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Adaptive Reuse of the Big Box Store

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Adaptive Reuse of the BIG BOX store.

Independent Project submitted to
Roger Williams University, School of Architecture, Art and Historic Preservation
In fulfillment of the requirements of the Bachelor of Architecture Degree in Architecture
In May 2009

By _____
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Class of 2009

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Adaptive Reuse of the BIG BOX store.

Mark C. Roderick

May 2009

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Abstract:

The project reuses and adapts a big box store into a mixed-use space that is pedestrian friendly, with paths allowing access to multiple modes of transportation. Located in Providence Rhode Island, the site is wedged between Amtrak rail tracks and Route 146, and bisected by the Woonasquatucket River. The river provides opportunity for people to enjoy the water. A focused effort was employed to enhance the river by diverting storm-water runoff to swales located on site. The project minimizes grey-fields and maximizes green-space, with a concerted effort to reconnect the site with the Charles neighborhood to enhance community. The reuse uses the structure, much of the roof, and the majority of the existing exterior walls.

The mixed-use space encompass retail, office, restaurant, café, and residential. The retail is located on the busier sides of the building, with high-bay stores and windows allowing ample light. The café and restaurant are located at strategic points, playing off the strengths of the river and Charles Street. Both eateries have high-bay spaces with views of the river walk and related activities. The office spaces are centrally located, with access to an internal atrium and the outdoors, sharing a park with some of the residents. All residential units have two bedrooms, two bathrooms, kitchen/dinning, and a living room with a fireplace. A high-bay space permits light to reach the center of the house. Several bedrooms have patios with views of the park. The creative design utilizes brick, concrete, and glass with a modern appearance.

Acknowledgements-

I would like to thank my family and friends for standing by while the world moved quickly around us. I especially would like to thank my friend Ama Baer, for showing me that computers are not the enemy. I would also like to thank my adviser, Professor Robert Dermody, for his enthusiasm in helping me along the way. Finally, I would like to give a special thanks to Dean Stephen White, for letting me walk these grounds.

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“A large, freestanding, one story warehouse building with one main room, ranging from 20,000 to 280,000 square feet, used initially for retail purposes.”

Julia Christensen

Problem Statement:

Due to America's current economic situation, what will happen to the retail landscape as consumers continue to spend less? More specifically, what will happen to the large big box stores when they become vacant, and how are we going to reuse them in a way that will instill a sense of community? One of the problems we face today is that large big box stores are usually created for a one size fits all mentality that disregards the local culture and more importantly the local climate. "The structures that house these stores, the big boxes themselves, are designed to exhibit no aesthetic pretense, bare-bones buildings that deliver a bare-bones bargain" (J, Christensen. Pg.14). They are often created with legal restrictions that prevent other large competing chains from moving in, especially in the event the original store fails or leaves. Which leads to a problem of filling the void after such an event takes place.

To complicate matters, our economic system is based on the fact that 70% of the economy is consumer driven, unfortunately only food and the "must have" items are now selling well. This does not bode well for many stores and the problem can be traced back to the housing market, followed by the crash on Wall Street, with commercial real estate lagging behind, creating an uncertain economic environment. Our days of consumer spending are not what they use to be and people are up to their ears in debt. Some stores will go dark, and the grass will grow tall in the parking lots with local communities wondering what to do. Local governments will feel the pain in the sense that they lose out on a tax-based revenue while those large buildings lay vacant.

The chance that a large retail chain could perhaps go belly up in any given location is an even greater possibility today than it was five or ten years ago. Currently, two things are happening. One is that, “big-box retailers are replacing their smaller stores with “superstores” leaving empty, vacant, or abandoned property and buildings scattered across this country” (A, Berger. Pg.204). The other thing that is happening, is that some large retail chains are downsizing to say 20 or 30 thousand sq feet in an effort to ride out the storm. Many chains have gone under and many are cutting back their growth, such as Linen & Things and Circuit City to name a few. The next few years are going to be tough, and this scenario will play itself out in all parts of the country. Eventually some of these buildings will become huge empty boxes that will beg the question, what then? What do we do? How will fill the void, and what will happen to them?



Figure 1

Project Statement:

The subject of this thesis will be to restore a sense of community in the Charles neighborhood of Providence Rhode Island, through the adaptive reuse of two big box stores by converting them into mixed-use spaces while also enhancing the surrounding site. The big-box structures, which if ever abandoned, would need to be brought back to life in some shape or form. The buildings have been given new life with the incorporation of residential, retail, and offices, along with a cafe, restaurant, and outdoor gathering spaces. The intention of the project is not to just create program, but to activate space experienced by people for people. The goal is to generate a social environment that has a defined identity and an established sense of place, something that will draw members of the community without the need for a car. To achieve this, I enhanced the site through the use of pedestrian

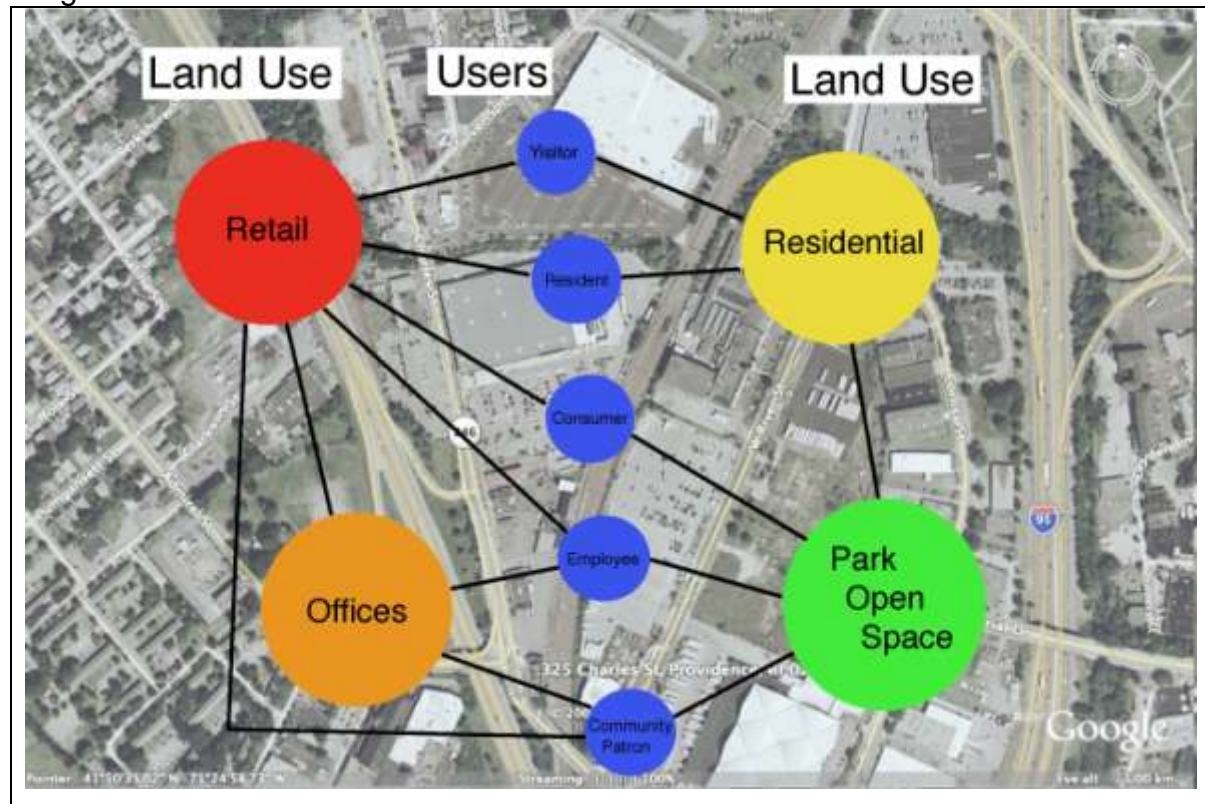
walkways that encourage movement through the buildings and the grounds. The paths are designed to be clear, well lit safe places to meet with family and friends. They are designed to be wide, appealing shaded pedestrian corridors that lead to different places, and special areas on the site. The overall site has been transformed so that the experience is heightened through a well-developed character established through well-planned landscaping elements. The previous site lacked character. Through my efforts, I have created a special place by using material, color and texture to transform an eye-sore that was disconnected from the surrounding development, into a place that has true meaning.

The Charles community has been long overdue for something interesting and fun, and the box uses were not the answer. The imposing boxes there are boring, dull and mundane, connected to an ever-ending sea of cars. Everyday, members of the community experienced these obtrusive boxes with their ebb and flow of people and traffic that is insensitive to old town main street, from which many stores got their beginnings in the first place. My plan creates a place with inviting open spaces that allow members of the community to enjoy the green-scape and activity generated by small retail shops and a park. By creating a mixed-use site, the area will act more like a village than a mega-store, with less traffic, more green space and more atmosphere.

Program Analysis: Relationship of Elements

This diagram below shows the conflicts and relationships among different users. In an effort to enhance the users experience, and social interaction, these associations must be considered before developing the master plan.

Figure 2



Area Allocations:

The program outline and area allocations will be divided into two sectors, sector A and sector B based on the overall site and existing structures on either sides of the river.



Figure 3

Program Outline: Sector A
Big Box-Phase 1

Residential Units_____	26 @ 1500 sq ft.
Total	39,000 sq ft.
Retail Space(s)_____	14 stores @ 750 sq ft.
Total	10,500 sq ft.
Kiosk(s)_____	9 @ 64 sq ft.
Total	576 sq. ft.
Offices_____	12 @ 1500 sq ft.
Total	18,000 sq ft.
Office Lobby_____	1500 sq ft.
Café' _____	1500 sq ft.
Restaurant_____	6000 sq ft.
Security_____	1500 sq ft.
Public Restrooms_____	1500 sq ft.
Mechanical Room_____	950 sq ft.
Circulation / Atrium_____	21,174 sq ft.
Grand Total for main building on site_____	102,200 sq ft.
Buildings & Outdoor Space on Sector A	
Park-Phase 2	

Residential Units	20 @ 1700 sq ft.
Total	34,000 sq ft.
Canoe/Small Boat Shop	200 sq ft.
Private Residential Garden(s)	15,600 sq ft.
Landscaping / Sm. Park	203,000 sq ft.
Paths	20,000 sq ft.
Parking	85,000s sq ft.
Access/Garbage/Delivery	20,000 sq ft.
Total Outdoor Area	343,800 sq ft.
Grand Total for buildings & site combined	464,000 sq ft.

Program outline: Sector B
Big Box-Phase 3

Residential Units	20 @ 2000 sq ft.
Total	40,000 sq ft.
Retail Space(s)	10 stores @ 1000 sq ft.
Total	10,000 sq ft.
Offices	20 @ 2000 sq ft.
Total	40,000 sq ft.
Restaurant	5,480 sq ft.

Mechanical	1,250 sq ft.
Circulation / Atrium	16,620 sq ft.
Covered Parking	20,000 sq ft.

Grand Total for main building on site 133,350 sq ft.

Restrooms & Out-door Space on Sector B

Private Residential Gardens	30,000 sq ft.
Landscaping / Small park	172,000 sq ft.
Paths	19,000 sq ft.
Parking	85,000 sq ft.
Rest Rooms	400 sq ft.
Access/Garbage/Delivery	20,000 sq ft.
Outdoor Area	326,000 sq ft.

Grand Total for building & site combined 459,350 sq ft.

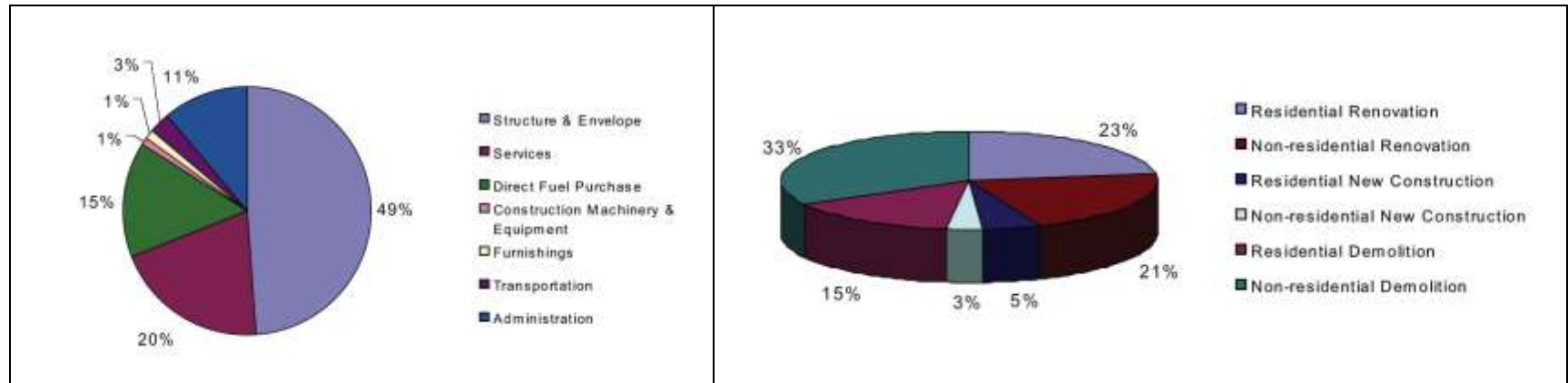
Overall Total of A & B Combined 923,350 sq ft.

Architectural Themes and Intentions:

I would begin by saying that in an effort to act with sustainability in mind, I would rather reuse the structure than send serious amounts of material to the landfill and consider the embodied energy involved. Also, although

the large buildings do not relate to the surrounding residential vernacular, they are in some way a current part of the community. By sparing their demolition, we save that part of the community in an eco-friendly way.

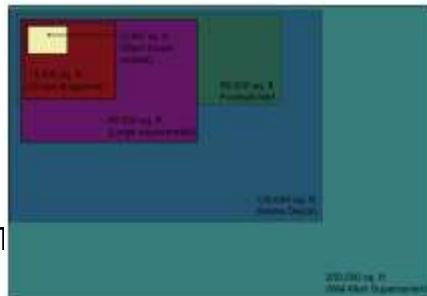
Figures 4 & 5



Embodied Energy of Building Material

Generation of Construction & Demolition Debris from Buildings,

1998



-Comparison of different size commercial buildings and how it relates to the amount of material diverted from a dump.

Figure 6

rounding community via route 146 to the west and the Amtrak rail line to the east, and the Woonasquatucket River that cuts the site in half. My plan restores a sense of community by first connecting the two halves of the site via an old bridge and a new one, and also reconnects the neighborhood with the site through hard-scape linkages and plantings that soften the area. The percentage of hardscape parking on

site was cut by 50% by reducing the available spaces, which allowed for more green-space and enticed members of the community to explore the site. The green space added to the overall park space in the neighborhood benefits everyone. One of the problems is that the site has a strong rail-line boundary to the east that needed too be masked with heavy plantings that act as a sound buffer. Another obstacle to overcome was the bigness of the buildings themselves, which was a challenge to try and make them a place where people would want to work, let alone live. Through my careful efforts, the problem was corrected through the creative handling of a mixed-use space and grounds.

Fortunately, the plan utilized two mixed-use structures on site, (reformatting a Home Depot & Wal-Mart), which gave greater potential to employ multiple uses, and by doing so, worked to serve a greater new of people who may frequent the site. I achieved this by relegating the building(s) into programmatic sections that are connected under one roof, through skylight walkways that bring the outdoors into the space. I delegated the small retail shops towards the west and north, along the road in each case to connect with the flow of traffic along Charles St. and Silver Spring Street. The south-facing residential components are separated from retail by a glass atrium that feeds the three uses. The offices are accessible via the main thoroughfare and a secondary access point at the western perimeters of each building. There is also a concerted effort to create an eco-friendly atmosphere within the framework of the existing structures so that they become as self-sustaining as possible through the use of solar power via the large roofs. The overall theme is reformatting the big box store into a more

inviting place that looks interesting, and has some sort of draw that connects rather than isolates. Through the use of colors, materials, surfaces, volumes and spaces, I believe I transformed the structure into a mixed-use space, and did so in an ecological way while also uncovering the historical layers site. The historical layers are an important ingredient to be celebrated by members of the existing community as well as visitors to the site. These facts and realities help paint a picture of how the site was formally used, leading up to its current use, which I will explain in more detail later. Some of the concepts described were applied to the overall design as a constant, others had been discarded and forgotten. The overall themes and intentions were to adapt and reuse a certain percentage of the big box stores to offset the amount of material that would otherwise end up at a dump. Mainly through the incorporation of retail, office and residential facilities, as well as considering how these relate to the community, the users and the surrounding population. The last intention was a concentrated effort to bring about this in a sustainable way.

Residential

My early thoughts centered around my research in which I determined that the average American home is approximately 2000 sq ft in size. My original idea was to bring together enough ready-made containers to almost equal that in size. I determined that shipping containers average dimensions are 40'L by 8'W by 9.5'H, and the sq footage is 320 feet each. Multiple one container six times and we get 1,920 square feet, which is plenty of room for small family with ample storage. However, I ended up settling on a smaller square foot residential unit, minus the container aspect, but keeping the linear idea with two units per each bay. The units are constructed with structural walls and structural insulated panels, presenting three different size-building options in different phases.



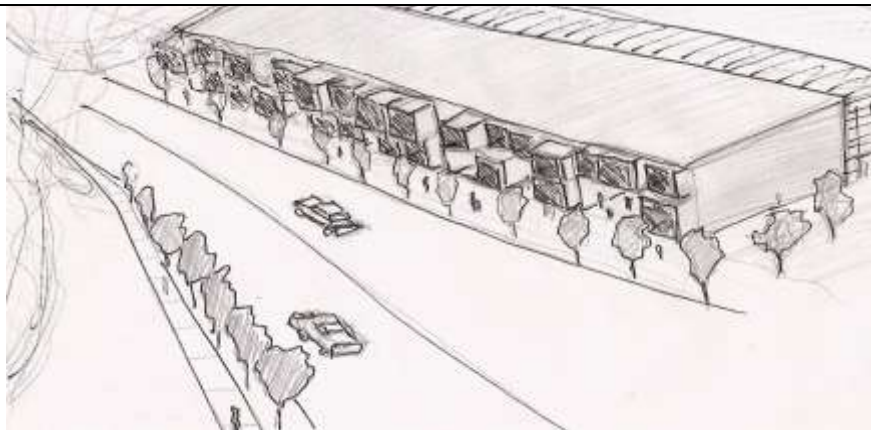
Average American Home
Figures 7 & 8



Interior perspective of pre-fabricated
unit from a company
called LOT-EK

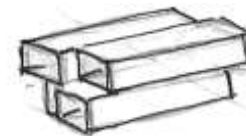
Retail

The retail units were to accommodate multiple uses through two different square foot options. I determined early that the average space needed for a main-street retail store is roughly 2000 sq feet. Because I am purposing a change of use to an existing structure, I determined that in the case of placing smaller retail units into a large structure, it would work better to reduce the size of the average store in order to generate greater activity and also work around the existing physical structure. The retail units would have been composed of four or six containers combined to create a square foot area of 1,280 and 1,920, with a 16 and 24-foot widths respectively.



Figures 9 & 10

Early perspective sketch of Charles Street retail façade with newly added green-space across the street.



Early concept - 4 containers as
1 retail store = 1,280 sq ft.

Offices

The offices were also to be intimate with sq footage areas of 1,280 and 1,920, comprised of four or six containers total. Inside, there was ample room for a receptionist area of 400 hundred feet, and a 150 sq foot copy/fax/ work area. The rest of the space was to be delegated to the employees who would command a workspace area between 50 and 64 sq feet per employee. Management usually commands an area of 100 to 150 sq feet, and these sq footages could have been worked out within the differing needs of the company at large. In some instances I would choose to build with different methods in an effort to allow some flexibility and practicality should they arise?



Figure 11

Café / Restaurant/Gym:

A small Café' was to occupy the very corner where Wendy's now stands at Charles Street and Silver Spring Street in sector B. The square footage is only 3,600, and the plan was to keep it intimate to better integrate its function with the community. The restaurant, located in sector A was to inhabit a smaller building with an area of 4,800 sq feet. A two-story gym would occupy a building in sector A, with sq footage of 7,800. All three of these buildings would reuse existing structures and conserve materials. (Site analysis will be explained in more detail later.) The programmatic reuses were to be given new life in smaller buildings located near, but separate from the big box structures. That idea was altered, the gym disappeared, but the café' and restaurant were developed.



Figures 12, 13 & 14

Community

The site lacks any significant sense of community due to the extremely large buildings and parking lots that are too big to relate to the surrounding vernacular. I proposed early on to create open spaces by reducing the current parking lots in half, and introduce more green-space to the site and neighborhood that invites greater interaction. In the words of Kenneth Munsell, director of the Small Towns Institute in Ellensburg, “ Communities need focal points, or central gathering places, to facilitate the repeated face-to-face encounters people need to know to get to know one another” (C.Beaumont. pg.12). The mixed-use would aide in promoting a sense of community. I intended on creating walkways that allowed community members to utilize a place in a way that enhances activity and social exchange. The residential component would also create a village type atmosphere with the gardens created in front each box residential unit. This tactic has been employed in a few apartment complexes in which units are “oriented around a communal green area, featuring a playground” (K, Benfield. pg. 65). There are many benefits to be found by using this strategy, one of which is a sense of greater security.



Figures 15 &16



Sustainable Tactics Employed

I planned early, to create a project that was sustainable as possible through the use of various tactics applied both to the structure and the site. To start, my goal was to achieve a LEED accredited building by utilizing passive and active solar gain, and employ solar water heaters to aid in supplying hot water on site. I also planned on using solar panels on top of the roofs of both structures to offset energy consumption. Although solar panels are costly, “they pay for themselves in after about ten years with rebates and tax credits” (R, Elizabeth. pg. 136). I also employed the use of trees as natural wind breaks, in an effort to lessen the effects of winter winds and solar gain. Ample light was a must. Operable windows and their placement in the space(s), would have a huge impact on

energy consumption. I wanted to incorporate high areas on the existing structures to create a stack effect for the hot summer months.

Other methods included simple things such as bike racks that would promote alternate transportation to and from the site. I wanted to incorporate the use of renewable materials in the construction of the interior spaces, such as bamboo or cork. The building would be provided with community and private gardens that would allow for the growing of certain fruits and vegetables that encourage a self-sustaining lifestyle. A grey-water system was to aid in diverting water to on site catchments and would be used in some areas for irrigation of non-edible vegetation. The uses of lo-flow toilets would also aid in reducing the amount of water usage, as would the implementation of low-energy appliances on energy needed.

There was also the possible potential to explore the head flow of the Woonasquatucket River to see if small water turbines could aid in offsetting power demands, but that was never investigated. I wanted to also explore a green roof on some of the smaller structures on site, and even some green walls for numerous reasons, but as the project progressed, things change. As I have mentioned before, I planed on reusing the existing structure, which will offset the amount of debris otherwise headed to the dump. Also, the reuse of shipping containers is a recyclable effort worthy of exploring.

User group Analysis:

A. Employees from proposed retail stores and offices, (between the ages of eighteen and eighty-five)

(restaurant, shops, cafe, deli, barber)

Needs:

Parking; Walking distance 2/10 mile (2-5 minute walk)

Bus shelter with bus routes.

Consequences:

Reduced need for personal vehicle.

Increased opportunity for walking.

Enhancement of walking experience.

B. Patrons and Consumers to the retail stores and offices, (all ages) (restaurants, café's, deli, barber)

Needs:

Products, food, grooming, services, entertainment.

Parking; Walking distance 6/10 mile (10-15 minute walk)

Bus shelter connecting the commercial district with greater Providence.

Consequences:

Reduced need for personal vehicle.

Increased opportunity for walking.

Increased opportunity for social cohesion.

C. Members of the Neighborhood and Surrounding Community, (all ages)

Needs:

Daytime & Nighttime shopping and dining.

Alternatives to large malls.

Bus shelter connecting to commercial districts as well as greater Providence. Walking distance 6/10 mile (10-15 minute walk)

Recreation and public facilities such as, (playgrounds, park-space, plaza, paths)

(Walking distance 6/10 mile (10-15 minute walk)

Consequences:

Reduced need for personal vehicle.

Increased opportunity for walking.

Enhancement of walking experience.

Increased opportunity for social cohesion, and a place for community events and activities.

Compact form of development.

