.com/releases/2010/10/101025151507.htm](http://www.sciencedaily.com/releases/2010/10/101025151507.htm)



Red is the color of fire and blood. it is associated with energy, war, danger, **strength, power, determination** and also passion, desire, and love. Red is a very emotionally intense color. It enhances human metabolism, **increases respiration rate**, and raises blood pressure. It has very high visibility, which is why stop signs, stoplights, and fire equipment are usually painted red. In heraldry, red is used to **indicate courage.**

Blue is the color of the sky and sea. It is associated with depth and stability. It symbolizes **trust, loyalty, wisdom, confidence, intelligence, faith,** and heaven. Blue is considered **beneficial to the mind and body.** It slows human metabolism and produces a **calming effect.** Blue is strongly associated with tranquility and calmness. In heraldry, blue is used to symbolize piety and sincerity. As opposed to emotionally warm colors like red, orange, and yellow; blue is linked to consciousness and intellect. Use blue to suggest precision when promoting high-tech products. Blue is a masculine color; according to studies, it is highly accepted among males. Dark blue is associated with depth, expertise, and **stability;** it is a preferred color for corporate America. When used together with warm colors like yellow or red, blue can create high-impact, vibrant designs.



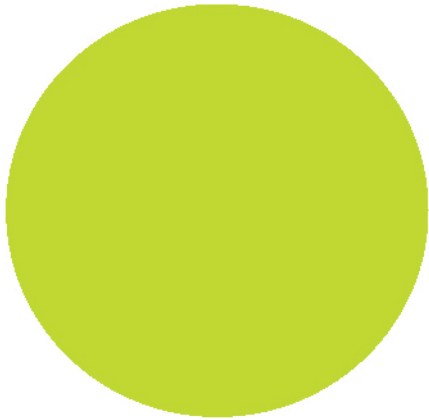


Orange is associated with joy, sunshine, and the tropics. Orange represents enthusiasm, fascination, happiness, creativity, determination, attraction, success, encouragement, and stimulation. To the human eye, orange is a very hot color, so it gives the sensation of heat. Nevertheless, orange is not as aggressive as red. Orange increases oxygen supply to the brain, produces an invigorating effect, and stimulates mental activity. It is highly accepted among young people. As a citrus color, orange is associated with healthy food and stimulates appetite. Orange is the color of fall and harvest. In heraldry, orange is symbolic of strength and endurance.

Green is the color of nature. It symbolizes **growth, harmony, freshness, and fertility**. Green has strong **emotional correspondence with safety**. Dark green is also commonly associated with money. Green has great **healing power**. It is the most **restful** color for the human eye; it can improve vision. Green suggests **stability and endurance**. Sometimes green denotes lack of experience; for example, a 'greenhorn' is a novice. In heraldry, green indicates **growth and hope**. Green, as opposed to red, means safety; it is the color of free passage in road traffic.







Yellow is the color of sunshine. It's associated with joy, happiness, intellect, and energy. Yellow produces a warming effect, arouses cheerfulness, stimulates mental activity, and generates muscle energy. Yellow is often associated with food. Bright, pure yellow is an attention getter, which is the reason taxicabs are painted this color. When overused, yellow may have a disturbing effect; it is known that babies cry more in yellow rooms. Yellow is seen before other colors when placed against black; this combination is often used to issue a warning. In heraldry, yellow indicates honor and loyalty. Use yellow to evoke pleasant, cheerful feelings. You can choose yellow to promote items related to leisure. Yellow is very effective for attracting attention, so use it to highlight the most important elements of your design.

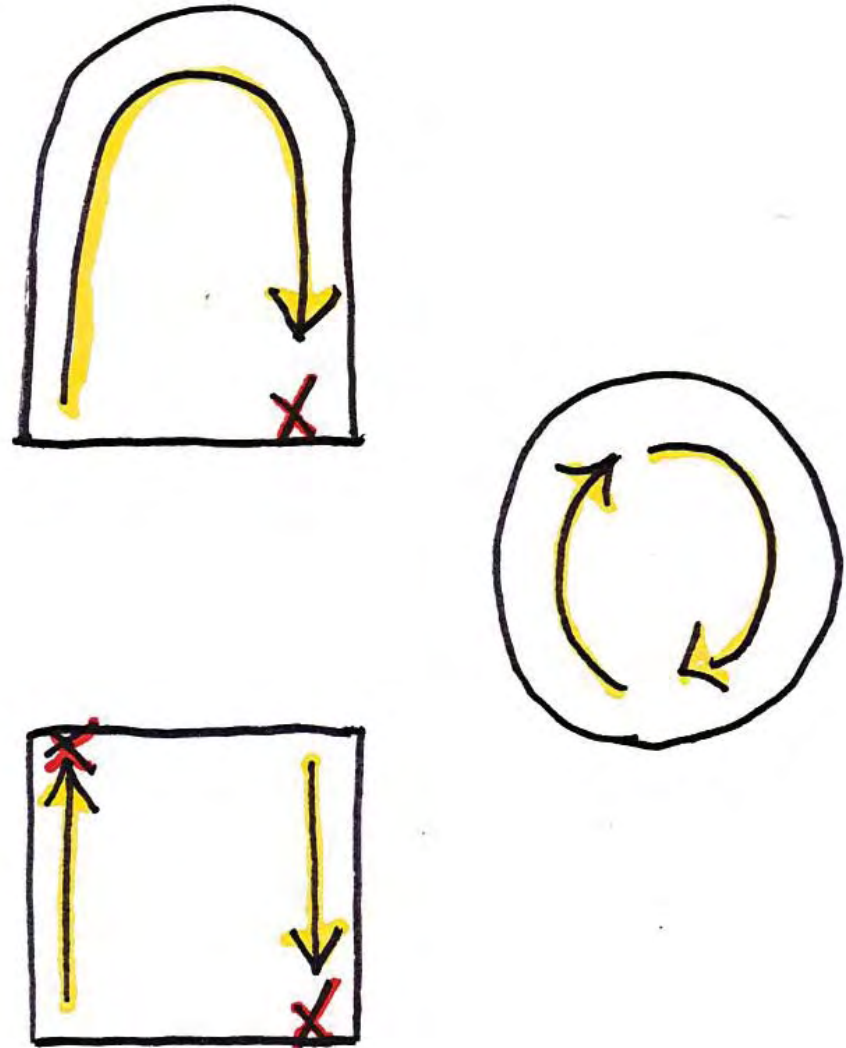


The second aspect of architecture which stood out the most to me for having an influence on the people occupying the room or building is the shape of the space. The shape in which a space is designed can easily make someone feel relaxed and happy, or claustrophobic and trapped. A room with four corners, at 90 degrees each, has a much different feel than a room that is circular in shape. There are a few differences between the two shapes, which although subtle, make an enormous difference on how they make the inhabitant feel. For example, a room shaped like a square can make a person feel trapped or boxed in. A square shape is not the best for circulation being that each path leads to a wall. A circular room though, provides uninterrupted circulation and movement. So an inhabitant in a circular room will feel more free to walk around and explore the space because it will provide for movement without coming across walls at a 90 degree angle that will convey the idea of stopping. A room that is shaped like a box will make the inhabitant stop and turn at a corner, instead of just continuing to travel on his or her given path.

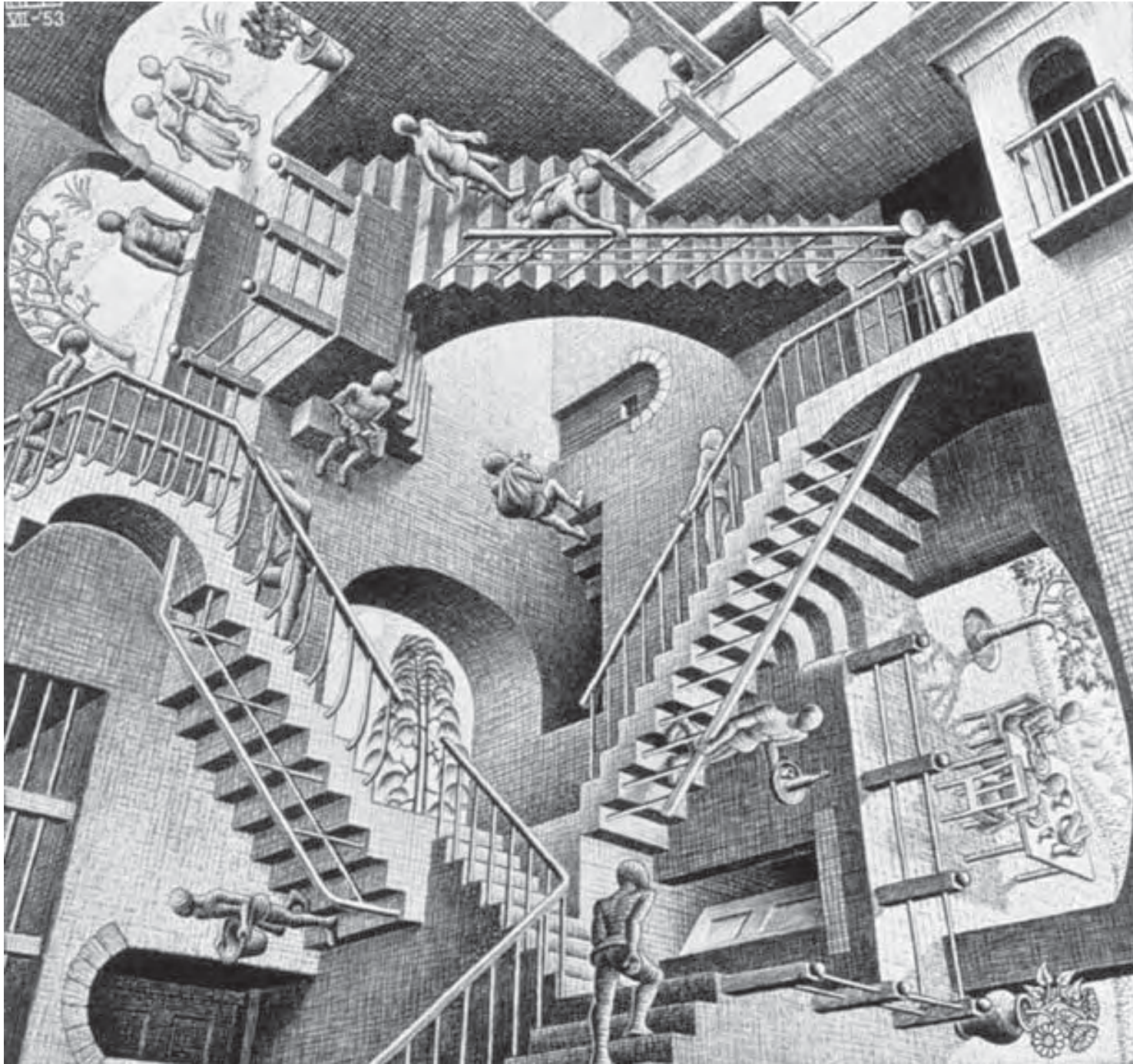
# The Feeling of Shape

In the process of my research I came across a article called, "How Rooms and Architecture Affect Mood and Creativity." This article is what led me to some of my conclusions about rooms that were different shapes, and the later end design of some of the rooms in my Rehabilitation Center. This article is about how rooms and architecture can affect our mood and creativity. For example the first thing that interested me was in one of the beginning paragraphs when the author stated, ".....she randomly assigned 100 people to a room with either an eight- or 10-foot ceiling and asked participants to group sports from a 10-item list into categories of their own choice. The people who completed the task in the room with taller ceilings came up with more abstract categories, such as 'challenging' sports or sports they would like to play, than did those in rooms with shorter ceilings, who offered more concrete groupings, such as the number of participants on a team. 'Ceiling height affects the way you process information,' Meyers-Levy says. 'You're focusing on the specific details in the lower-ceiling condition.'" To me this was amazing; the simple height of a room expanded the creativity of ones mind. This got me thinking of how I can use the height of a room to my advantage, when trying to create a conducive environment for recovering addicts.

When reading the Natural Focus section I found the following statement to my benefit as well, "Although gazing out a window suggests distraction, it turns out that views of natural settings, such as a garden, field or forest, actually improve focus." This was great for me to find because I wanted to include a lot of exterior garden space in my building to help the patients find peace be focused on their goal of being sober.



Circulation flow diagram in plan in a circular, square, and organic space.

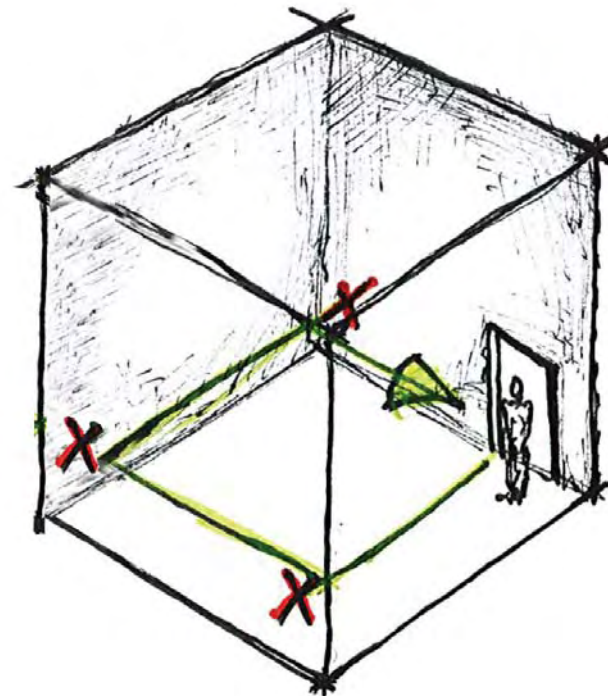


M.C. Escher's Relativity showing different rooms each creating different spaces and conveying different feelings.

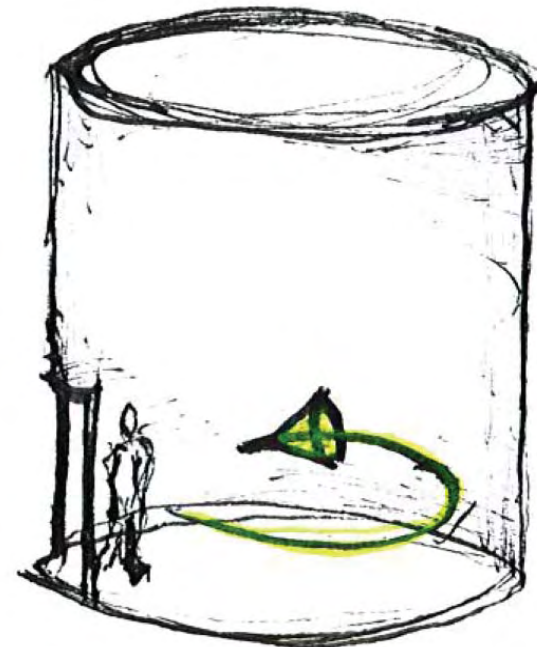
The section entitled Seeing the Light had an interesting quote that really made me think. The quote stated, “Adequate sunlight has also been shown to improve student outcomes.” If sunlight can improve student outcomes, then why can’t it improve the outcome of a patient?

In the Room to Relax section I was quite shocked. It stated, “The students questioned in the dim room felt more relaxed, viewed the counselor more positively and shared more information about themselves than those counseled in the brighter room did. The findings suggest that dim light helps people to loosen up.” To me this was a huge surprise; I would have thought it would be the other way around honestly. I will keep this in mind though when designing the treatment rooms. The article later goes on to talk about how even the layout of the furniture can spark more interaction between the inhabitants of the building.

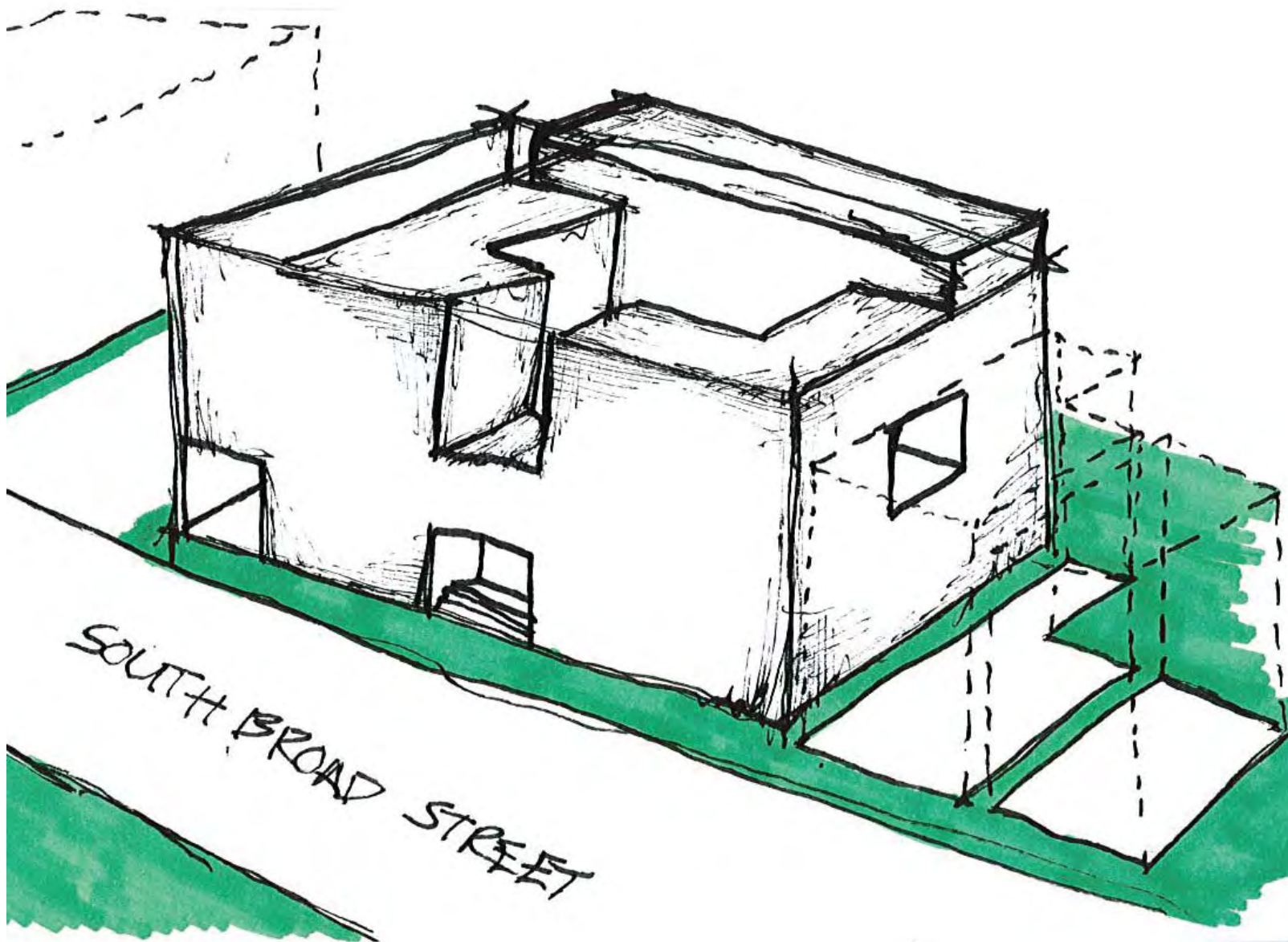
As I was in the last few paragraphs of my reading I found something that interested me the most out of this whole reading. It was said, “Carpeting can also grease the social wheels. In hospitals, carpet increases the amount of time patients’ friends and families spend visiting..... Such social support may ultimately speed healing.” To me this is very valuable information. This will make me think very hard about what type of flooring I should use in my building. Being that it’s a rehabilitation center I and considering the well-being of the patients, after reading this fact, I may have to consider carpet.



Circulation flow diagram in a square space.



Circulation flow diagram in a circular space.



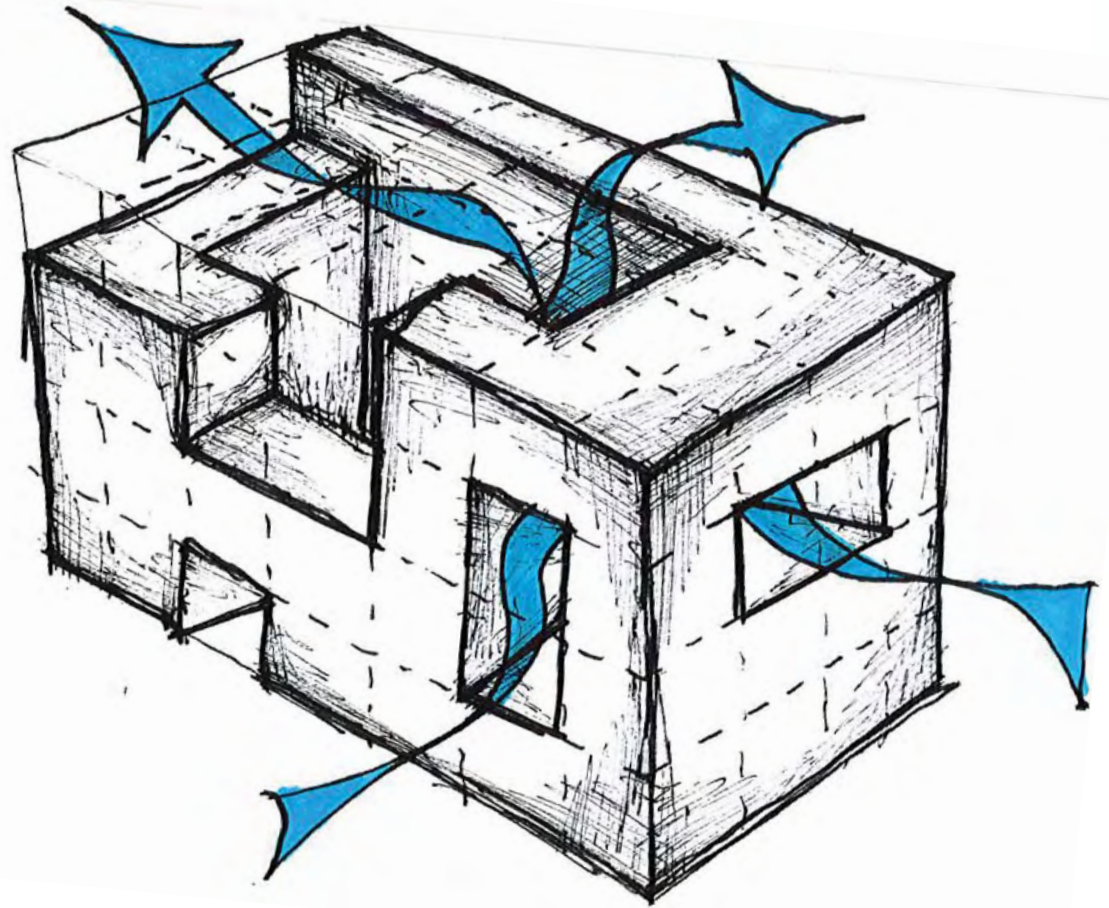
Sketch showing original concept design for the building on South Broad Street.

# Design Process

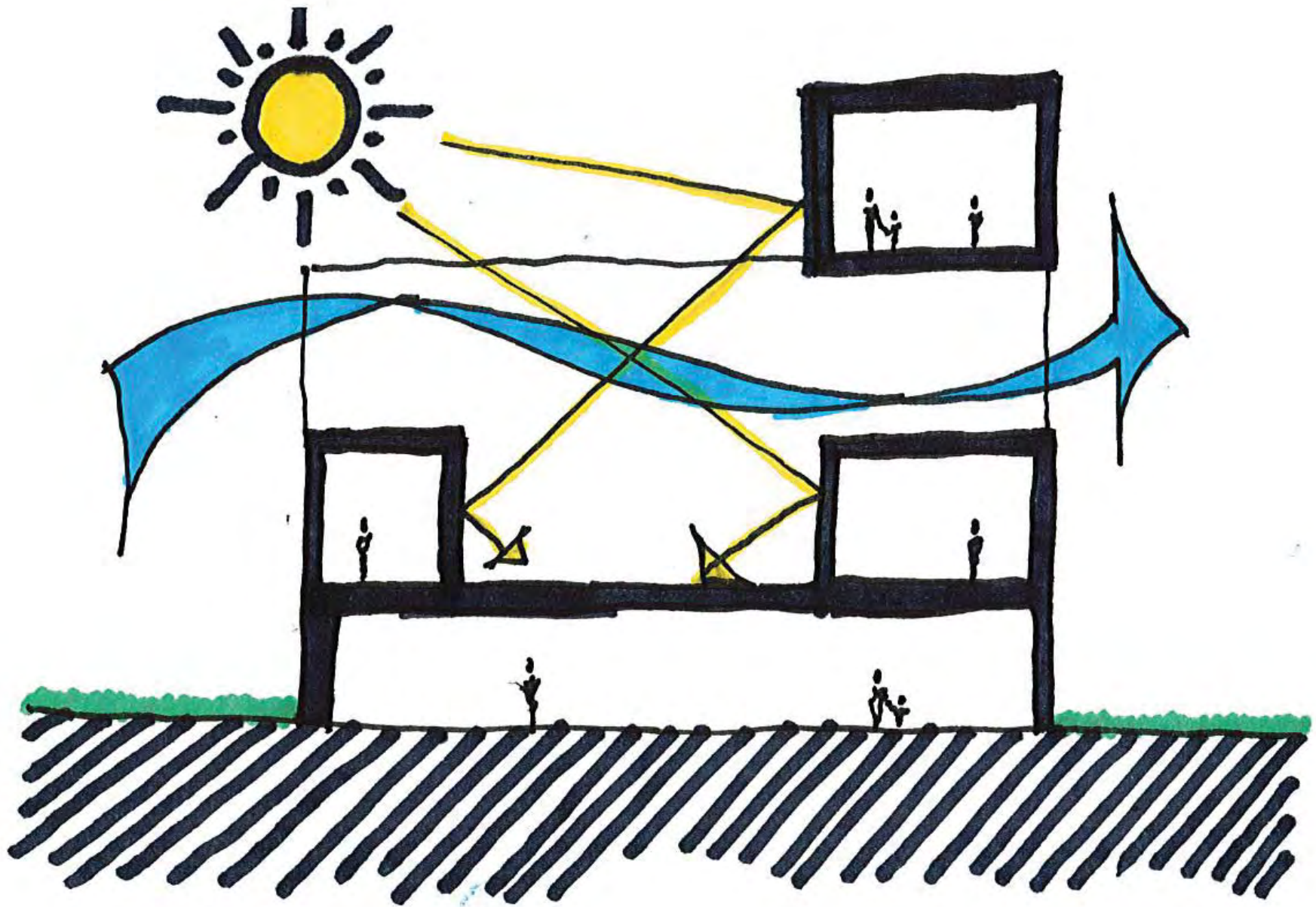
## Original Concepts & Ideas

My original starting point for the rehabilitation center focused mainly on the old RKO Broad Theater which is now the CYO building. The building is now only used for day care, summer camps, and sporting events. Far from the community center it used to be, it is an important figure in the community and I wanted to keep my focus on the idea of redesigning that building with minimal changes to the exterior structure. After much deliberation it seems that the program space itself was a little too small and some main programmatic elements did not fit/ or were not necessary. For example, the basketball court took up almost a quarter of the programmatic space and the rehabilitation patients, although have a need for some sort of fitness facility, do not need a professional size basketball court.

Upon entering the building you walk through an existing structure wall into a courtyard next to the parking lot. This was meant to give some green space to the very urban site. Upon entering the building on the first level is a gym, lobby space, doctors' offices, medical facilities, and activity rooms. The majority of these spaces used the existing program spaces. On the second floor contained the patients rooms and therapy spaces. The second floor also offered a outdoor patio space that would allow the patients to look down onto the framed in green space/ garden.



Sketch showing voids and how air can flow through the building on South Broad Street.