Provide pedestrian linkages to all uses within the site.

D. Proposed residents, (all ages)

Needs:

Daytime & Nighttime shopping and dining.

Bus shelter connecting to commercial districts as well as greater Providence. Walking distance 6/10 mile (10-15 minute walk)

Recreation and public facilities such as, (playgrounds, park-space, plaza, paths) Walking distance 6/10 mile (10-15 minute walk)

Provide medium density housing.

Residential Areas with rear allies to provide for car storage, Walking distance 2/10 mile (2-5 minute walk)

Consequences:

Increased opportunity for walking.

Enhancement of walking experience.

Increased opportunity for social cohesion, and a place for community events and activities.

Reinforces compact development.

Socioeconomic and ethnic mix.

Increased ability to monitor activities around the housing facility.

Site History

A brief history of the Charles neighborhood in relation to the site.



A brief history on the Charles neighborhood reveals that in the early 1800's the area was considered rural, with only a handful of farms and houses. Later, a small cotton mill established itself on the Wanskuck Pond. Eventually, by 1864, The Silver Spring Bleaching and Dying Company established itself in the area, which created a stable community drawing several immigrants. By the early 1900's, the area had a diverse population comprised of English, German, Irish, and Scottish, with Italian being the largest segment of the population.

Today, race in the area indicates that the neighborhood is mostly White, with a small percentage of Hispanic and Black population.

Figure 17

History of the neighborhood.



The slight economic boom in earlier years created a demand for housing, which resulted in many one and two story homes being developed throughout the neighborhood. Soon, progressive transportation to the area also developed when the trolley was introduced to the Charles area by 1895, and by 1908 connected the whole neighborhood to the rest of Providence. The trolley helped to bring growth to the area, but by the mid 1950's, several companies in the neighborhood closed their doors and the area was no longer considered a strong place of industry. Through the years, the site managed to retain some level of occupation due to city planners who zoned the place for manufacturing and commercial uses. Unfortunately today, the site lacks a sense of community due to the current types of use.

Figure 18

Most of the community activities occur to the north of the site.

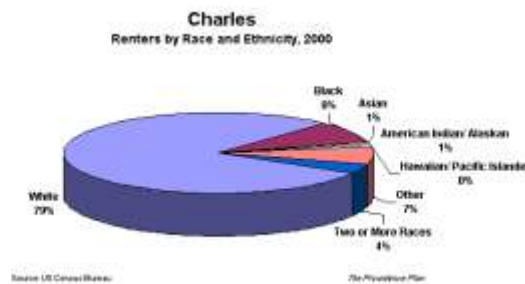
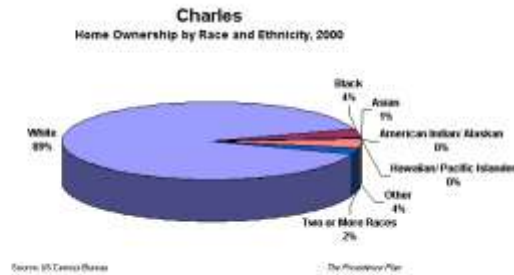


This map shows some schools in the neighborhood north of the site.

Figures 19 & 20



The site is just south of the local community center called the Da Vinci Center.



These graphs represent a picture of the population of owner's and renters by race in the Charles neighborhood.

Figures 21 & 22

Because I am proposing a mixed-use site with a residential component, I thought it would be useful to understand some facts about the neighborhood in regards to housing.

Housing in the Charles neighborhood reveals that one third of all houses are single-family homes, while almost 50% are made-up of two to four units. Also, worth noting, is that the majority of homes (64%) were constructed before 1960.

Historical layers of the site.

387 Silver Spring Bleaching & Dyeing Company (1864 and later): The Silver Spring Bleaching and Dyeing Company was formed in 1864 when Henry Lippitt and Charles Merriman bought the buildings, land, and water rights to Frieze and Dow's bleachery on the west side of Charles Street (then part of North Providence). Frieze and Dow had gained a reputation for the extraordinary whiteness of their bleached goods which was due to the clear water produced by a spring (hence the name Silver Spring) and by the West River which ran through the mill site.

Merriman and Lippitt incorporated as the Silver Spring Bleaching and Dyeing Company and began both remodeling the Frieze and Dow Mill and constructing a new plant across the street. Nothing remains today of the old Frieze and Dow Mill. Merriman retired in 1871 and Lippitt's son Charles entered the business. Six years later the Silver Spring Bleaching and Dyeing Company added cloth printing to their operations. It was about this time that the Silver Spring Company began to have problems getting a supply of clean water from the West River as more mills were built upriver. A dam and two reservoirs were built in the hope that the pollutants would settle to the bottom of the reservoir. Having found that this did not solve the problem, the company later obtained water from driven wells and from the city water supply. By 1897 the Silver Spring Bleaching and Dyeing Company had expanded considerably and employed 575 workers. In 1905, the works were bought by the U.S. Finishing Company, a large textile combine.

The U.S. Finishing Company, which also owned the Queen Dyeing Company (see 325 Valley Street) and the Dannel Manufacturing Company in Pawtucket as well as five other finishing and dyeing plants in other parts of the country, operated the plant until 1939 when the combine, apparently consolidating its holdings, sold the property.

This excerpt was obtained from the RI Historical Preservation & Heritage Commission. The article talks about the company located at the site where the current Home Depot now resides.

This map from 1938 shows the mill location and a small pond no longer on site.

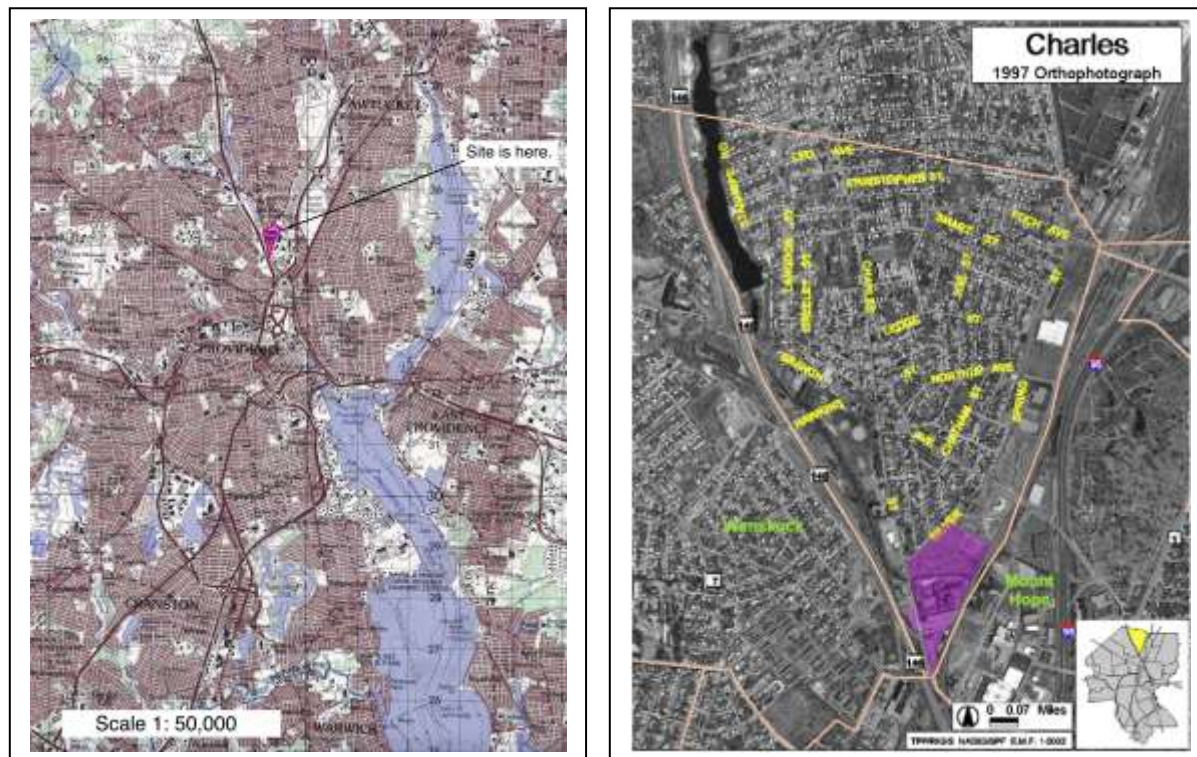


Figure 23

Site Identification and Rationale

To begin, the site chosen is located in Providence Rhode Island at the lower portion of the Charles district north of the main city. At the same time I was exploring the programmatic feasibilities of the building, I also explored the various approaches to the site. The site is wedged between Route 146 to the West, and the Amtrak to the East, divided by Woonasquatucket River.

Figures 24 & 25



Charles Street acts as the physical boundary west of the site. There is a small parking lot just to the west of sector A, and its boundary is route 146 to the west, and Charles Street to its east.



Figure 26

Charles Street acts as the physical boundary west of the site. There is a small parking lot just to the west of sector A, and its boundary is route 146 to the west, and Charles Street to its east.



Figure 27

Silver Street acts as the physical boundary north/northwest on the site.



Figure 28

The site in area sector B abuts an industrial park to the north/northeast. Charles Street also acts as a physical barrier south on the site in the lower portion of sector A. Figure 29



The

boundary to the east of the site abuts the Amtrak rail-line.



Figure 30

The site itself is rather large and equivalent to 11 whole residential blocks when compared to residential lots in the area. There is a great opportunity to connect the two areas of the site, via an old bridge east on the site. The bridge is not currently in use, due too the fact that it is now overrun with vegetation, but if restored will aid in reducing traffic at the current intersection and other noted points of entry.



Bridge shown on next page.

Figure 31

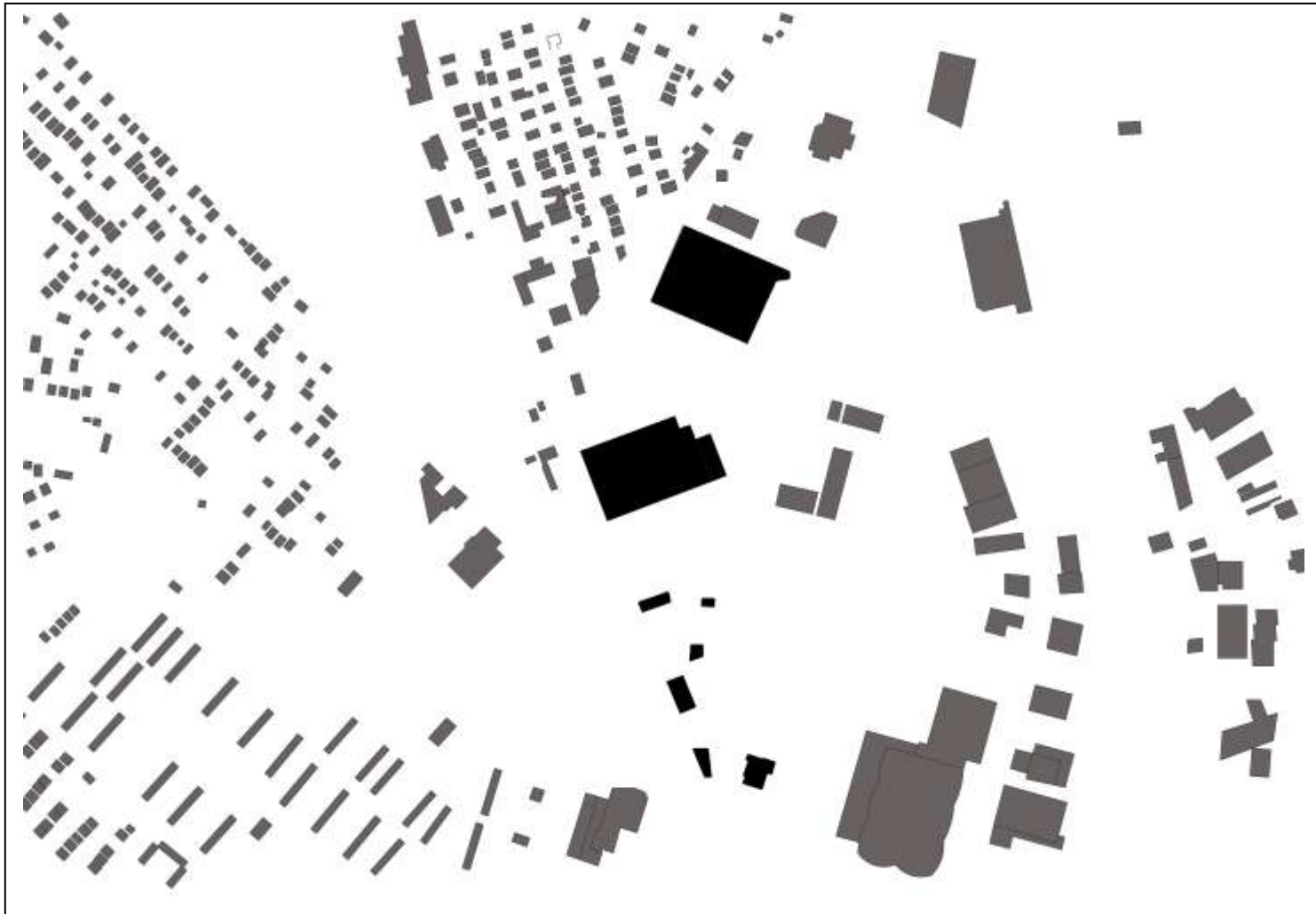
Photo of an old bridge on site, Image location is just east of the current Home Depot.

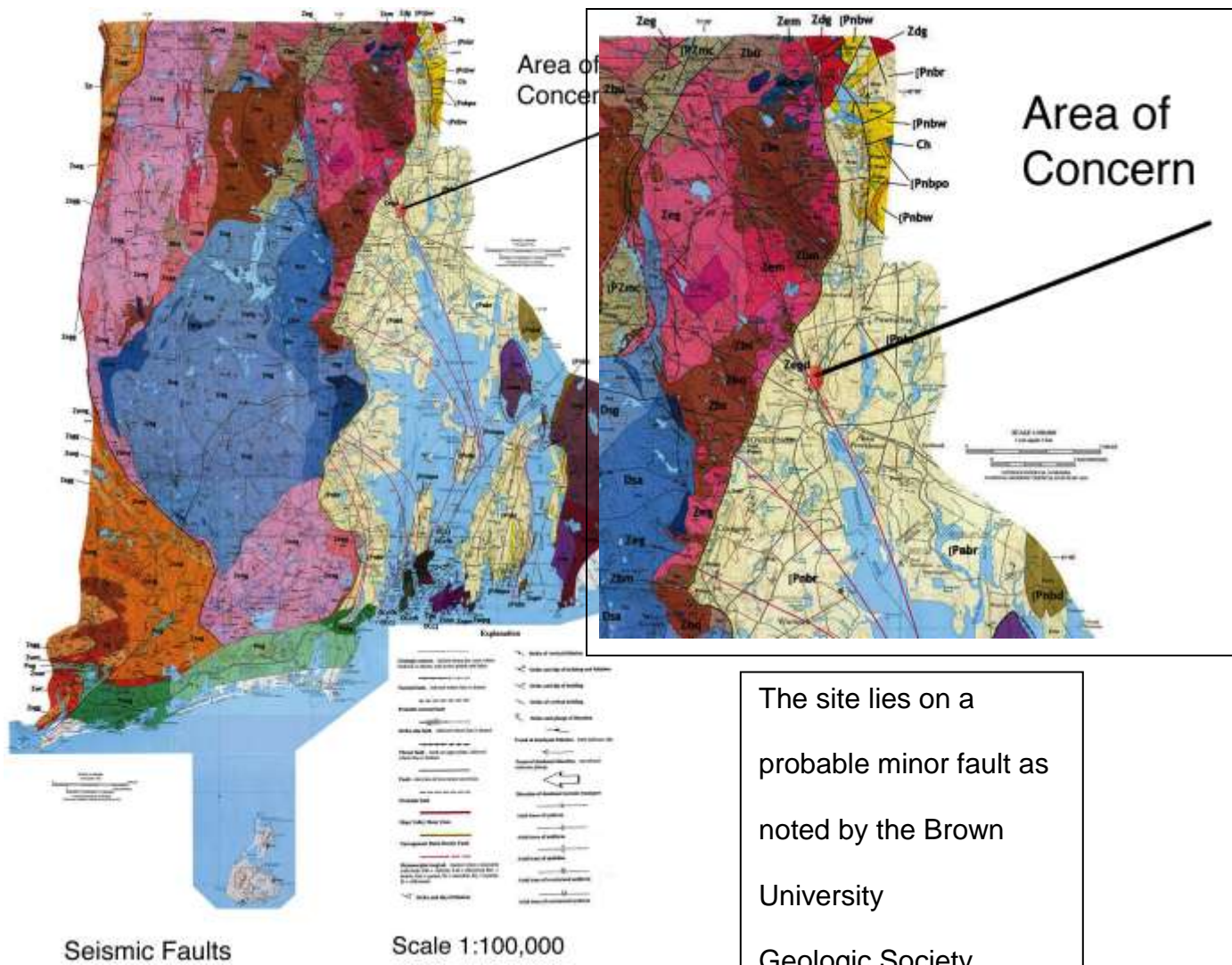


Figure 32

This diagram shows the two large BIG Box stores that are the focus of reformation, along with some smaller buildings on site.

Figure 33

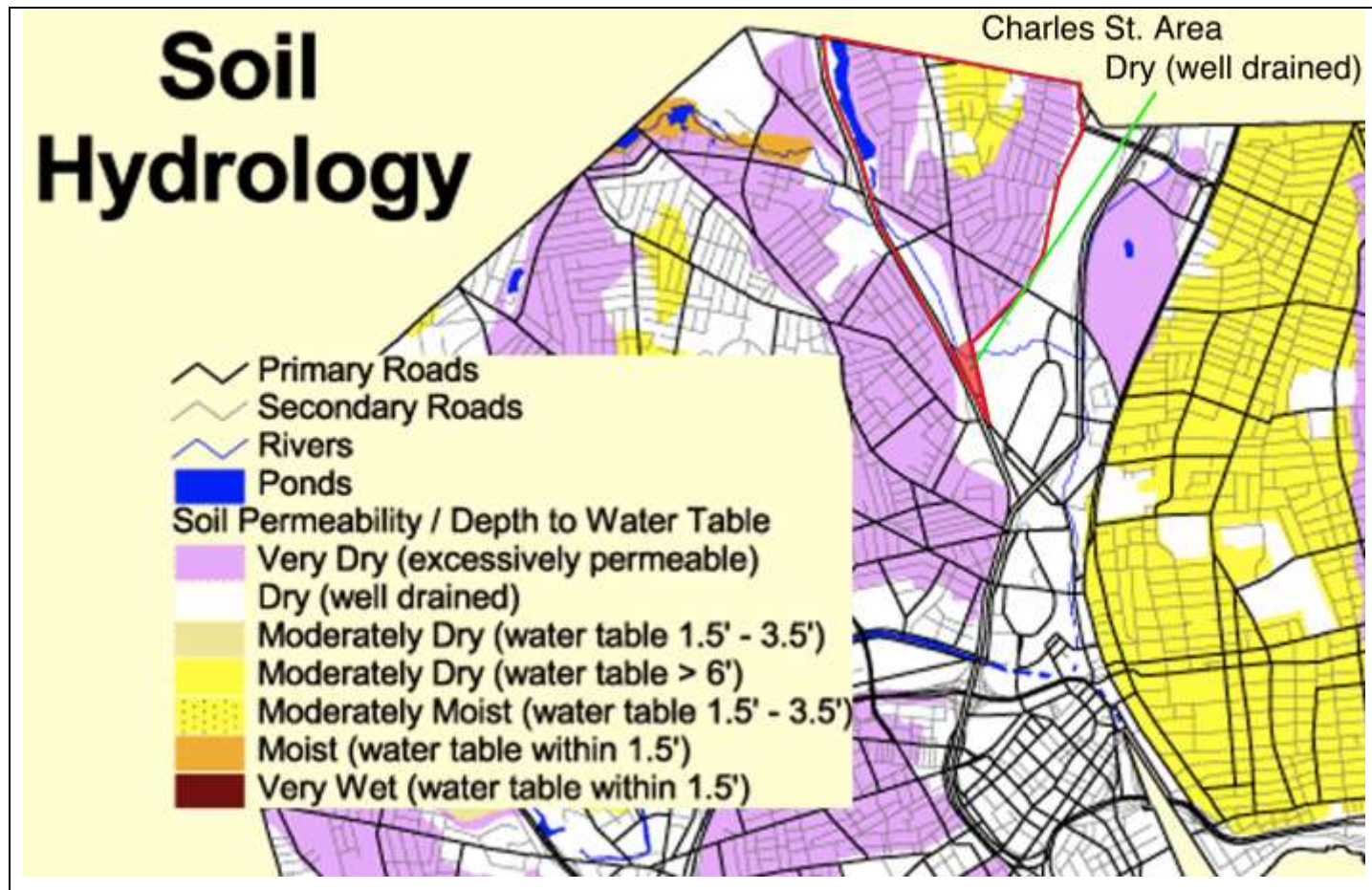




Figures 34 & 35

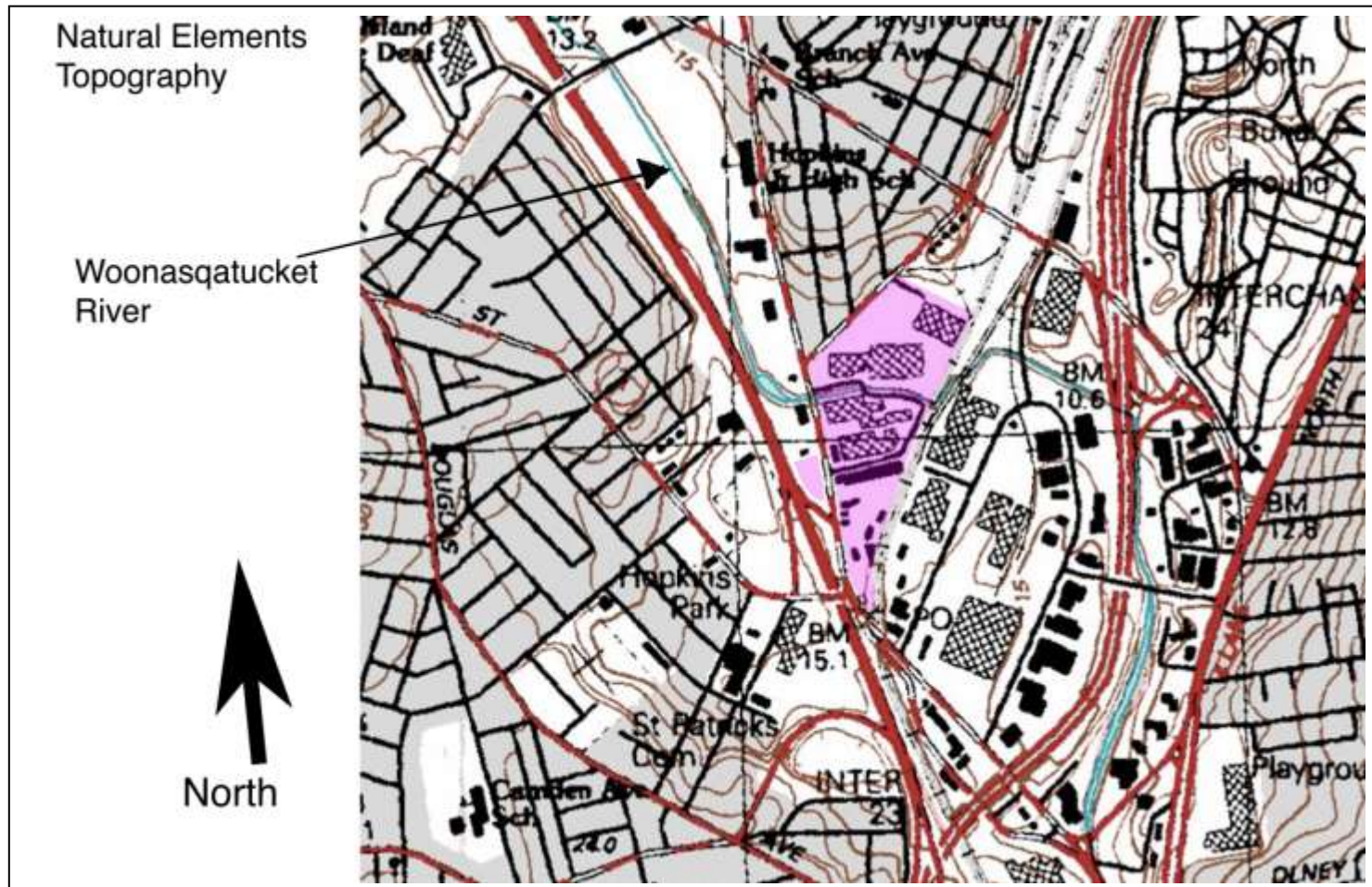
The geology of the site is composed of granite with a soil hydrology considered dry for the area because it is drained properly. The very dry areas, (considered excessively permeable), are primarily residential neighborhoods just north of the site.