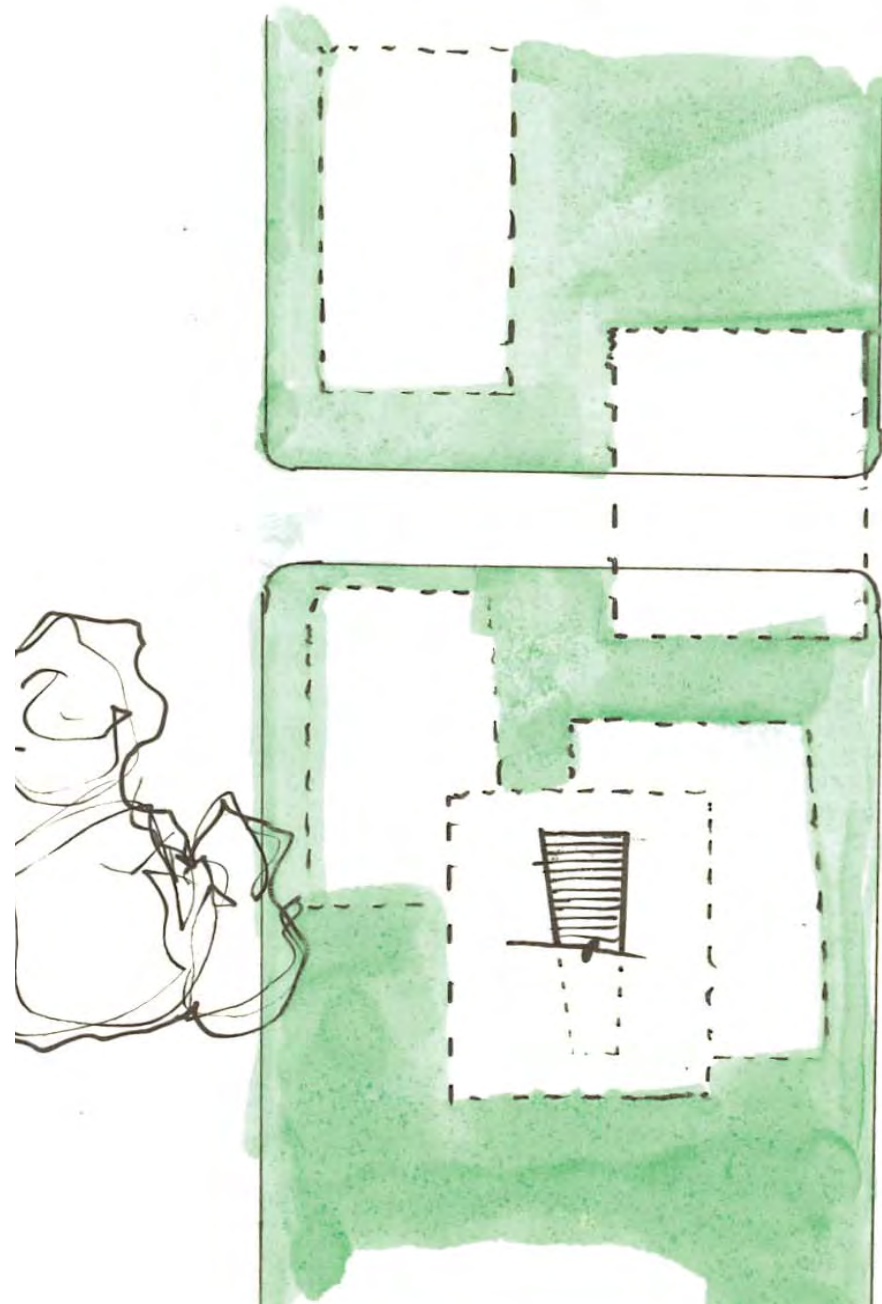


Sketch showing in section sunlight and air flow into the building on South Broad Street

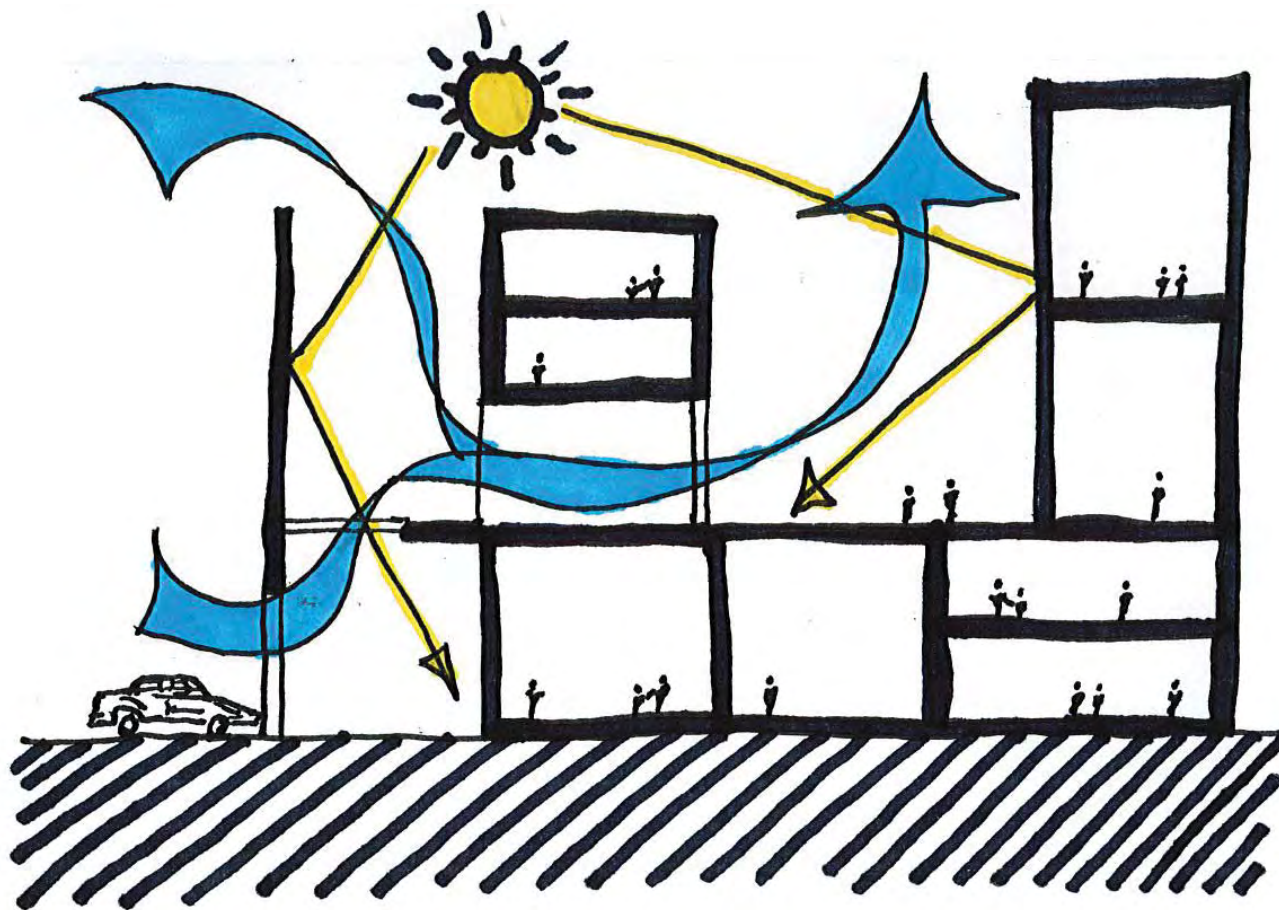


With a centrally located public activity space, and minimal changes to structure I enjoyed this layout very much, however, it just did not seem to provide the open spaces I was looking for and the amount of green space I needed for the gardens I wanted to provide for the patients. At this point the exploration of a third building was becoming a thought but I decided to redesign before making the move to expand. This led me to my second design which instead of expanding into two buildings, I demolished the CYO center to rework the programmatic spaces to the size of my choice. This would allow me to have more design freedom and start to drastically improve the aesthetics of the building and the overall characteristics that I wanted to incorporate to help the patients.

My second variation of this design, just like my first, mainly focused on a single rehabilitation center but consisted of a central courtyard with program circling around it. This design would allow for the patients of the rehabilitation center an outdoor space to relax and collect their thoughts without having to actually leave the building or premises. With this design the square shape also offered various balconies off of different rooms on different levels of the building. With these balconies and outdoor spaces on various sides of the program, which would allow each room to use mainly natural sun light.



Sketch showing in plan the ground below the hovering buildings on the South Broad Street site



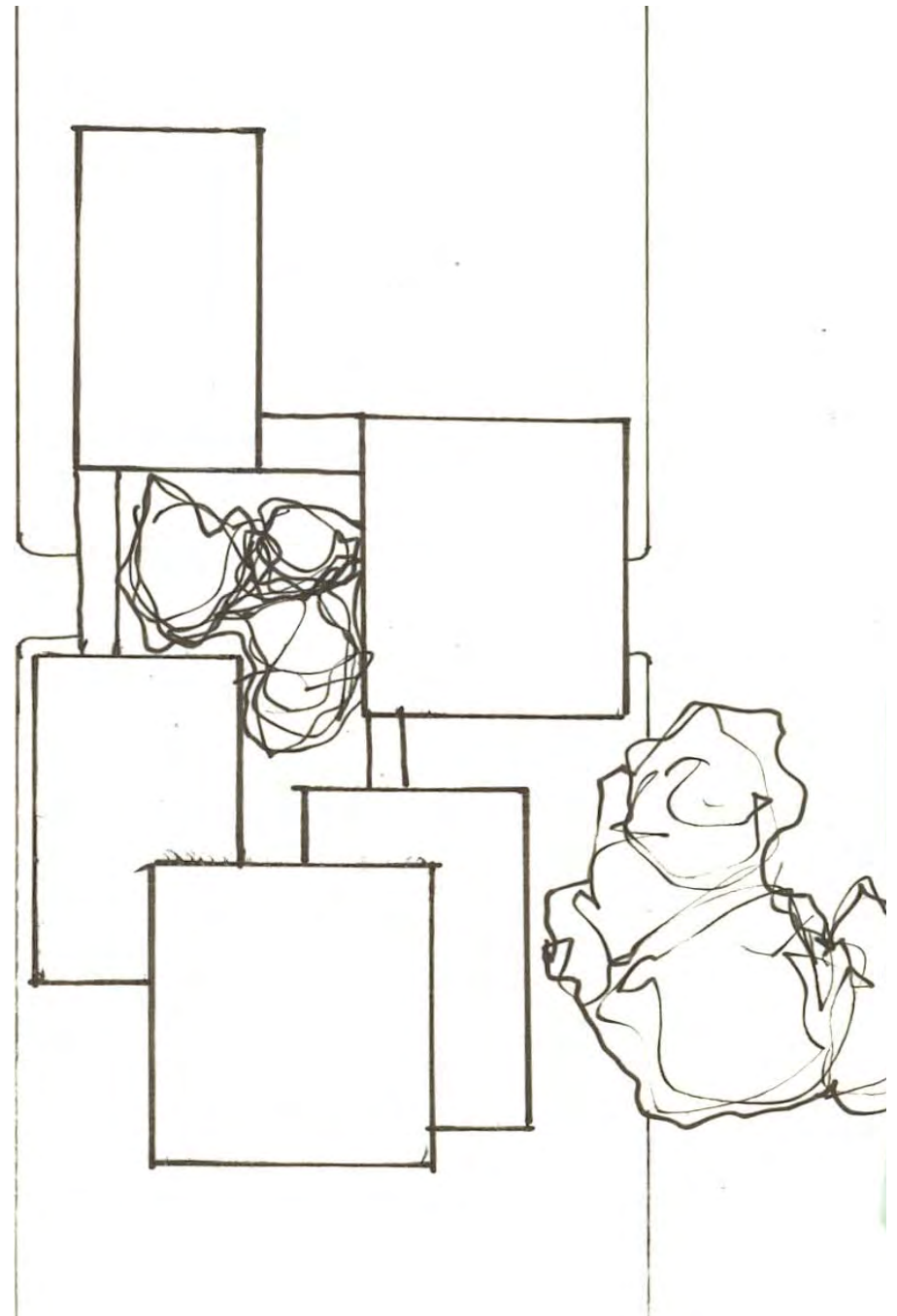
Sketch showing in section sunlight and air flow into the building on South Broad Street

In theory this design idea was a great idea and had a lot to offer, but there were a few flaws that in the long run made it unfeasible. For example, with the amount of program my design called for, and having a open courtyard in the center of my design, it was simply impossible to make all the program fit. Each time I found a way to make it work the hallways were to narrow, or there was no clear path for circulation. This design also called for outdoor park space and small community center in the front portion of the building close to the parking lot which would give back to the community. But with each sketch and design I came up with, the space still seemed to confined and I didn't feel that it would be big enough to generate any interest in community interaction.

## Second Concepts & Ideas

As I kept designing it became apparent that I needed to expand the spaces from only using the old CYO space, and to expand the building to provide better spaces for the rehabilitation center. After much thought it was realized that the original building just took up too much of the plot of land. When thinking about what should be included in the design, it was desired that public park space be given back to the community. That being said, I started to think of more radical ideas to incorporate all the therapy spaces I wanted as well as all the park spaces I wanted.

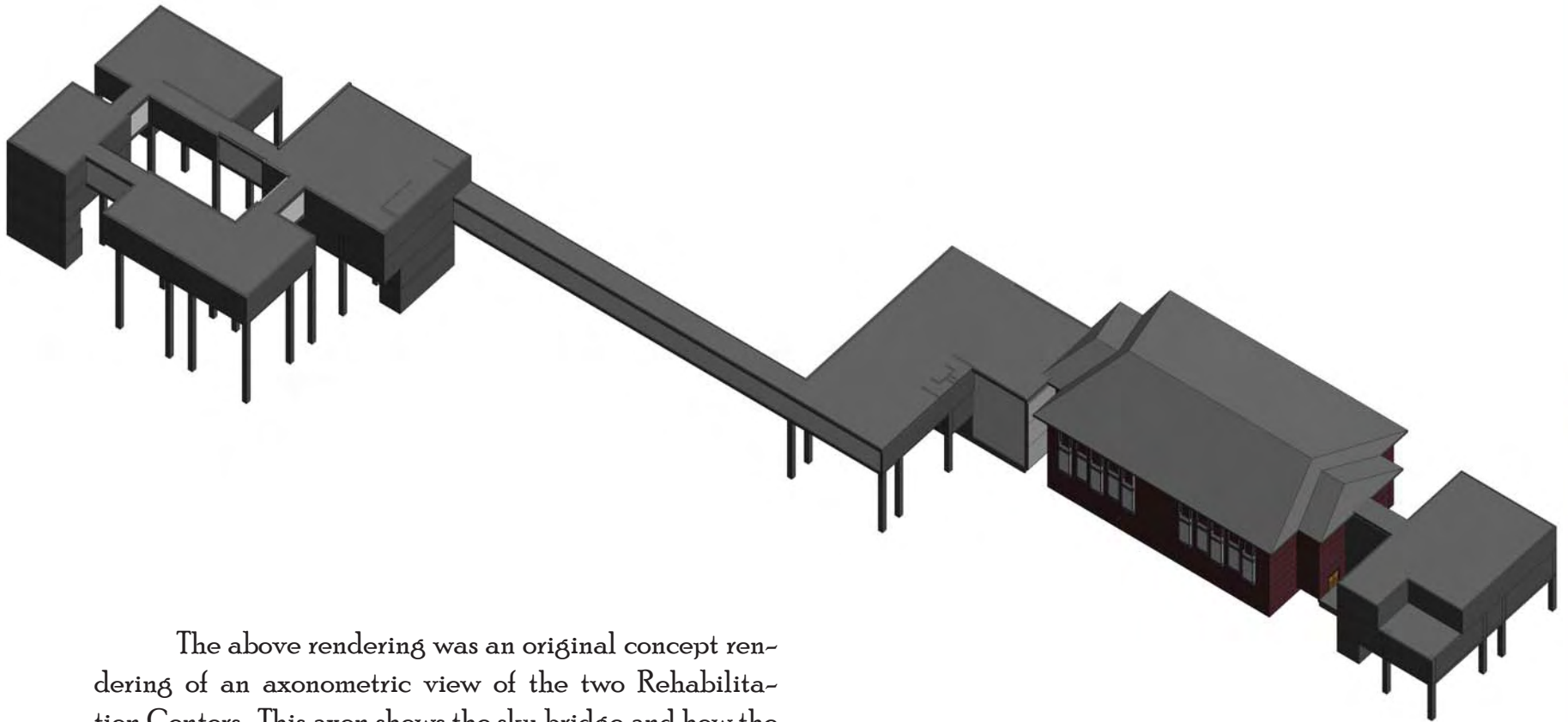
In order to incorporate both of these aspects into such a small space of land in a very urban environment the design called for the spaces to be lifted four stories above ground. Each building would house only one single activity for therapy and be connected by sky bridges. In this design originally it was thought that from two of the activity therapy spaces would be core stairs for circulation with an elevator as well that would lead down to the park spaces below. This design was reminiscent of tree houses and spaces that seemed to occupy the sky in a canopy of branches. But just like trees and the forest, in doing some light studies it was discovered that the spaces below, although 40 feet up, were still too dark through out the day to provide light to the underneath spaces. Without light no plants could grow and without plants or some sort of garden landscape that space below would remain inoculable and undesirable.



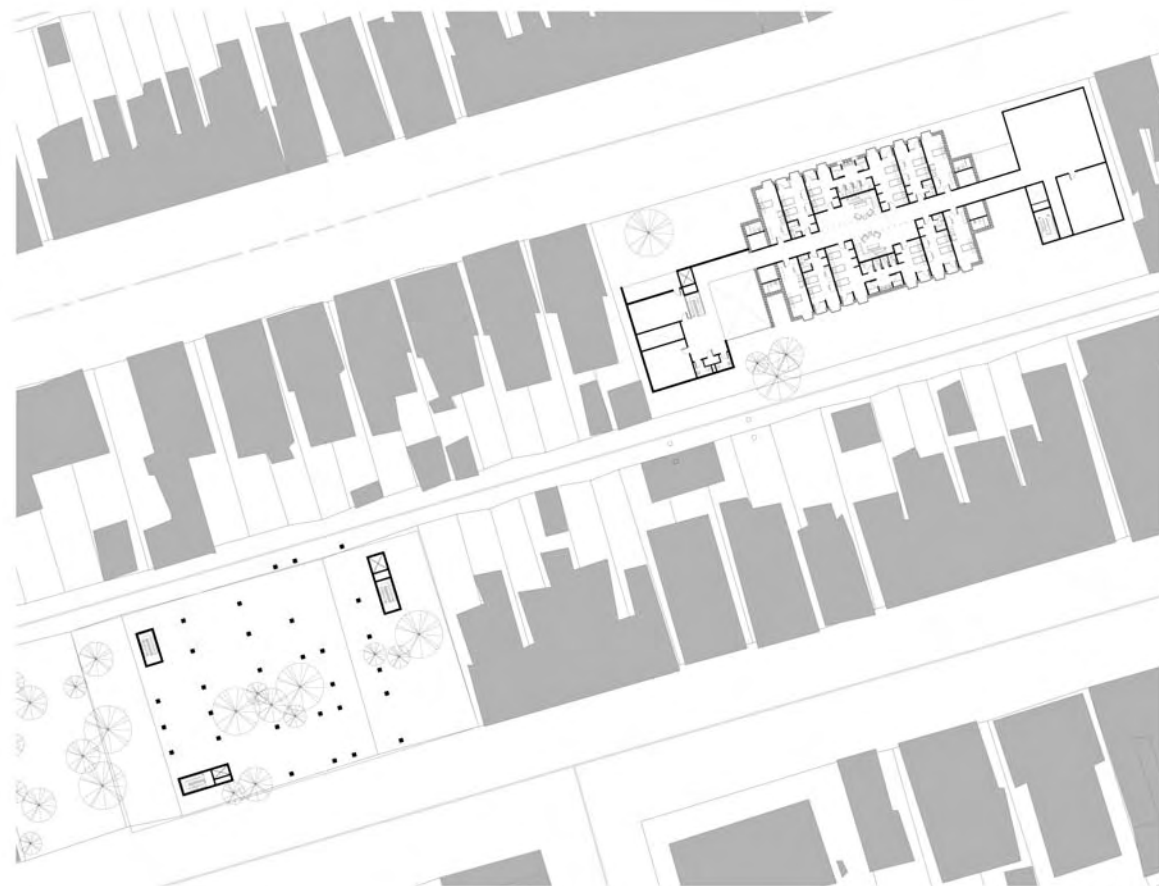
Sketch showing in plan the hovering buildings above the South Broad Street Site



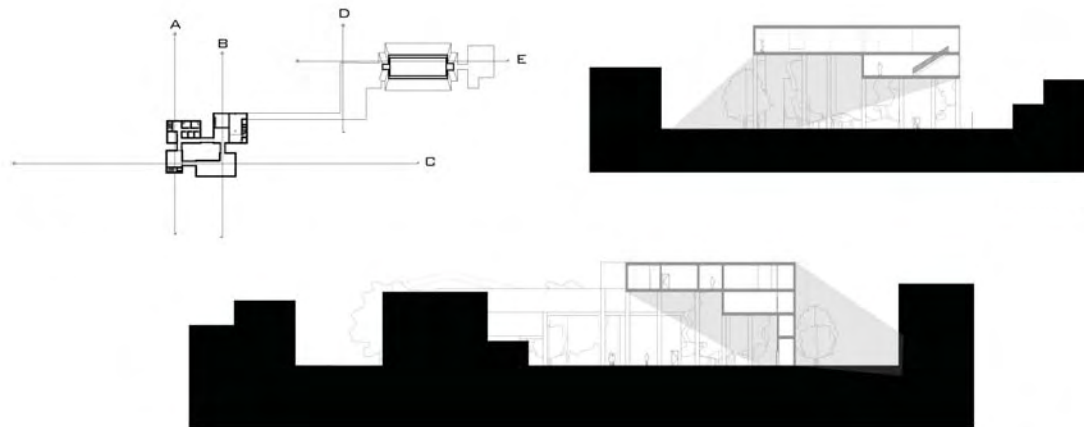
Sketch showing in section the hovering buildings and ground below them



The above rendering was an original concept rendering of an axonometric view of the two Rehabilitation Centers. This axon shows the sky bridge and how the buildings connect to each other. This rendering also shows how the Rehabilitation center on South Broad Street is elevated forty feet above ground, as well as some of the rehabilitation center elements on Genesee Street.



To solve this problem the design had to undergo two important changes. These two changes included the dorm rooms and cafeteria space being moved, as well as the central core of the building shifting over to the right side of South Broadway Street Site. Completing both of these design issues allowed for the programmatic spaces above the community park to spread farther apart. By spreading farther apart more light was allowed down into the community space, however, there still was not enough light being allowed into the space. Further light studies were taken but the amount of light simply wasn't enough. Continuing on in the design it was decided that instead of keeping the activity spaces hovering above the ground with the core to the side of the site, that the core would become larger. This would allow for all the activity spaces to be places on the right side of the site and would create a large park space in the middle of the site. But this did not solve the dorm problem.

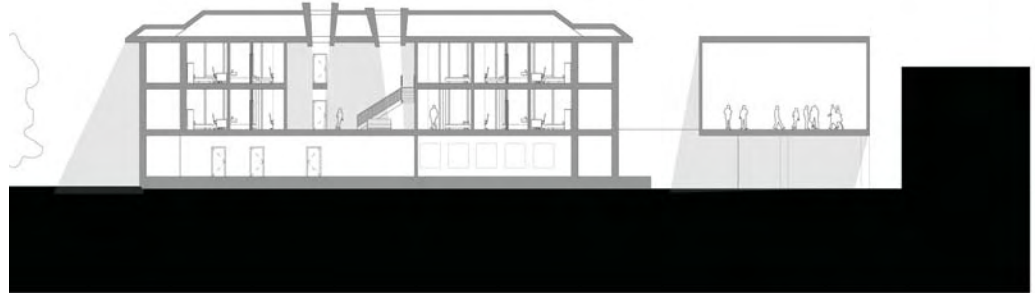
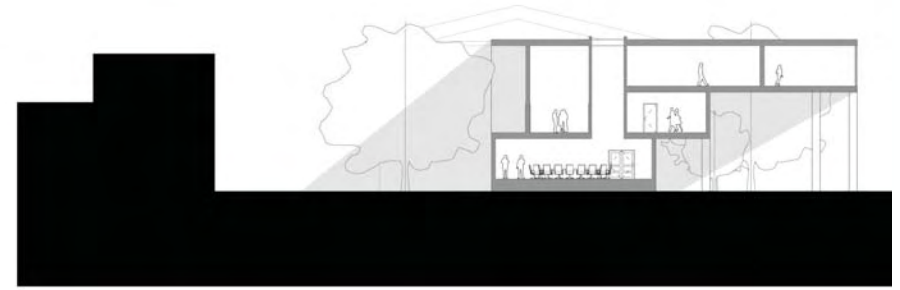


First floor plan and sections through the Rehabilitation Center



This is where the idea of a two building facility came from. Although it was not yet fully decided it came to realization that the dorm building should be separate from the activity therapy building. The design called for the dorm portion to be placed on Genesee Street about a hundred feet from the South Broadway site. This site would contain living quarters for the patients, a cafeteria, a kitchen, inpatient and outpatient therapy spaces, reception spaces, gardens, a full ER with medical facilities and doctors, and a few offices.

With this program being located in the building on Genesee Street that leaves the activity therapy spaces to occupy the South Broad Street Site. By separating my design this creates a live/learn working environment. They can remain in one building to sleep, eat, and to take care of there traditional rehabilitation therapy such as addicts meetings. But for a new type of therapy via different activities such as art, music, and fitness, they can travel to the second site. By separating the two sites and programs it allows for the patients to not feel confined to one space for so long.



Sections through the Rehabilitation Center

## Final Design



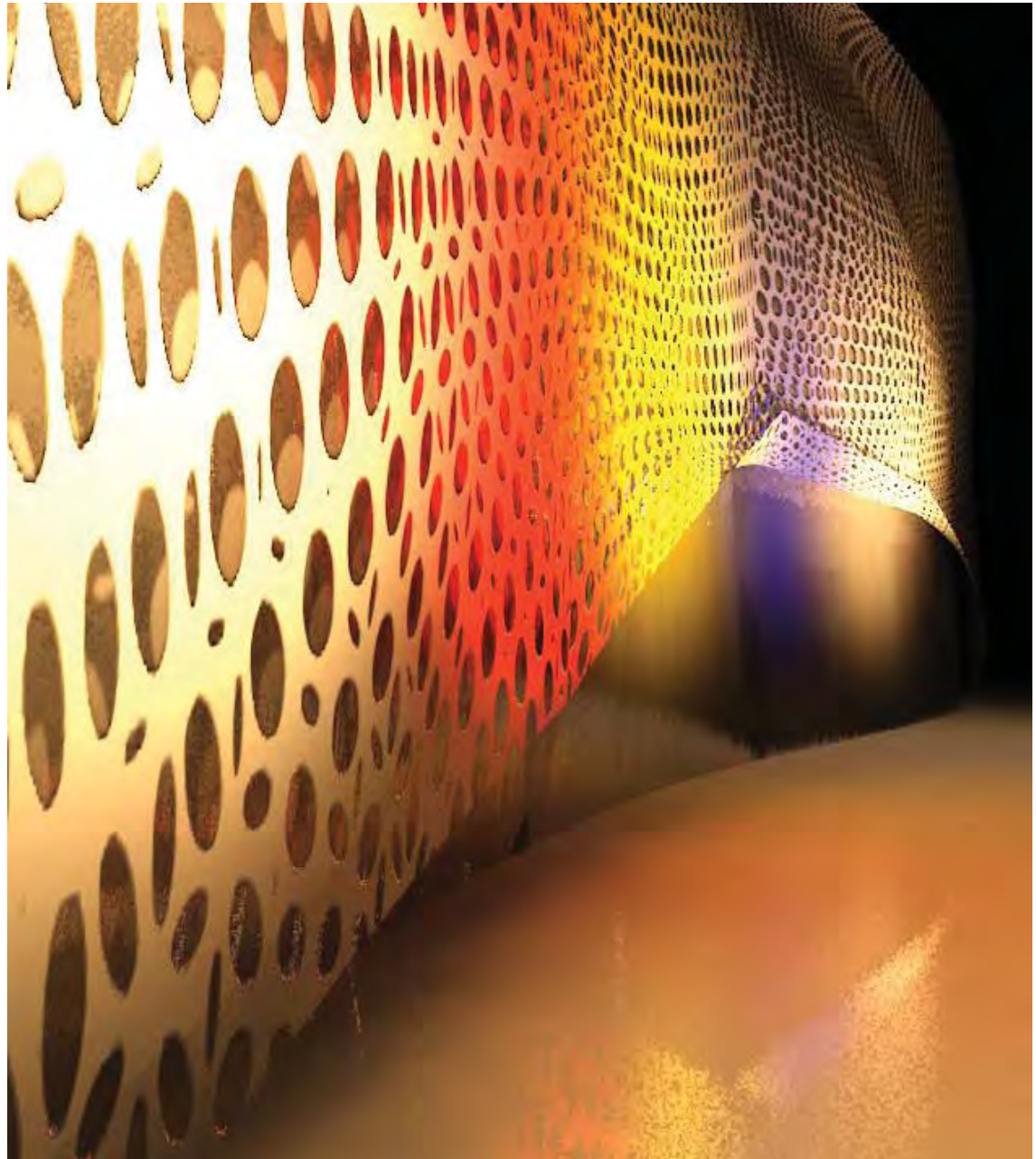
The rendered image to the left is an early rendering of the double glazing system. It starts to show the white mesh and how it would peel back at the entrances of the building. The rendering also shows what the building would look like during the day with very little color and only showing a white hue. However once at night the facade completely changes appearances.

After doing some research and coming across these aspects of current rehabilitation centers, it left me with much to think about for the design of a future rehabilitation center in Trenton, New Jersey. A final idea that I wanted to incorporate into my design was the aspect of a rehabilitation center with two buildings, both with separate functions. The first building was to act as a space where the patient would be received, evaluated, eat, and sleep. The second would be a space where the patient would be able to do their therapy and start the process of healing. It is important to me to keep these two entities completely separate. By separating these elements of program it will allow the patients to develop this mind set of not always being trapped in one space. Allowing them to travel from one building to another will help them to get out of the same routine everyday of simple traveling from room to room in the same box.



The idea of expanding the rehabilitation center to two buildings rather than the traditional one building center will provide the mind-set that the patient is not trapped into one location. By staying in one building all the time most patients start to develop this mentality that they are in more of a prison than a rehab center, and that they are being held there as a punishment instead of there to help them change. So by introducing the element of a second building, it lets the patient start to feel more comfortable with the rehabilitation and not feel so constricted and uncomfortable for the duration of their stay.

The buildings themselves acting as two different entities, although in theory is a great idea, the thought needs to be dissected and developed a little further. Two buildings with completely separate and different programs should provide completely separate feelings. Each building should evoke different emotions and cause a person to act and react differently when functioning in one as opposed to the other. In my research I have discovered that there are two main aspects of a building's program that can influence how a person acts or how they may think.



The above rendered image is an early facade design analysis with how color could play a role in one of the mesh at night. By having the mesh be white during the day, and light up each room a different color at night it allows for the building itself to convey a different feeling to the viewer on both the in and outside.



Rendering of the Rehabilitation Center on the Genesee Street Side.

The first of the two aspects that can play a role in a person's actions and feelings is the color of the space or room in a building. Different colors can evoke different emotions from a person depending on the color of the room and the activities that occur in it. The same can effect a color has on a person can also be said for different wall materials of a room. The second aspect that can play a role in a person's actions and feelings is the shape of a room. The shape of a room can affect people in many different ways. By simply changing the shape of a room from a square to a circle can completely change the feeling that room conveys even if the activities in said room don't change.

The first of the two buildings is located on the site of the old Harrison Elementary School on Genesee Street. This building is what I would consider the more traditional portion of the rehabilitation facility. The patient would enter the building on the first floor through either the ER or the lobby space depending on their state when they are admitted. In the ER there are five beds and a nurse's station. As you continue down the hall there are file storage rooms, doctor and administration offices, and a conference. These spaces are separated by bathrooms and laundry space that run down the middle.

As the inhabitant continues through the building you enter the lobby space. If a patient was coming for a NA or AA meeting, or a family coming to visit a patient, they would enter here. If you were to enter the building at this point through the lobby, as you enter, there is a receptionist space on the right, with a doctor's office behind. As one would continue down the hall there are two outpatient group meeting rooms, one to the left, and one to the right. The room on the right is larger and has storage space for chairs and tables as well as a kitchenette portion for preparing snacks for each meeting. The group therapy room on the left offers a unique feature. This group therapy space features a glass nana wall. This feature allows for the room to open up to a garden during a therapy session. The wall can open up all the way, allowing for the patients to not feel confined to a small space during therapy, and the garden allows for each patient to be calm and relaxed while undergoing his or her therapy.



First Floor Plan of the Rehabilitation Center on the Genesee Street Side.

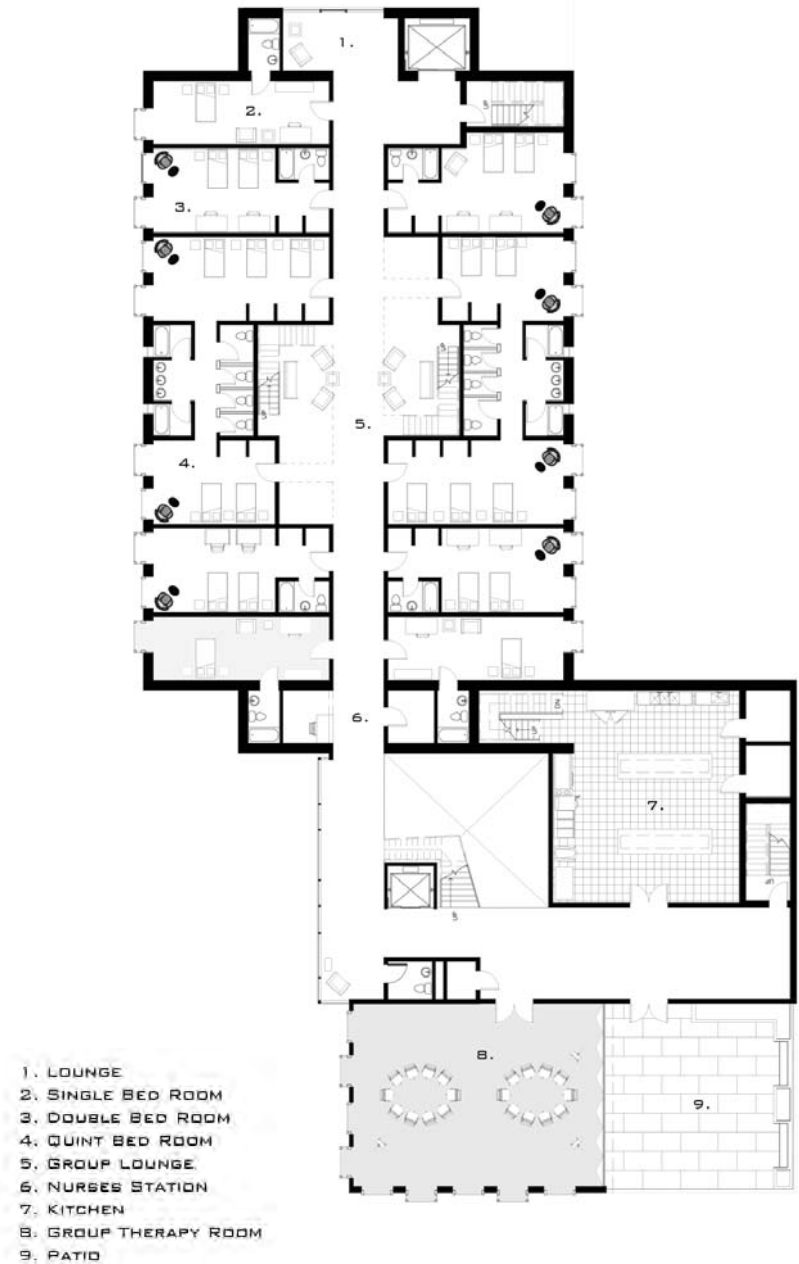


Rendering of the garden space in the Rehabilitation Center on the Genesee Street Side.

The stairs to the next floor are located in the central atrium that spiral around the elevator shaft. This atrium spaces goes from ground floor all the way up to the roof. Once on the second floor the patient can go right to get to the dorm portion of the program or left to experience the more public portion of the program. In the central portion of the design contains the kitchen, and a group therapy room that is twice the size of the therapy room on the first floor. However, although larger than the group therapy room on the first floor, this larger therapy room provides one of the same features. That feature is the all glass nana wall. Instead of opening up to a garden, this group therapy room opens up to a patio space with benches and plants. Like previously stated, by opening up these garden spaces, it allows for the patients in therapy to flow freely from indoors to outdoors and remain relaxed and experience nature.

As you move towards the other side of floor two you will find all the patient dorms. Each floor provides 11 rooms and sleeps 22 people. In the middle of each dorm level is a double height lounge space for the patients to spend some time with each other. Also at the end of the hall on both dorm levels is a smaller lounge that provides a little more privacy for the patient. In my research I came across a lot of information providing evidence of patient's room being set up as follows; when being admitted to a rehabilitation center the patients are placed in larger rooms with roommates and as they progress they earn a space to themselves with no roommates. In my design I called for the exact opposite. There are a few reasons for this. The first and most important reason I felt patients should start by themselves, and earn group privileges, is because when trying to cope with or drop an addiction peer pressure can be one of the most difficult things to overcome.

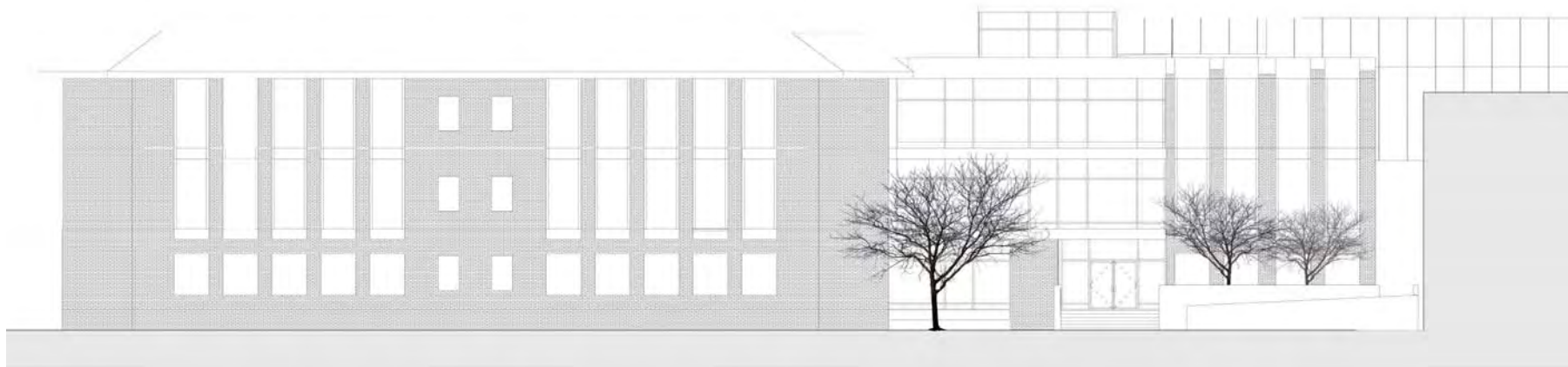
I believe it would be more beneficial for a strung out patient to have time to themselves to reflect and start the healing process, rather than be placed in a room with other recovering addicts who may try to band together and relapse. As the patient progresses through the ninety day program he or she will earn the right to move along and gain roommates and larger rooms. When the patient first comes in they are placed in a single room with their own bathroom, desk, and sitting area. Then as the patient show progress they move to a larger room with another roommate, a bathroom, desk, and sitting area. Lastly as they progress a third time, they move into a room that houses five people; three on one side, and two on the other, separated by a bathroom space in between, a desk, and two sitting areas. A larger room allows for more interaction with other people and more responsibility. Therefore, it is a privilege and not a right, to live with others.



Second Floor Plan of the Rehabilitation Center on the Genesee Street Side.



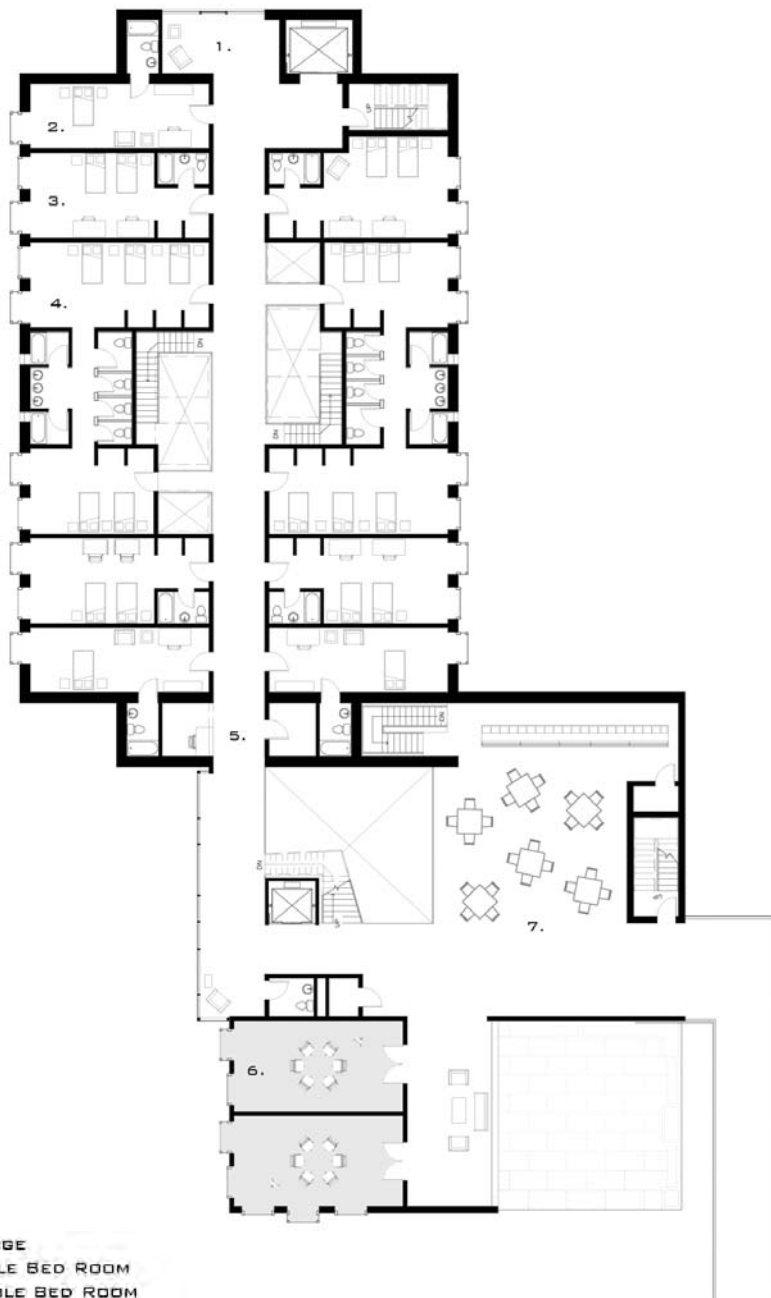
The above is a rendered image of what a typical two person dorm room would look like for the patients. in the rehabilitation center.



Genesee Street Elevation of The Drug Rehabilitation Center



This is a section taken through the dorm spaces showing dorms on the second and third floor, staff dorms on the first floor along with a conference room, and the outdoor courtyard leading off of the outpatient therapy spaces.



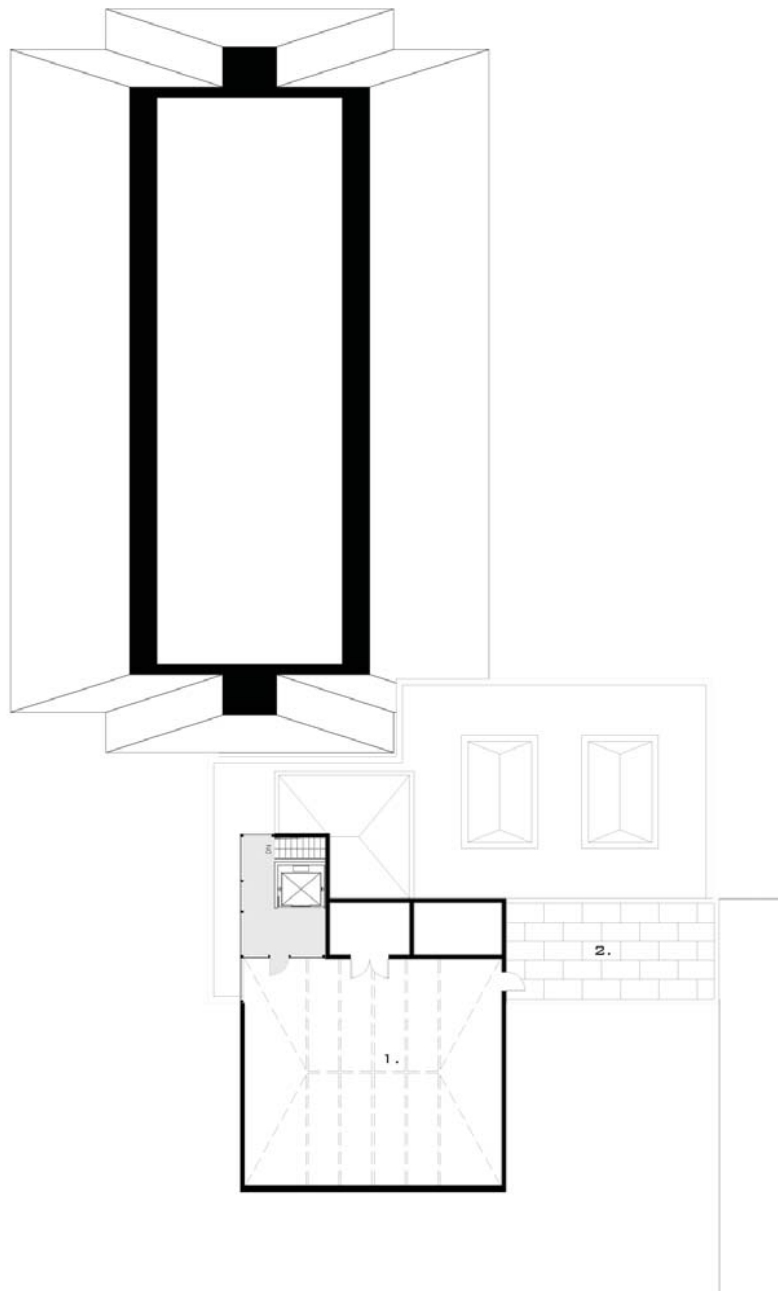
- 1. LOUNGE
- 2. SINGLE BED ROOM
- 3. DOUBLE BED ROOM
- 4. QUINT BED ROOM
- 5. NURSES STATION
- 6. SMALL GROUP THERAPY ROOMS
- 7. CAFETERIA

Third Floor Plan of the Rehabilitation Center on the Genesee Street Side.

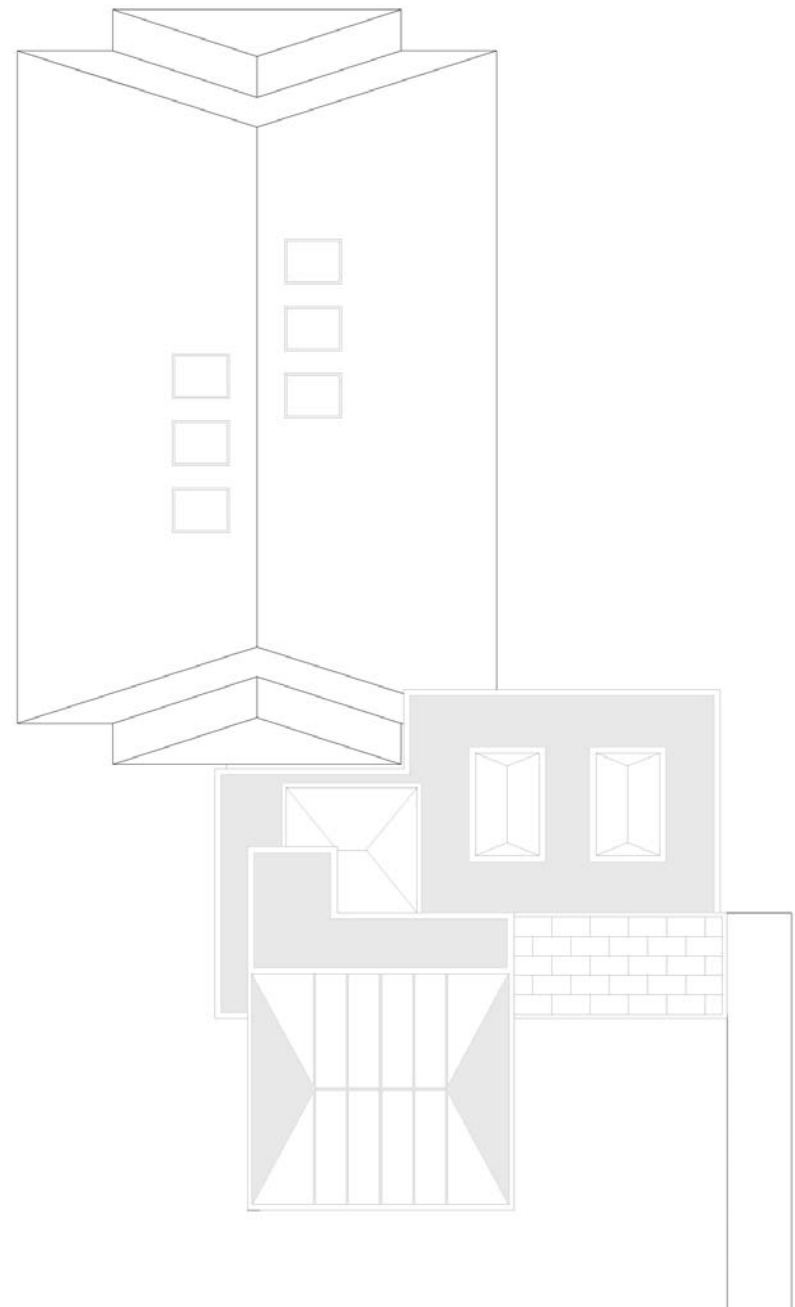
As the inhabitant moves up to the third floor they are met with a grand view back down into the atrium lobby space. To the left there is the dining space, where the patients can come and eat their meals as they please. Across from the dining space are two small group therapy rooms with a small seating area outside that looks over the large patio space that the large therapy room opens too on the floor below. As you walk to the other side of the atrium space there are another set of 11 rooms identical to the floor below. However on this floor there is only a small lounge at the end of the hall and no central lounges due to the ones below being double height. But, there are stairs located above the lounge space that will take you down into them instead of having to walk all the way back to the atrium space. All the patients' rooms are painted blue which represents trust, confidence, faith, and intelligence. These are all emotions I wanted to convey to the patient in the design of their personal space and where they rest.

In such a private space is where the patient will reflect on their progress, thoughts, and goals so it is important that they feel comfortable with themselves and their roommates. The patient needs to stay positive in who they are, what they have overcome, what their goals are, and where they are going. As you move up the stairs one more time to the final floor you will find a green house with a small patio off the back. This green house will serve to the purpose of therapeutic gardening. It will allow patients to come up to the green house and relax and use the gardening as a way to vent and relieve there stress and concerns. As the patient heads down to the third floor and walk back to where the dining occurs, they will notice a sky bridge. This sky bridge spans over a hundred feet and leads from the residence and therapeutic portion of the rehabilitation center, over to the rehabilitation activity portion of the center.





Fourth Floor Plan of the Rehabilitation Center on the Genesee Street Side.



Roof Plan of the Rehabilitation Center on the Genesee Street Side.



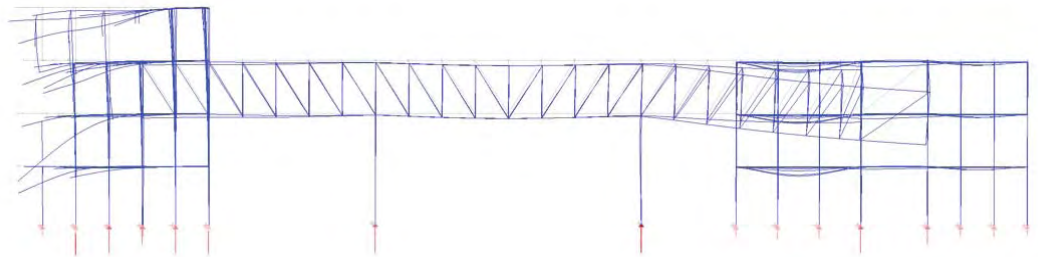
Model line render showing the structure and the entrance to the sky bridge from the Rehabilitation Center on Genesee Street.

My design for a rehabilitation center is located, as previously stated, in Trenton, New Jersey. The two buildings are located on Genesee Street and South Broadway separated by an alleyway that leaves them around 200 feet apart. Given the surrounding area, the demographic of people that live there, and the overwhelming amount of addicts and gangs that all call this neighborhood home, I knew from the beginning of my design that walking from building to building would not be an option.

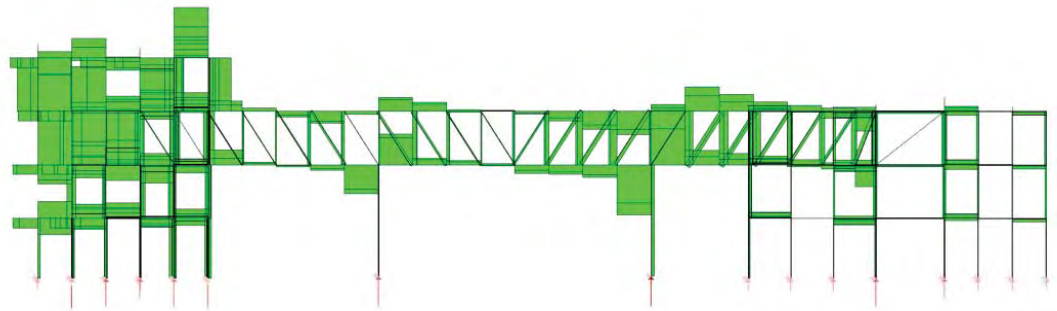
Although this area is overridden with crime, drug problems, and poverty it has been getting better in previous years and safety isn't necessarily the issue here. My biggest concern here is the aspect of temptation. I fear that if a patient needs to walk from one building to the other for therapy, or to get a meal, he/ or she may be tempted to use again, or even to leave the facility and never come back. Most patients come into these facilities so addicted to a drug that they would do anything to get their hands on more of that substance.

After much debate and design scrutiny I came to a solution that helped solve the issue of going outside to travel from one building to another. My design calls for a sky bridge from the back of the building on Genesee Street that connects to the side of the building on South Broadway. The sky bridge will be located on the third floor and allow patients to go from the main building to the therapeutic activity building. The sky bridge will act as a transitional space and allow for patients to travel from one building to the other as they please without the temptation of drugs or interactions with individuals on the outside that may be a bad influence over them.

The bridge will not only provide them with a safe way to get from one building to the other without having any temptation, but will also keep the patients from having any inclination from leaving the program while outside and not coming back. The sky bridge spans over a hundred feet long from the Genesee Street site to the South Broad Street site. In this transition space the Genesee Street Center will start to take the Façade of the Broad Street Center with a mesh exterior and trusses on the inside to support it structurally. Even disregarding the mental aspect of leaving if a patient was to walk outside from building to building, in the winter when the elements are harsh it will allow the patients to get to their therapy sessions with ease.