Figure 36



The typology of the site indicates that the site is lower than the surrounding immediate contours, especially because the Woonasquatucket River cuts through the middle portion of the site and leads to the bay where glacial movement created lower surface areas.

Figure 37



There is a heavy surface runoff factor due to the large amount of hard-scape on the site. The two, large flat roofs aid in sending tremendous amounts of water to sewerage lines that could have otherwise been diverted and reused.

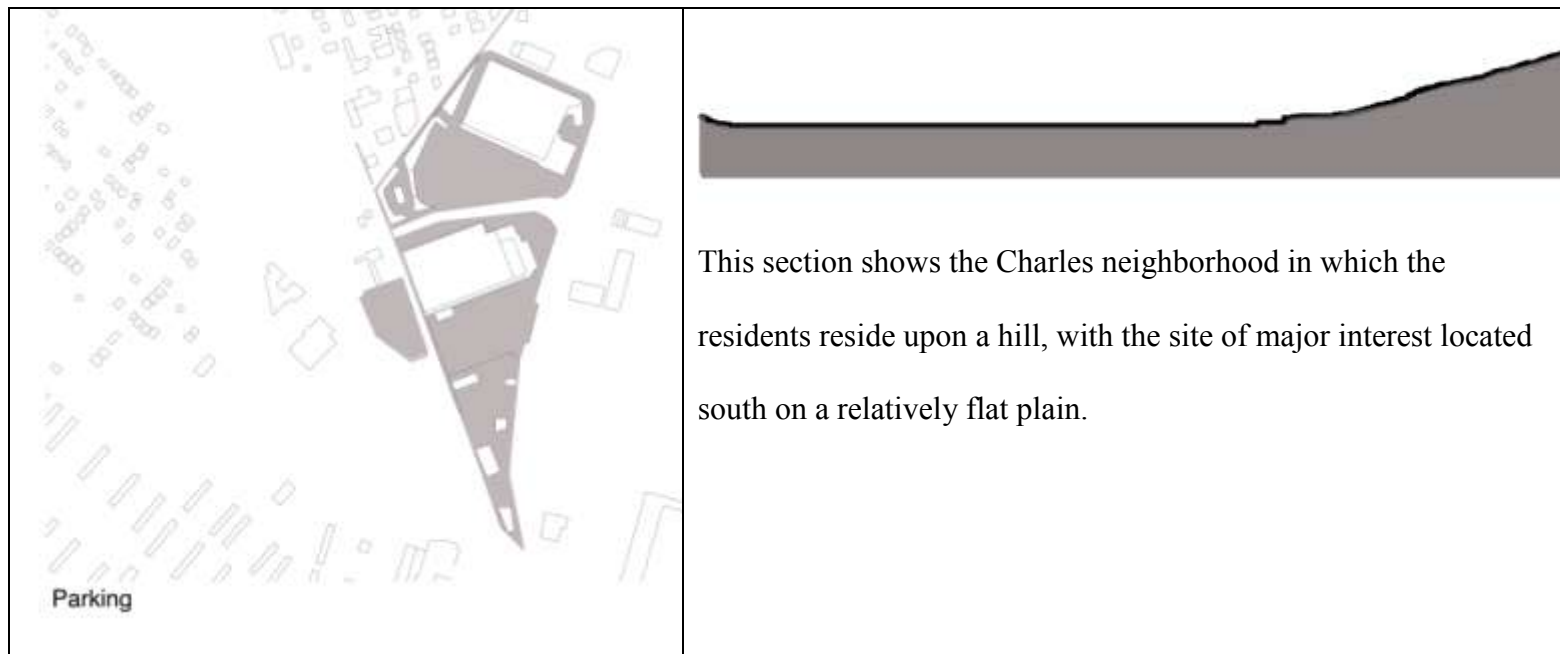


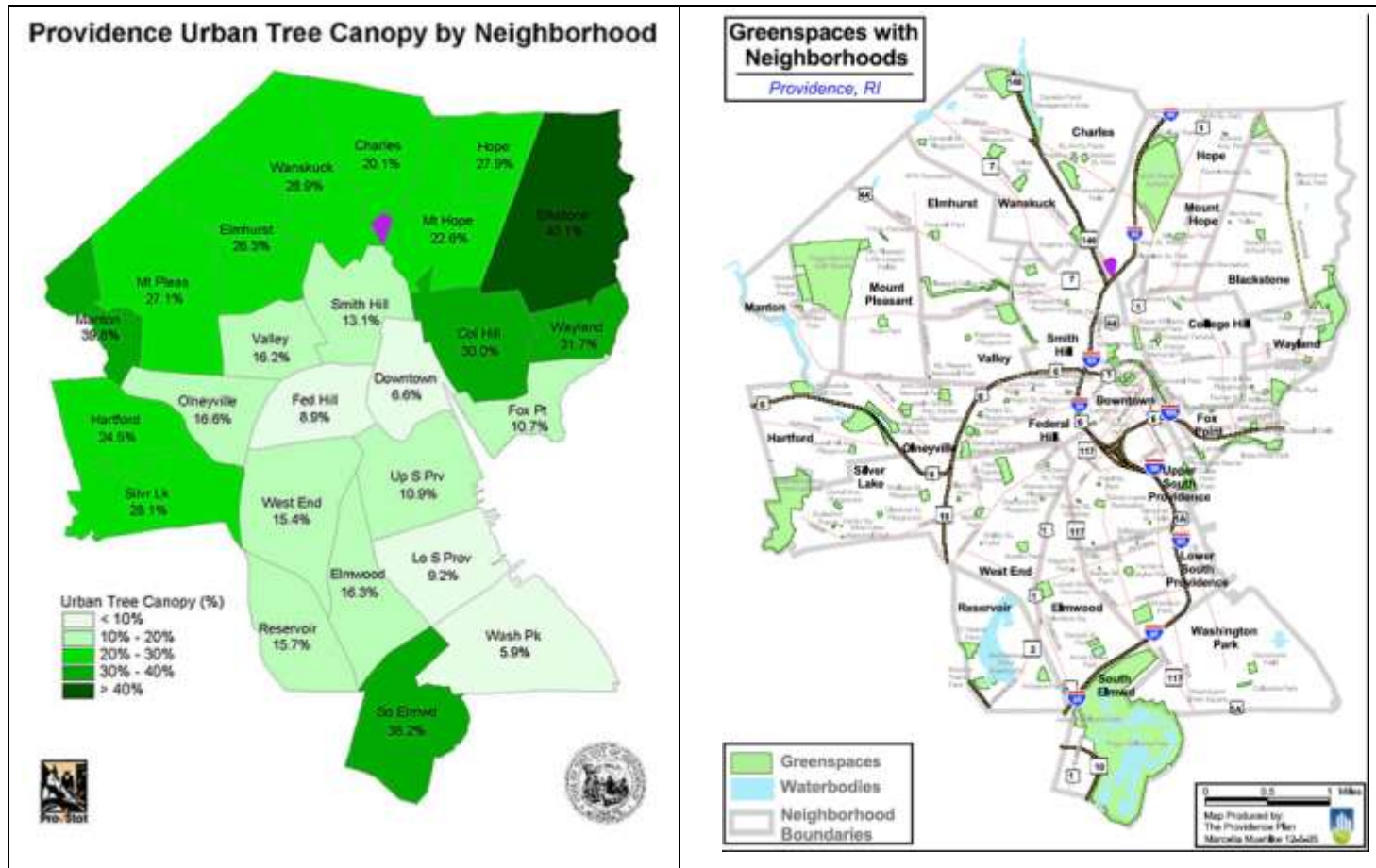
Figure 38 & 39

One interesting thing to note is that the trees follow the river the best they can until they hit the train tracks and then they become scarcer due to human intervention. Figure 40

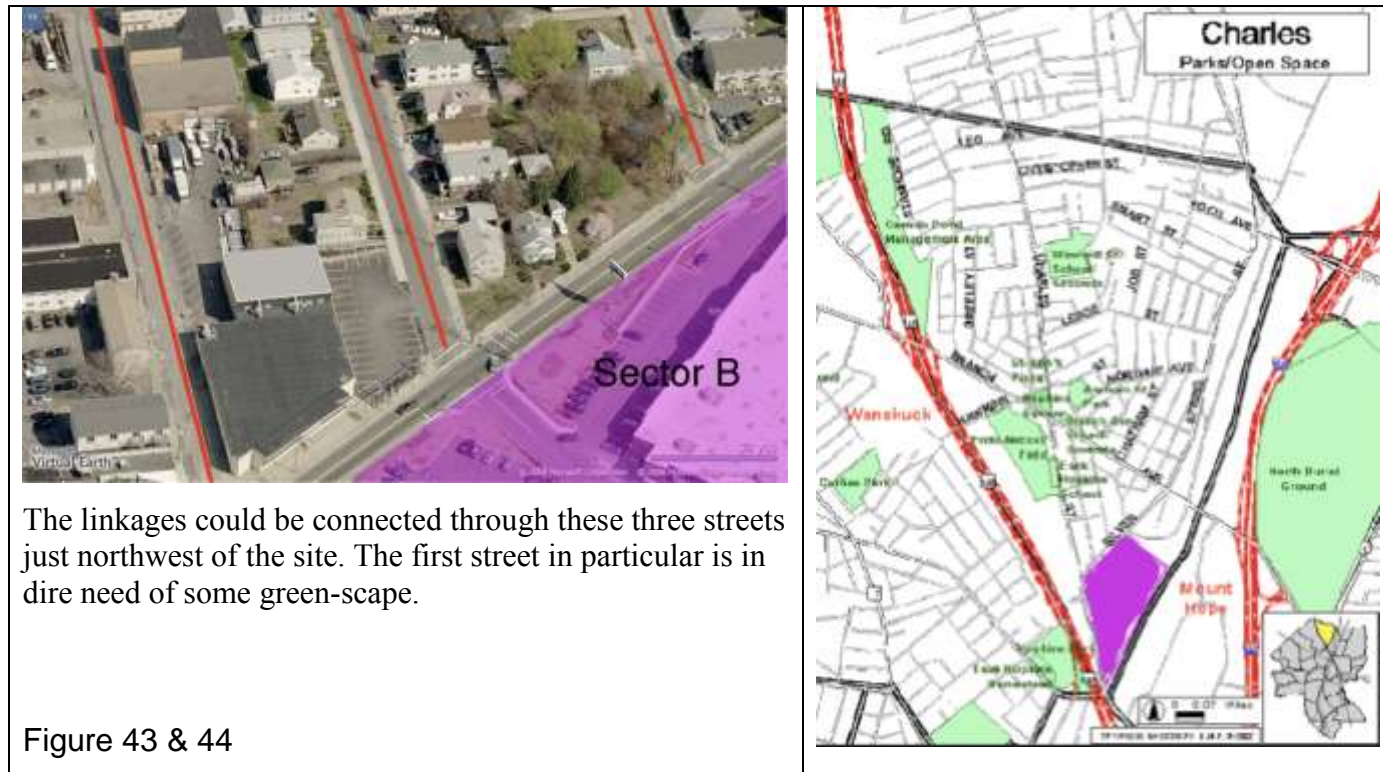


The tree canopy for the area is low, due to the large lots needed in the city, with the greater Charles area being comprised of 20% the potential coverage.

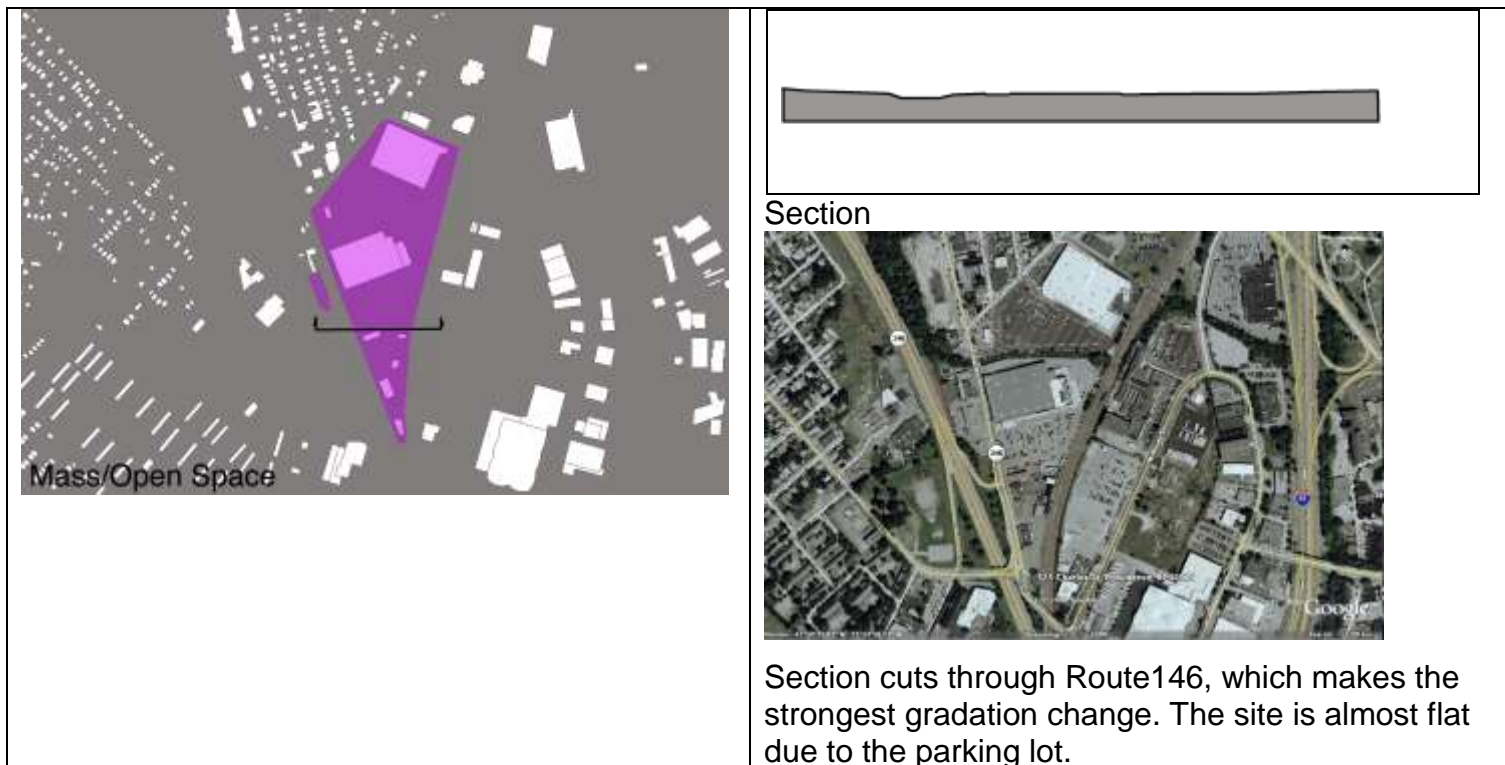
Figures 41 & 42



This map shows the open recreation space for the Charles neighborhood in relation to the site. With Hopkins Park to the west, and North Burial ground to the east. This map only reinforces the need to create green space and limit the surrounding hard-scape. There are smaller parks located north of the site that could be connected with linkages through the neighborhood that could reinstate a sense of community.



This diagram shows the open space of the surrounding area. The section is a slice of the site looking north. The indentation on the section indicates Route 146 just west of the site. The open space of the site itself is primarily flat due to large expanse of parking lots that are very much level. Figures 45, 46 & 47



The site has a small amount of graffiti, and a little more as one moves northeast along the train tracks where various underpasses become tagging outposts. This diagram shows some problems and potentials that are relevant to especially show the current & possible new bridge location.

Figure 48



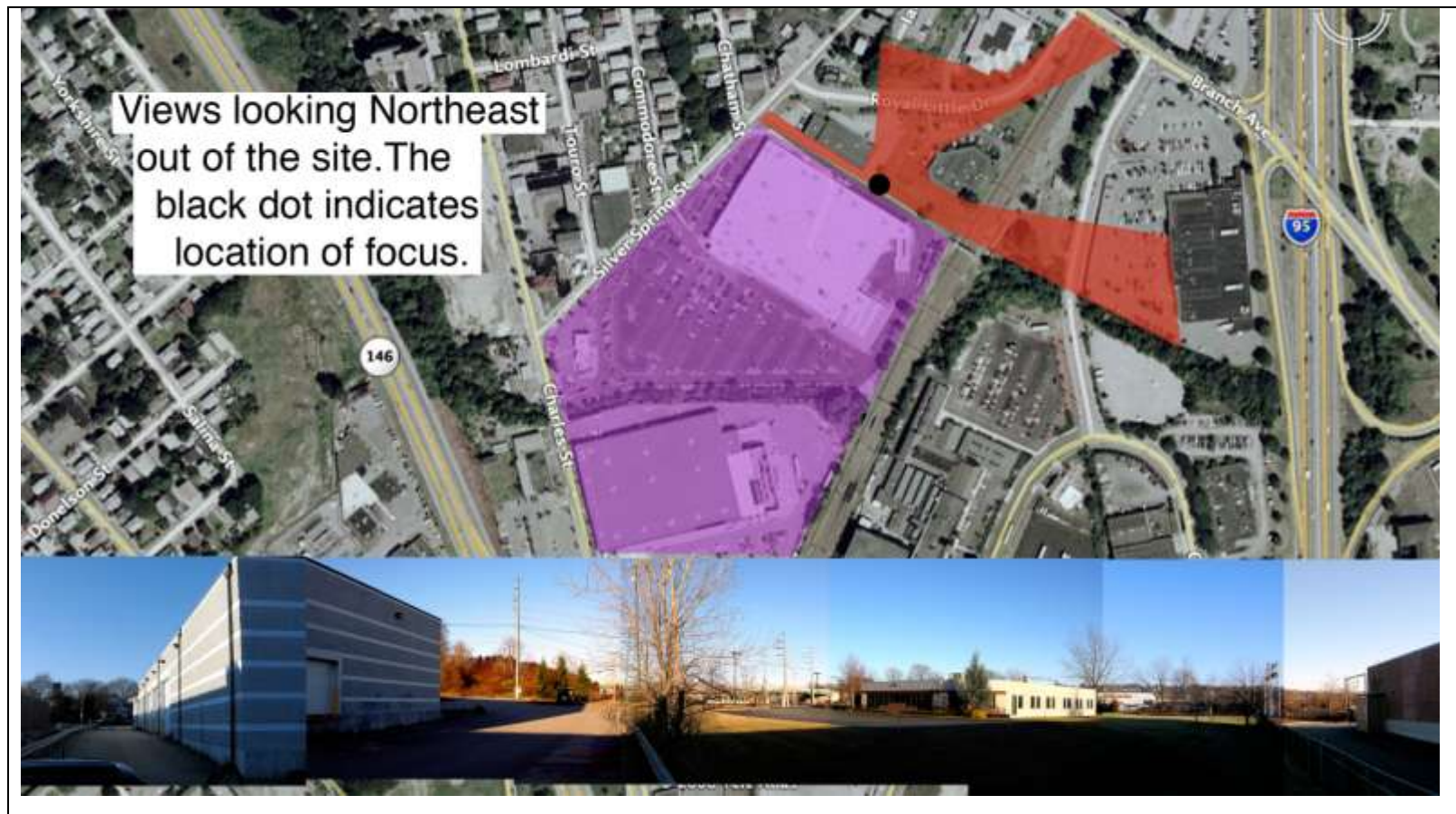
These are the current views into the site from six different vantage points.

Figure 49



These are views looking out of area sector B into an industrial park.

Figure 50



Photos show the Branch Ave overpass, as well as the Stop & Shop store across the tracks. The trees mask a lot in an industrial park.

Figure 51



These are views looking east out of area sector A. The photographs are looking across the tracks towards an industrial park.

Figure 52



These are views taken from the corner of Charles Street and Silver Spring Street looking south, west, and north on Charles.

Figure 53



These are views looking west out of the small parking lot, (which is part of sector A). The photos show Route 146, with Providence to the south, an industrial company to the east, and the Branch Ave exit to the North.

Figure 54



These are views looking west and south out of the site taken from the lower portion of sector A.

Figure 55



These views are important to show, because they give an idea of what members of the community see as they travel down a hill to Silver Spring Street. They see a big box Wal-Mart. The more photos taken of the street, correlates to the length of the street shown. Starting from left moving right, the first street is Touro Street, followed by Commodore Street and then Chatham Street.

Figure 56



The vehicle circulation is relegated to Charles Street & Silver Spring, and there is currently 7 points of entry and exit access for vehicle traffic on the next page.

Figure 57



There are seven points of entry and exit into and out of the site.

Figure 58



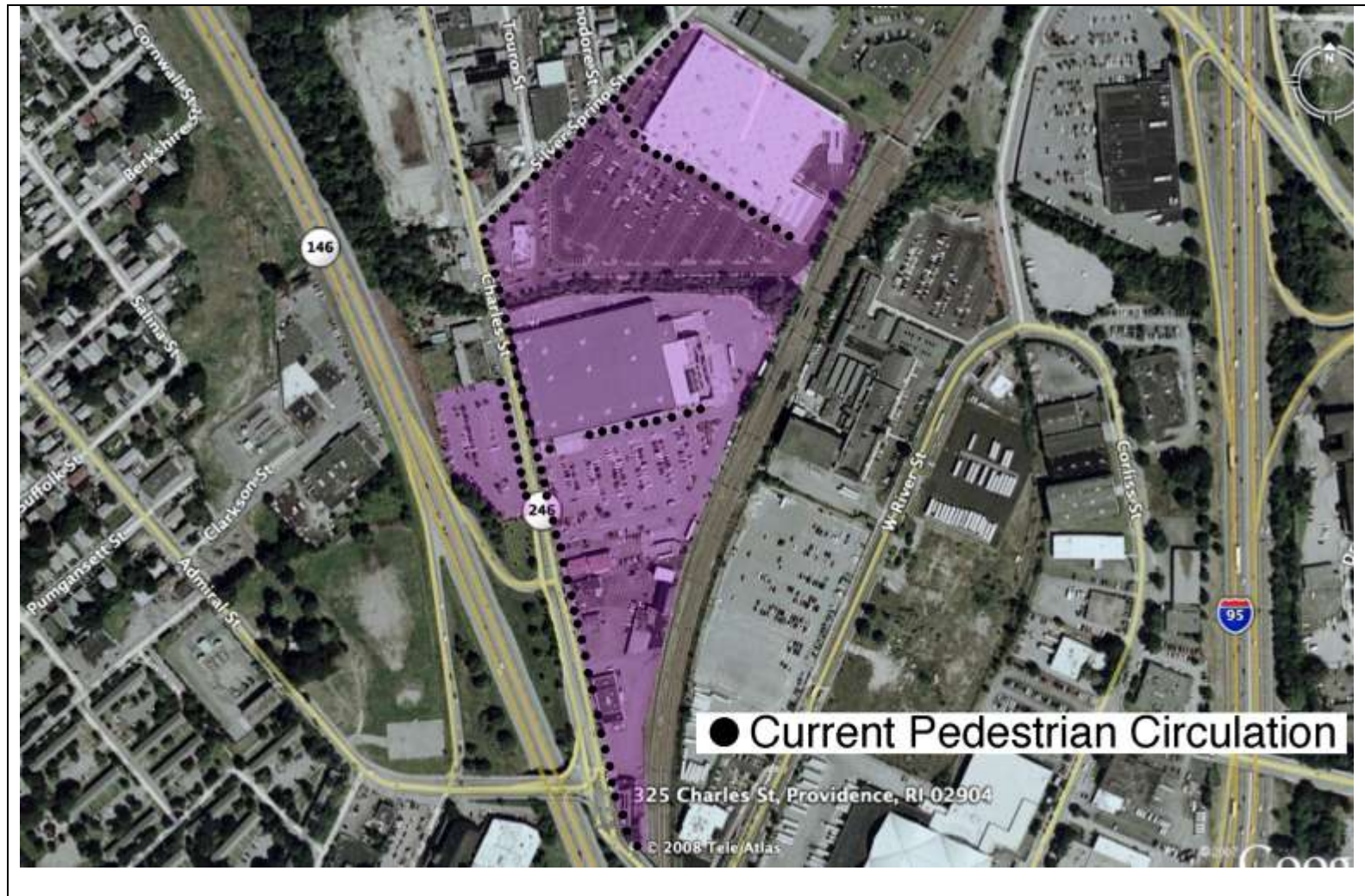
These are two maps of the bus line that service Charles Street and Silver Spring Street. There are five bus stop areas on Charles Street portion of the site, and three along Silver Spring Street.

Figures 59 & 60



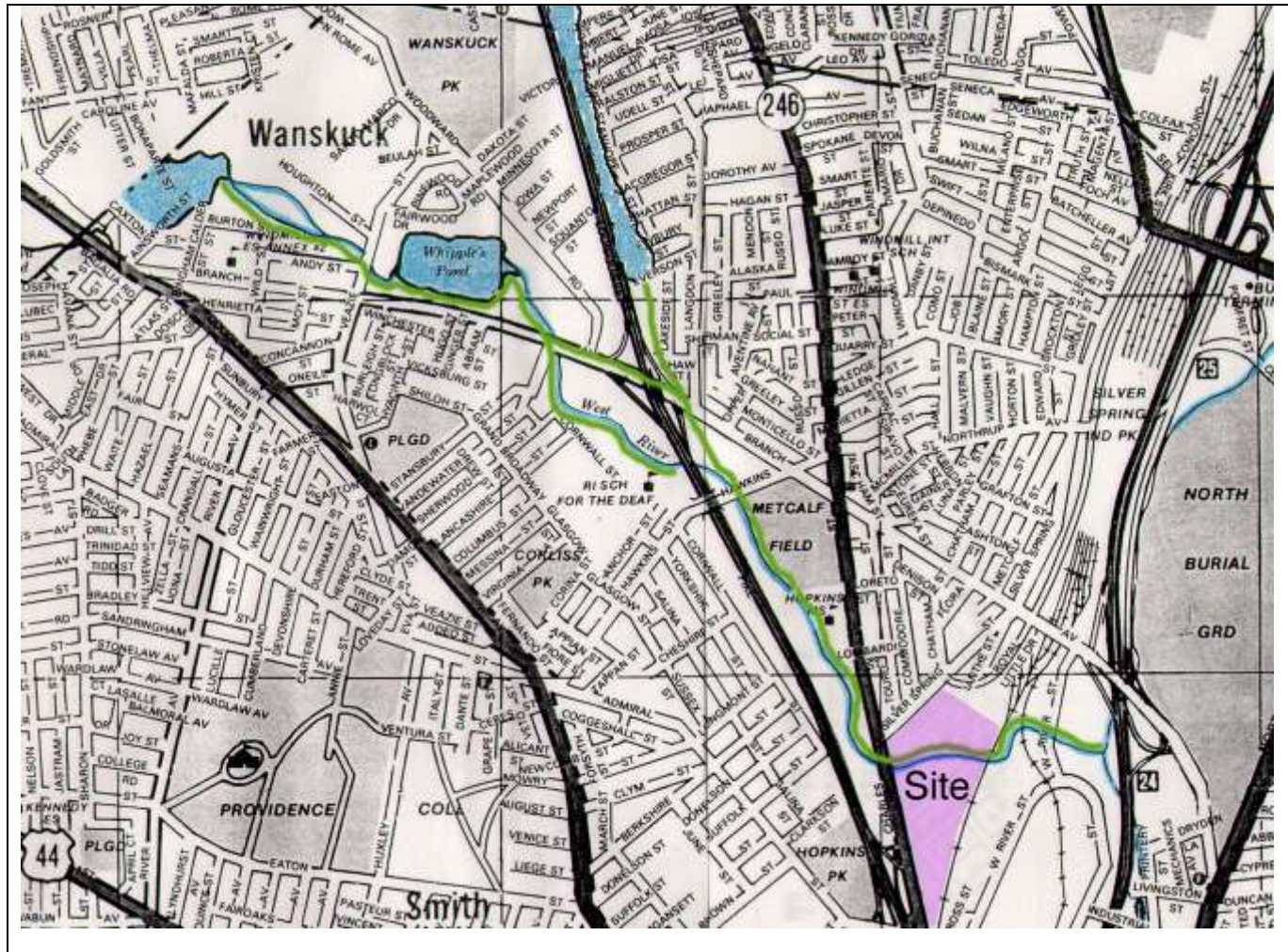
The pedestrian traffic in relation to the site.

Figure 61



This map show a proposed greenway that starts near the North Providence border and eventually cuts through the site.

Figure 62

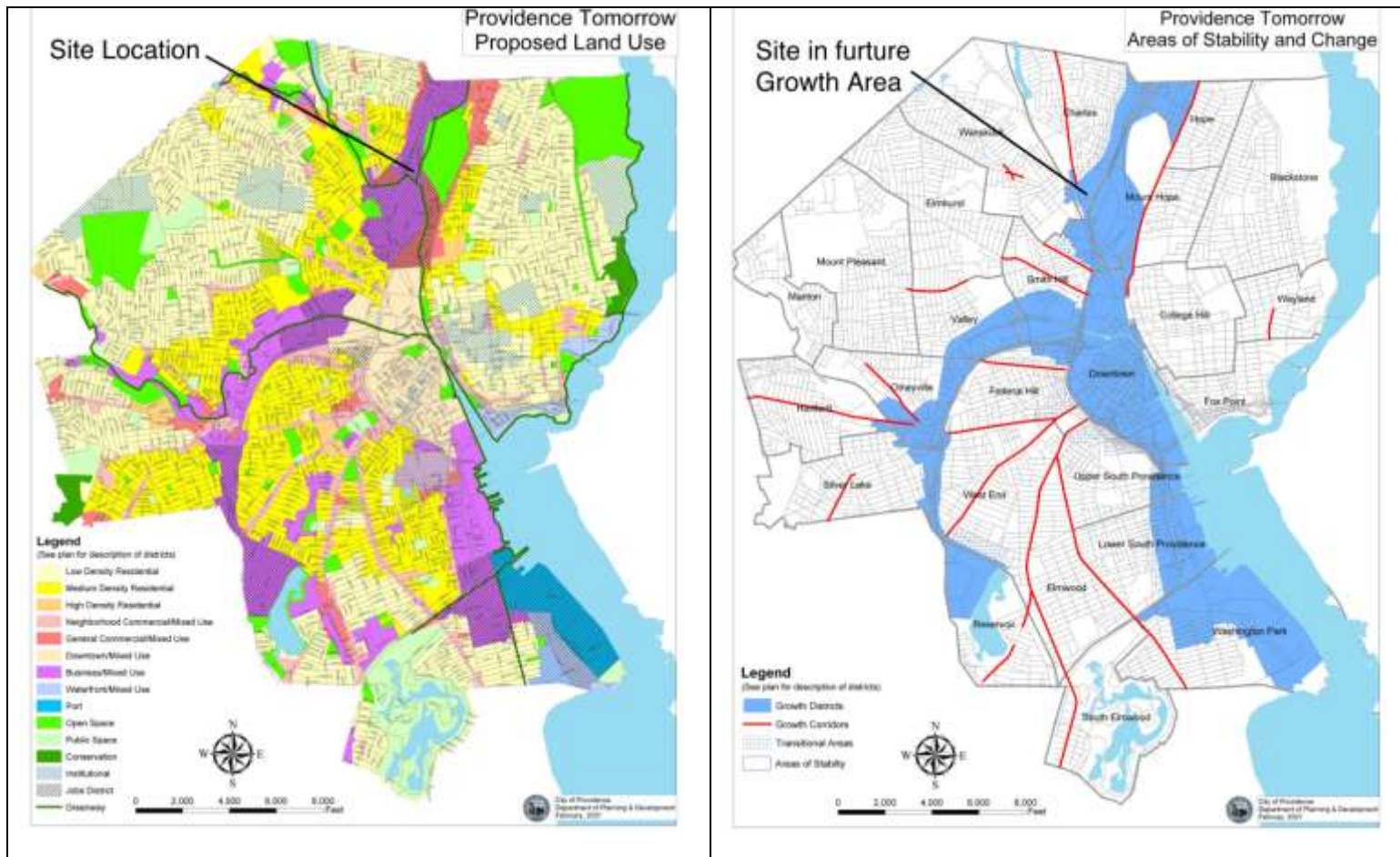


Future

plans

for the city of Providence area situates the site in a business/mixed use district.

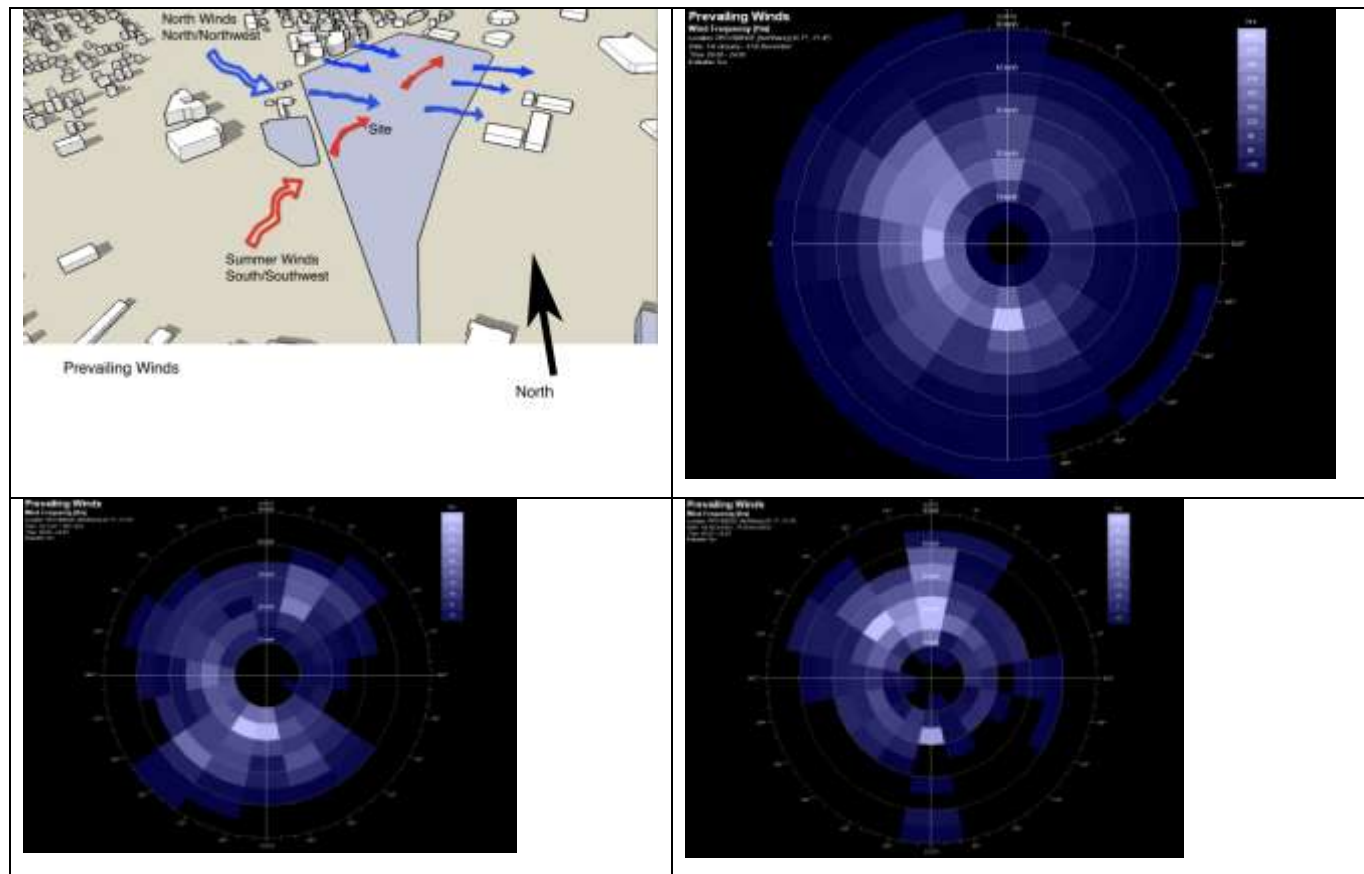
Figures 63 & 64



The wind has an easy access in both seasonal extremes, which are a benefit and a hindrance.

Yearly Average

Figures 65 - 68

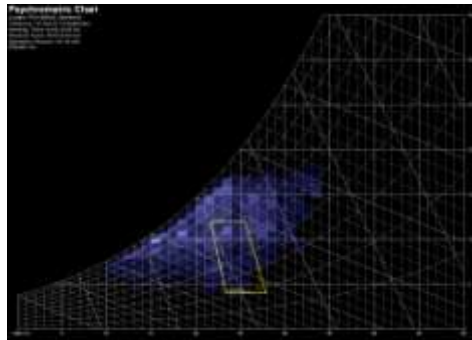


-June
Rose/Strongest 21st Indicated in 3rd quadrant.
quadrant.
Winds coming from the South/ Southwest

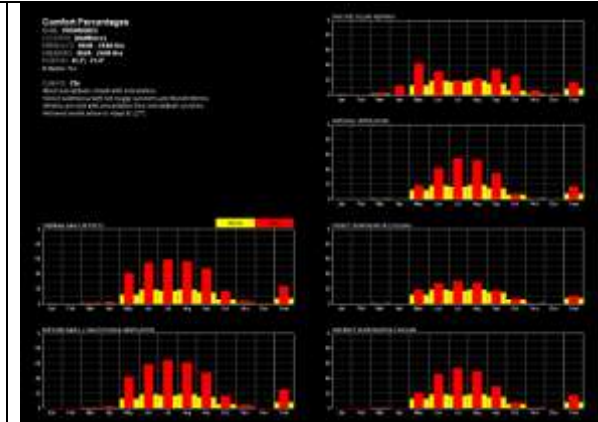
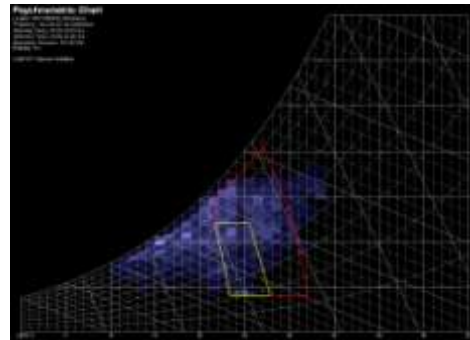
-December Wind Rose/Strongest 21st Indicated in 2nd
quadrant.
Winds coming from the North/Northwest

Wind

Average Humidity for the year
without ventilation



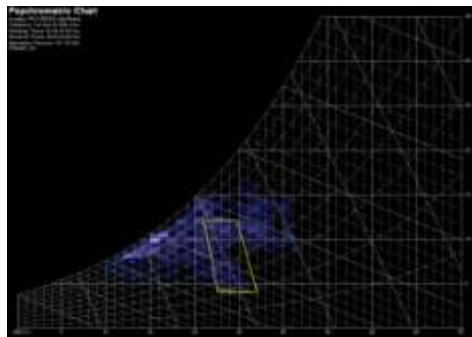
Average Humidity for the year
with natural ventilation. Red zone
indicates acceptable levels of
thermal comfort.



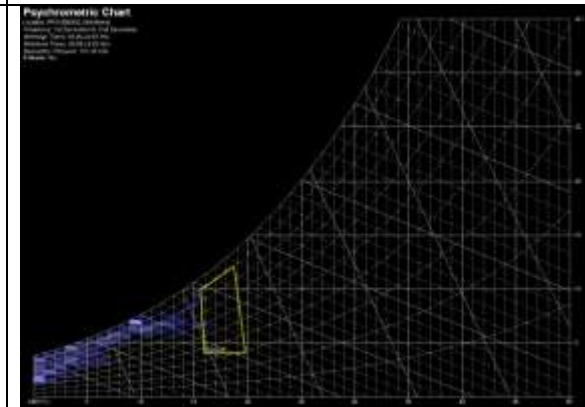
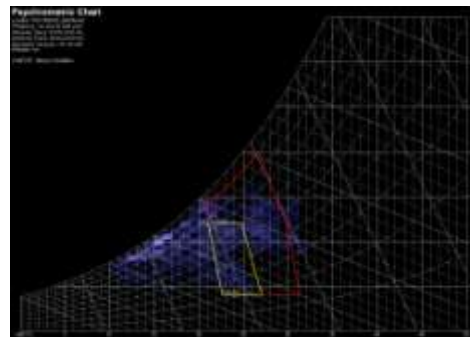
Comfort percentages for differing built
conditions.

December humidity-not a problem

June Humidity-no ventilation



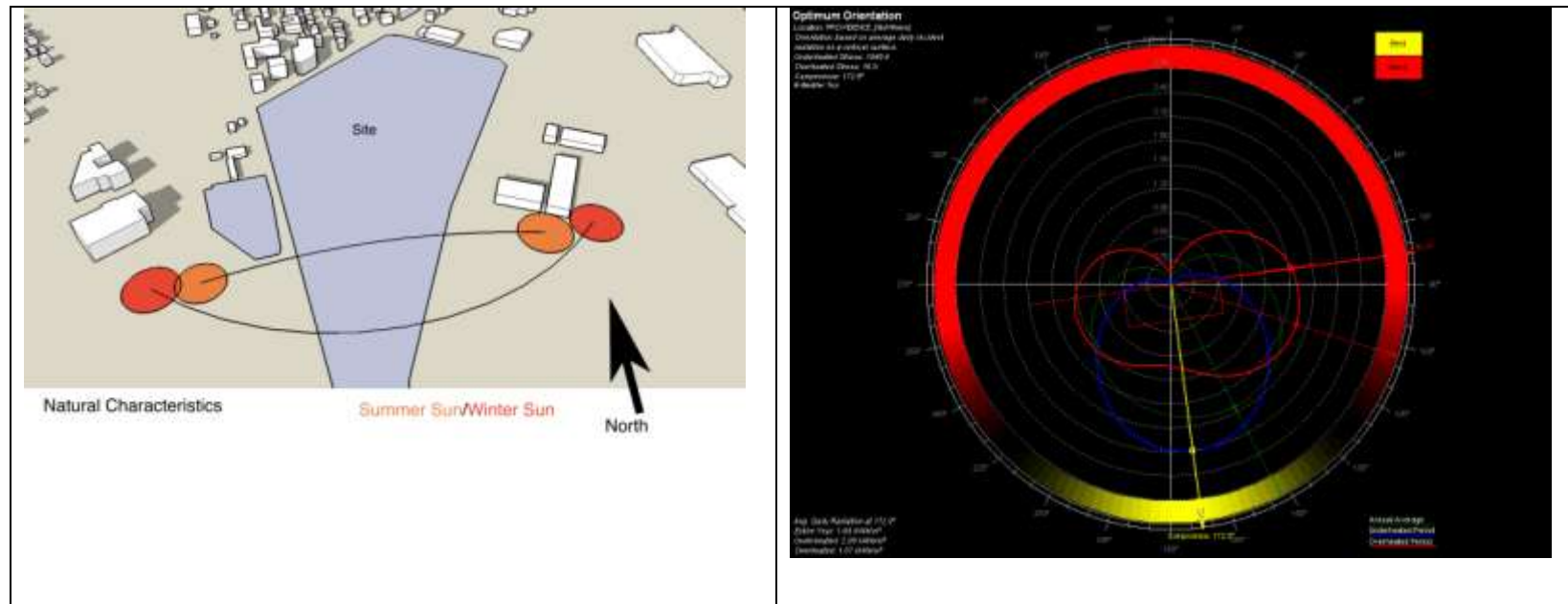
June Humidity-with ventilation



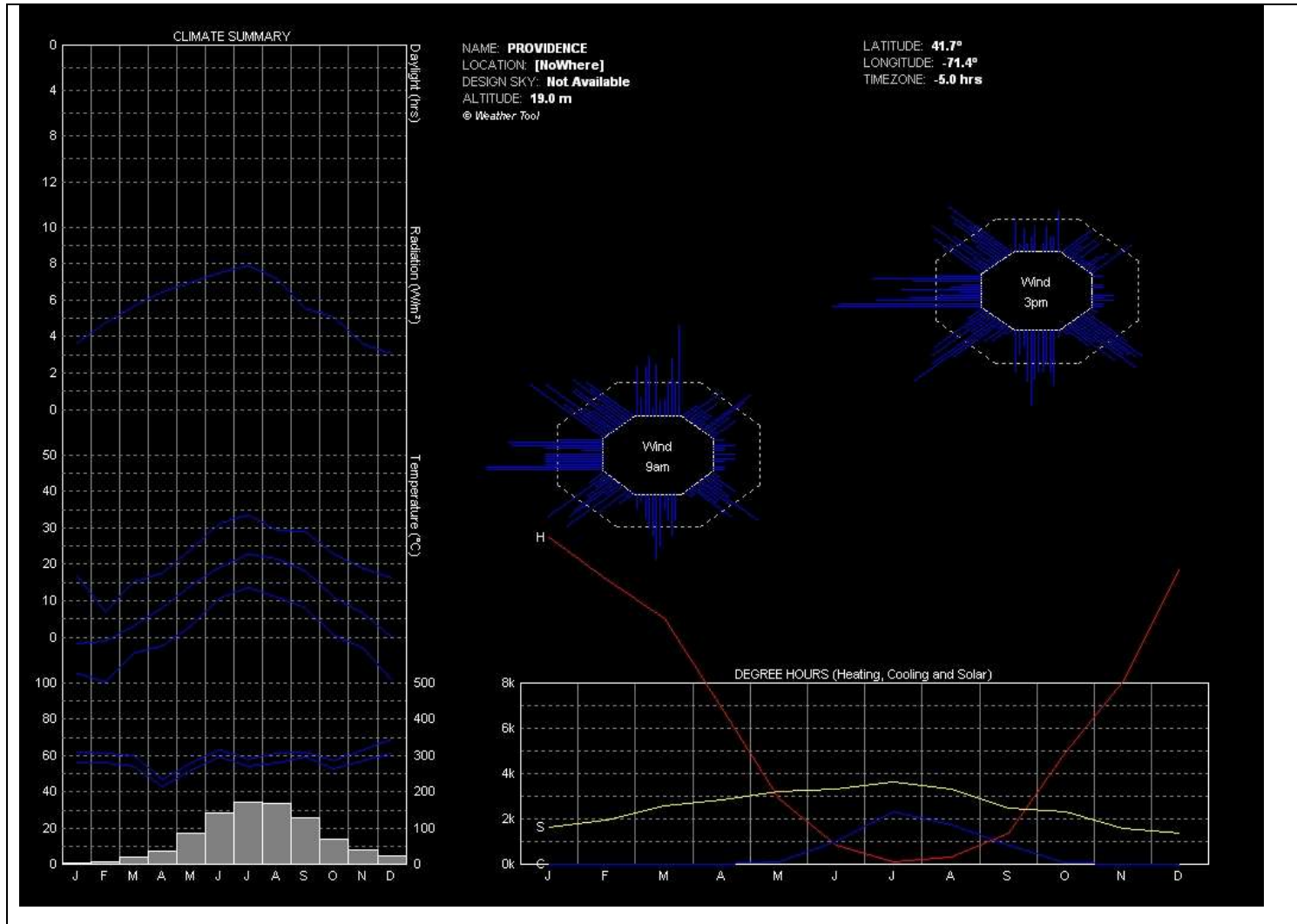
Figures 69 - 74

There is great solar gain due to the openness for the site.

Figures 75 & 76



Solar Diagram
explaining the best
solar orientation at
172.5 degrees due
south/southeast.