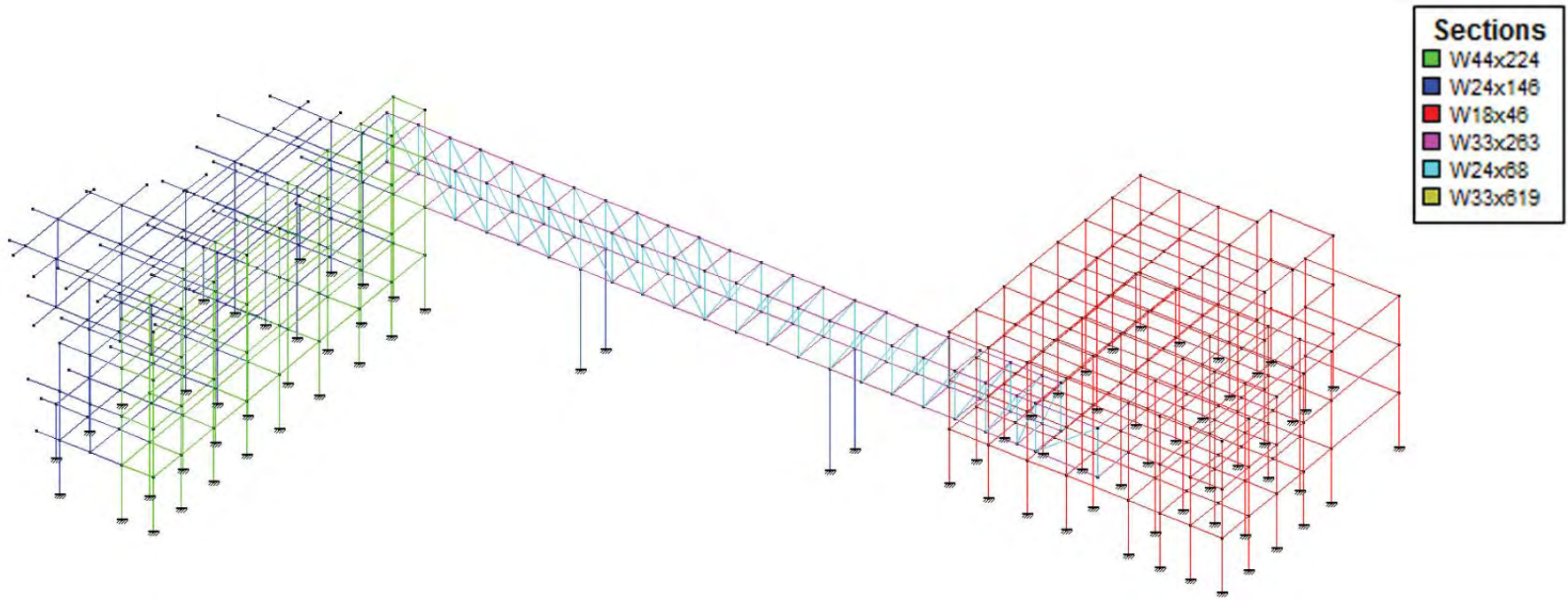
Deflection Diagram: Max Deflection on span = .3 in  
Max Deflection on bridge = .28 in



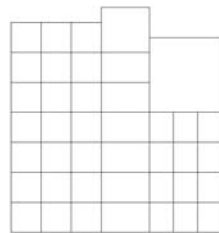
Shear Diagram: Max Shear = .322 Kips



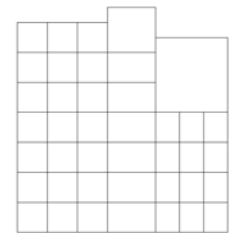
Moment Diagram:  $M_{Max} = 12.8 \text{ kip/ft}$



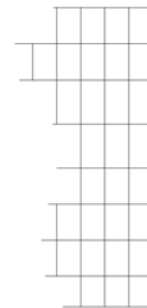
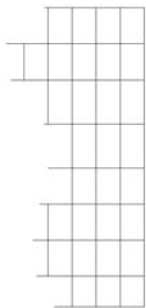
Structural Axon showing each member



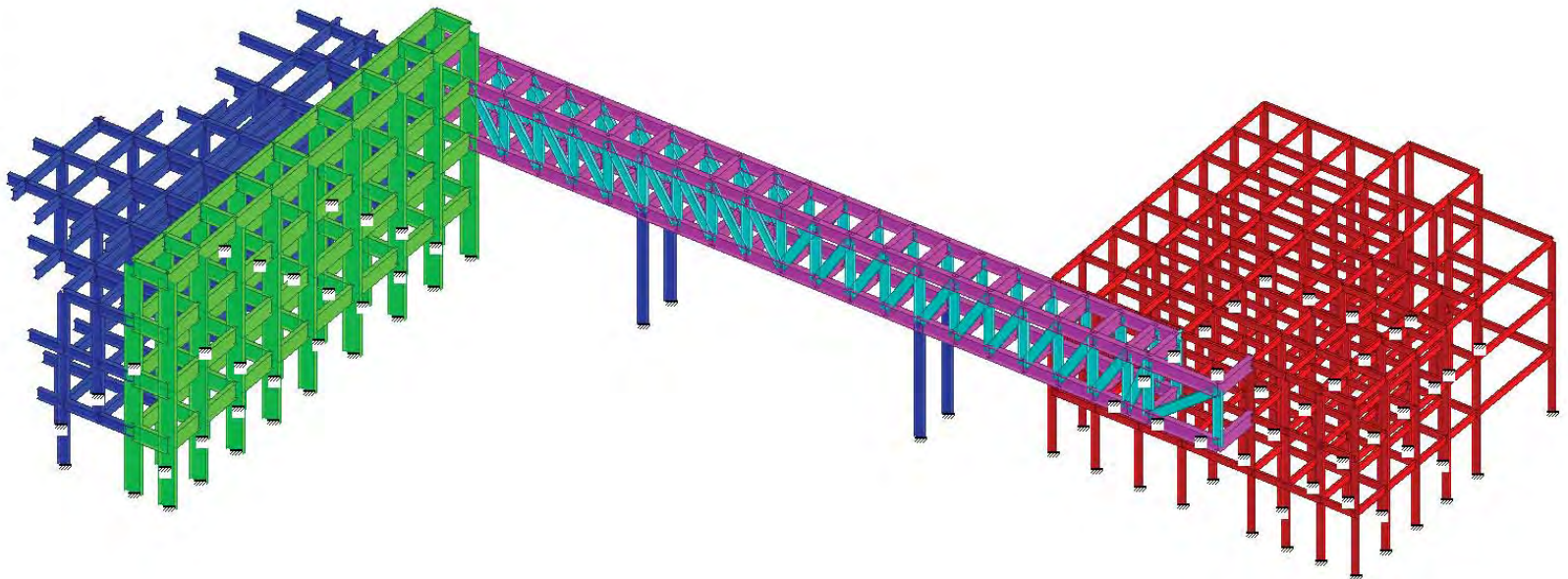
First floor structural framing plan.



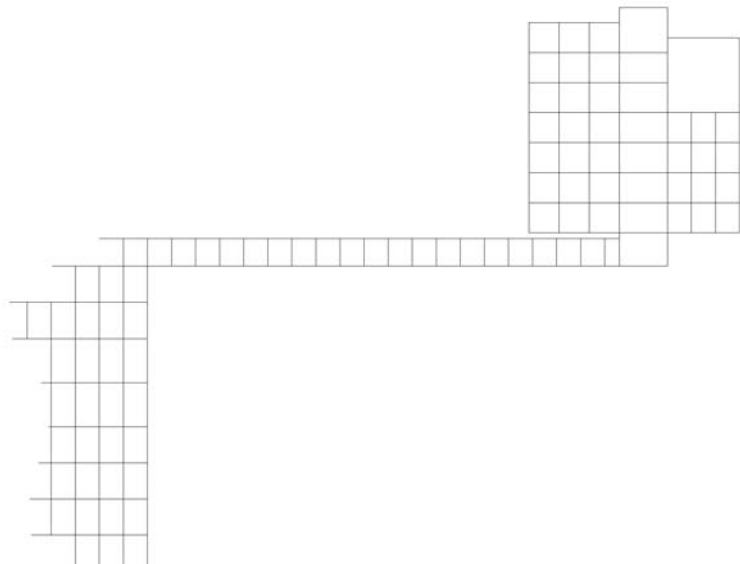
Third floor structural framing plan.



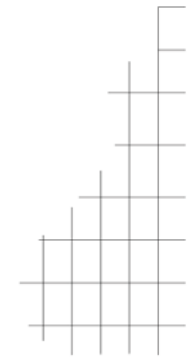
- Sections**
- W44x224
  - W24x146
  - W18x46
  - W33x263
  - W24x88
  - W33x819



Structural Axon showing each member in 3-D



Third floor structural framing plan.



Fourth floor structural framing plan.



The first floor plan in site showing the community space and outdoor space of the Rehabilitation on South Broad Street.



Section through the activity therapy spaces in the Rehabilitation Center on South Broad Street.

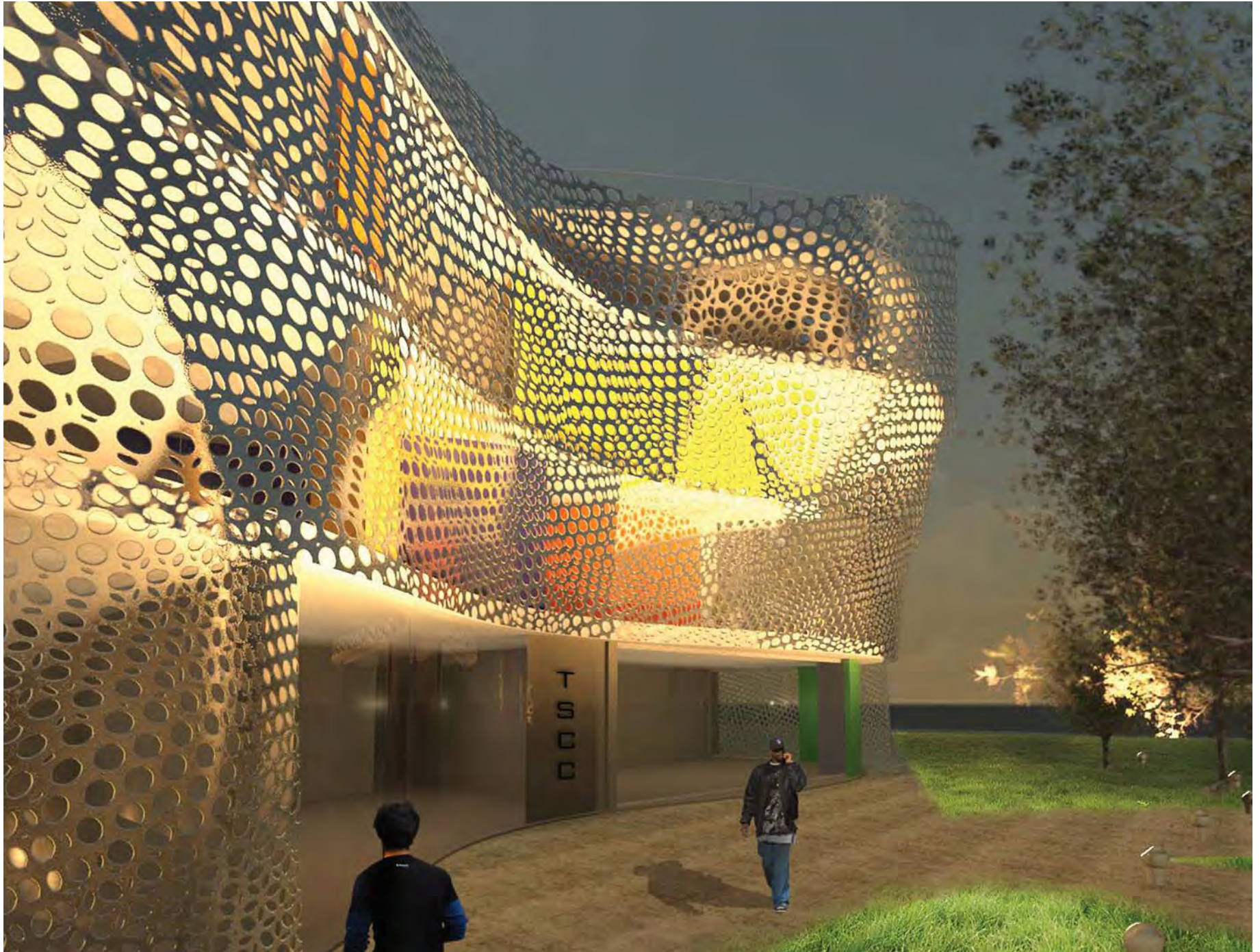
The second portion of the rehabilitation center, located on South Broad Street, offers a unique feature that will not only benefit the patients towards the end of their treatment, but also give back to the community and will be the home to the therapeutic activity spaces. The building's footprint that used to occupy this building offered no green space. The new design for the Rehabilitation Center on South Broad (therapeutic activity spaces) will only take up a quarter of the space as the old building. The remainder space has been designed into a park that the community will be allowed to use. The park contains a unique design and combination of different paths and benches that match the abstract façade of the Rehabilitation center. Located on the far end of the park is a basketball court and storage area for recreation equipment such as basketballs, hockey nets, sticks, soccer balls etc. As you wonder through the paths back towards the other side of the site you will find the Rehabilitation Center.



The first floor plan of the showing the community space of the Rehabilitation on South Broad Street.

The façade of this portion of the rehabilitation contains a curtain wall system with a mesh façade on the outside of the curtain wall that acts as a sun screen. The curtain wall, being made out of glass allows for the interior wall colors to be shown at night when the building is all lit up. Upon entering on the first floor the inhabitant is greeted by a lobby with seating area and a receptionist. To the left of the lobby is a communal kitchen which can be used for parties and or people in the community. To the right is a community activity room with a television, two seating areas, and two large storage closets that can hold games, tables, and additional seating. In the community activity room the glass walls are part of a Nanawall system. By having a Nanawall system in this room, it allows for the walls to open up to the park area on nice days. This will for the exterior to be brought into the interior and provide a continuation of spaces. The community room is painted green which represents growth, harmony, and stability. The community room is represented in green because the people using this space should be working as one, getting along, and working to make the surrounding area a better place.

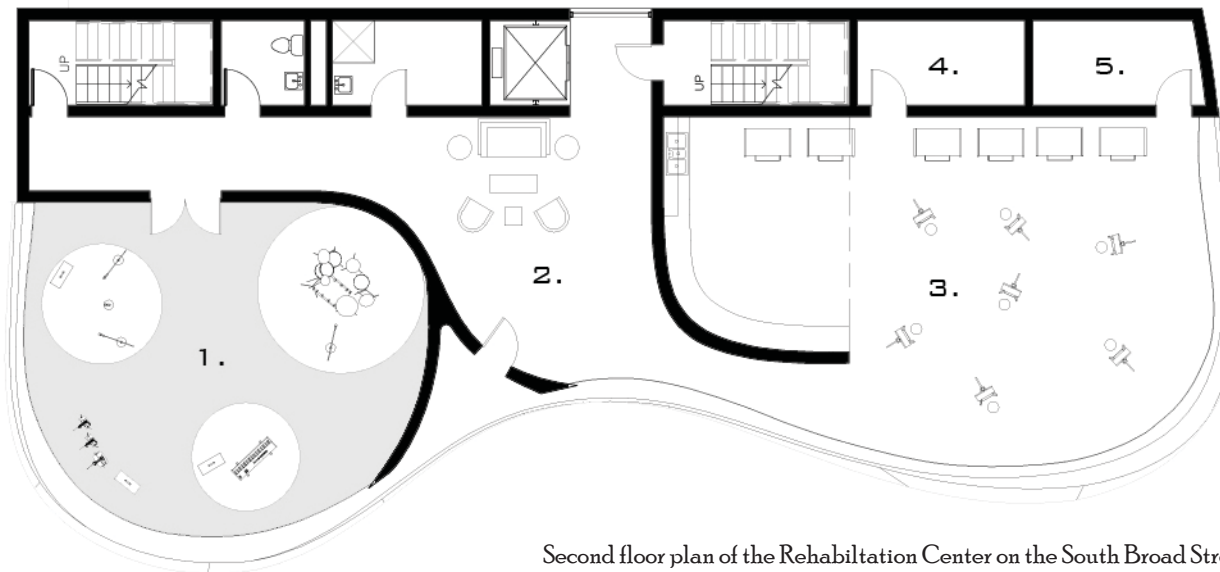




Rendered Perspective of the entrance and facade of the Rehabilitation Center on South Broad Street.



Rendered Perspective of the Art Therapy Room in the Rehabilitation Center on South Broad Street.



1. MUSIC THERAPY ROOM
2. LOUNGE
3. ART THERAPY ROOM
4. MECHANICAL/ STORAGE ROOM
5. STORAGE

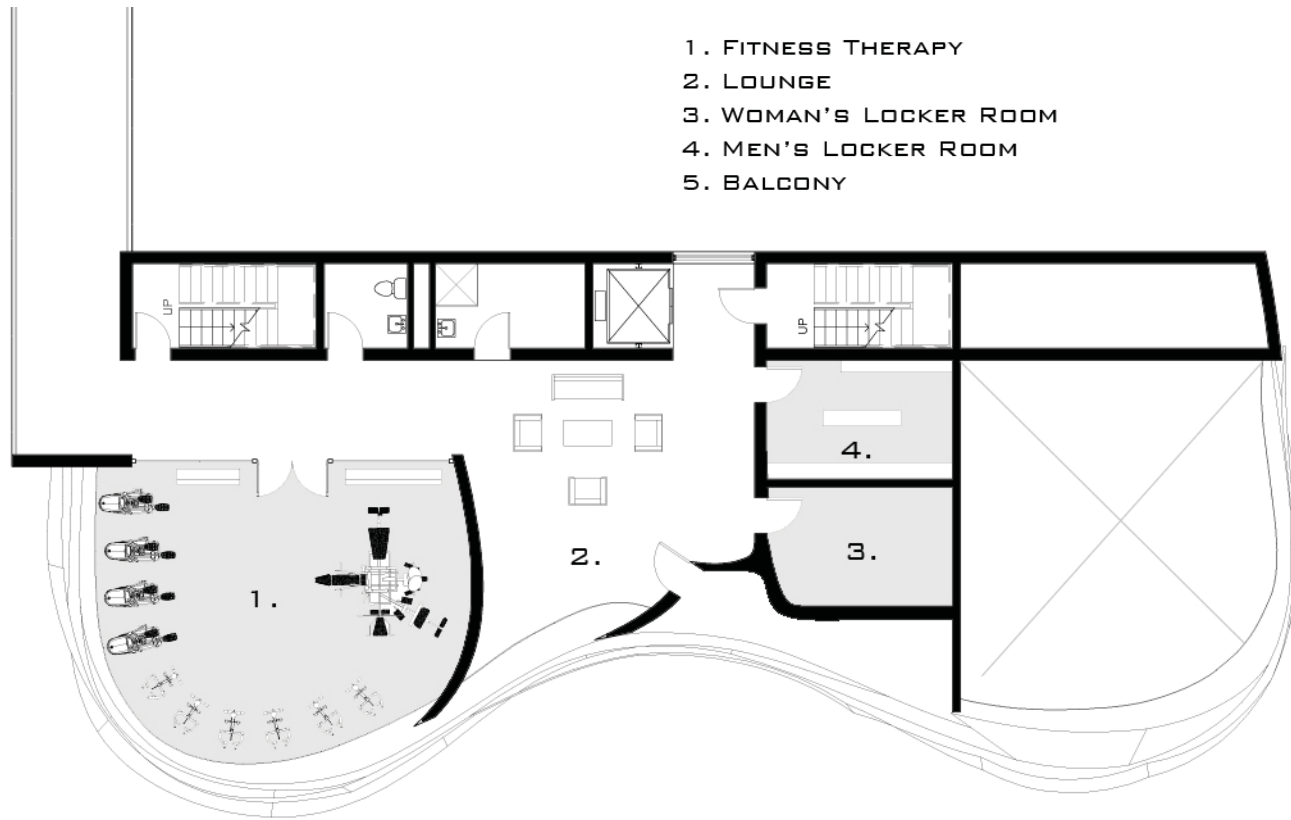
Second floor plan of the Rehabilitation Center on the South Broad Street

Back in the lobby the receptionist and security desk serve a very unique purpose. The patients at the rehabilitation center can only occupy the second through fourth floor. The only way for them to come down to the first floor and experience the park space is to earn it. Only patients who have successfully completed a certain portion of their rehabilitation will be allowed to experience the park and interact with the community and then come back inside and back up to the above portions of the rehabilitation center. This is another reason why this space is painted green because the patients who are allowed down to this space have shown stability, and progress, and signs of change. Once past the secretary and security there is a central core that runs along the entire back side of this building. The core provides two means of egress, an elevator, a bathroom on each floor, and a janitor's closet with storage.

Once on the second floor the patient is greeted by a lobby located centrally and a bathroom and janitor's closet. To the left of the lobby is the art therapy space. This space contains easels, drafting desks, a paint/ prep station, and two large storage spaces. The art therapy space is painted the color yellow. The color yellow represents happiness and intellect, and is said to impact mental activity. This color will help inspire the patients to explore their creativity and help them focus on art and design as a means of therapy. This art therapy room is also double height, which will allow for patients to not feel closed in. It will allow for the patients to be free to explore their creativity. Another unique feature of this space is the exposed concrete wall that is part of the core on the back side of the building. In Trenton, a popular form of art is graffiti. That being the case, I felt that the design should allow for patients to use the local popular medium as a means of therapy. On the outside of the center in the city it would be a punishable offense to graffiti a wall, but in the rehabilitation center it is encouraged as an artistic form of relieving stress and the temptation to use. This room allows for the patient to focus on creativity, and not addiction.

Going back down the hall and to the right of the lobby the patient will find the music therapy space. This space contains a variety of different instruments for the patients to learn and play. These instruments include drums, piano, guitar, and microphones for vocals. The music therapy space is a great tool for therapy. The patient can spend their time focusing on learning how to play an instrument or collaborate with other patients on other instruments. The music therapy space is padded for acoustics but certain portions of the wall would be painted orange. The color orange represents happiness, determination, and success. It represents the patients sticking to their goals and focusing hard to learn a new skill. By allowing the patient to come into the music room every day and be able to pick up a guitar or drum stick and practice, allows them to focus on something other than drugs, allows them to prioritize new skills that will help them get clean and sober. Back in the lobby on the front façade portion of the building, overlooking the park, is a balcony. The balcony, just like the rooms enclosed by glazing, is screened over with the mesh façade. This balcony space allows the patient to go outside for some fresh air or to smoke but keeps them from wandering off or away from the facility. The fact that the mesh façade encloses the balcony also allows for the patient to have some privacy from any of the community members in the park that he/ or she may not want to have contact with.

Once back inside, passing through the lobby, and proceeding to the third floor, the main connecting floor from the Genesee Street site and the South Broad Street site, you will find a space solely dedicated to personal fitness and betterment. When arriving on the third floor via the stairs there is a lobby space with seating, a bathroom, and a janitor's closet with storage. To the left of the lobby are a men's and woman's locker room. The locker room will provide a space for the men and woman to get changed in before they go into the gym for fitness therapy. Since the dorms are in the building located on Genesee Street I felt it was important that the patients have a space to leave their belongings in while working out. This would also allow them to change or clean themselves up before a meal or other therapy instead of taking the time to go all the way back to their dorms first. Once changed the patient walks back across the lobby next to the entrance to the sky bridge, it is here they will find the gym which is used for fitness therapy. This room contains a number of different exercise machines, including treadmills, stationary bikes, steppers, as well as a number of weight lifting stations and free weights. The fitness therapy room will be painted red. The color red represents strength, power, and determination. Fitness is a very important part of rehabilitation, and most patients are in terrible physical condition when entering rehab. That being said, physical fitness is a great form of therapy. It can be used to stimulate both the body and the mind, and these emotions that the color red can convey are great tools when striving to better oneself through physical fitness.



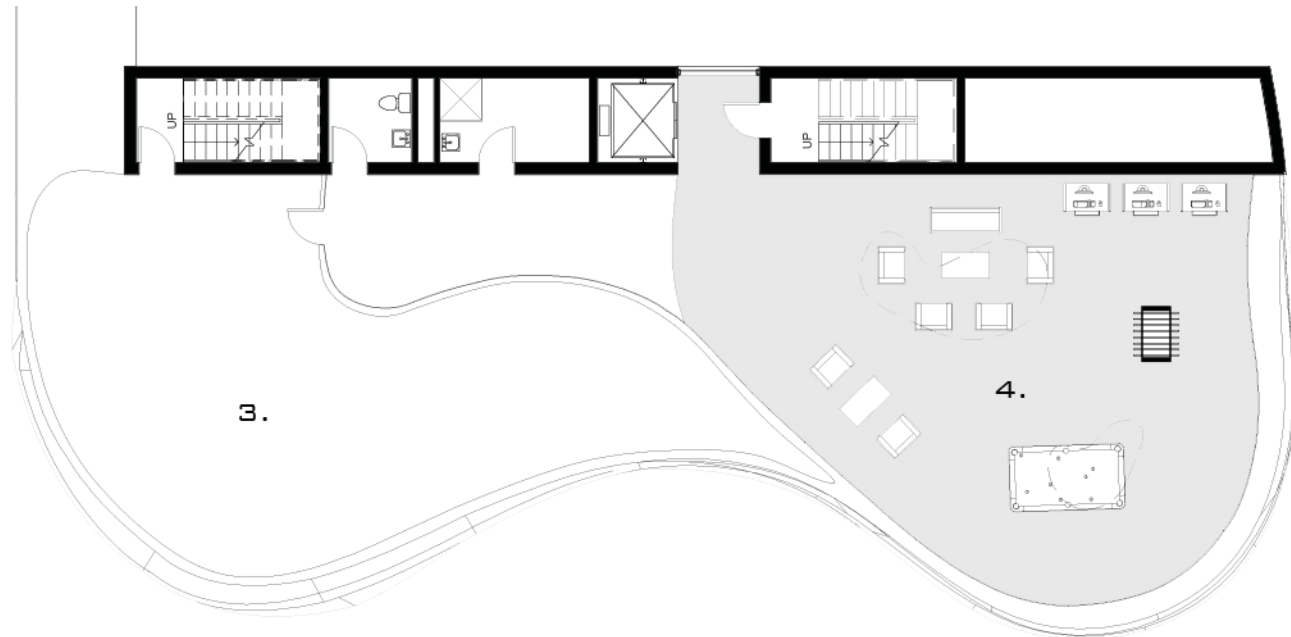
Fourth Floor Plan of the Rehabilitation Center on South Broad Street



Cross section through the activity spaces in the Rehabilitation Center on South Broad Street

1. GREEN HOUSE FOR GARDEN THERAPY
2. PATIO
3. ROOF GARDEN
4. GAME ROOM

To the right is the floor plan of the fourth floor of the Rehabilitation Center which sits on the South Broad.



Moving up to the fourth and final floor the patients will experience a large relaxation lounge. Located on this floor is a bathroom, janitor's closet, storage, a large lounge space with a TV, foosball table, pool table, and space for board games. This lounge space is located on the fourth floor of the rehabilitation center on South Broad Street. The room is painted blue which represents not only trust and loyalty, but also demonstrates a calming effect and can benefit the body and mind. In this space it is not only the color of the room that will offer peace and tranquility for the patients, but also the views. Being at that elevation it is one of the highest buildings in the surrounding area. With this room being so high it allows for complete 360 degree views. The site is set in a very urban setting with loud noises, fast cars, and a constant series of events happening all around you at all hours of the day. By having these unobstructed views it allows for the patients to get a sense of relaxation and become much less stress, as opposed to standing four stories below with things constantly happening all around you. As the patient steps outside the lounge they find them self on the first level of a two story room garden. Since only patients who are almost done treatment can leave and experience the community space outside, I felt it was important for them to still be able to have the opportunity to experience some type of garden space. A place where the patient can go to relax, collect their thoughts, think about what therapy they want to involve themselves in that day, and a place to think about the progress they made so far. Back inside the patients can head up the stairs one last time and find themselves on the second level of the roof garden. The second level is smaller and a more intimate space. It is a place where a few patients can go to talk and discuss their experiences, or even have a small private group therapy session on a nice day.



This is a rendering showing the roof garden on the top floor of the South Broad Street Rehabilitation Center building.

# Appendix A

Project Boards



# REHABILITATION OF A COMMUNITY

TRENTON, NEW JERSEY

JOSEPH D'ORIO  
FALL 2011

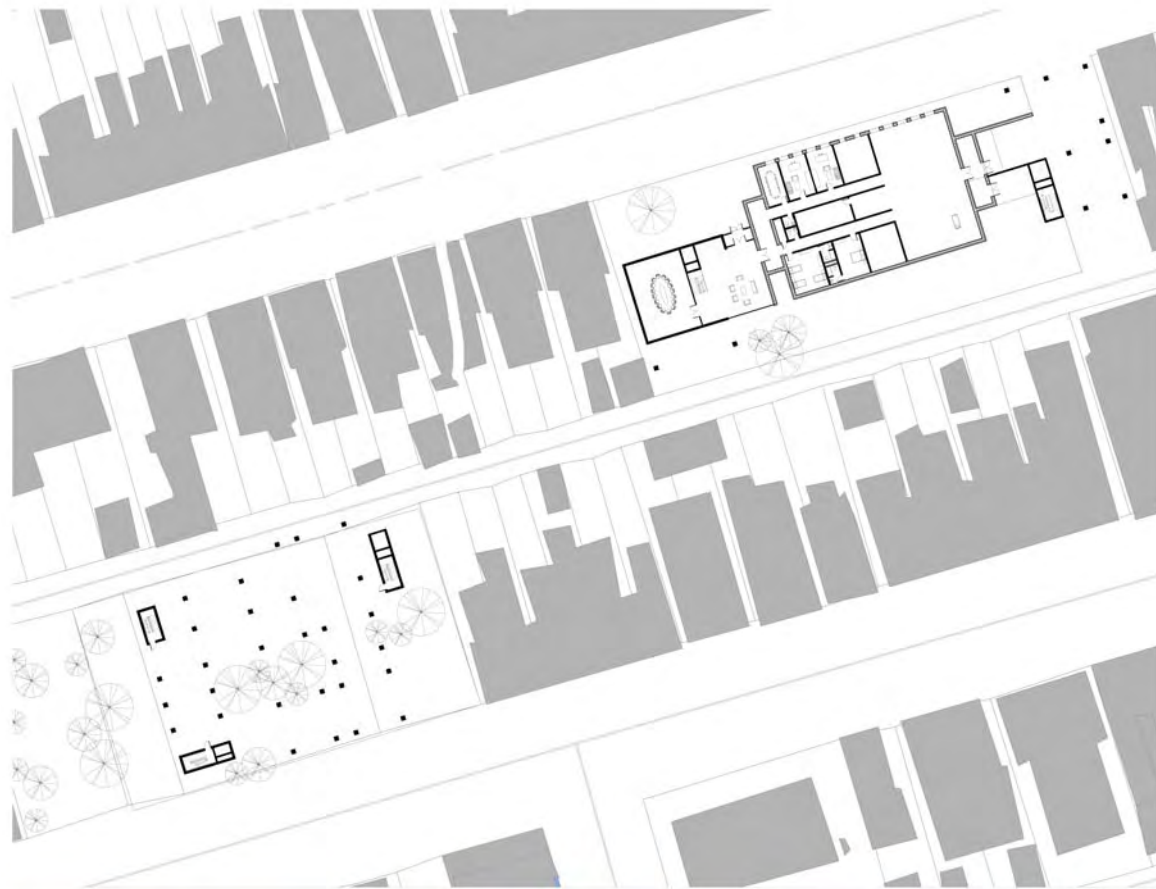
Each year for the past decade the city of Trenton has been on a slow decline. In the late nineties gang started to slowly move in and mark there territory. Wholesome neighborhoods where turned into drug dens and war zones and local businesses closed down due to lack of customers coming to the stores. With businesses closing and gangs everywhere you turn, this downward spiral on the city is having a negative effect on the youth in Trenton and the surrounding areas. Being that gangs have an overwhelming presence in the city, drug use among teens is on the rise. But there are no centers to prevent drug use, or some kind of safe haven for kids in the area to go to on the weekends. There is also a huge lack of rehabilitation centers to help cure and prevent drug addiction. This is mainly due to lack of funding, location, and ability to stay open/ willingness of patient to seek help. Towards the end of my highschool career I started to notice more and more of my friends trying pills and smoking weed, but nothing that seemed out of control. Once I went on to college it got much worse. Six months couldn't go by with out my father calling me telling me another one of my friends had either been arrested, passed away, or entered rehab. At this point it began to concern me about what was going on in my town and if things were changing. It was brought to my attention that it was a serious problem when one of my friends passed away. After the first death four more of my friends passed away in the next two years.