Design Process & Sketches

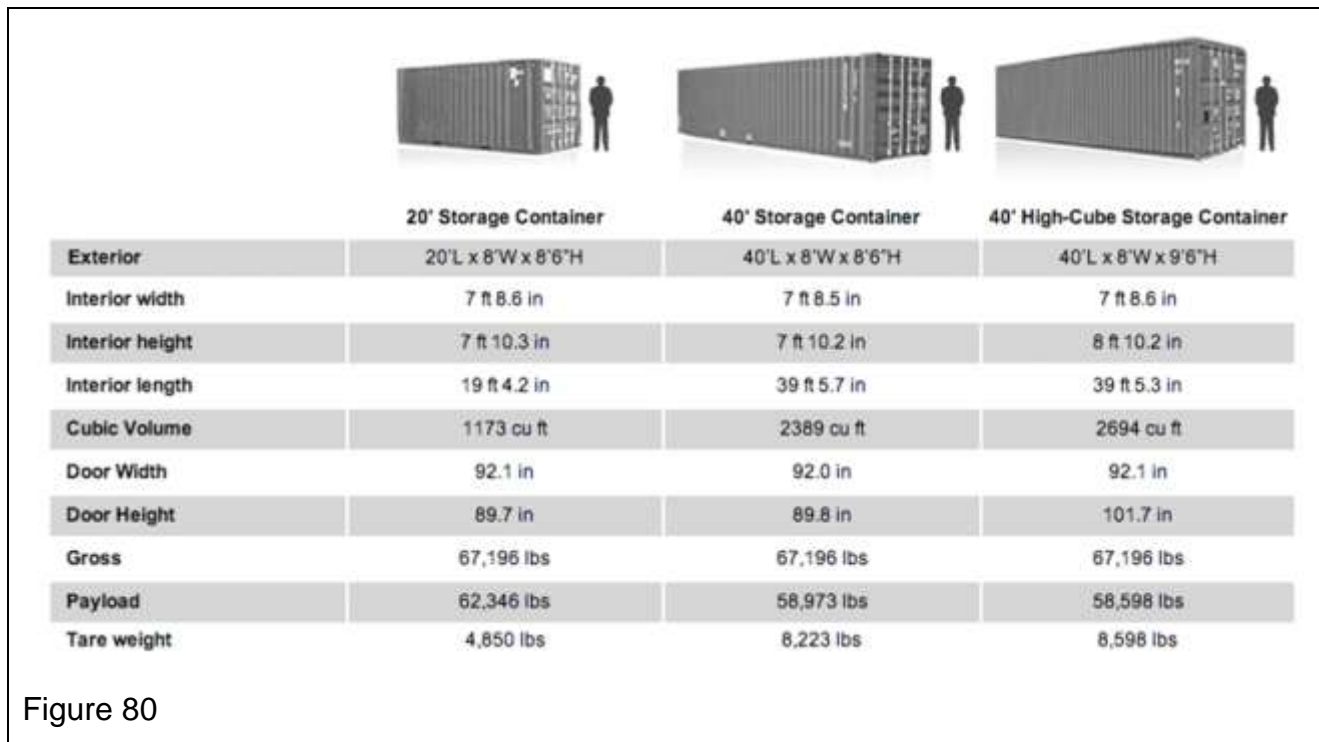
As a way to think with ecology in mind, I began to explore the potential to incorporate recycled shipping containers into portions of the structures from which these two stores had been long fed. I was intrigued by the thought of placing smaller boxes into a larger structure that were somehow connected in the first place. My early thoughts centered on reformatting the big box store with containers to become a highly prized commodity that people would want to visit, work and live. I began looking into several precedents that were successful adaptations of the big box without the container component, and tried explain more on how I intended to bring about this reformation.



Much like Le Corbusier placed bottles on a rack in his Unite d Habitation, I would like to insert box containers into a box. In my case, a BIG BOX store.



Figures 78 & 79



Feasibility & Facts About Containers

I researched the facts and feasibilities of shipping containers in an effort to understand what was a possible approach to employ at the Charles Street building specifically. I learned many interesting things, such as the fact that containers are found in abundance at many ports all over the country and the world. They are relatively cheap, durable, structures that have their pros and cons, and there were numerous built precedents that were easily

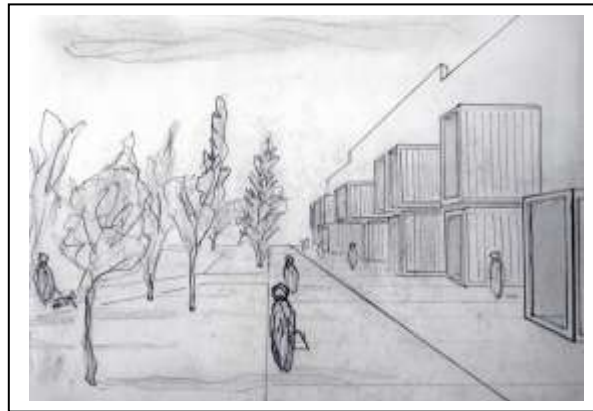
found. The container used as a living unit was a plausible idea, but it had its limits of space, and some of its immediate reactions are usually centered on the narrowness of an individual unit. I began to think of two containers positioned together, or perhaps four containers stacked two on top of two. I began to get excited, and pursued my investigation with small, colorful blocks that were designed as massing models with various push and pull approaches with no real design established.



Figure 81

Project Development

Further developments and sketches led to Sketch-up models in an attempt to better define what it was I was seeing. I first began with developing only the residential components before inserting them into the building and then later applied the container idea to other areas within the fabric of the existing structure.



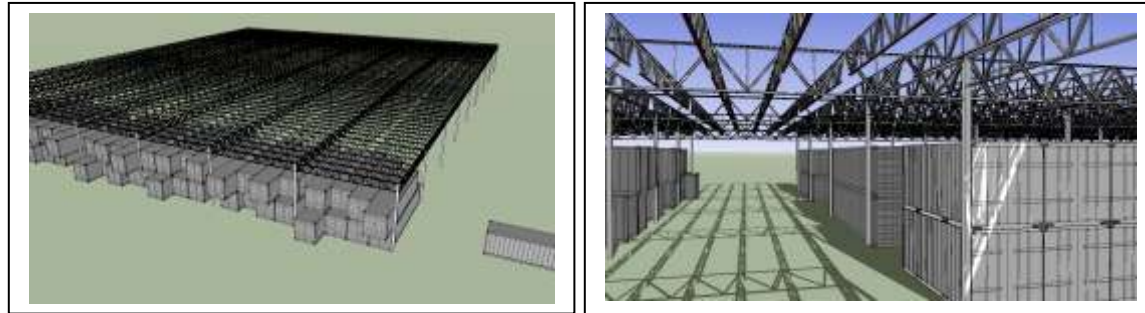
Early sketch of Charles Street retail façade.

Figures 82 & 83

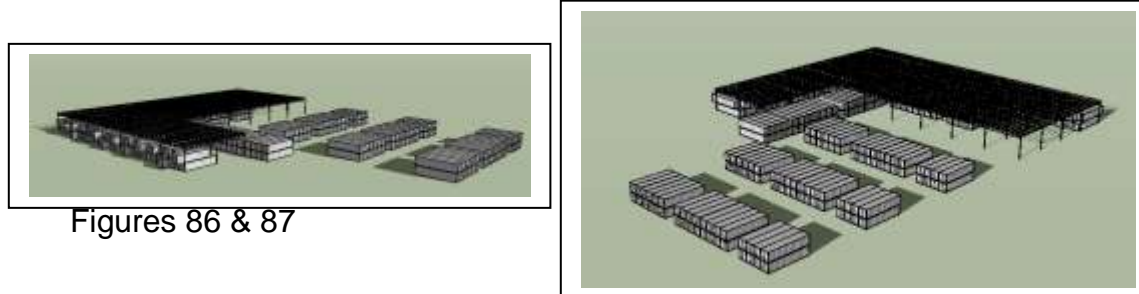
Early residential concept shown with color.



Figures 84 & 85

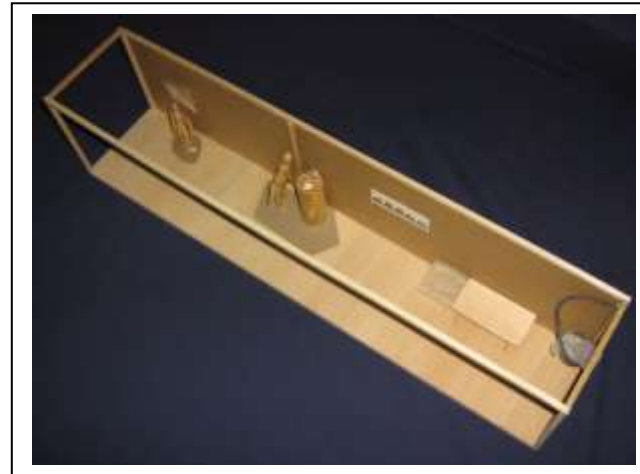
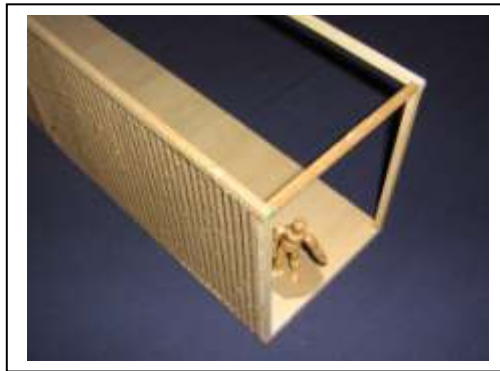


Early Sketch-up model of retail façade, and future interior atrium with retail to the left and offices to the right, (shown with shadows). At a later date I explored the idea of expanding the container concept by breaking out of the box, and creating more program to work with. I eventually decided that I wanted to try and stay within the confines of the box and focus on more immediate concerns.



Figures 86 & 87

I also built a scaled interior of a shipping container with art, figures and furniture, as well as structure and cladding to help visualize the concept. I was convinced that the implementation of containers was the most creative way to represent what it was I was seeing, rather than wall up the store with partitioned walls.



Figures 88 - 90

I also explored the container concept in model form at the retail level on the Charles Street elevation with basswood and chipboard in an effort to visualize a potential bus drop-off that would help mitigate the arrivals and departures to and fro the site by public transportation.



Figures 91 - 93

This is an early inception of what the detailed wall section looked like at the time of gate. This image is a cut through the residential container living units stacked one overhanging another. The wall above is the existing structure with 14" walls.

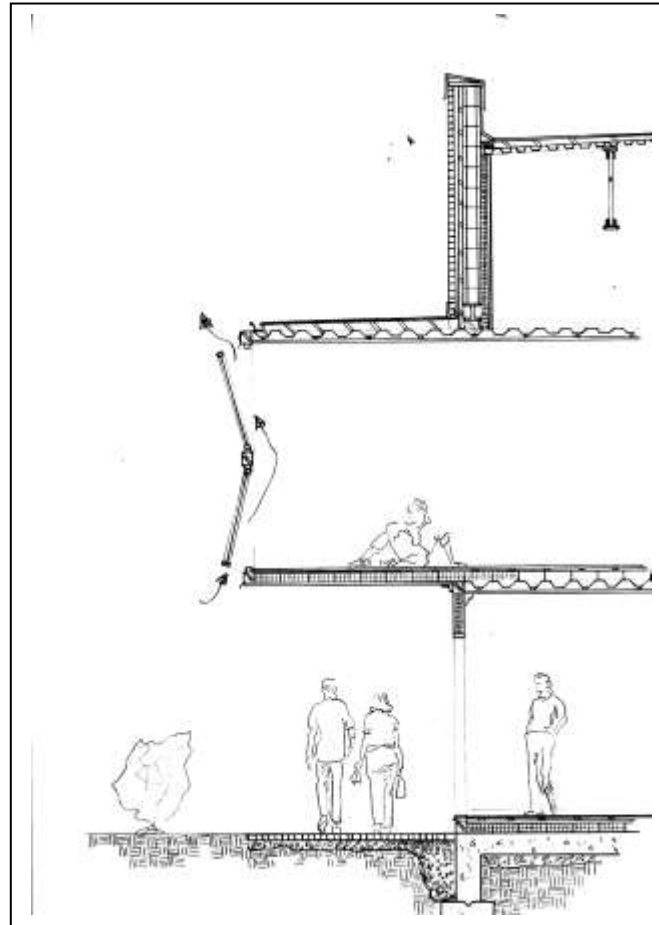
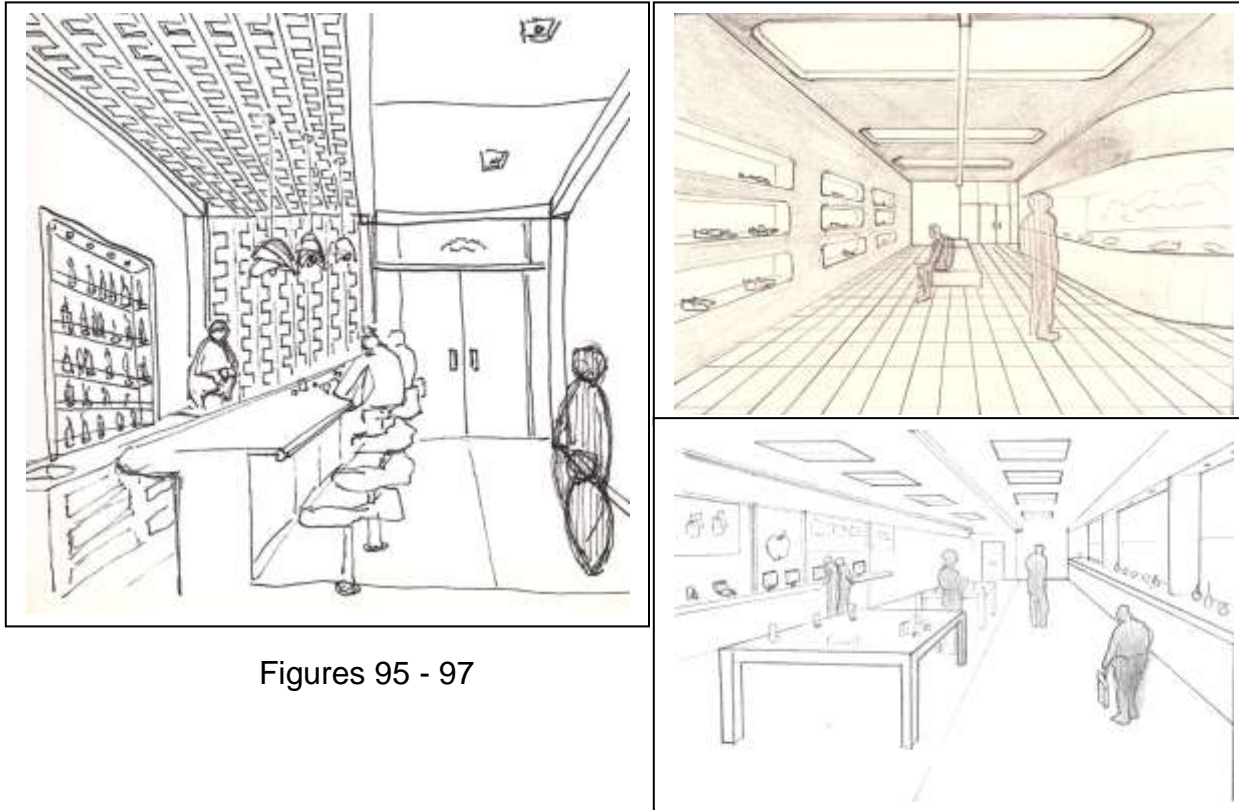


Figure 94

These are some early drawings developed to show how I planned to use the container idea from the retail interior perspective. The image to left is a sushi bar made with two containers positioned next to each other. The other two images are a shoe store and an Apple computer store also comprised of two containers only.



Figures 95 - 97

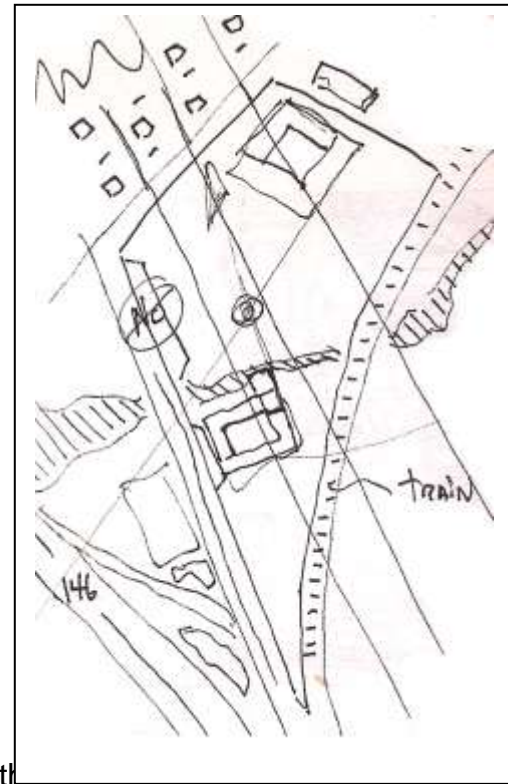
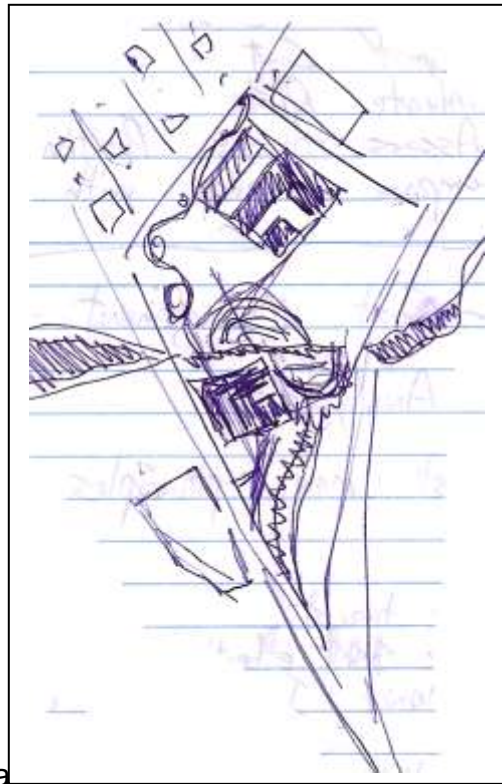
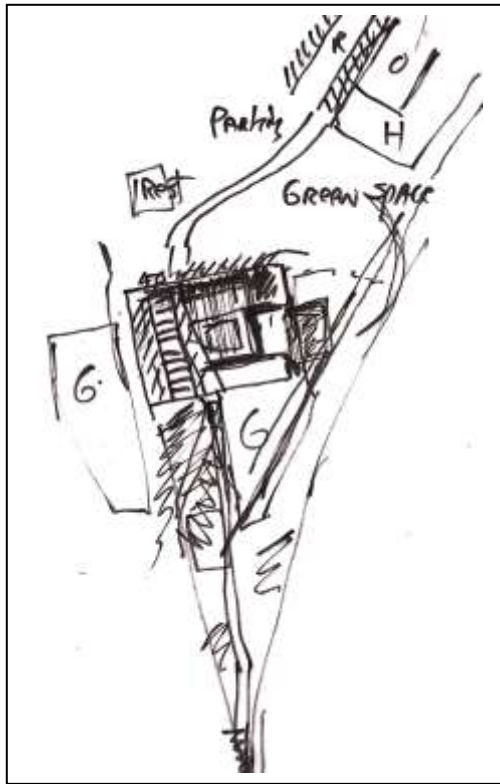
I eventually abandoned the container idea due to reactions that my concept lacked a certain wow factor resulting in early investigations that were futile. The incorporation of containers into the overall form of the big box was just an approach to a design process that wasn't well received. The one constant that had remained for me in the design of reusing the existing structure resembled a letter E in plan. The E, allowed light, motion, and openness, and it were these things that I naturally pursued.



Figure 98

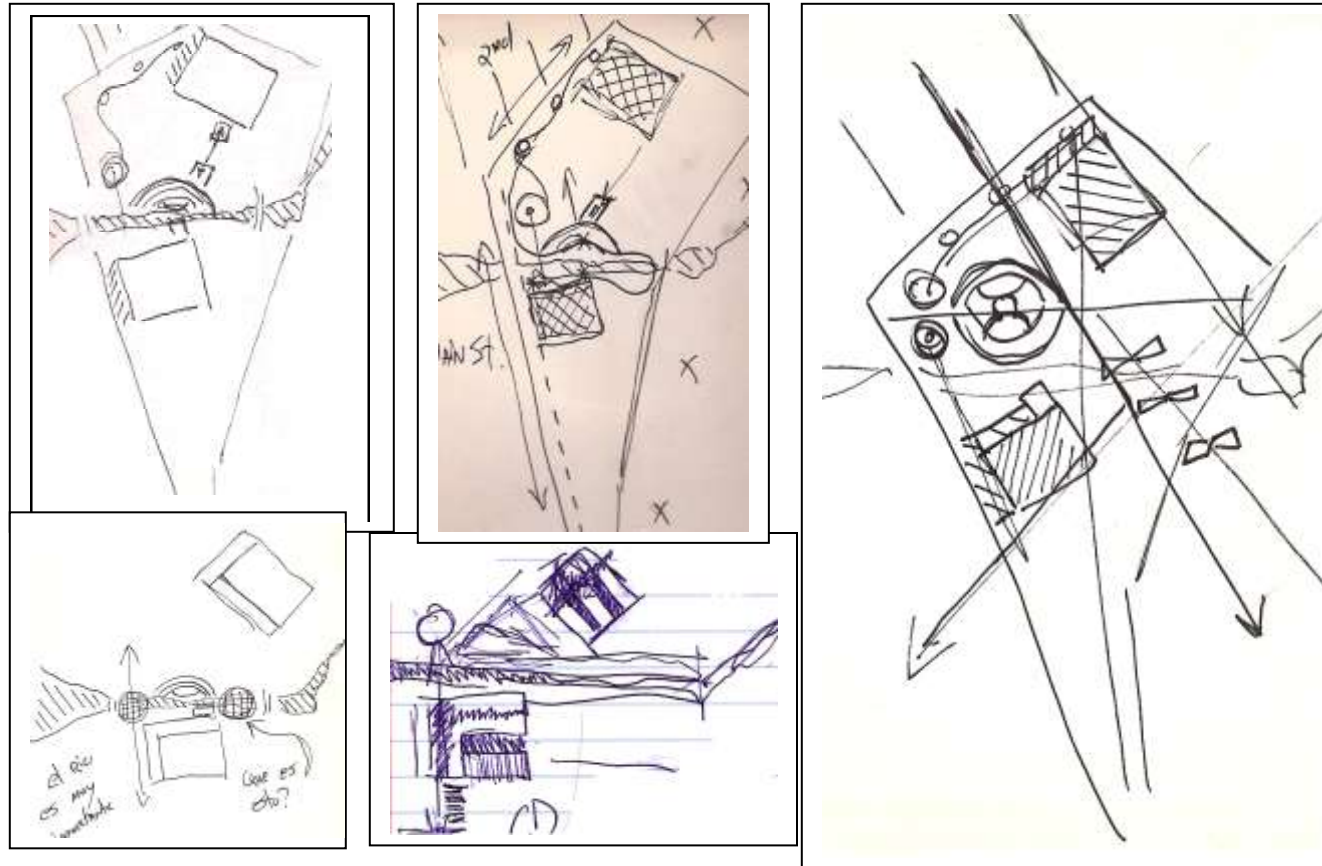
I realized early that there was an immediate need to make two halves of the site seem as one whole, and at the same time employ a strategy to help connect the site with the neighborhood to the north via three streets off of Silver Spring Street.

Figures 99 - 101



unanswered questions as to just how I intended to link the two halves, and at the same time connect the site itself to the neighborhood to the north.

Figures 102 - 106



For inspiration, I researched the Parc de la Villette, by architect Bernard Tschumi. La Villette have similar constraints, with a body of water that bi-sects the site into two halves, as well as traffic, access, and community issues that needed to be addressed.

Figures 107 & 108



These were some design considerations I was exploring leading up to gate.