This was when I decided a drug rehabilitation center/ community center was needed in my town. There needs to be a place where people with drug problems cannot only go to get help, but also go to hang in in a drug free environment. When speaking with close friends when I was home I found that the majority of these deaths/ addictions were mainly do to the fact that these addicts were placed in an environment from which they could not escape. This being the case it seems that without a place like this for teens to go to there is no hope of ever getting off of drugs.

The ten slash marks on the left of this page represent the ten people in my life who have been affected from drugs. To clarify, by affected I mean in some extreme way. Five of the slashes represent five of my friends who have passed, three who have entered rehab, and two who are in jail. If something is not done about this problem soon many more teens in my town will fall to drugs.

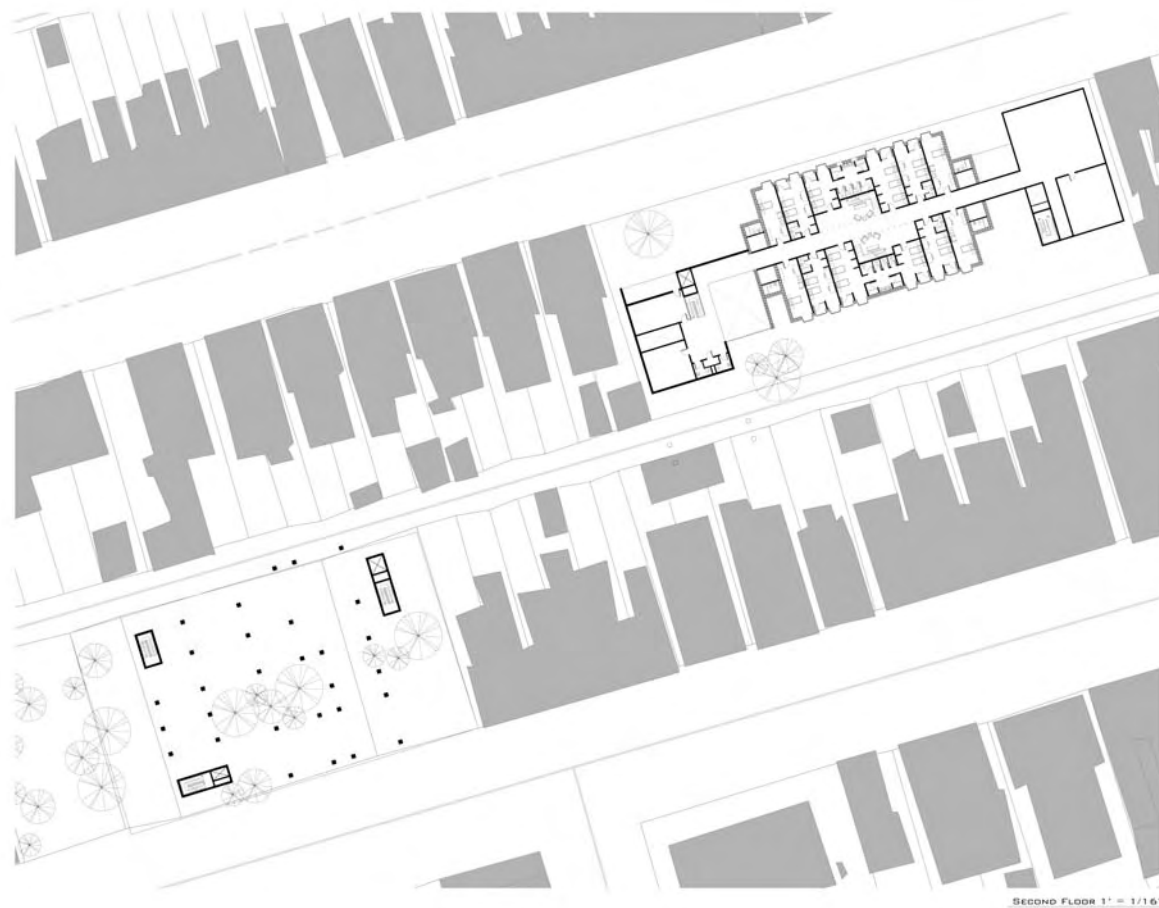


First  
Presentation

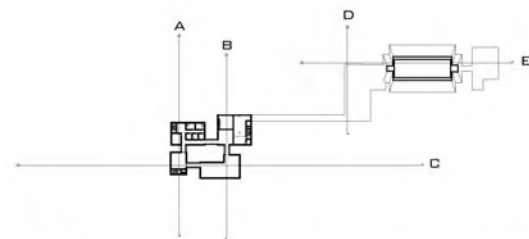


FIRST FLOOR PLAN 1" = 3/16"





SECOND FLOOR 1" = 1/16"



SECTIONAL DIAGRAM



SECTION B 1" = 1/16"

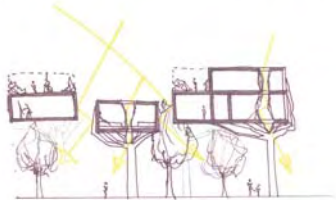


SECTION A 1" = 1/16"

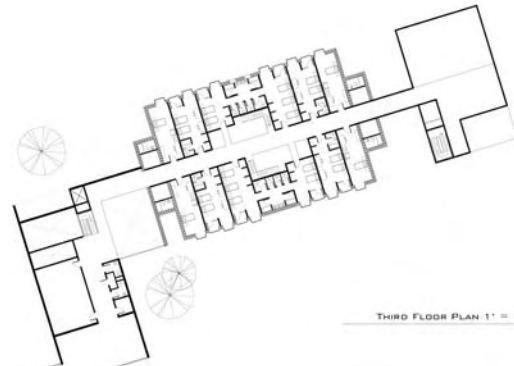




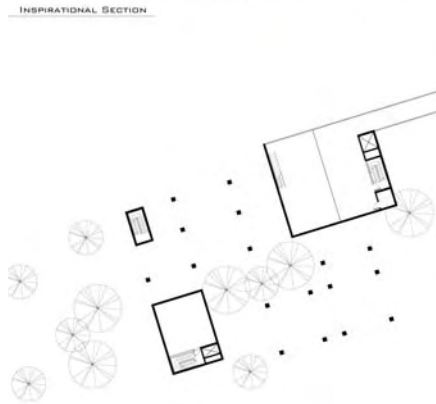
BY LIFTING THE PROGRAM OFF THE GROUND THE SQUARE FOOTAGE CAN BE USED TO TURN INTO PARK SPACE TO GIVE BACK TO THE COMMUNITY



INSPIRATIONAL SECTION



THIRD FLOOR PLAN 1" = 1/16"



SECTION D 1" = 1/16"



SECTION E 1" = 1/16"



SECTION C 1" = 1/16"

# The City of Trenton's ENTERTAINMENT DISTRICT

Tax Exempt Entities  
 <all other values>

**Facility**

- SCHOOL
- CHURCH
- Entertainment\_Boundary
- Parcels
- Building FootPrint
- Streets
- Light Rail
- Parks
- Waterbodies

## REHABILITATION OF A COMMUNITY

TRENTON, NEW JERSEY  
 JOSEPH D'ORIO  
 FALL 2011

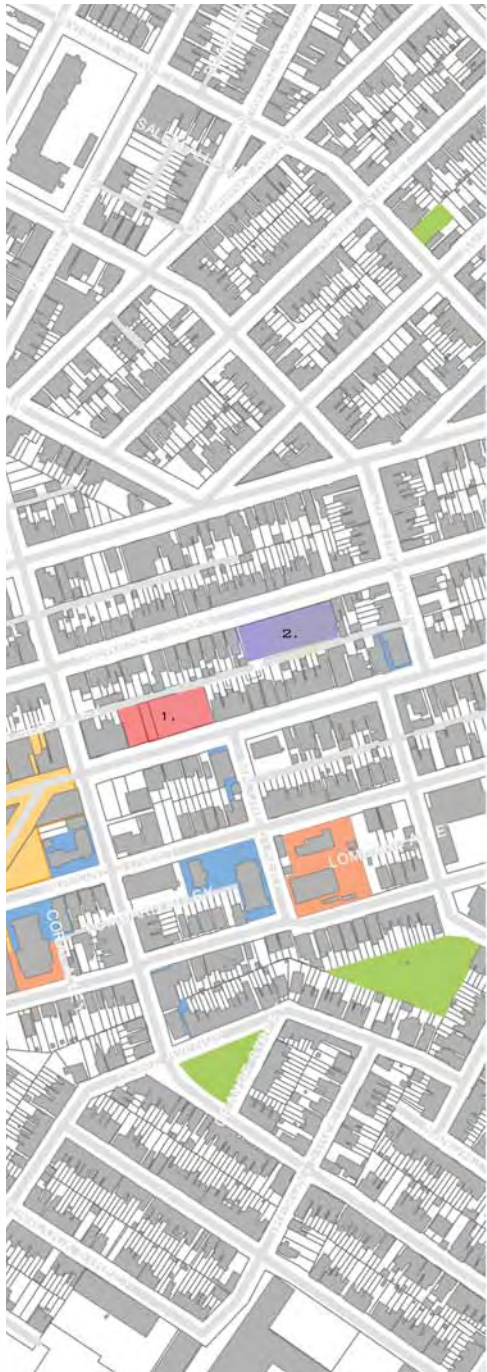
Each year for the past decade the city of Trenton has been on a slow decline. In the late nineties gang started to slowly move in and mark their territory. Wholesome neighborhoods were turned into drug dens and war zones and local businesses closed down due to lack of customers coming to the stores. With businesses closing and gangs everywhere you turn, this downward spiral on the city is having a negative effect on the youth in Trenton and the surrounding areas. Being that gangs have an overwhelming presence in the city, drug use among teens is on the rise. But there are no centers to prevent drug use, or some kind of safe haven for kids in the area to go to on the weekends. There is also a huge lack of rehabilitation centers to help cure and prevent drug addiction. This is mainly due to lack of funding, location, and ability to stay open/ willingness of patient to seek help. Towards the end of my highschool career I started to notice more and more of my friends trying pills and smoking weed, but nothing that seemed out of control. Once I went on to college it got much worse. Six months couldn't go by without my father calling me telling me another one of my friends had either been arrested, passed away, or entered rehab. At this point it began to concern me about what was going on in my town and if things were changing. It was brought to my attention that it was a serious problem when one of my friends passed away. After the first death four more of my friends passed away in the next two years.



This was when I decided a drug rehabilitation center/ community center was needed in my town. There needs to be a place where people with drug problems cannot only go to get help, but also go to hang in in a drug free environment. When speaking with close friends when I was home I found that the majority of these deaths/ addictions were mainly do to the fact that these addicts were placed in an environment from which they could not escape. This being the case it seems that without a place like this for teens to go to there is no hope of ever getting off of drugs.

The ten slash marks on the left of this page represent the ten people affected from drugs. To clarify, by affected I mean in some extreme sense five of my friends who have passed, three who have entered rehab, and two who are still in rehab. Something is not done about this problem soon many more

# Gate Presentation



**SITE 1.**  
**SITE OF TRENTON**  
**AREA CYO BUILDING**

- DAILY THERAPEUTIC ACTIVITIES
- ART
- MUSIC
- MEDIA
- COMMUNITY
- FITNESS



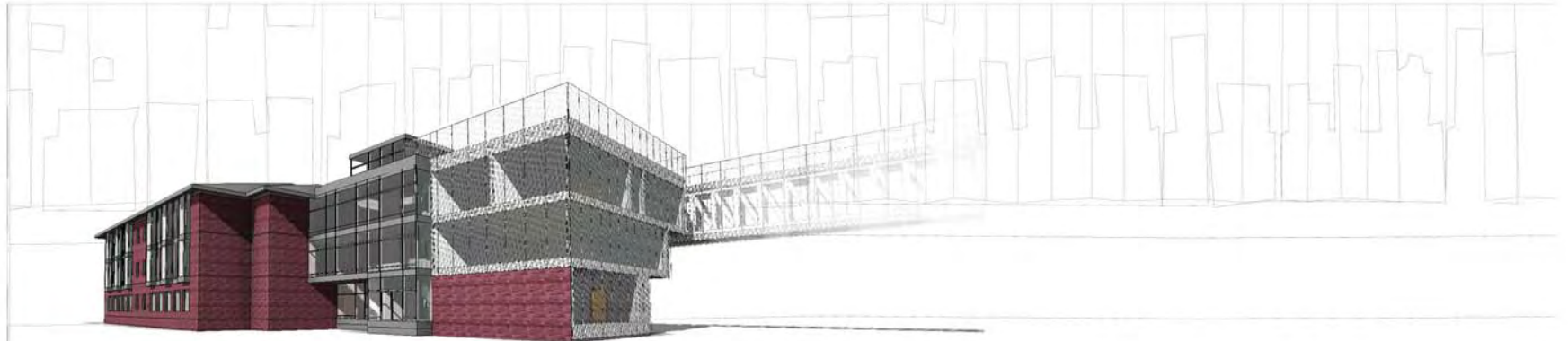
SOUTH BROAD STREET

**SITE 2.**  
**SITE OF TRENTON**  
**AREA CYO BUILDING**

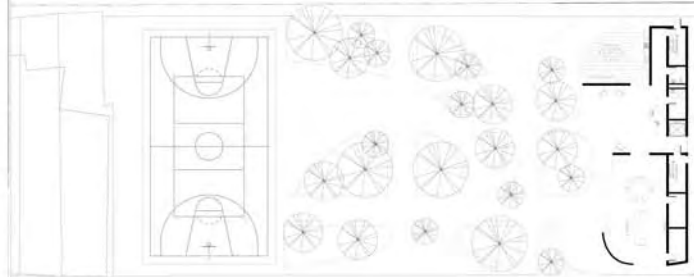
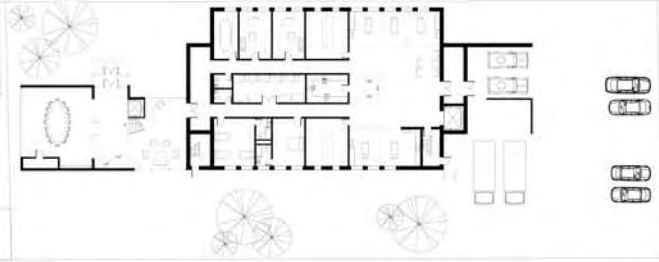
- DAILY TREATMENT
- THERAPY
- DINING
- GROUP THERAPY
- MEDICAL SERVICES
- OUT PATIENT THERAPY



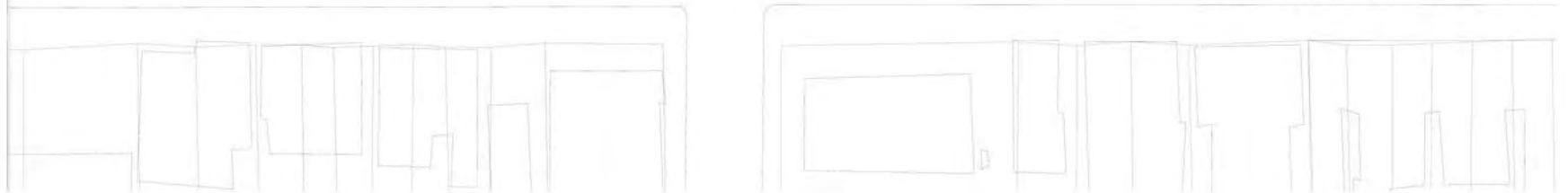
GENESSEE ST.

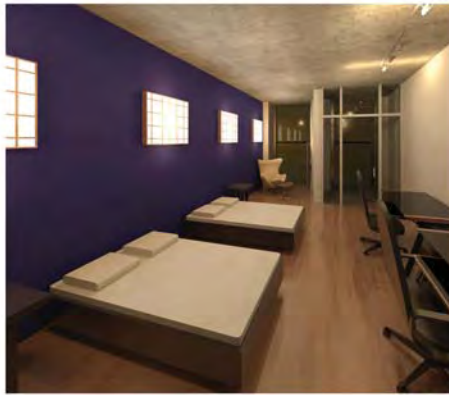


PERSPECTIVE OF THE FRONT OF THE REHAB CENTER  
ON GENESSE STREET JOINING THE OLD JEFFERSON  
ELEMENTARY SCHOOL.



FIRST FLOOR PLAN 1/16" = 1'





THIS IS A PERSPECTIVE OF A TYPICAL PATIENT ROOM. AS THE PATIENT PROGRESSES THROUGH THE PROGRAM HE/ SHE GETS A NEW ROOM AND ROOMMATE EVERY FEW WEEKS. THE MORE THEY PROGRESS THE MORE PEOPLE THE PATIENT IS ALLOWED TO LIVE WITH.

- |                       |                            |
|-----------------------|----------------------------|
| 1. MUSIC ROOM         | 5. GROUP LOUNGE            |
| 2. ART ROOM           | 6. BEDROOMS                |
| 3. GROUP THERAPY ROOM | 7. ACTIVITY THERAPY LOUNGE |
| 4. KITCHEN            | 8. INDIVIDUAL LOUNGE       |



ALTERING THE FLOORS IN THE OLD JEFFERSON SCHOOL ALLOWS FOR LIGHT WELLS AND THE CREATION OF A DOUBLE HEIGHTED SPACE IN THE LOUNGES CLOSE TO THE BEDROOMS.

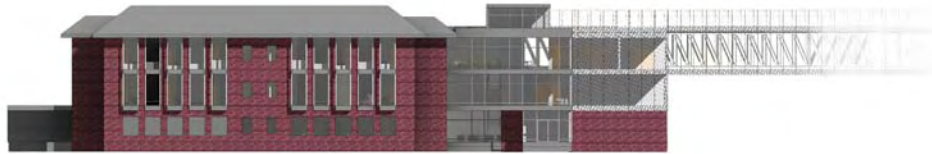
SECOND FLOOR PLAN 1/16" = 1'



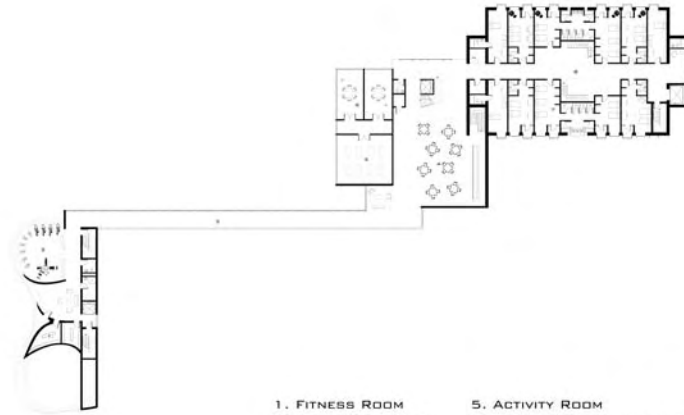
SECTION THROUGH THE OLD SCHOOL, NOW BEING OCCUPIED BY BEDROOMS

SECTION 1/8" = 1'





GENESEE STREET ELEVATION



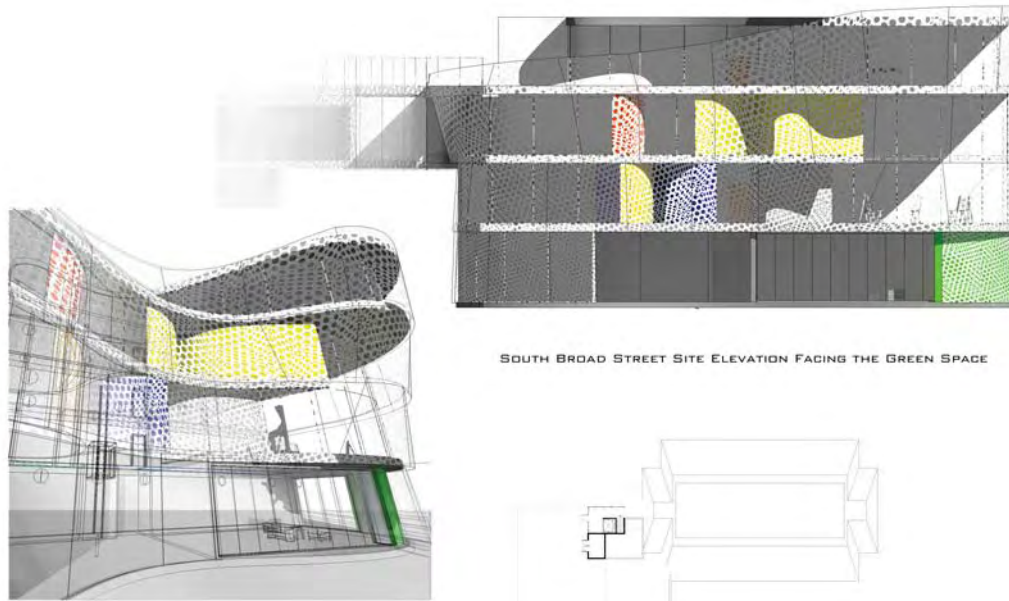
THIRD FLOOR PLAN 1/16" = 1'

- |                   |                                      |
|-------------------|--------------------------------------|
| 1. FITNESS ROOM   | 5. ACTIVITY ROOM                     |
| 2. CHANGING ROOMS | 6. SMALL GROUP THERAPY ROOMS         |
| 3. SKY BRIDGE     | 7. BEDROOMS                          |
| 4. DINNING HALL   | 8. SKY WALK OVER LOOKING THE LOUNGES |



SECTION TAKEN THROUGH THE TRIPLE HEIGHTED SPACE IN THE LOBBY

SECTION 1/8" = 1'



SOUTH BROAD STREET SITE ELEVATION FACING THE GREEN SPACE

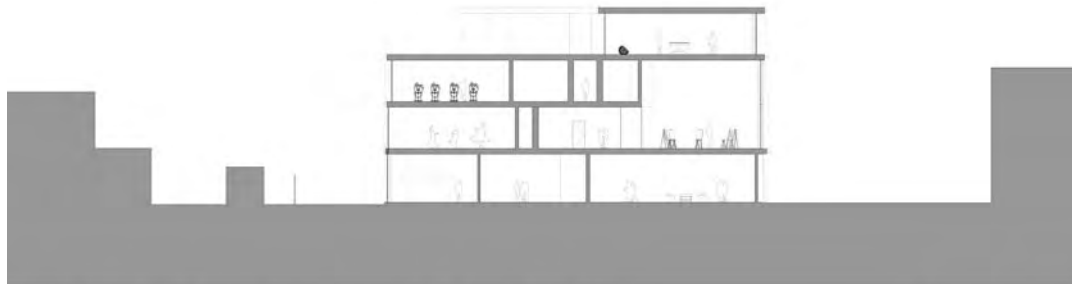
FACADE PERSPECTIVE  
(WILL DISPLAY ASSEMBLY  
IN FUTURE)



FOURTH FLOOR AND ROOF GARDEN 1/16" = 1'

1. MULTI MEDIA ROOM
2. ROOF TERRACE
3. ROOF GARDEN

ORIGINALLY THIS SITE WAS OCCUPIED ONLY BY A LARGE BRICK BUILDING CONTAINING A GYMNASIUM. A LARGE PORTION OF THIS DESIGN WAS DEVOTED TO GIVING BACK GREEN SPACE TO THE COMMUNITY. THIS IS WHY THE BUILDING ON SOUTH BROAD STREET TAKES UP SO LITTLE OF THE SITE

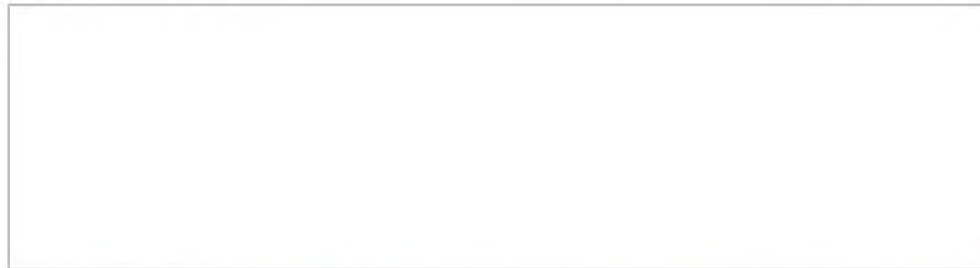


SECTION THROUGH THE THERAPY ACTIVITIE BUILDING ON THE SOUTH BROAD STREET SITE

SECTION 1/8" = 1'



START OF A STRUCTURAL AXON



STRUCTURAL PLAN/ SECTION



AXON ON SITE



The City of Trenton's  
ENTERTAINMENT DISTRICT  
**REHABILITATION OF A COMMUNITY**  
TRENTON, NEW JERSEY

Each time for the past decade the city of Trenton has been on a slow decline. In the 1990s the city started to slowly recover and much more territory. While some neighborhoods were successful and others were not, the city has been successful in many ways. The lack of investment coming to the area. With businesses closing and gangs entering the scene, this downward spiral led to a negative effect on the youth in Trenton and the surrounding areas. Being that gangs have an overwhelming presence in the city, drug use among teens is on the rise. But there are no centers to prevent drug use, or some kind of safe space for kids in the area to go to get out of the streets. There is also a huge lack of rehabilitation centers for teens and preventing addiction. This is mostly due to lack of funding, location, and ability to stay open. Willingness of parents to seek help. Towards the end of my high school career I started to notice some warning signs of my friends trying pills and smoking weed, but nothing that seemed out of control. Once I went on to college to get back home, the months couldn't go by with out my father calling me telling me another one of my friends had either been arrested, passed away, or started rehab. At this point it began to concern me about what was going on in my town and if things were changing. It was brought to my attention that it was a serious problem when one of my friends passed away. After the first death four more of my friends passed away in the next two years.

This was when I decided a drug rehabilitation center/ community center was needed in the area. There needs to be a place where people with drug problems come only to get help but also go to hang in a drug free environment. When speaking with other friends when I was home I found that the majority of new drug addiction were mostly due to the fact that these addiction were placed in an environment from which they could not escape. This being the case it seems that without a place like this for teens to go to there is no hope of ever getting off of drugs.

**SITE 1.**  
SITE OF TRENTON  
AREA CYO BUILDING

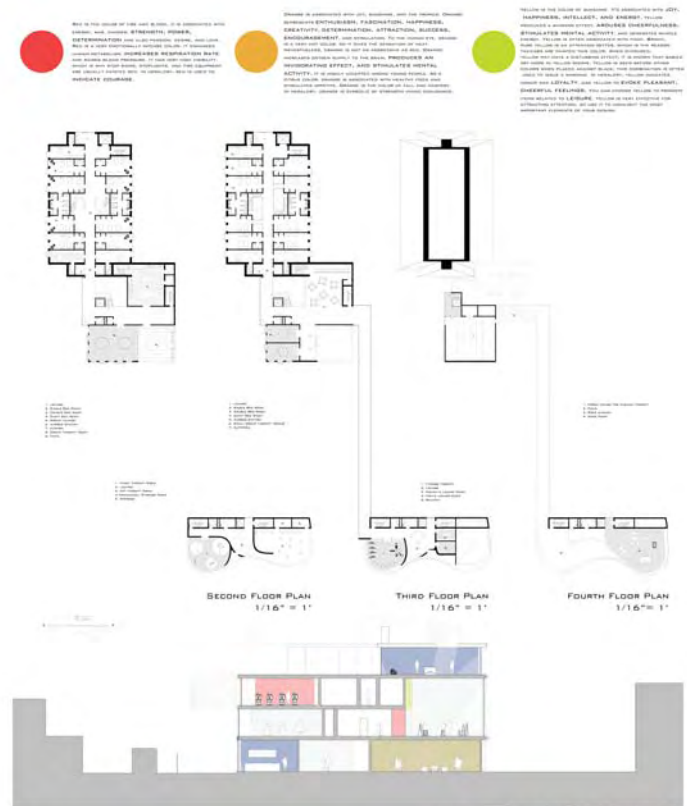


**SITE 2.**  
SITE OF TRENTON  
AREA CYO BUILDING





GENESEE STREET ENTRANCE RENDERING



SECTION THROUGH THE THERAPY SPACES 1/8\"/>



TYPICAL DOUBLE DORM ROOM SPACE



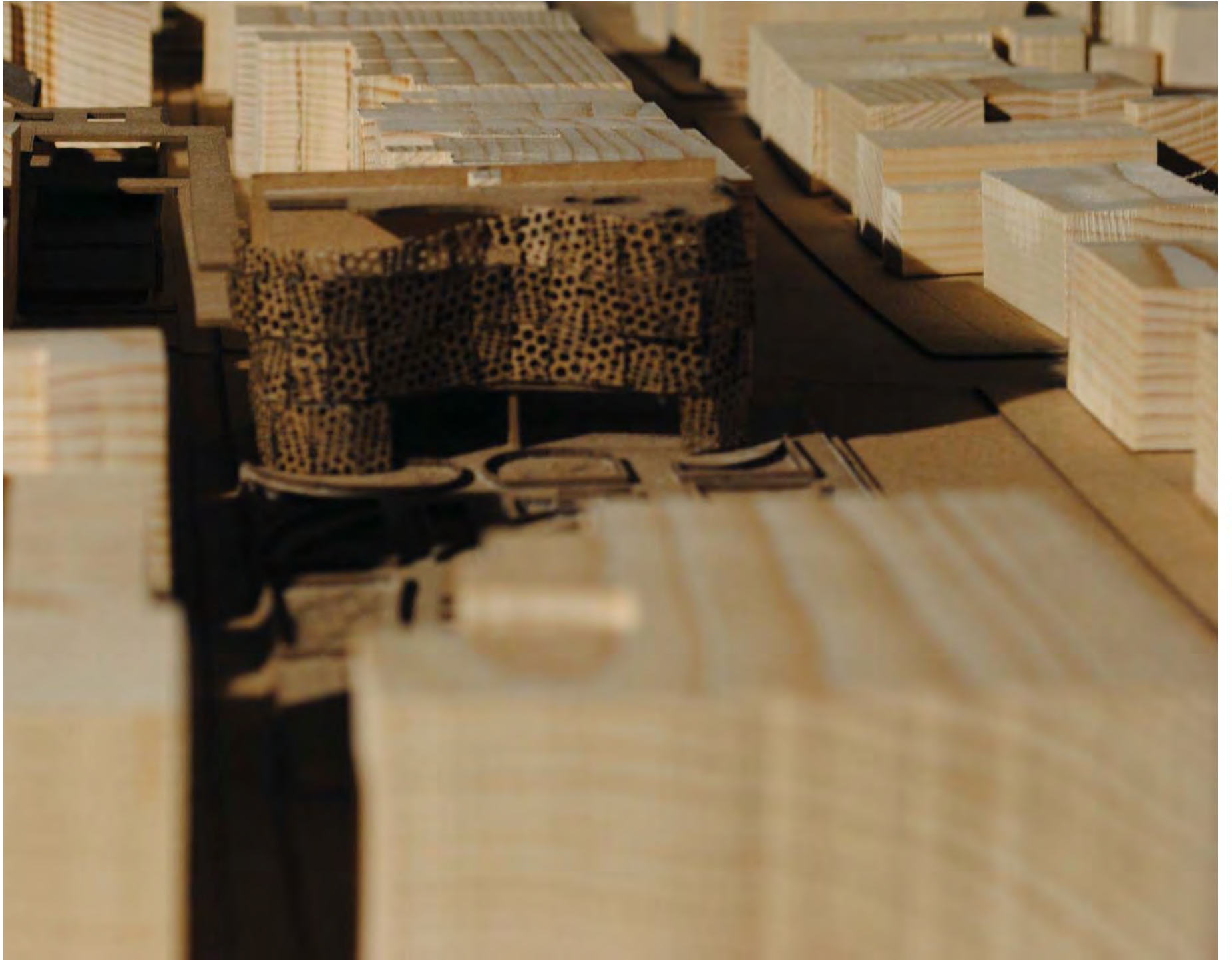


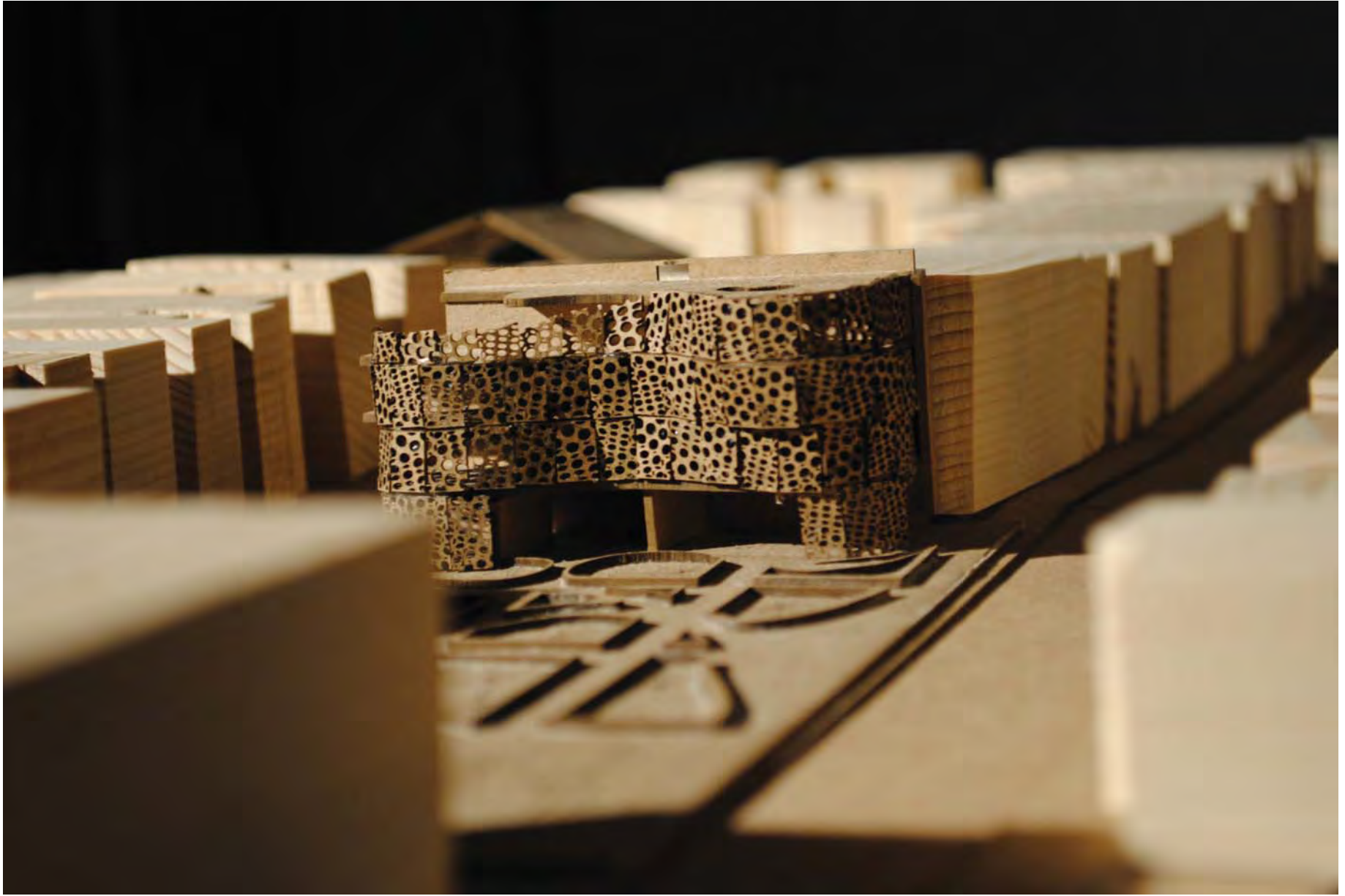
# Appendix B



Model Photos

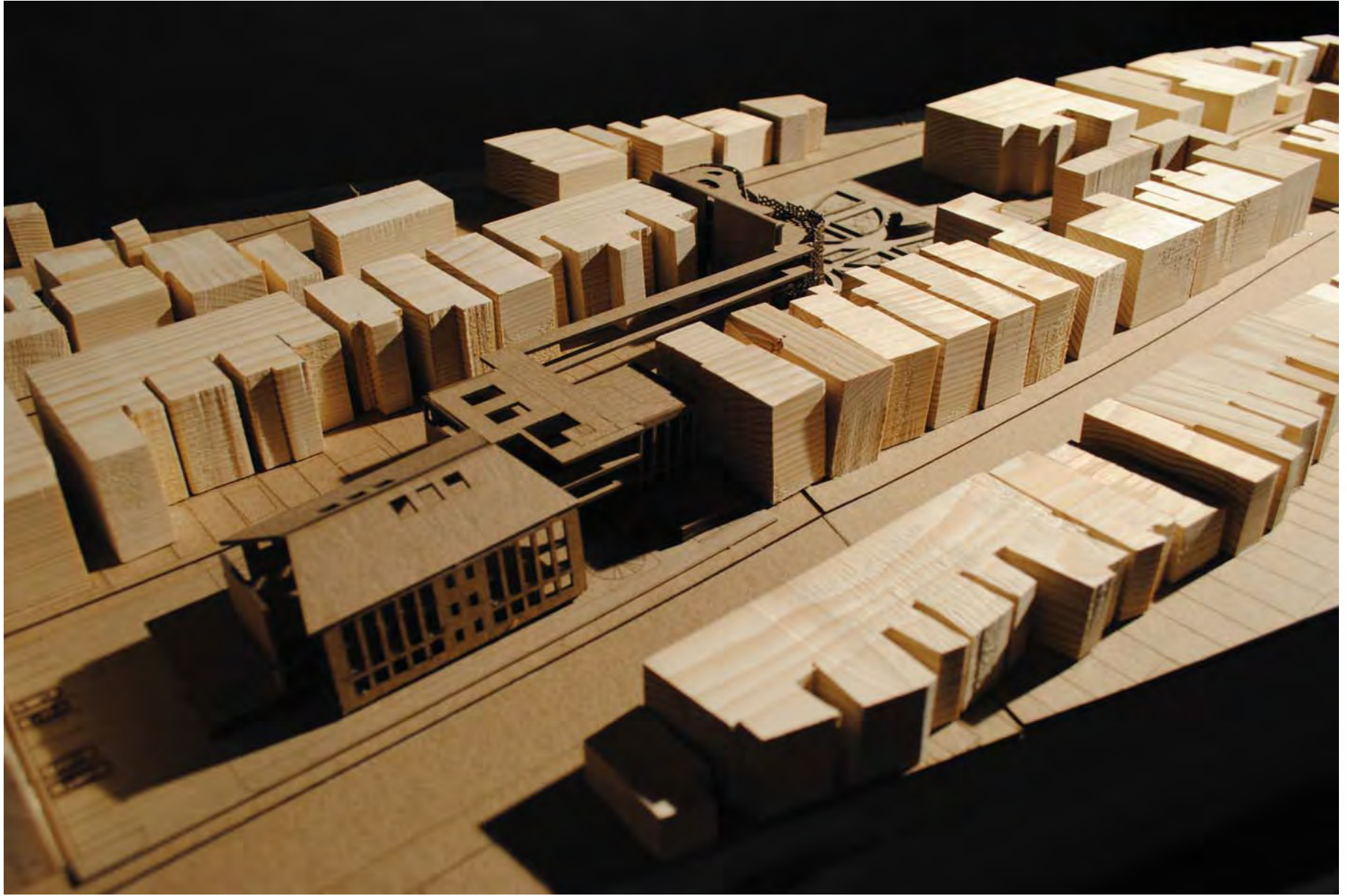


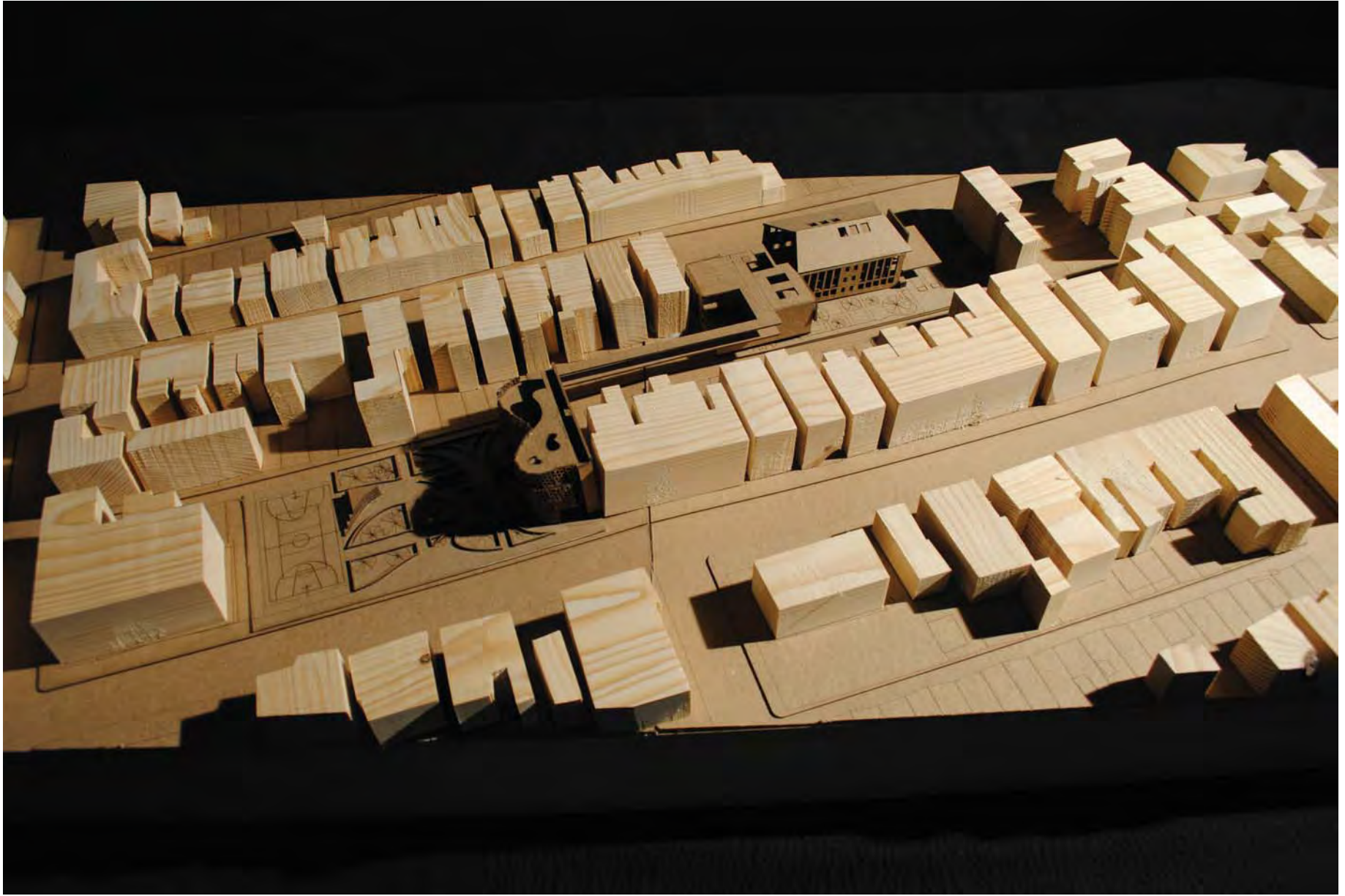


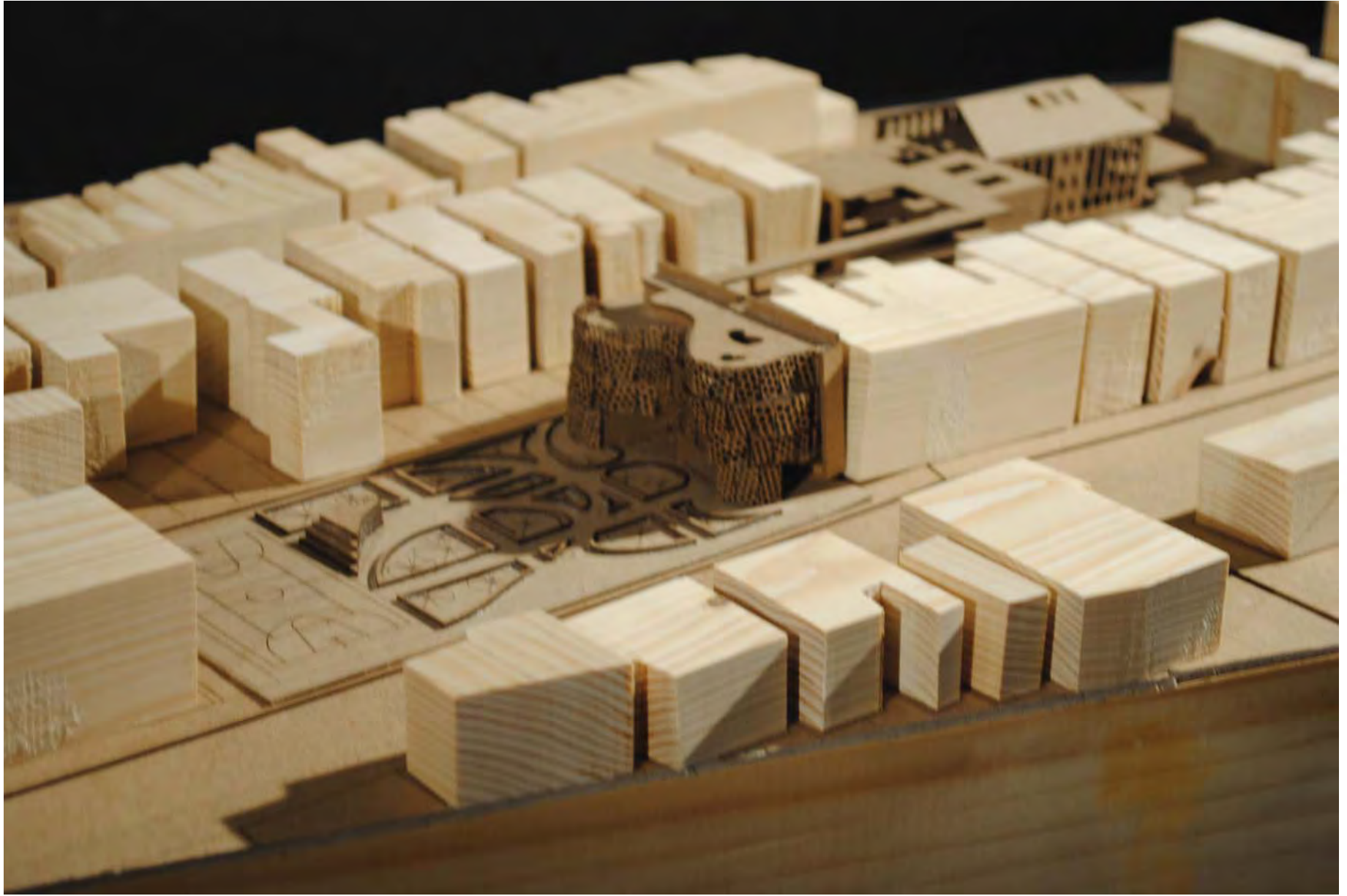














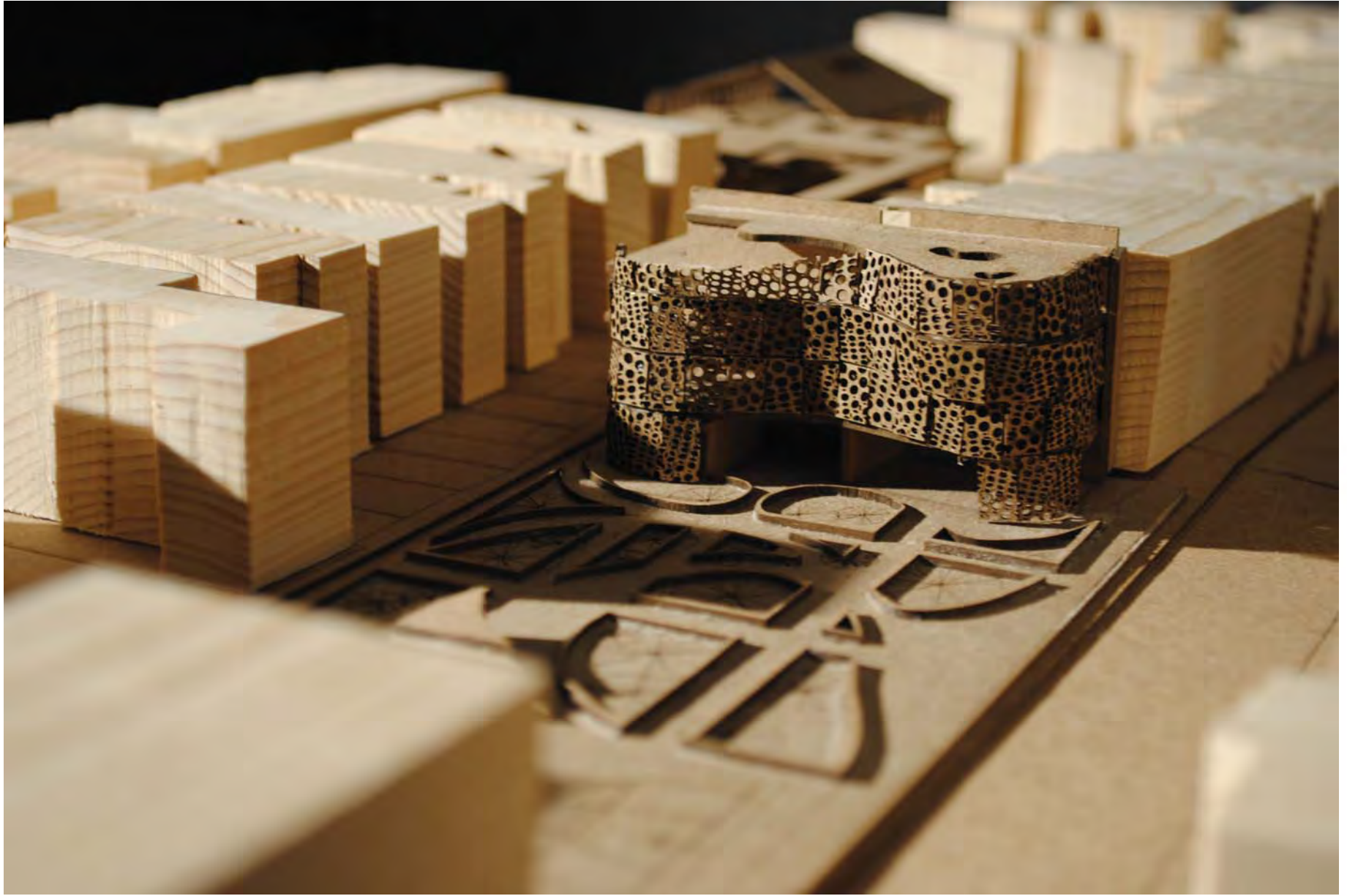


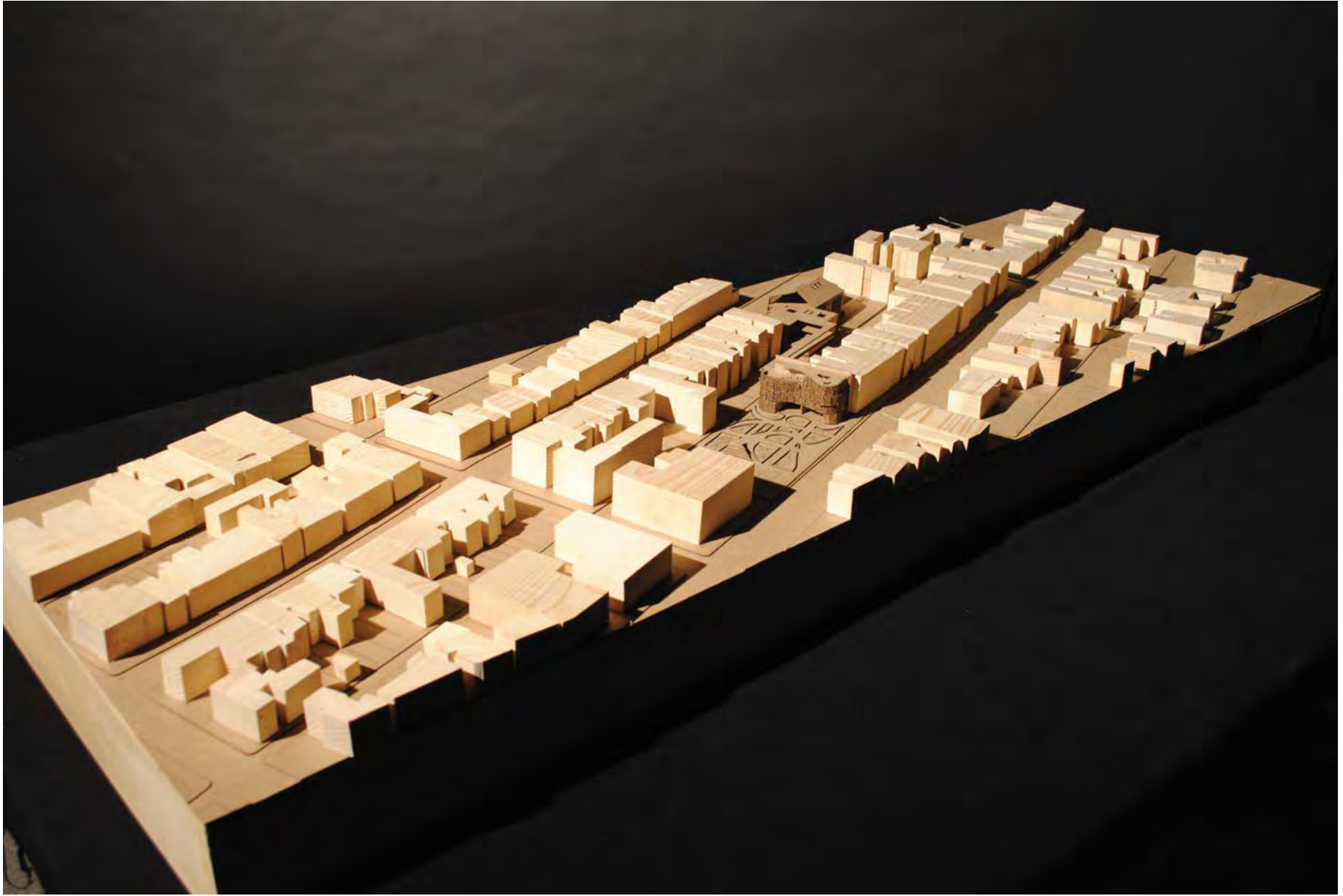


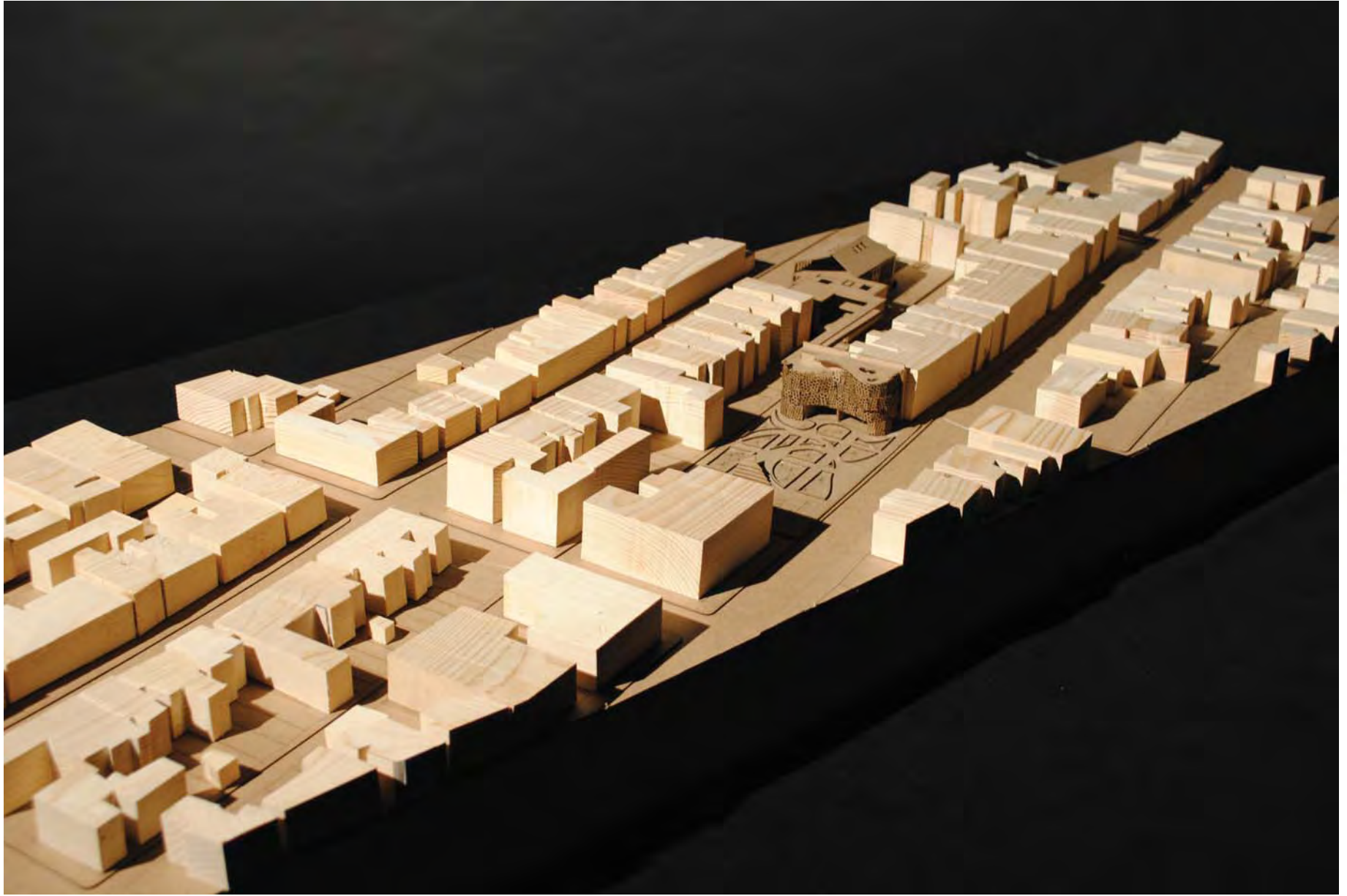




















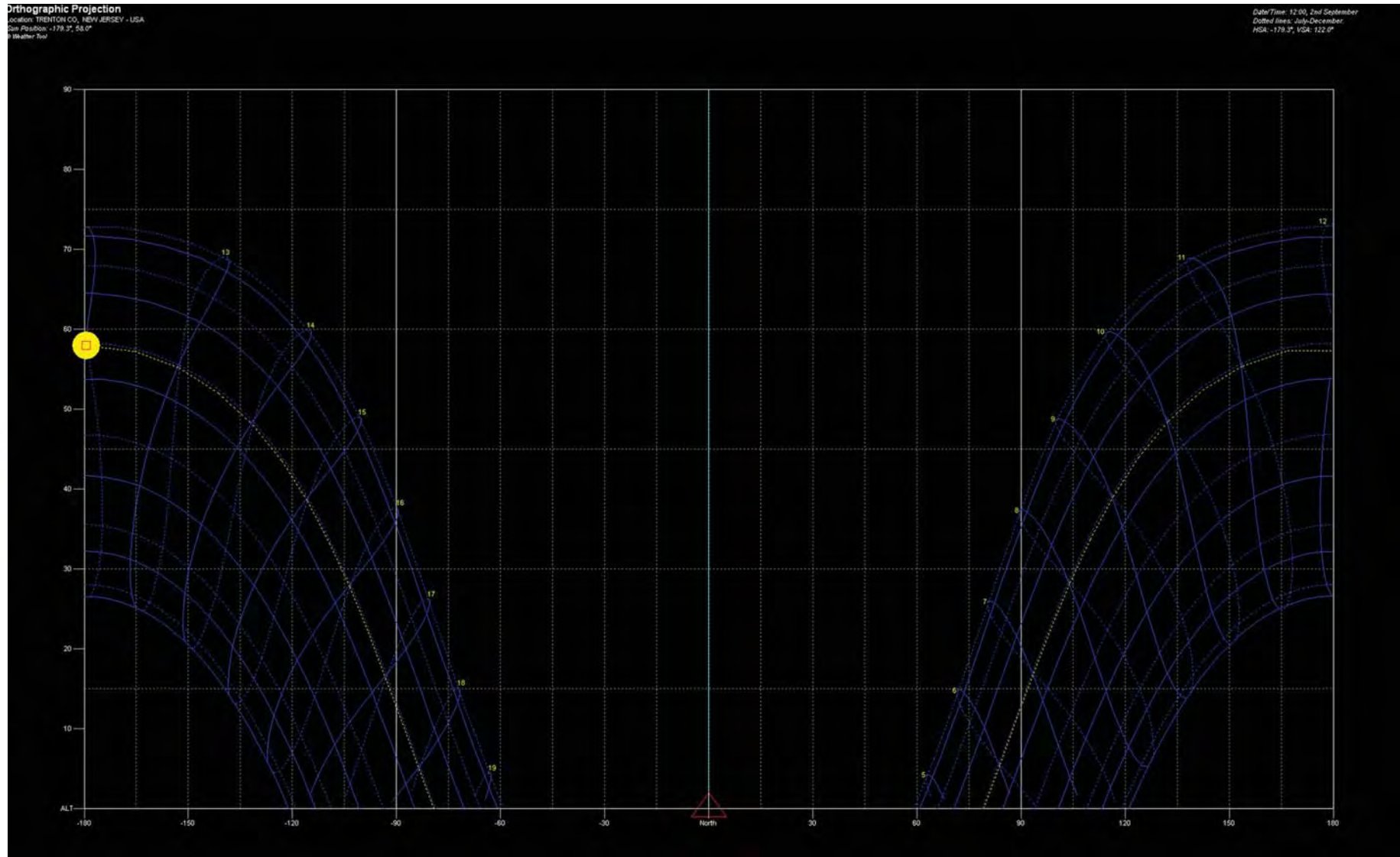






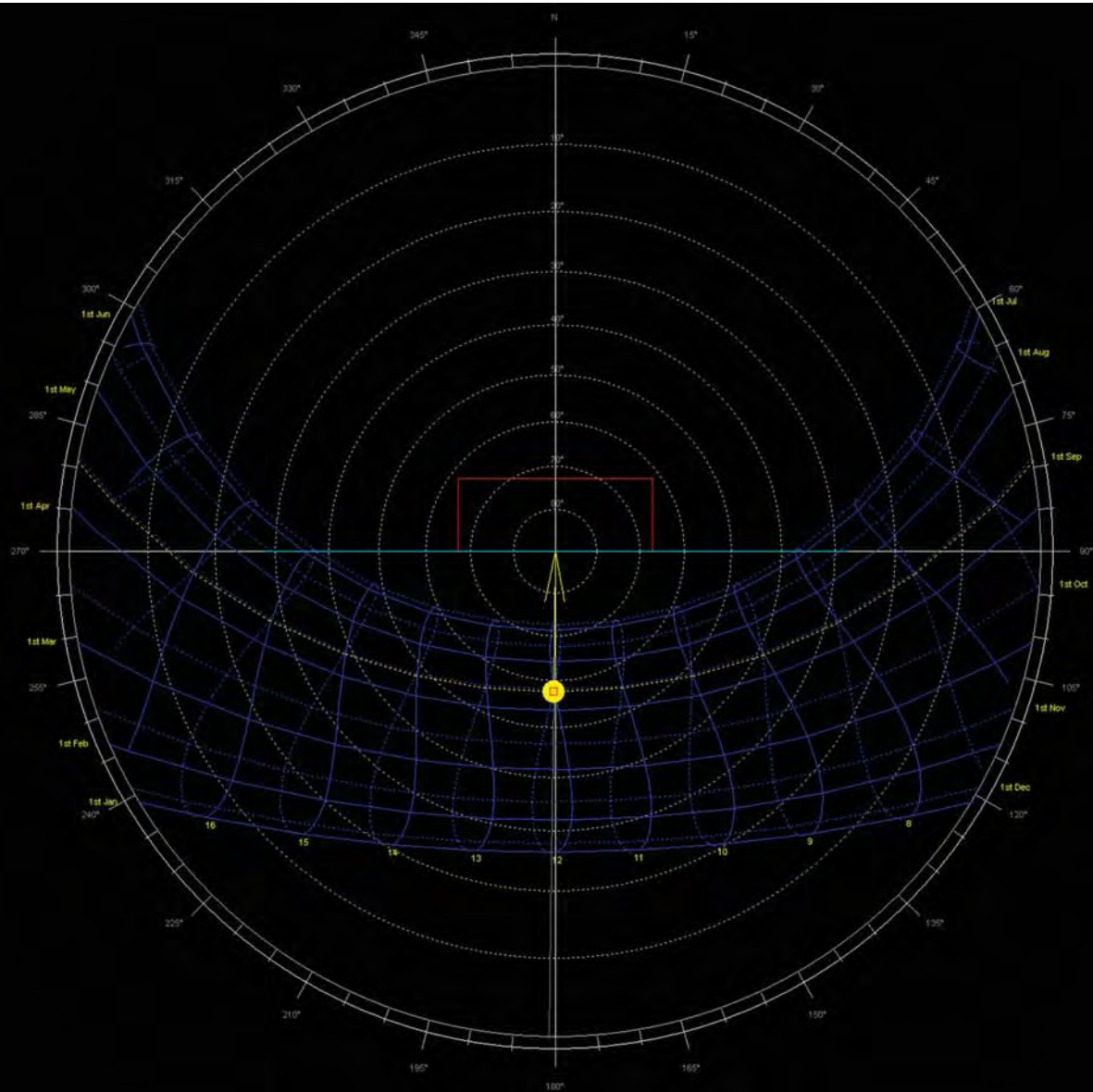
# Appendix C

## Model Photos



Orthographic Projection Chart

**Stereographic Diagram**  
Location: TRENTON CO, NEW JERSEY - USA  
Site Position: -79.3°, 53.0°  
MAG: -179.3°, UGA: 122.0°  
© Weather-Top



Time: 12:00  
Date: 2nd September  
Dotted lines: July-December

# Stereographic Projection Chart

### Tabulated Daily Solar Data

Latitude: 40.2°  
 Longitude: -74.7°  
 Timezone: -75.0° [-5.0hrs]  
 Orientation: 0.0°

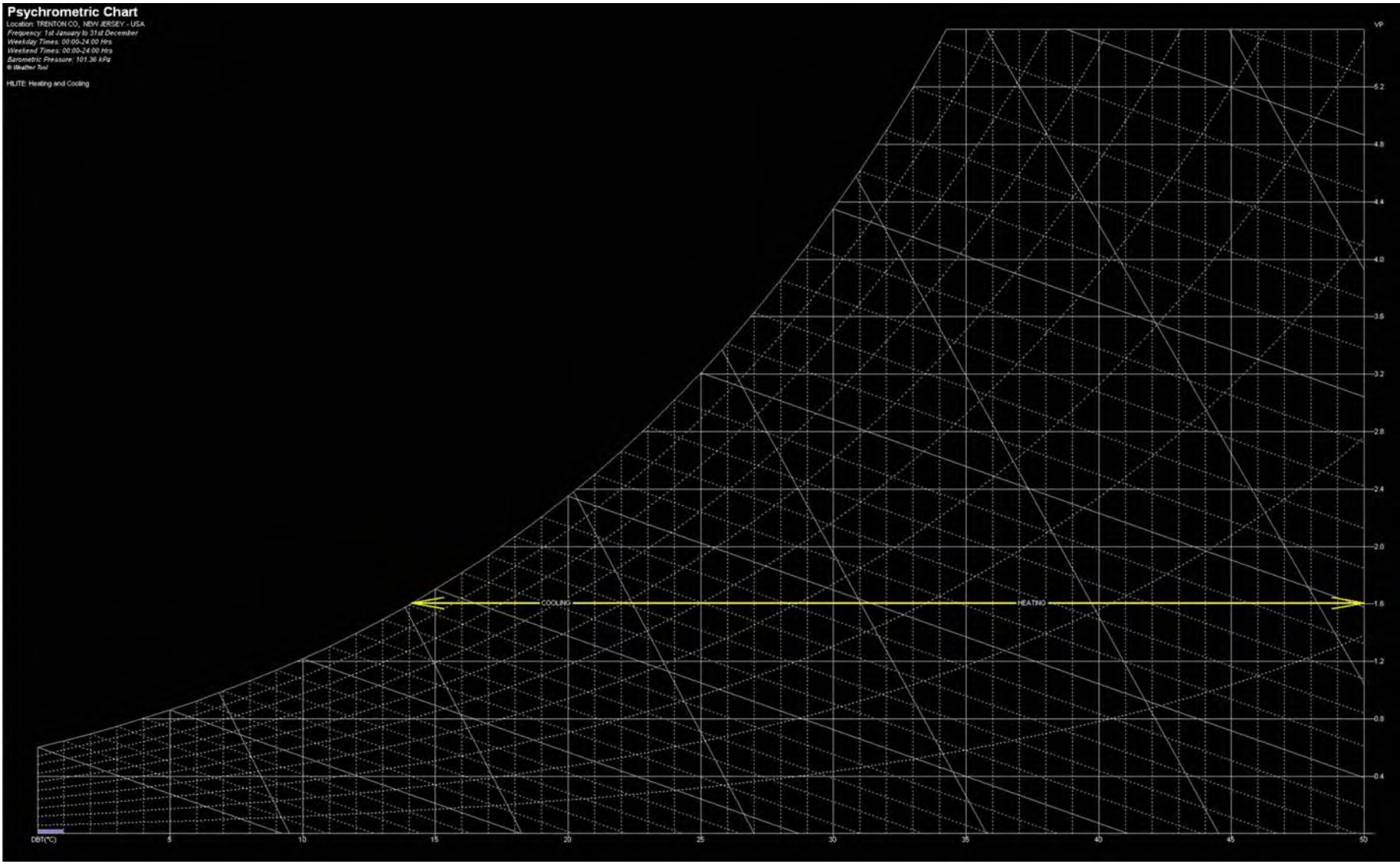
Date: 2nd September  
 Julian Date: 245  
 Sunrise: 05:30  
 Sunset: 18:26

Local Correction: 1.5 mins  
 Equation of Time: 0.3 mins  
 Declination: 6.2°

Local	(Solar)	Azimuth	Altitude	HSA	VSA
06:00	(06:01)	84.0°	5.6°	84.0°	42.9°