Figures 109 - 111

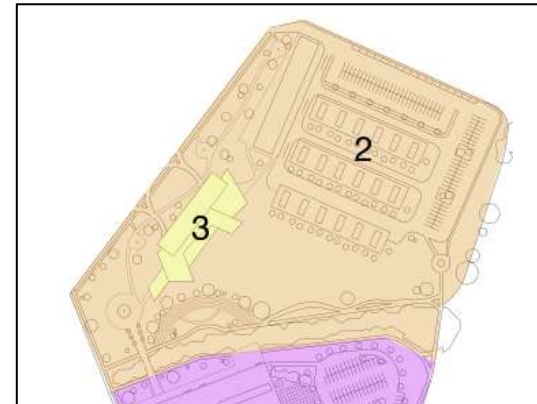
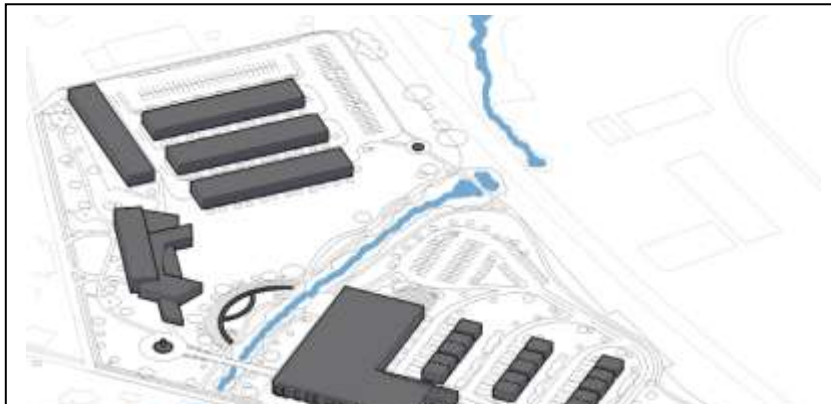


Proposed site at gate.

The first image was a design considering parking lots along the two main streets. The second image examines the possibility of hiding the lots, and activating a park with a curvy path. The third image was a design proposal that used a building and paths to connect the two halves and big boxes. That particular design had the residential units expanding out of the big box building into the park.

The first image below is that of the site developed in 3D form. The image to the right was the purposed phases that complemented the design. The bottom image is to show what was there, as opposed to my proposal.

Figures 112 - 114





Th a bird's eye view of the site, looking east

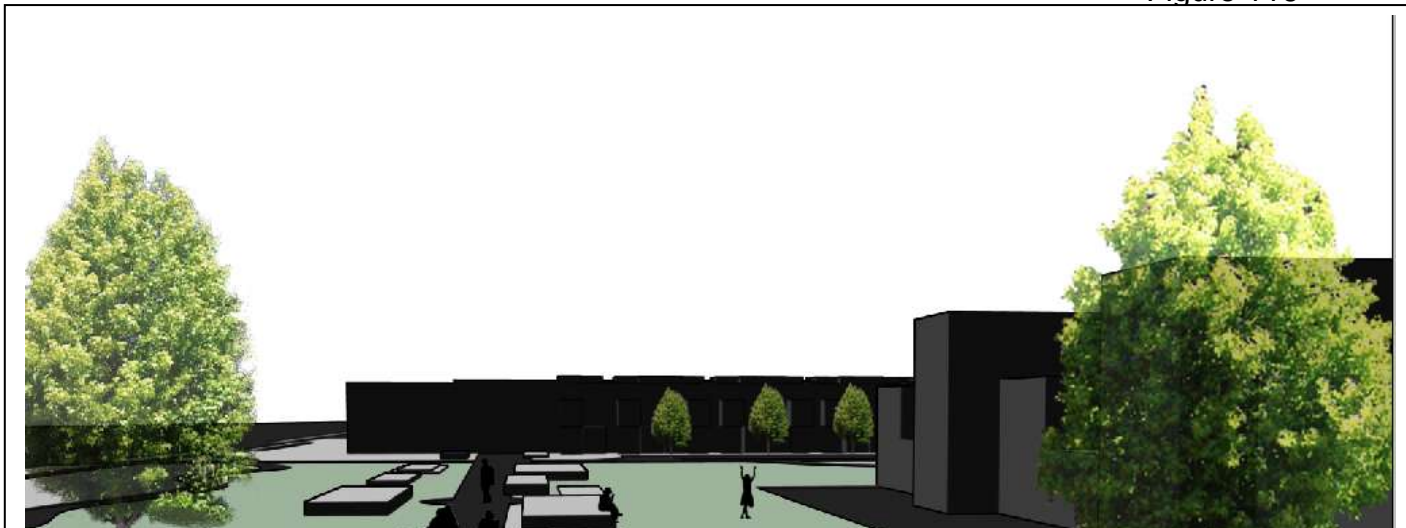
across Charles Street towards the railroad tracks. Notice the container influenced seating that carries pedestrian traffic along the path. The container housing units explode out of the box, with others units across the street.

Figure 115



This is another bird's eye view looking north at the southern end of the park in sector A. Again, we see the container benches, plantings, and water stations path dominate the path. In the distance lies the ominous box. To the right is the housing units design as part of phase three.

Figure 116



Independent Project Drawings and Model Photographs -Site

In the end, I settled on a site strategy that made was more accessible with two bridges to the west and one to the east, all allowing only pedestrian traffic to encourage walking on an around the site. The buildings are connected via a path, which connects atrium to atrium in anticipation of shoppers moving to different stores.

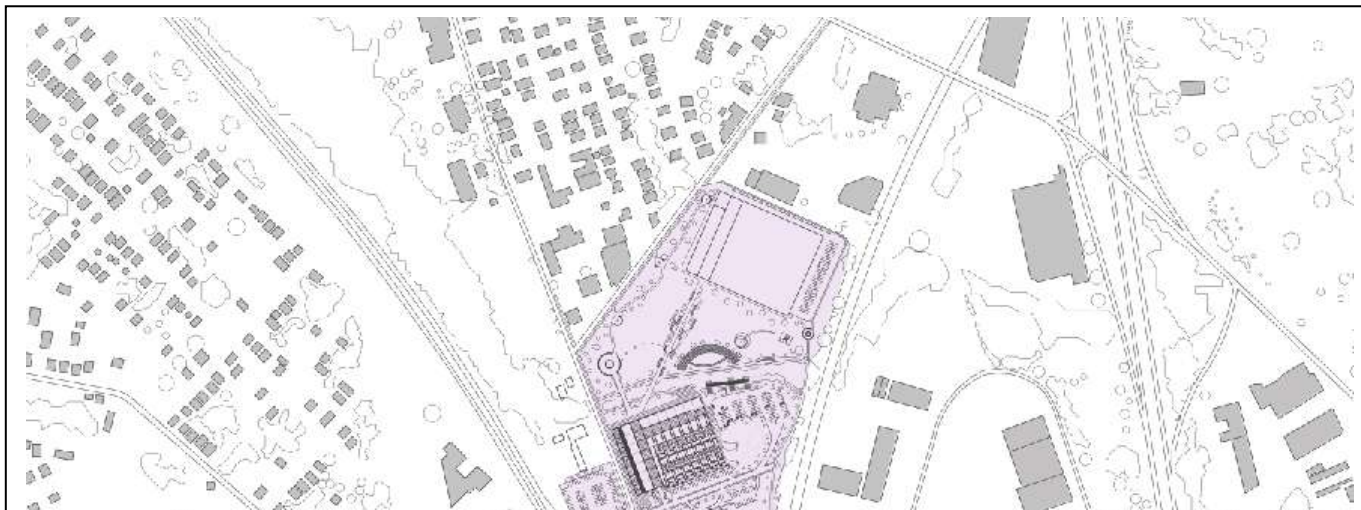


Figure 117

The base and surrounding context were developed at an early stage in the design process. The images below are the final design presentation in model form.

Figures 118 - 120



Scaled model-1/64=1'-0"

The final site plan links the box buildings via a linear path with seating, plantings and water boxes all in the form of the former shape of the shipping containers. Parking was reduced to a bare minimum, and more green-space was permitted in doing so. A focused effort also played off the strengths of the riverfront, and the retail portion of the street.



Figures 121 & 122



Plans/First Floor

Shown here is the first floor plan of the entire building using an almost perfect letter E. Again, the retail starts at the bottom left hand corner and wraps around to the north until they meet with the large restaurant. A café occupies the corner at the top left. The office block sits in the middle, as does one of the residential wings. The other wing commands a better view to a park just south of the building.



Figure 123

Second Floor

The second floor shown here only really applies to the offices and the residential units. The retail, café' and restaurant all command high-bay spaces. The offices on the second floor have small porches with large sliding glass doors to help enjoy the outdoors. The residential units are explained in greater detail later.

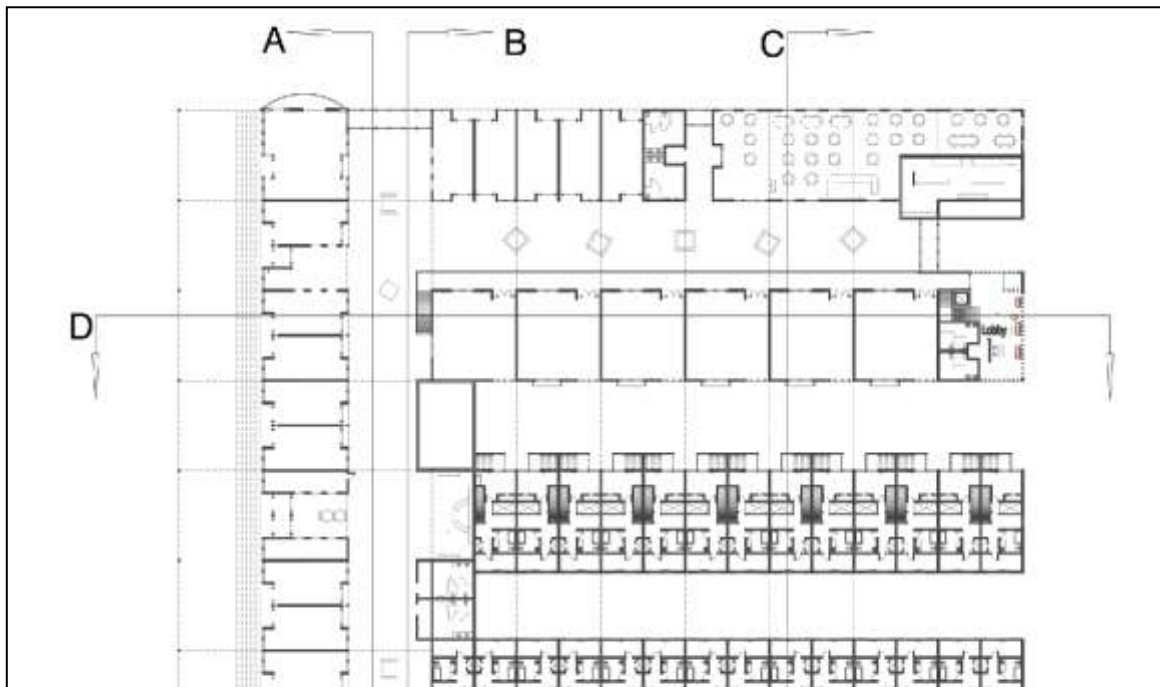


Figure 124

Roof Plan

The roof plan shows an important part of the sustainable aspect that I envisioned early. Here we see the implementation of solar panels used for all programmatic uses of the building. The panels help offset energy consumption by 40% annually. Helicoidal fans on the roofs of the residential units and offices also conserve energy needs.

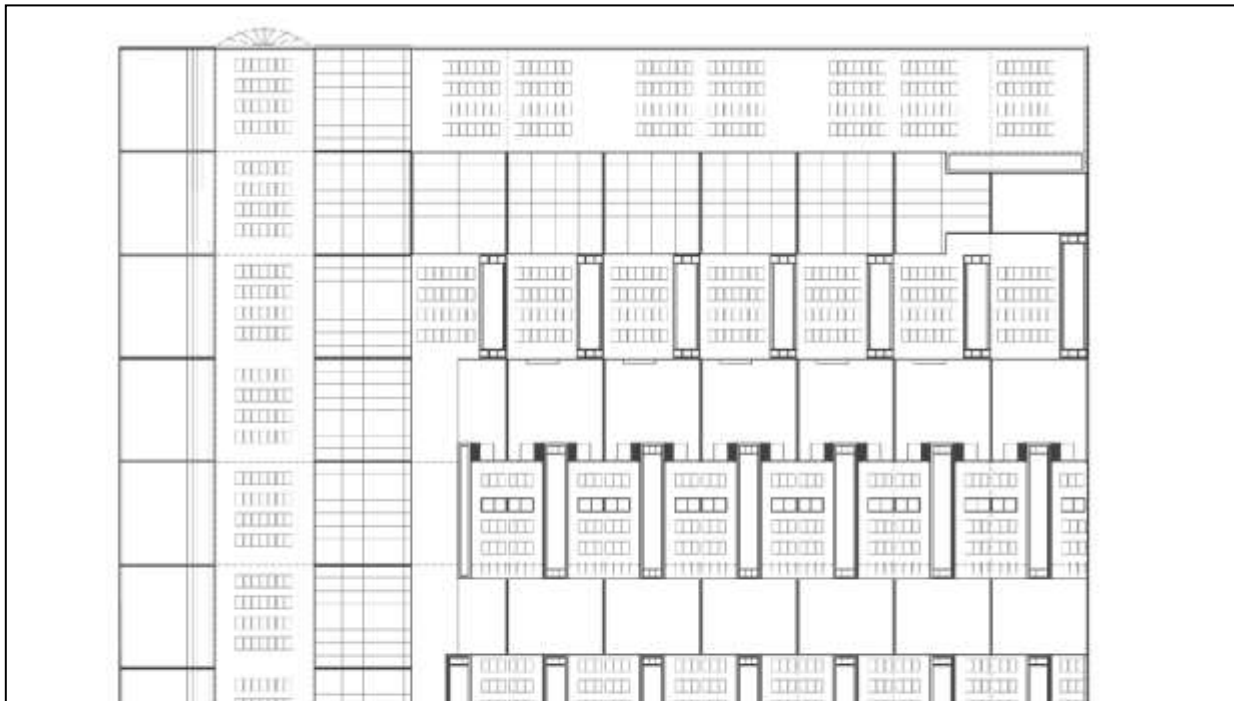
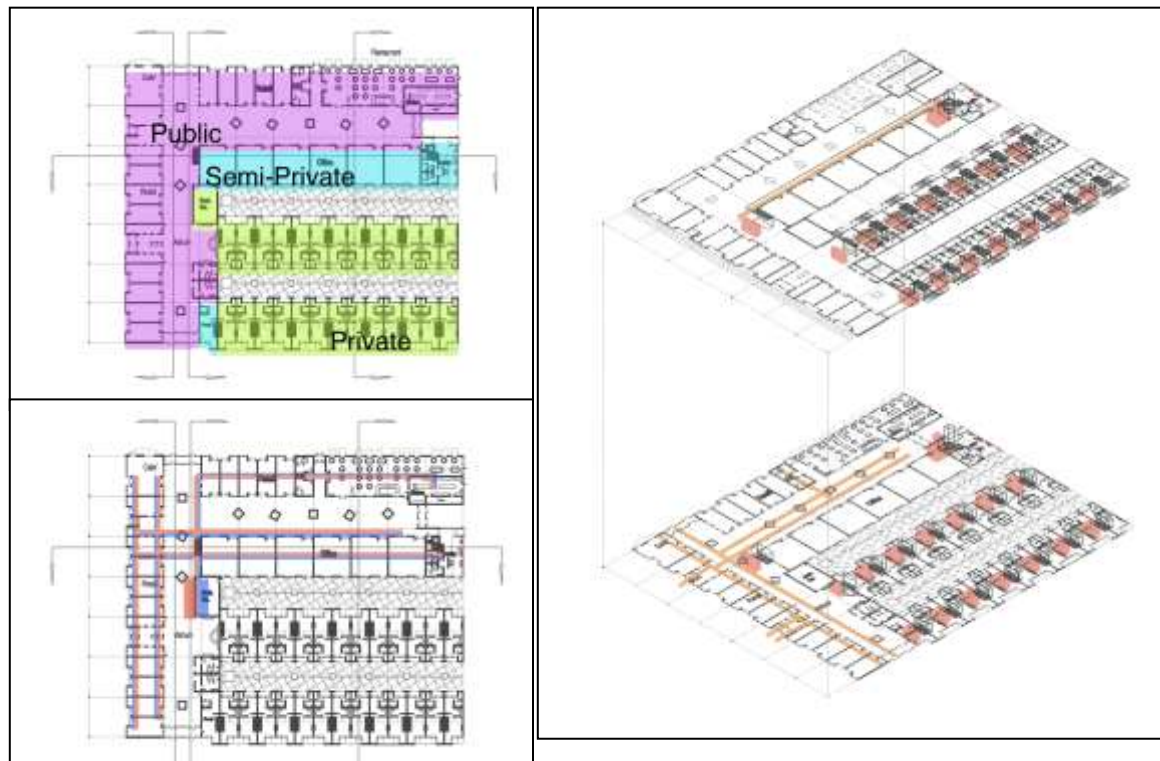


Figure 125

Circulation Diagrams

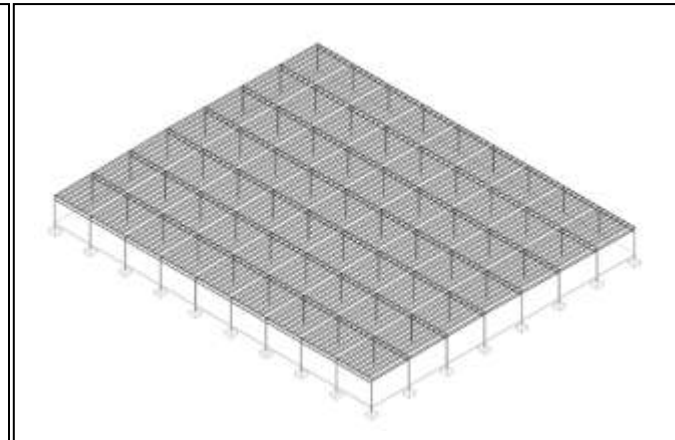
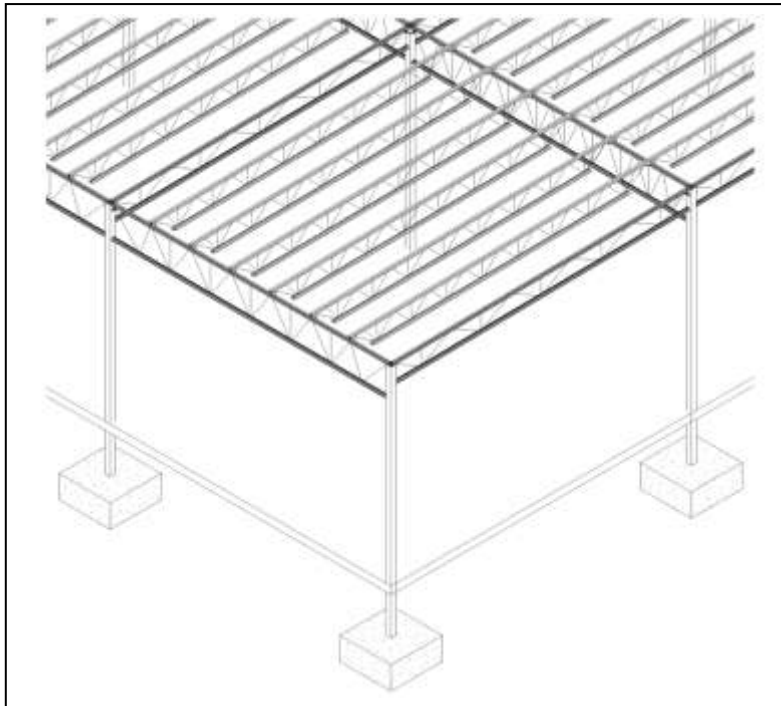
The circulation diagrams shown here are public verses private to the left, and a mechanical diagram showing a variable air volume system used to heat and cool all of the building, except the residential units that have their own system. The diagram to the right is a circulation diagram with red representing vertical and orange representing horizontal circulation.



Figures 126 - 128

Structure

I analyzed the structure early in the design process and we can see here that the box store is constructed using 4' truss girders, and 28" truss girders that connect from column to column. In between the girders lay a system of small K-series truss spaced 5'-3" on center. The lowest point under the widest girder was 21'. The image to the right shows the entire existing structure.



Figures 129 & 130

Sections

Section A, was taken through the atrium looking towards the interior retail on Charles Street. The image is looking west, and we can see the high bay windows and the signage above each store.

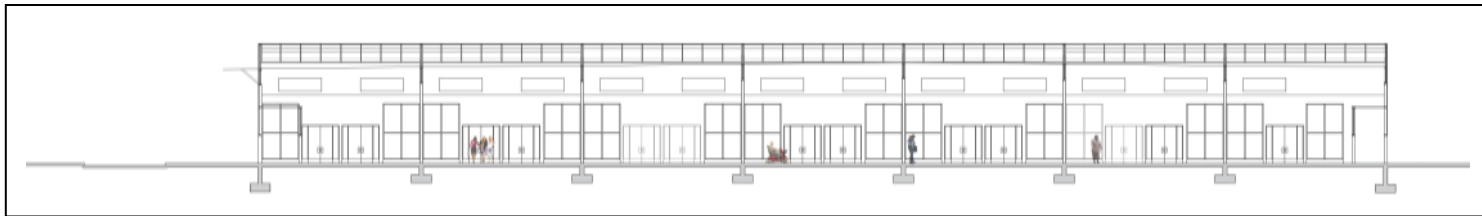


Figure 131

Section B, was taken in the same atrium space, but looking east at the fountain that is situated in front of the main entrance off of Charles Street. We can also see the river to the left with some landscaping elements. The stairs in the middle lead to the offices on the second floor.

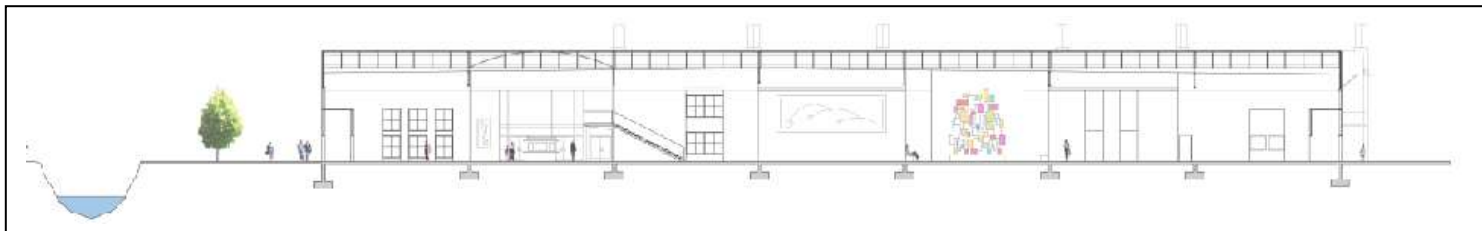


Figure 132

Section C, was taken on a north south axis and we see here the open voids between the residential units to the right, and shared with the office block at the center. The section also shows the curve in one of the atrium roofs that connects to the retail and restaurant along the river. The area of building at the far left is the restaurant that opens out to a large shared patio and river walk.



Figure 133

Section D, cuts through all of the offices and the interior atrium space as well as the retail shops along Charles Street. This section show the truss condition on the exterior of the building with a tree that grows up through the center, which is possible because the K-series truss have been removed. A trills system positioned just above the exterior retail signage helps block the sun light in peak summer months.

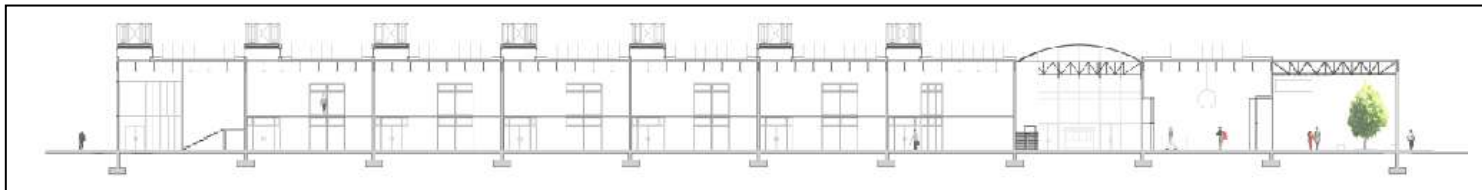


Figure 134

Interior Perspectives

The next four pages are interior perspectives that helped accompany the sectional drawings. Here we see the interior of the restaurant. Notice the high-bay windows: the bottom of which open up and outwards to allow people to pass through in the summer months. These windows will allow easier pedestrian access and view to the river and boardwalk.