06:30	(06:31)	88.8°	11.3°	88.8°	83.8°
07:00	(07:01)	93.6°	17.0°	93.6°	101.7°
07:30	(07:31)	98.7°	22.7°	98.7°	109.9°
08:00	(08:01)	104.1°	28.3°	104.1°	114.3°
08:30	(08:31)	109.9°	33.8°	109.9°	117.0°
09:00	(09:01)	116.5°	39.1°	116.5°	118.8°
09:30	(09:31)	123.8°	44.0°	123.8°	120.0°
10:00	(10:01)	132.4°	48.5°	132.4°	120.8°
10:30	(10:31)	142.3°	52.4°	142.3°	121.4°
11:00	(11:01)	153.9°	55.4°	153.9°	121.7°
11:30	(11:31)	166.9°	57.4°	166.9°	121.9°
12:00	(12:01)	-179.3°	58.0°	-179.3°	122.0°
12:30	(12:31)	-165.5°	57.2°	-165.5°	121.9°
13:00	(13:01)	-152.6°	55.2°	-152.6°	121.7°
13:30	(13:31)	-141.3°	52.0°	-141.3°	121.3°
14:00	(14:01)	-131.5°	48.1°	-131.5°	120.7°
14:30	(14:31)	-123.0°	43.5°	-123.0°	119.9°
15:00	(15:01)	-115.7°	38.5°	-115.7°	118.6°
15:30	(15:31)	-109.3°	33.2°	-109.3°	116.8°
16:00	(16:01)	-103.5°	27.8°	-103.5°	113.9°
16:30	(16:31)	-98.2°	22.1°	-98.2°	109.3°
17:00	(17:01)	-93.1°	16.4°	-93.1°	100.5°
17:30	(17:31)	-88.3°	10.7°	-88.3°	88.9°
18:00	(18:01)	-83.5°	5.0°	-83.5°	37.5°

# Solar Data Chart



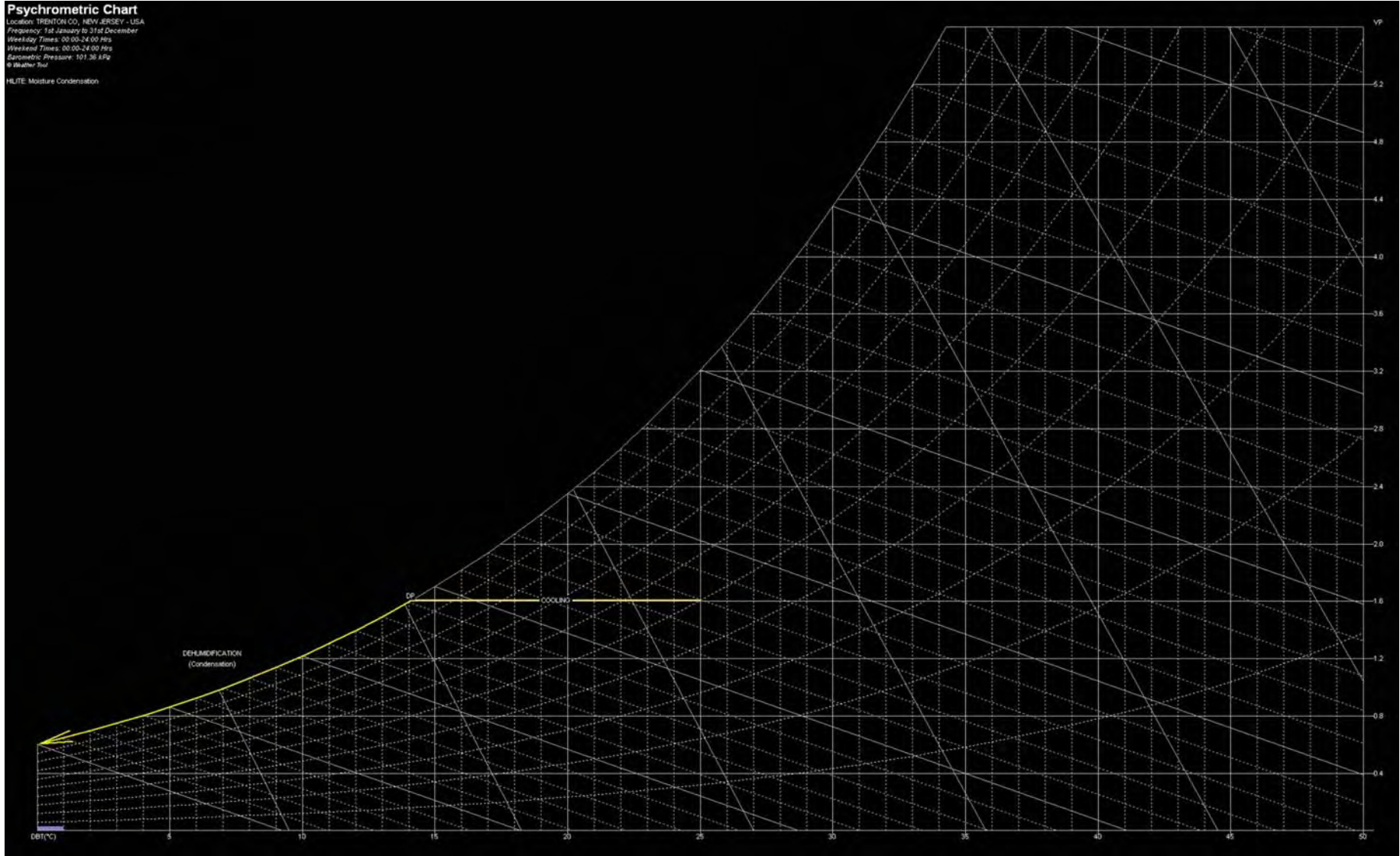


# Psychrometric Chart - Heating and Cooling

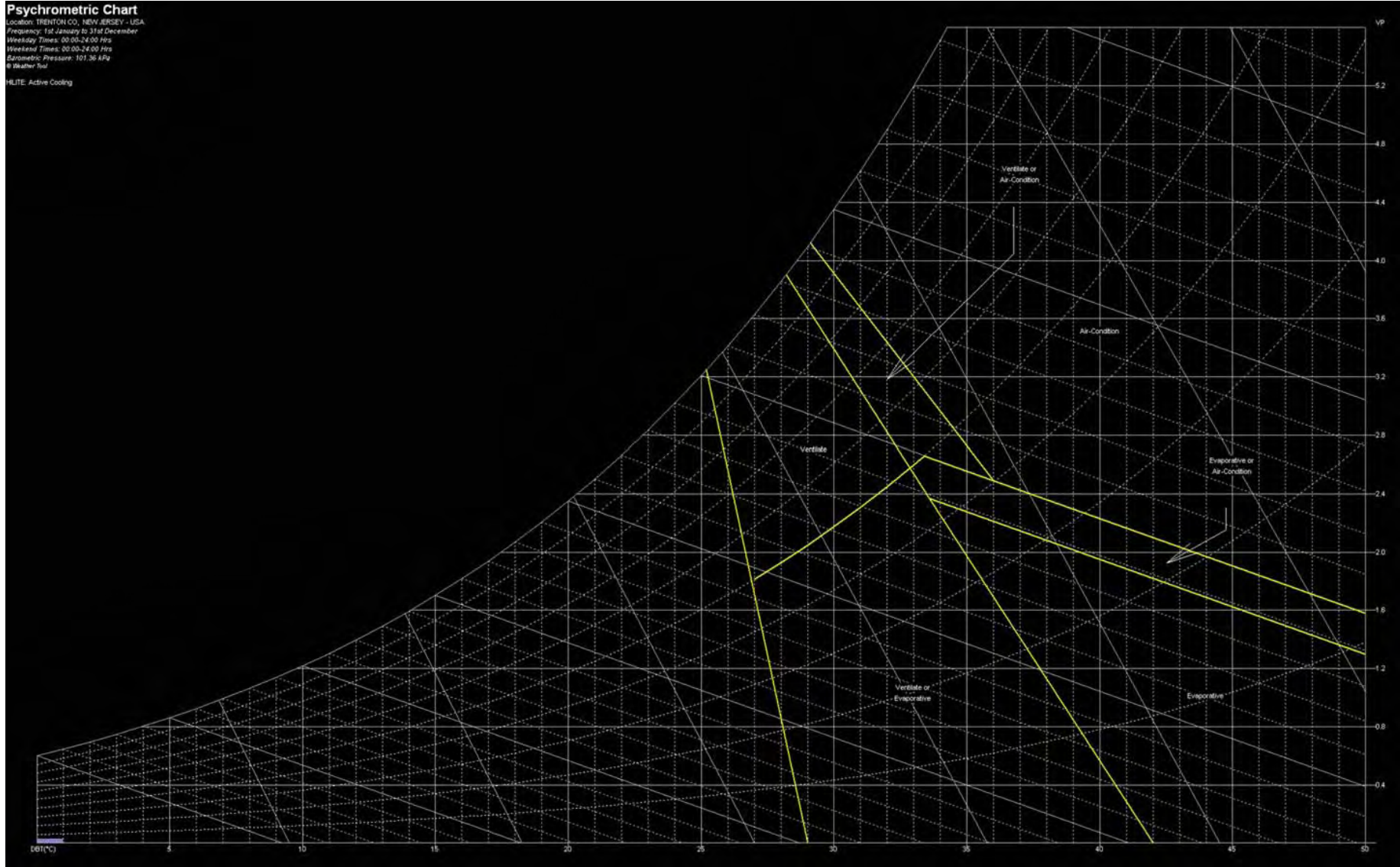
**Psychrometric Chart**

Location: TRENTON CO., NEW JERSEY - USA  
Frequency: 1st January to 31st December  
Weekly Times: 00:00-24:00 Hrs  
Weekend Times: 00:00-24:00 Hrs  
Barometric Pressure: 101.36 kPa  
© Weather Tool

HLITE: Moisture Condensation



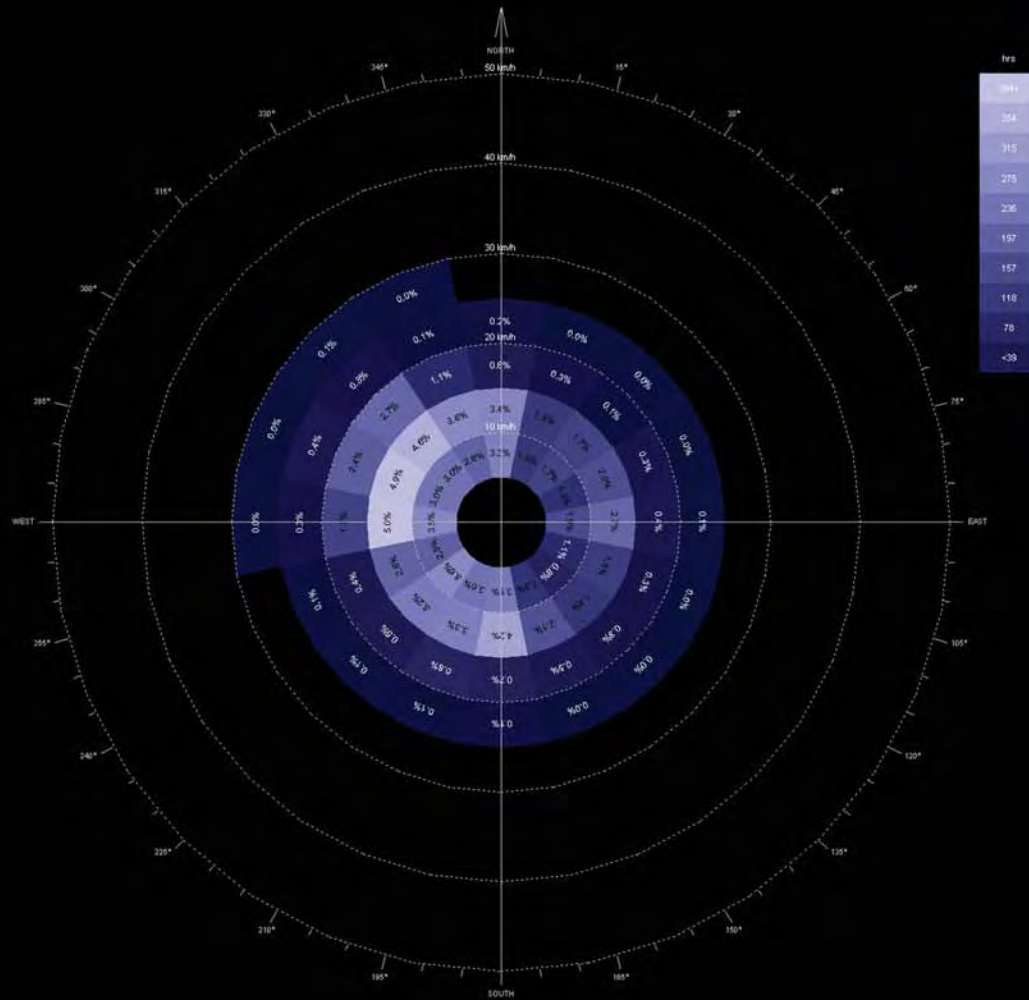
# Psychrometric Chart ~ Moisture Condensation



# Psychrometric Chart - Active Cooling

### Prevailing Winds

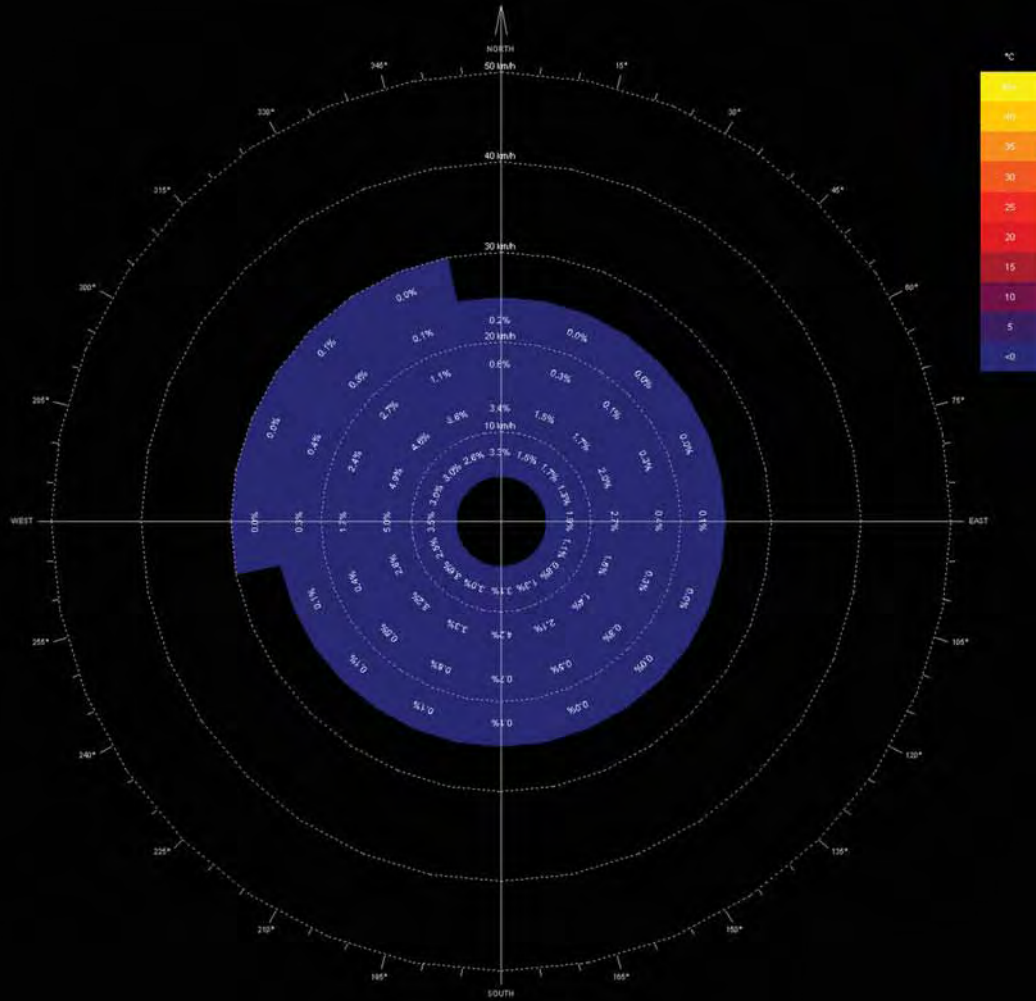
Wind Frequency (Hz)  
Location: Trenton Mercer County Ap, USA (40.37, -74.87)  
Date: 1st January - 31st December  
Time: 00:00 - 24:00  
© Weather 360



[Duration shown as percentages]

# Prevailing Wind Chart - Wind Frequency

**Prevailing Winds**  
**Average Wind Temperatures**  
 Location: Trenton Mercer County Ap, USA (40.3°, -74.8°)  
 Date: 1st January - 31st December  
 Time: 00:00 - 24:00  
 © Weather Tool

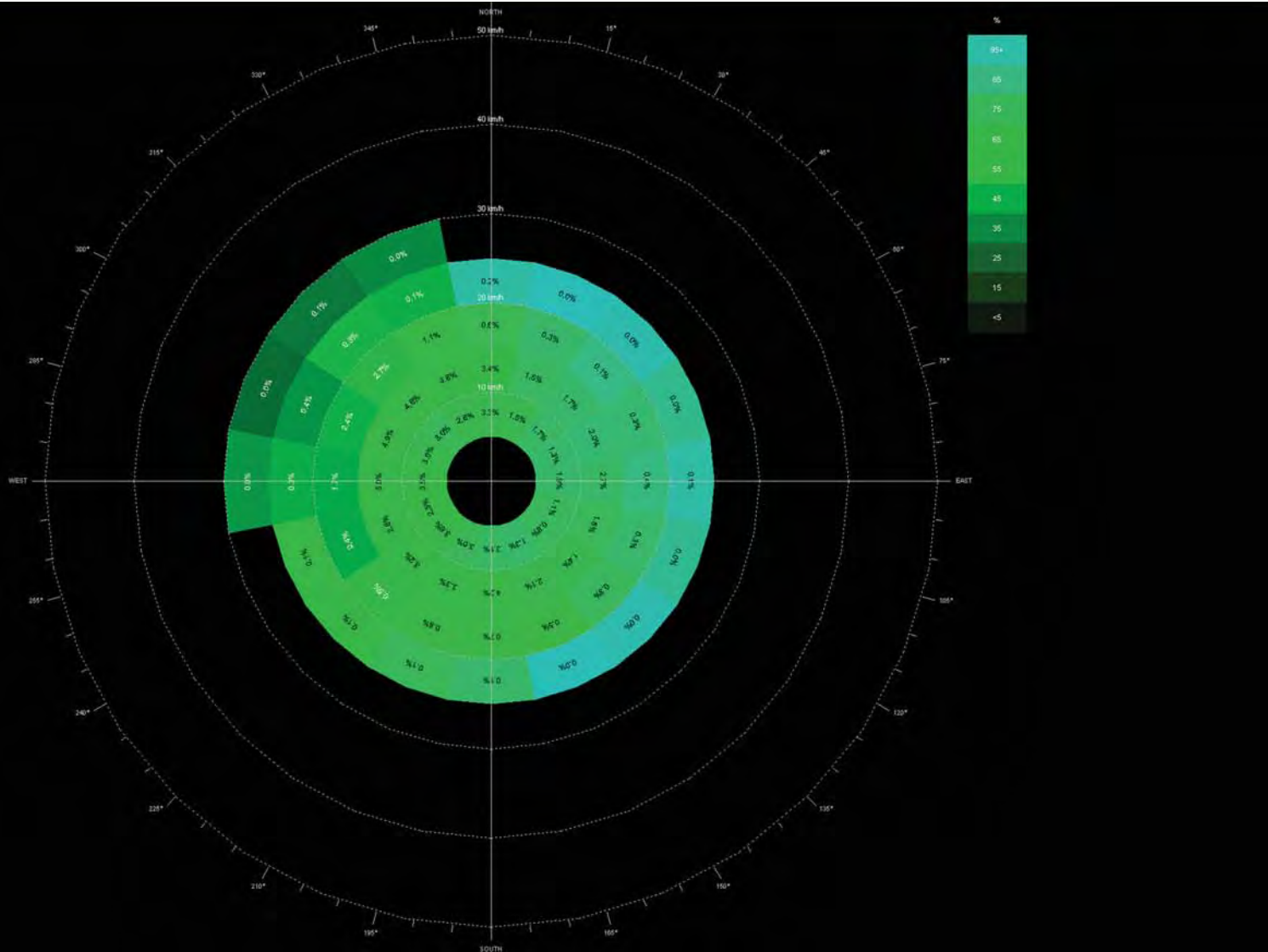


[Duration shown as percentages]

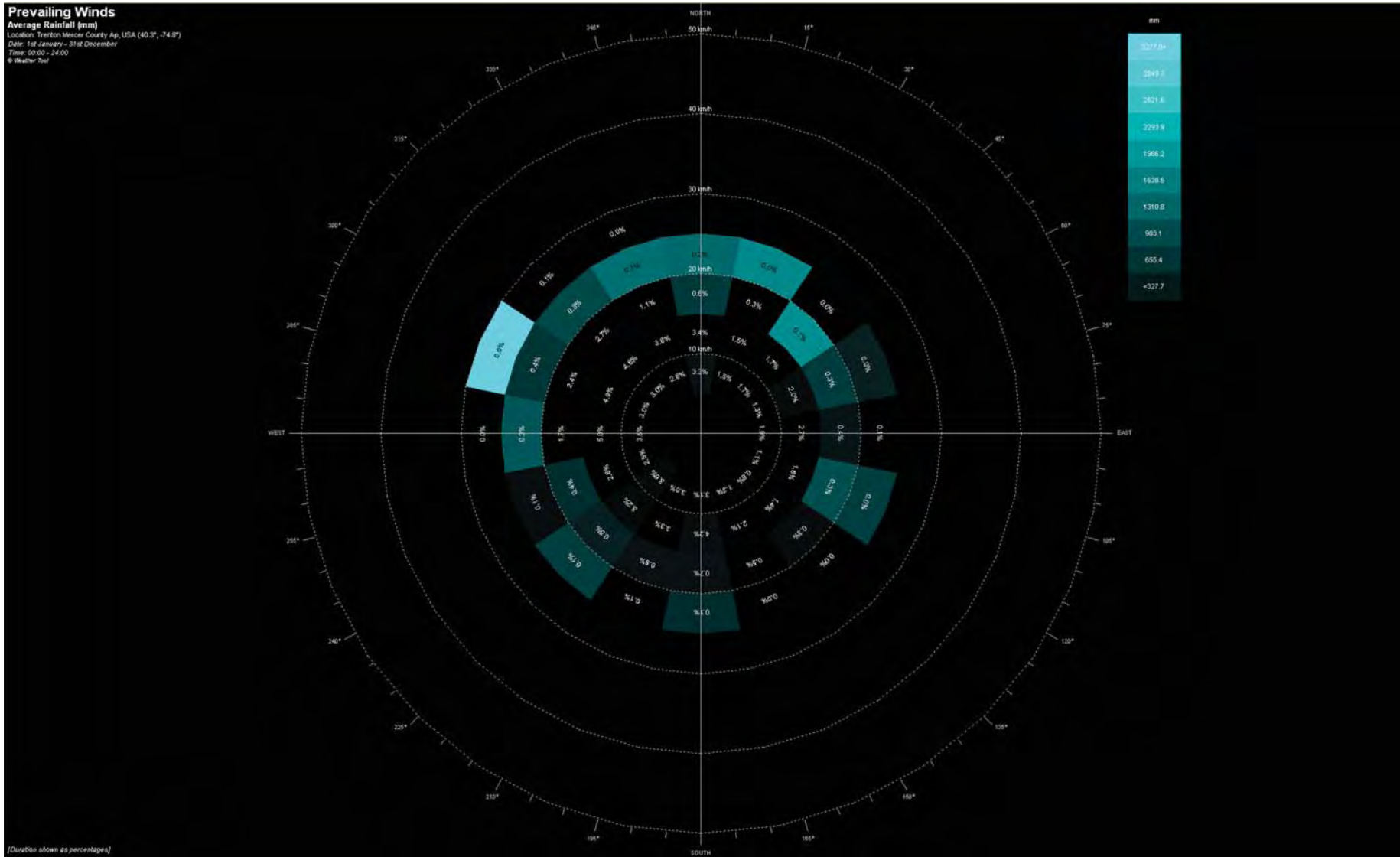
Prevailing Wind Chart - Average Wind Temperature

### Prevailing Winds

Average Relative Humidity  
Location: Trenton Mercer County Ap, USA (40.3°, -74.0°)  
Date: 1st January - 31st December  
Time: 00:00 - 24:00  
© Weather Tool



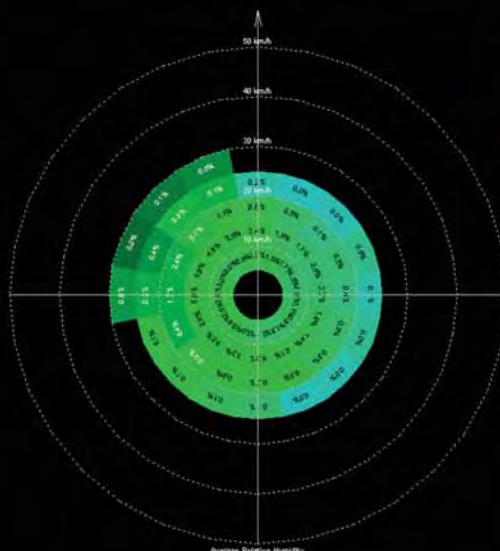
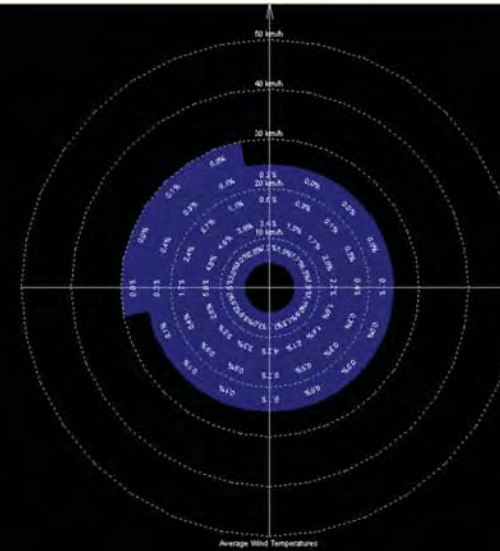
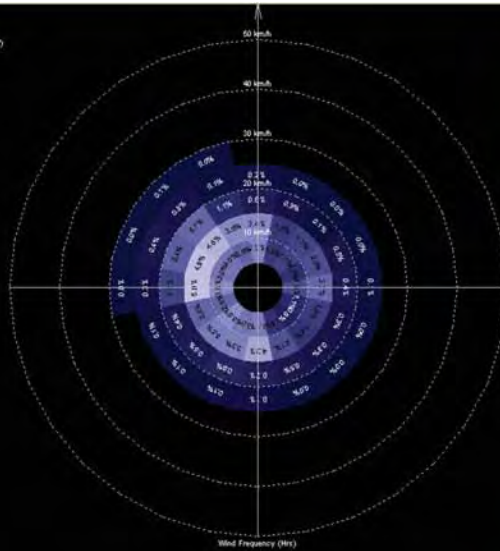
Prevailing Wind Chart - Average Relative Humidity



Prevailing Wind Chart ~ Average Range Fall

### Prevailing Winds

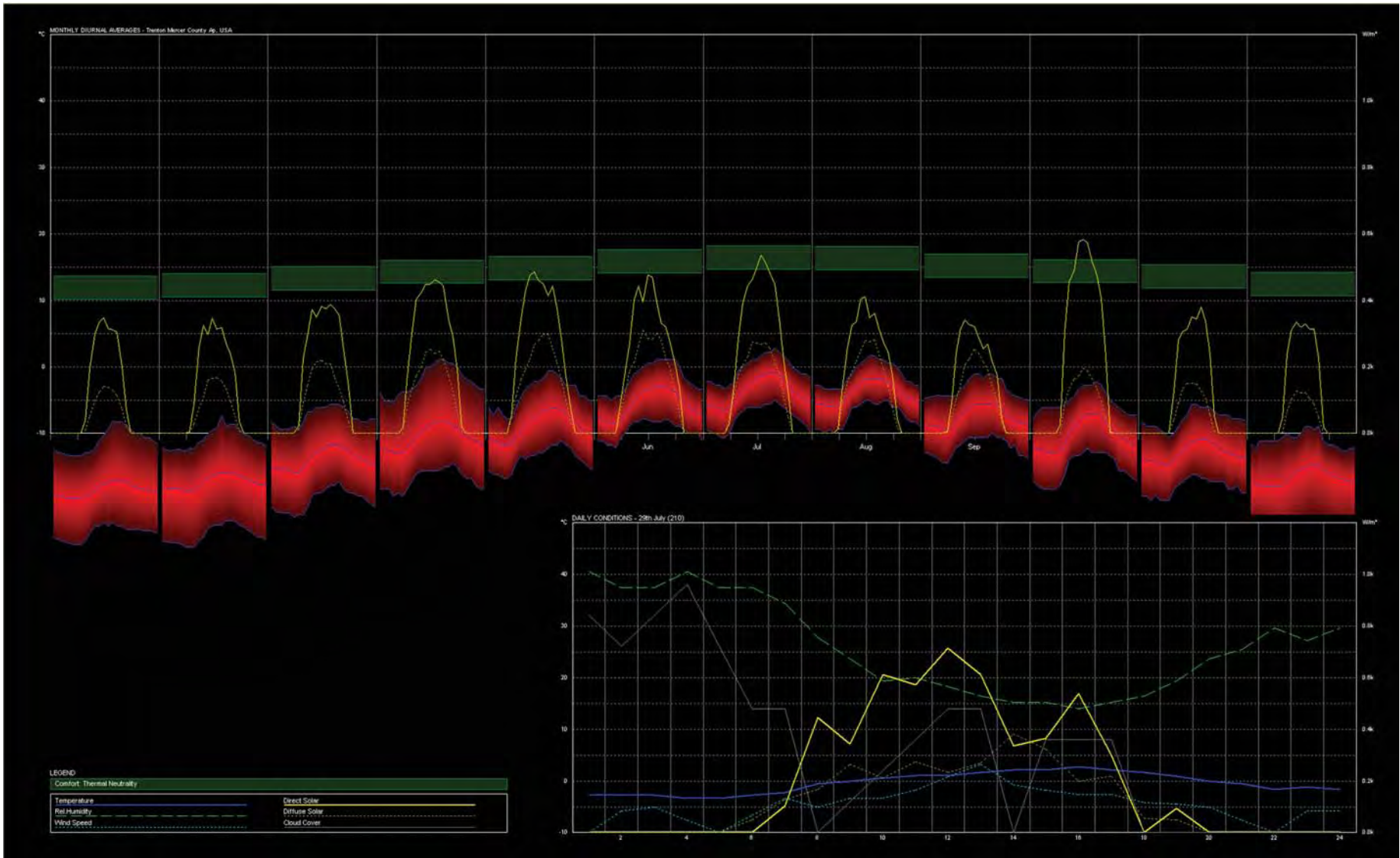
Average Rainfall (mm)  
 Location: Theoton, Merion County, Ap., USA (40.37, -74.37)  
 Date: 1st January - 31st December  
 Time: 00:00 - 24:00  
 © Weather Tool



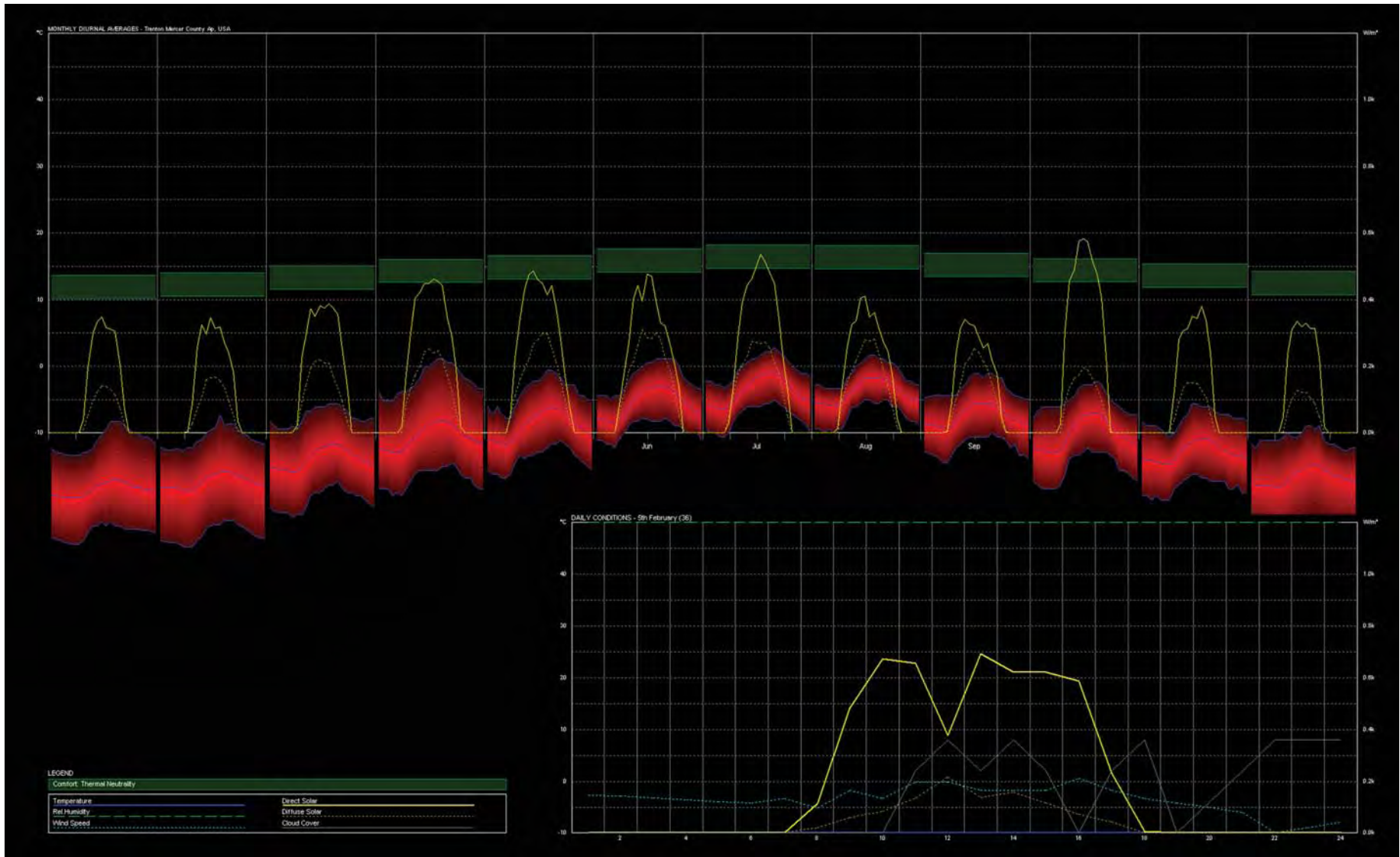
[Duration shown as percentages]

# Prevailing Wind Chart - Average Rainfall

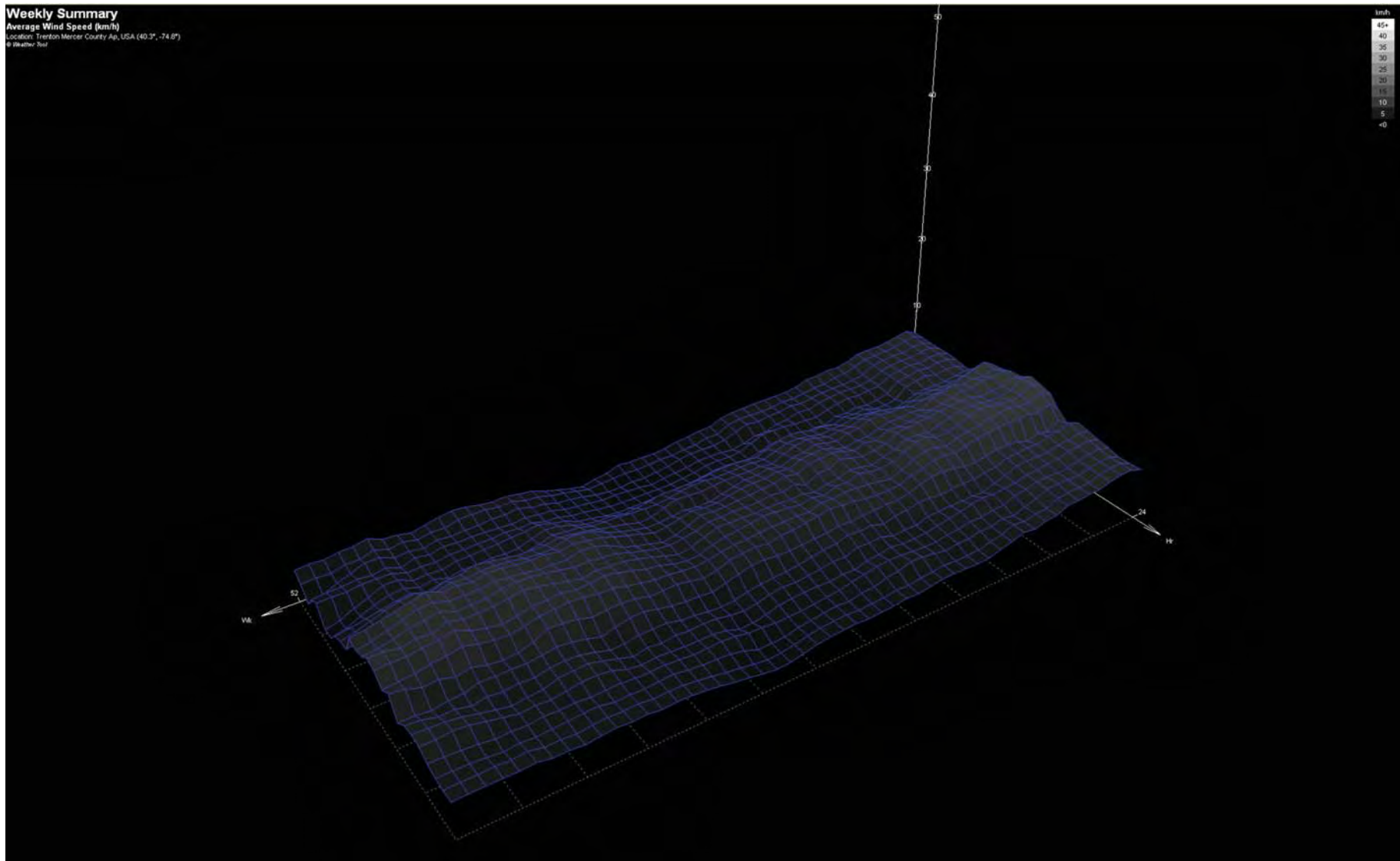




# Thermal Neutrality Chart



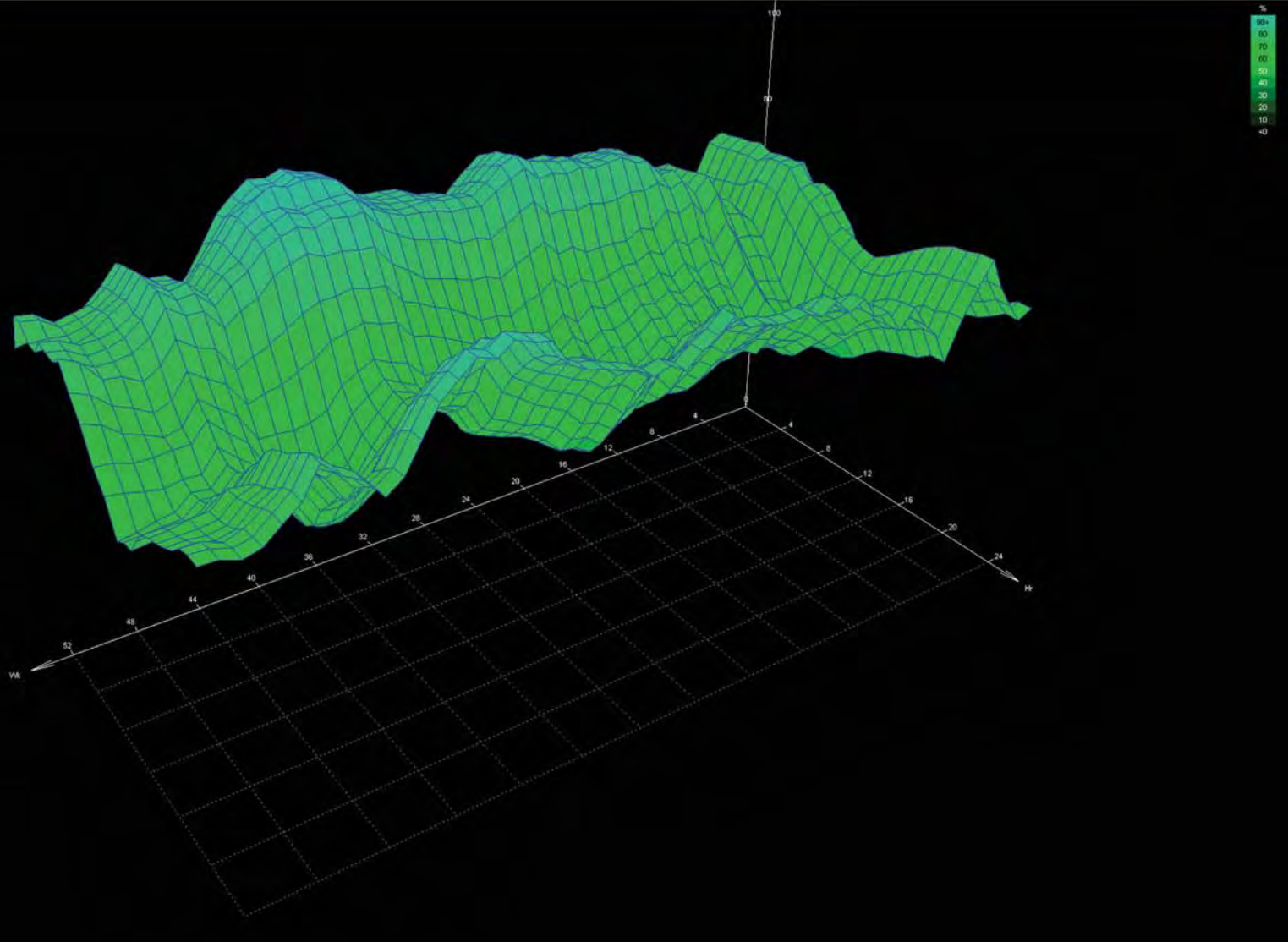
# Thermal Neutrality Chart



Average Wind Speed - Weekly Summary

Weekly Summary

Relative Humidity (%)  
Location: Trenton Mercer County Ap, USA (40.3°, -74.87°)  
© Weather Tool



Weekly Summary Chart - Relative Humidity Chart



# Bibliography

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