Figure 135



were needed for structural purposes, minus the smaller K-series trusses. The entrance towards the back leads to an ample parking lot just west of the railroad tracks.

Figure 136



This image here shows the main interior entrance off of Charles Street. I added some color here to give this fountain space a little atmosphere. The room at the center is a mechanical room with outdoor access to a shared

open-air space between the offices and one of the residential unit blocks. Again, the stairs leads to the second floor offices. The exit at the left leads to the river and bridge pathway system that connects the two buildings.

Figure 137



stores. The river would be behind the viewer, and the entrance in the distance leads to the southern portion of the

park. Here we also see those stairs again leading to the offices on the second floor. Notice also the atrium is not all glass; there is a band of aluminum that divides the sun, and reduces the amount of heat in the summer months.

Figure 138



This image is the interior atrium retail portion of the Charles Street shops. There are public restrooms to the right of the image, also notice the kiosks at center. The doors in the distance lead out to the river to the north.

Figure 139



Elevations

This image here is the retail elevation that shows the exposed truss girders mentioned earlier. The void between the trees is the formal entrance off of Charles Street, which leads one to the colored fountain in the interior

of the building. The high-bay windows allow ample light, and the offset window mullions correlate to operable windows; something that we really don't see in retail today.



Figure 140

The image below is the north elevation, which shows what a person would see from across the river looking south. We see here again, the exposed truss girders I spoke about earlier, as well as the retail shops that wrap around from the west. We also see the restaurant to the left, which commands the greatest area.



Figure 141

The next elevation is the eastern face, which shows the residential unit blocks to the left, offices to the right of the tree, and the atrium and restaurant to the far right. We also see the exposed trusses that connect the residential units with the office block. Notice also the high windows of the office atrium, which maximizes the early eastern sun.



Figure 142

The last elevation is the southern face of the building which showcases the residential component with is play on privacy, and sustainability. Notice the fans at the top of each unit, and also the grill effect on the exterior of the upper patios to shade and hide. The retail trusses are again exposed here, and we also see the signage and trees. The security office is located just to the right of this main entrance and blends with the residential units.



Figure 143

These are some of the accompanying images that complimented the elevations plate. The image here is the retail face on Charles Street. Notice that the building is on a major bus route. Also the trellis mentioned early is shown here blocking out a June 21st sun at 12:00 noon. The ground is concrete and part of the existing structure.

Figure 144



This image shows the retail façade on Charles Street complete with the trellis system and exposed truss girders that are wide enough to allow a tree to grow-up and through. This is the formal entrance at this side of the building, and we can also see the signage placed on the face, as well as extruded.

Figure 145



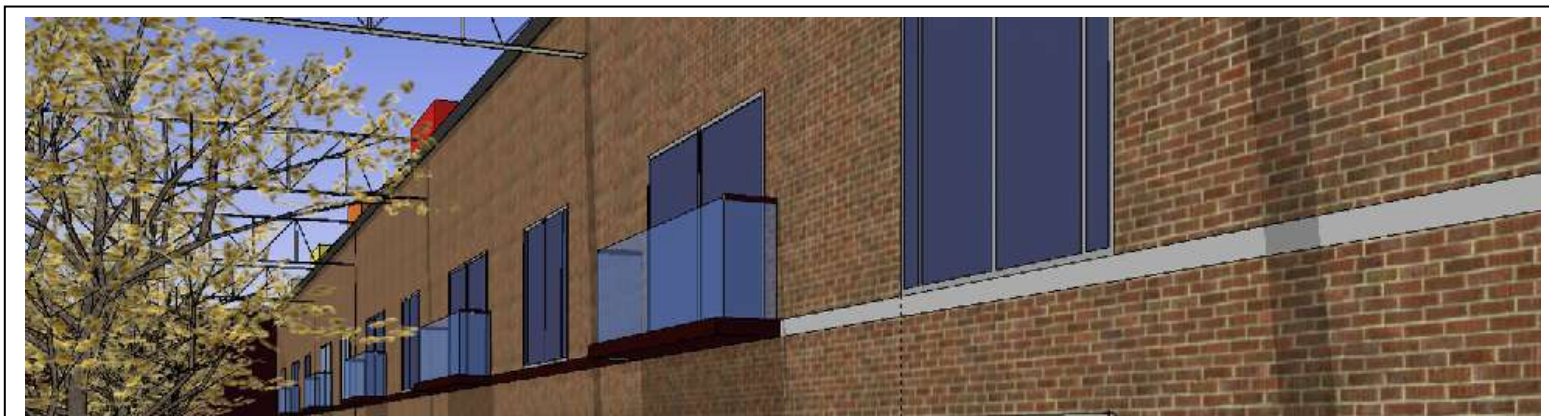
The next image shows the river front elevation at the restaurant end of the building on the northern side. Here we see ADA accessible ramps, as well as stairs, that allow people to get closer to the river, because it is about an eight-foot difference down to the waters edge. We also see the seated edge in the distance that can be used for concerts, boating and water fires.

Figure 146



The last image is the open voids where an existing roof once laid. Here we see the exterior office portion of the building, as well as, the water conduit I employed to carry water to trees and eventually to swales just east of the building. We also see the small and intimate patios used on the second floor to help bring the outdoors in. This portion of the building reuses brick taken from other areas of the building.

Figure 147



Residential

The residential component of the site also plays a vital part in the overall scheme of the design with the implementation of a water/bridge element to help give the residents some added privacy. The residential units were complete with two bedrooms, two bathrooms, a kitchen and dining room and a living room with a fireplace.

Figure 148



ho

fans not shown. The band of glass acts as a skylight over the stairs, and the smaller skylight brings light down into the living room. The screened trellis works above and in front.

Figure 149



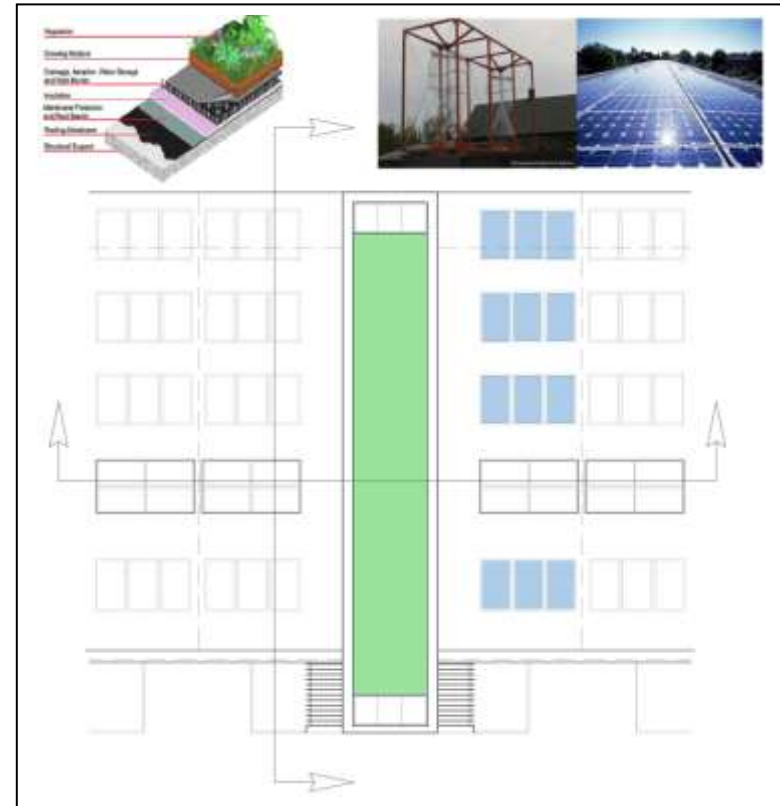
The image below shows the deep overhangs from the second floor patio that aid in shading the residential living rooms facing south. The image at the bottom shows how light penetrates down from the centralized skylight

above, helping to illuminate a place of circulation. All interior walls made of SIPS. The roof shows the sustainable tactics employed, such as a green roof, solar panels, and helicoidal fans.

Figure 152



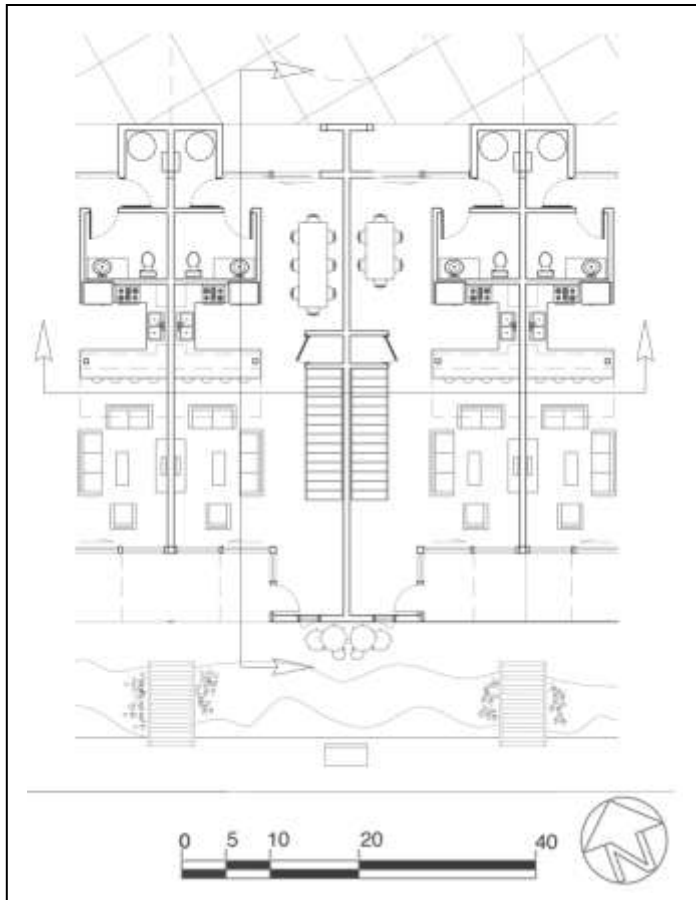
Figures 150 & 151



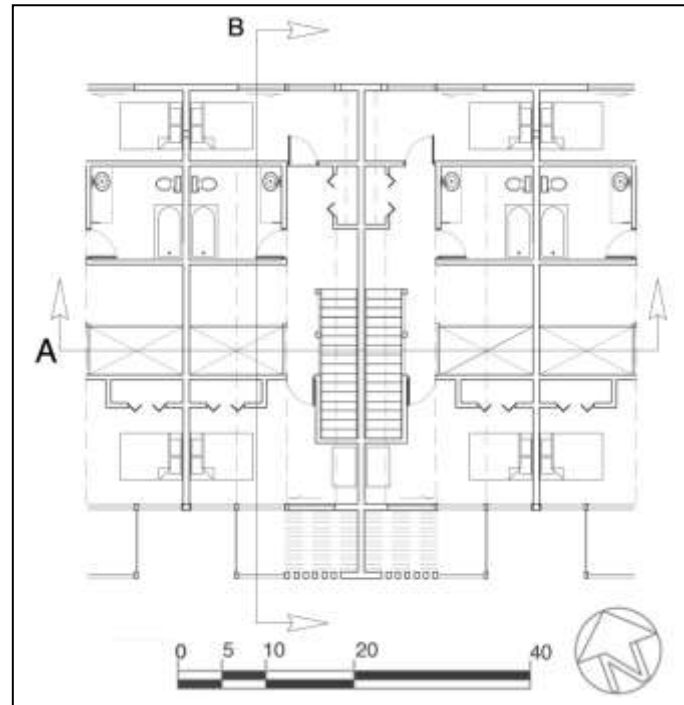
Roof Plan 1/64" = 1'-0"

its within a single 40' by 37'. 5" bay of the existing structure.

There was a concerted effort to allow light to penetrate deep into the space, done so by using a skylight over the see through glass stairs.



Figures 153 & 154



First and Second Floor Plans 1/64"=1'-0"

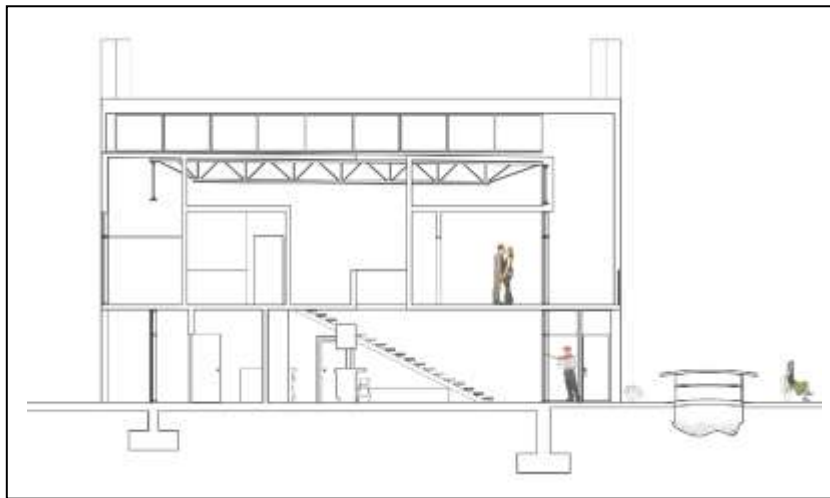
This elevation shows large windows that allow ample light, along with the privacy screen at center and energy fan located at the top. Each unit has operable windows and two split-through heating and cooling systems. The elevation also shows the materials involved, such as brick, glass, aluminum and wood. The small boxes on the roof are the venting shafts of the fireplace shared by two separate units.

Figure 155

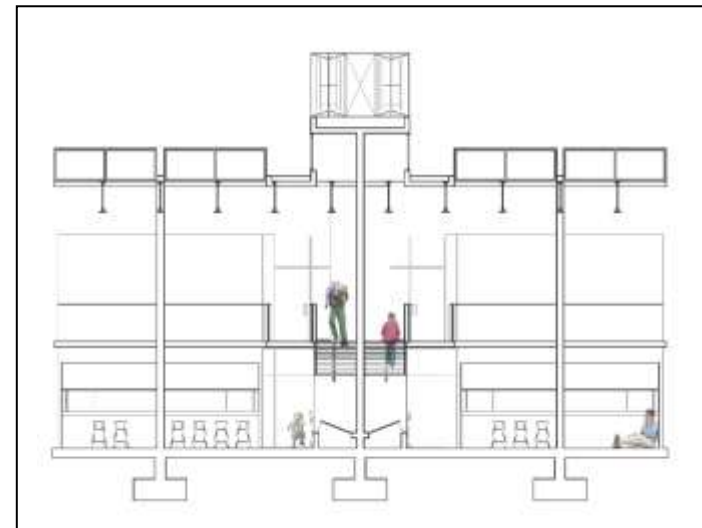


The first image is a longitudinal section through a unit show the k-series truss of the existing structure, and we can also see the section through the small man-made river used for privacy mentioned earlier. The second image is a cross section through two units and adjacent units and shows a cut through the skylight at the center, also shows a compartment for batteries used to store energy from the solar panels used at night.

Figures 156 & 157



Cross Section A

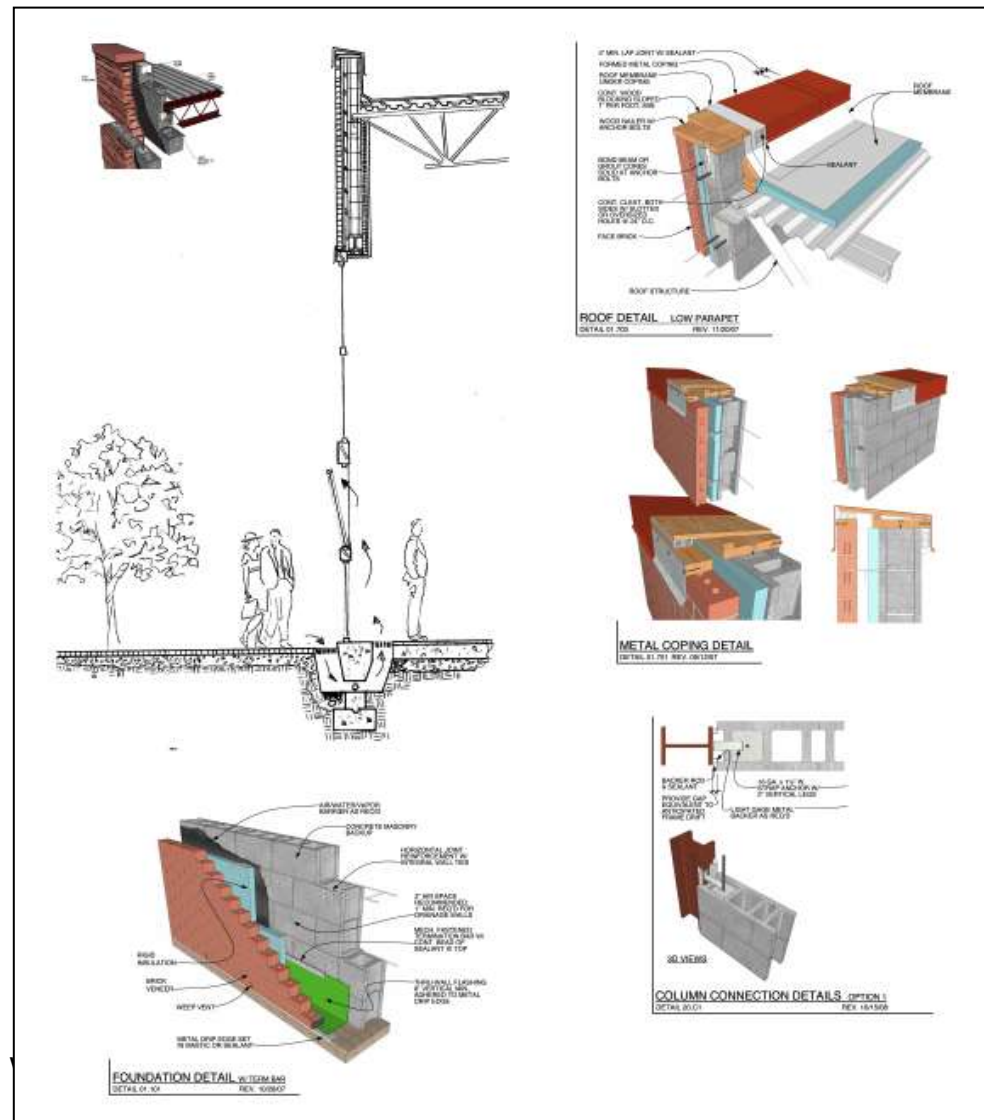


Longitudinal Section B

Scale 1/64"=1'-0"

Detail Wall Section

Figure 158



d, but really, a work in

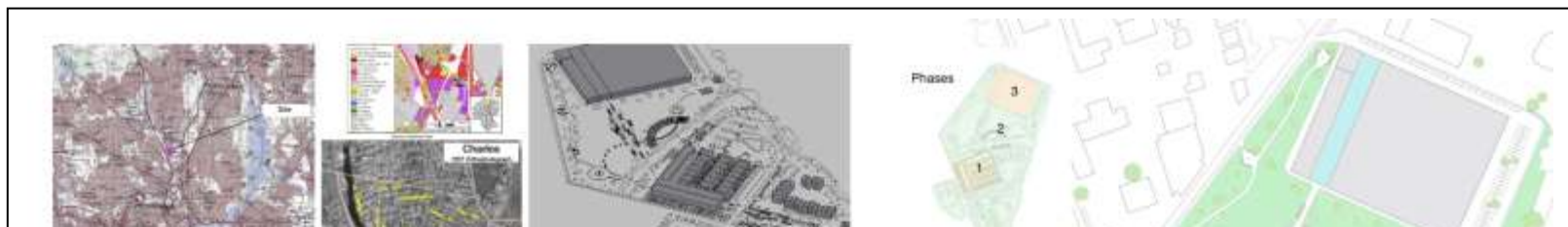
Figure 159



These were the panels, as they were originally presented.

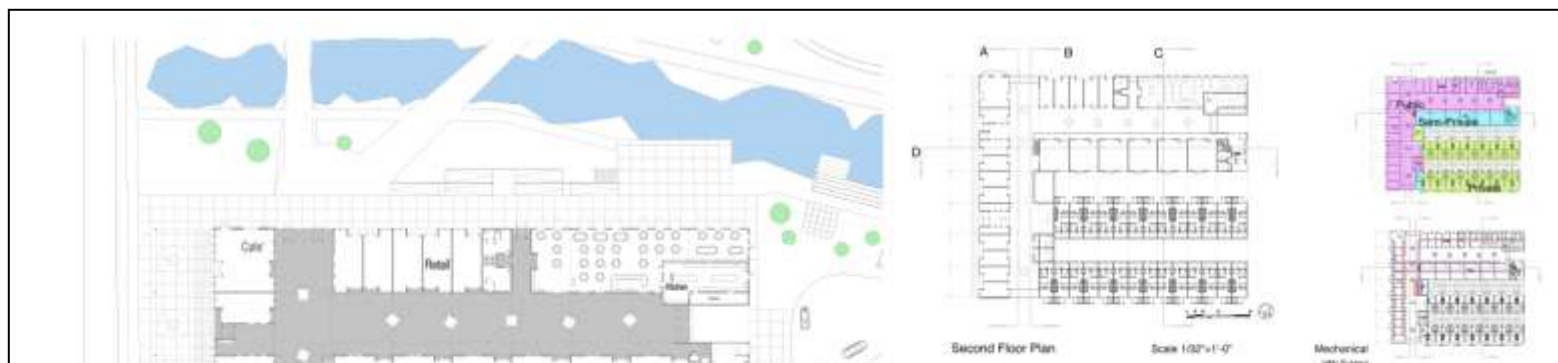
Site:

Figure 160



Plans:

Figure 161



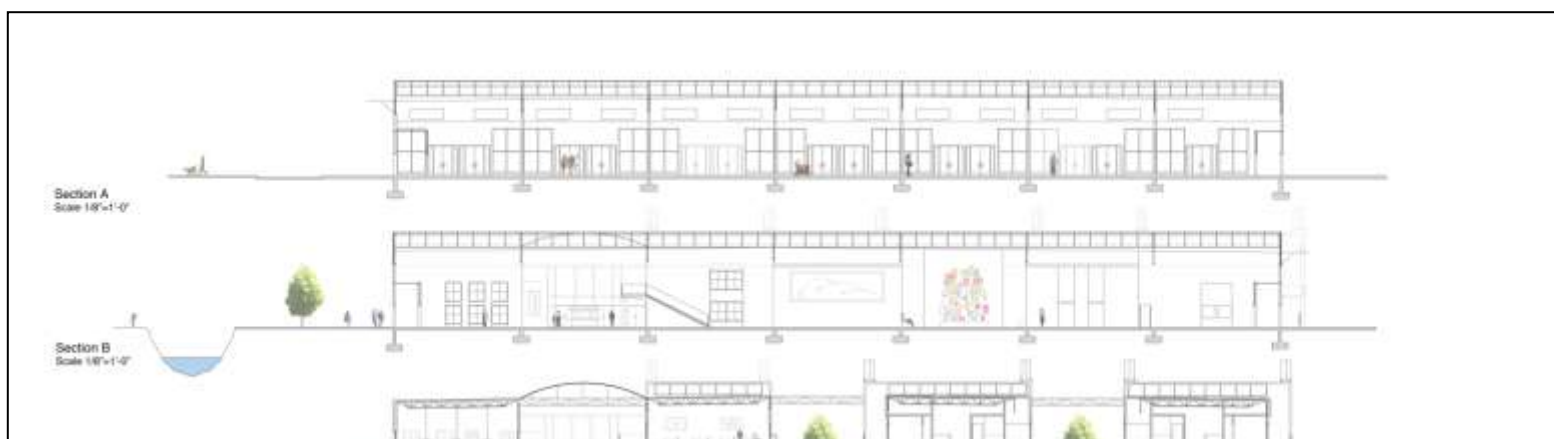
Elevations:

Figure 162



Sections:

Figure 163



Residential Units:

Figure 164



Perspectives-Detail Drawings:

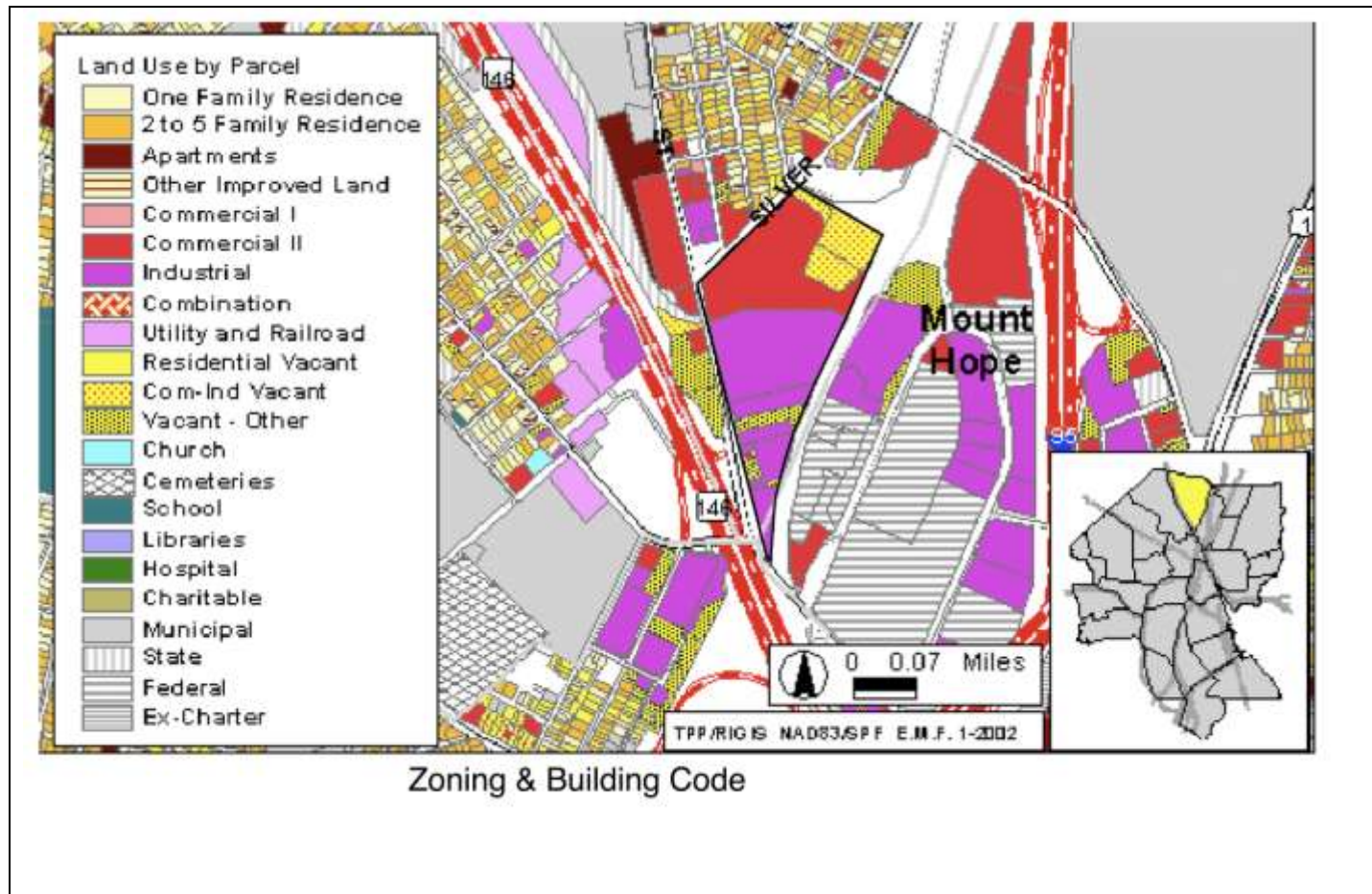
Figure 165



Regulations/Code Analysis:

This map shows that the site is zoned for Commercial II, Industrial, and Commercial/Industrial Vacant

Figure 166



Regulations/Code Analysis:

City of Providence/Charles District Zoning Ordinance

The site is located at the corner of Charles Street and Silver Spring Street, lots A and B, Plat Q. It is within the Industrial & Commercial II zone M-1.

Lot B has 459,350 square feet; it is the Northern area of the site and is situated between Silver Spring Street and the rail line. Lot A is a triangular area with 464,000 square feet, and is situated between Charles Street and the rail line. The site is separated by the Woonasquatucket River with lot A to the North, and lot B to the South. The total square footage for the two lots combined is 923,350 square feet.

Spatial Standards:

Minimum Lot Frontage: 60'

Minimum Setbacks: Front: 20' or no less than 15% of lot depth.

Side: 6'

Rear: 25'

Maximum Lot Coverage: 35%

Maximum Height: 30 ft.

Performance Standards:

Traffic: Not cause unreasonable congestion; comply with parking standards; provisions for pedestrians and bicycle access; see AASHTO standards.

Emergency Access: Safe and convenient emergency vehicles access.

Drainage and Storm water Run-off: Anticipated storm water run-off from the site shall not exceed run-off from site prior to construction.

Soil Erosion: Proper soil erosion and sedimentation control measures are required.

Utilities: All utilities shall be designed to minimize adverse impact on the area.

Natural Resources: the structure should have no adverse impact on areas of critical environmental importance.

Cultural Assets: None that I am aware of yet.

Rhode Island State Building Code

The following excerpts relate to the pertinent sections of the Building Code that regulate the construction of this facility. They are general in nature, and act as a guide in the development of this design.

Use Group Classification: 101.4)

Mixed occupancies falls under the category

(506.4.1) The intended uses will be retail, residential and office space. M-1 zoned for Industrial and Commercial II that supports live-work spaces.

Height Area Limitations:

Based upon Dimensional Regulations Sec. 304.

Construction (type R-1):

2 stories or 30' height.

6,000 sq ft.

Fire Resistance: (Table 601)

Exterior load bearing walls 1 hour rated.

Nonbearing walls 0 hour rated.

Floor construction including beams 1 hour rated.

Roof construction including beams, trusses and framing 1-hour fire rated.

Fire Suppression System:

Sec. 406.3.10 Sprinkler systems

Automatic roof hatch ventilators, Wet-pipe system.

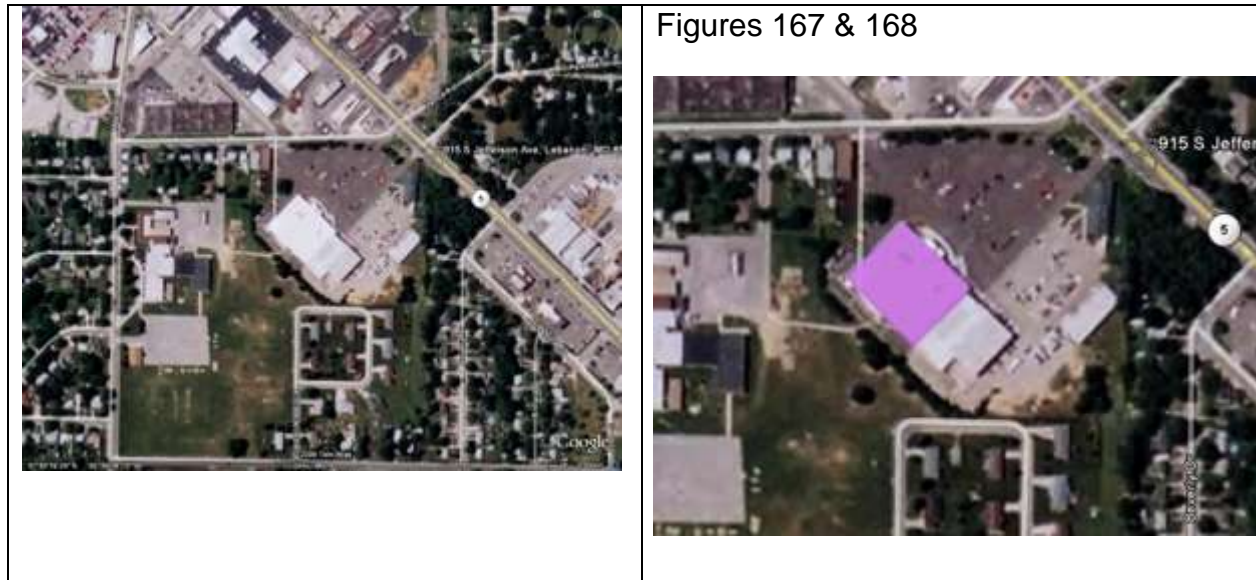
Fire Alarm Systems:	Article IV. Connection of Private Alarm Systems with City System.
Parking requirements	Sec.426 (1.5) parking spaces will be provided for each dwelling unit. 90 spaces needed for residential. The buildings also fall under the “change of use Sec. 205.2. which allows for adjustment.
Egress Requirements	Shall comply with Sec. 1007-IBC
Handicap Requirements	Will comply with ADA national building codes.
Sustainable Systems Sec.404	Active solar energy system permitted in all zones. Roof system must comply with requirements of Section 412.

Precedent Analysis:

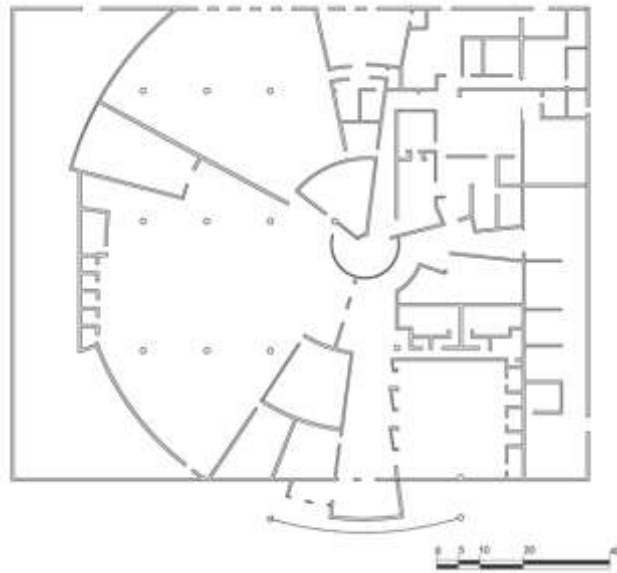
The Lebanon Laclede Library

For my precedent analysis I focused on the Lebanon Laclede Library in Missouri, which is a one story renovated Kmart building that had closed their doors after the 1999 Christmas season. The building resides off Main Street to the north and is situated in a plaza connected to another structure. The library is also near an elementary school behind the building to the west and is centrally located within the town. The structure is 41,000

square feet and shares its space with a café' and a museum. Although this precedent is smaller in comparison to the larger buildings I am reformatting, the structure is still a large rectangular building that is being used in a manner not originally planned.



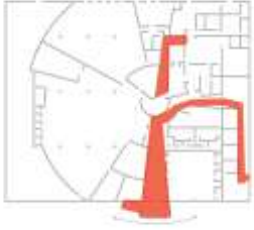
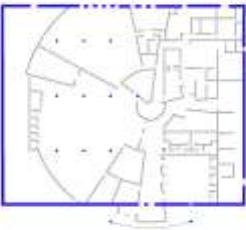
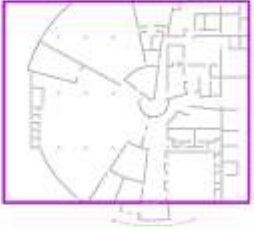
The goal was to create interesting spaces based on ripples in water. In this case, the ripples start just behind the librarian's main desk and emanate out from that point to the exterior of the building. The old library was 9,000 sq feet, and the staff was small, so in order to accommodate the same staff into the larger structure, the architect looked to Jeremy Bentham's Panopticon prison, which maximizes surveillance.



First Floor Plan

Figures 169, 170 & 171

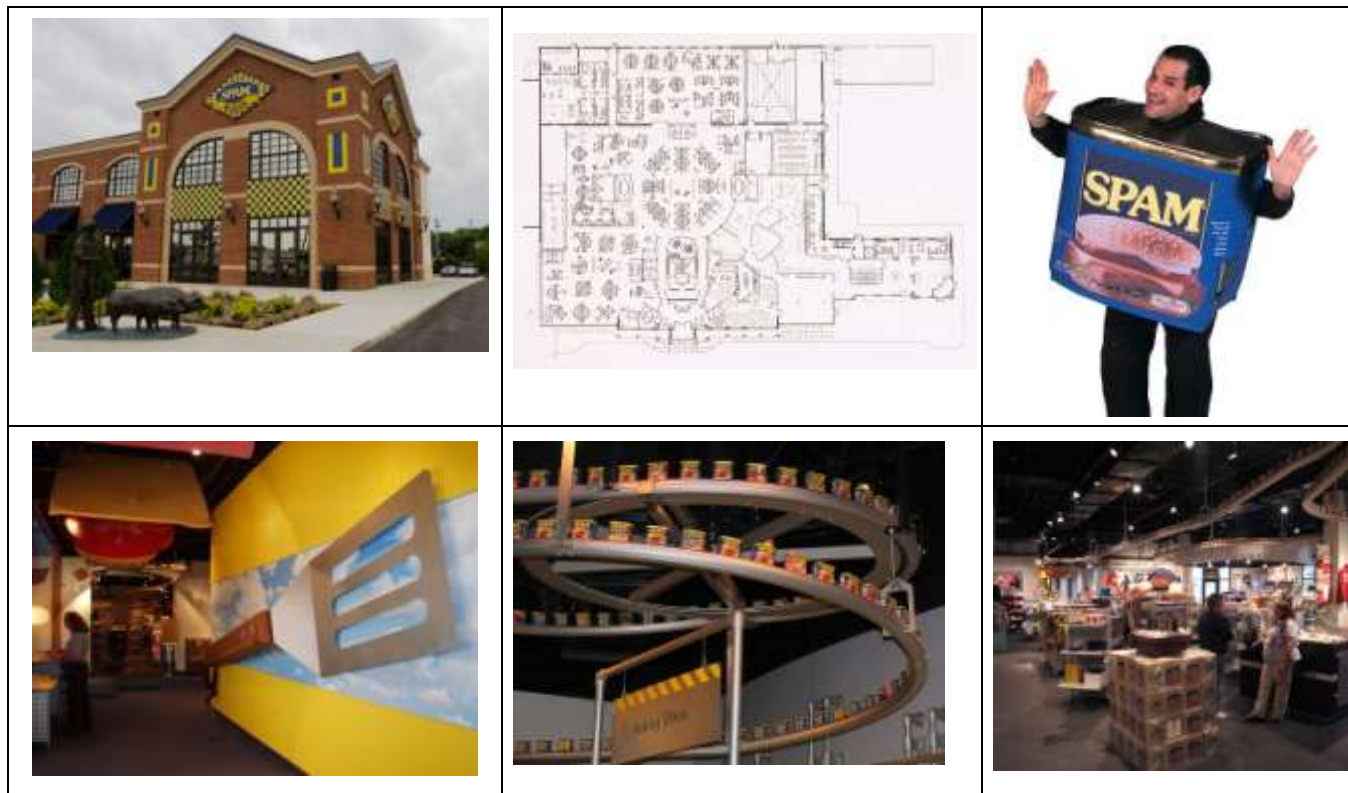


Route 66 Museum Circulation 	Museum's Main Gallery Structure 	Maria's Café' Figures 172 -177 Envelope 
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The Spam Museum

Reused Kmart Building: Hastings Nebraska

Although the concept is a little whimsical, this building was also given new life after the old user moved out in 1990. The building is 32,000sq feet, and includes offices, a café' and a gift shop.



Figures 178 - 183

The Jen Library

Historic Department Store

Another precedent I investigated is the Jen Library at Savannah College of Art in Georgia, renovated by local architect Lee Meyer in 1999. Although the building is not a big box store, it is a three-story structure that dates from the 1890's and shows how care and detail can bring a building new life. The building is an old department

store that in some way acts as a predecessor to the big box store that now litter the globe. I added some photos to give a sense of direction and intent because there are few truly interesting precedents to examine. In this case, the building was retrofitted to take on the appearance of a 1940's Italian cruise ship.



Goggle Image of Library in grid layout. Building @ center.

Figures 184 & 185

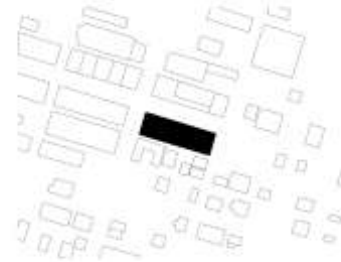


Live local Image

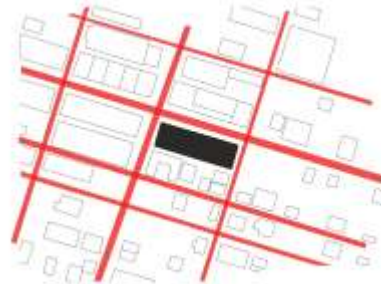
The library is in a historic district, which helped keep the building going.



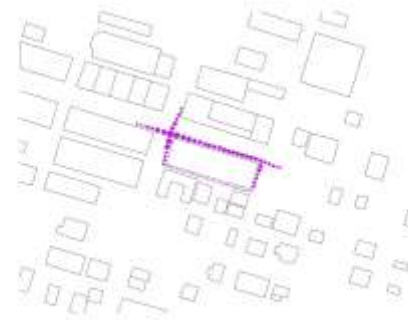
Figure-Ground



Automobile Traffic



Pedestrian Traffic

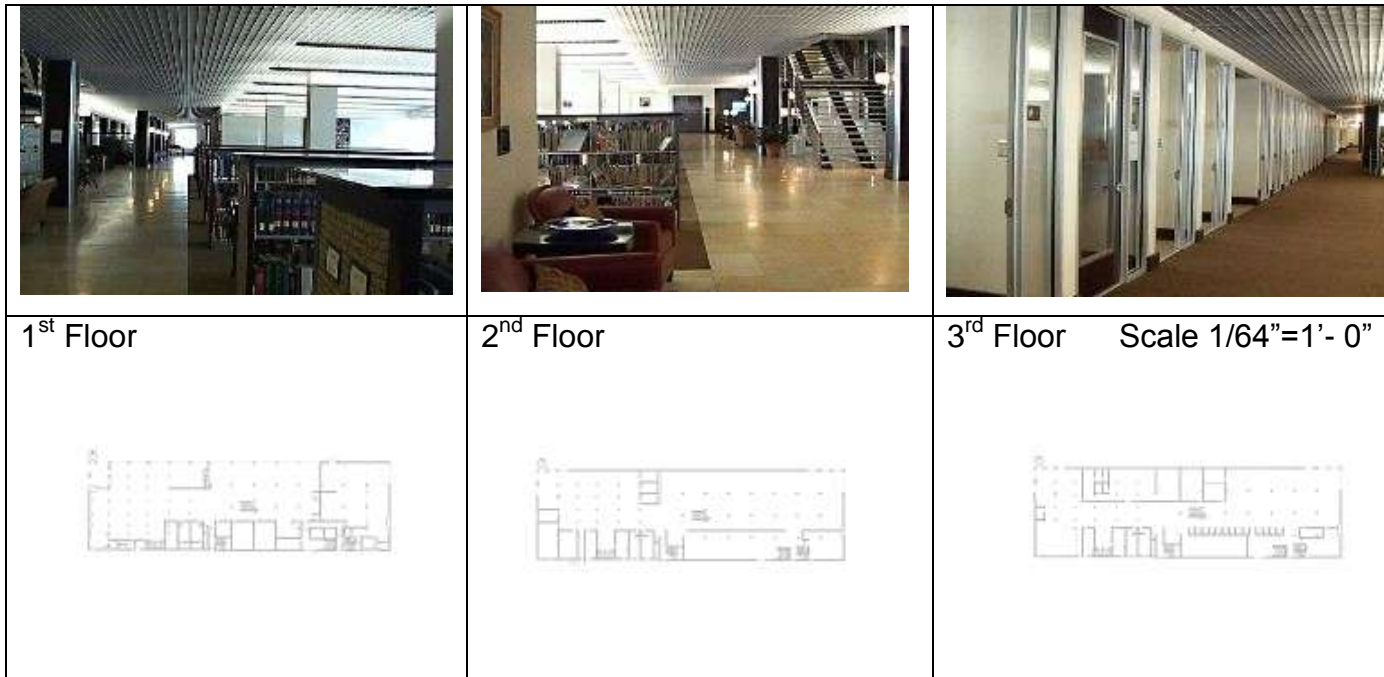


Scale 1/100" = 1'- 0"

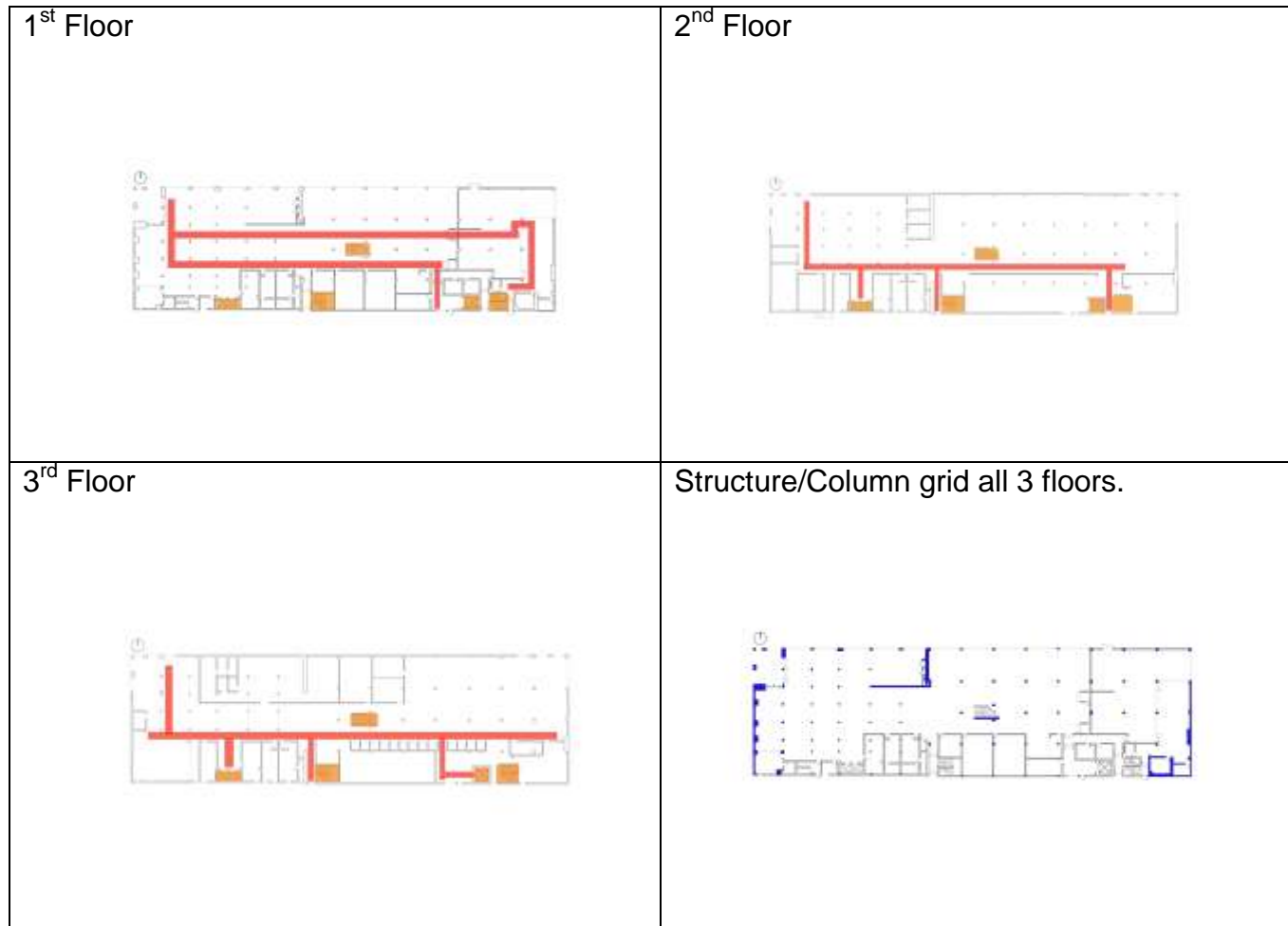
The Jen Library

Figures 186 - 189

The Library is 85,000 sq feet. Again, I am presenting these pictures to help show an interesting transformation of place/space.



Figures 190 - 195



Figures 196 - 199

Circulation Diagrams

Orange = Vertical Movement/Red = Horizontal

Scale 1/64"=1'-0"

12 Container House

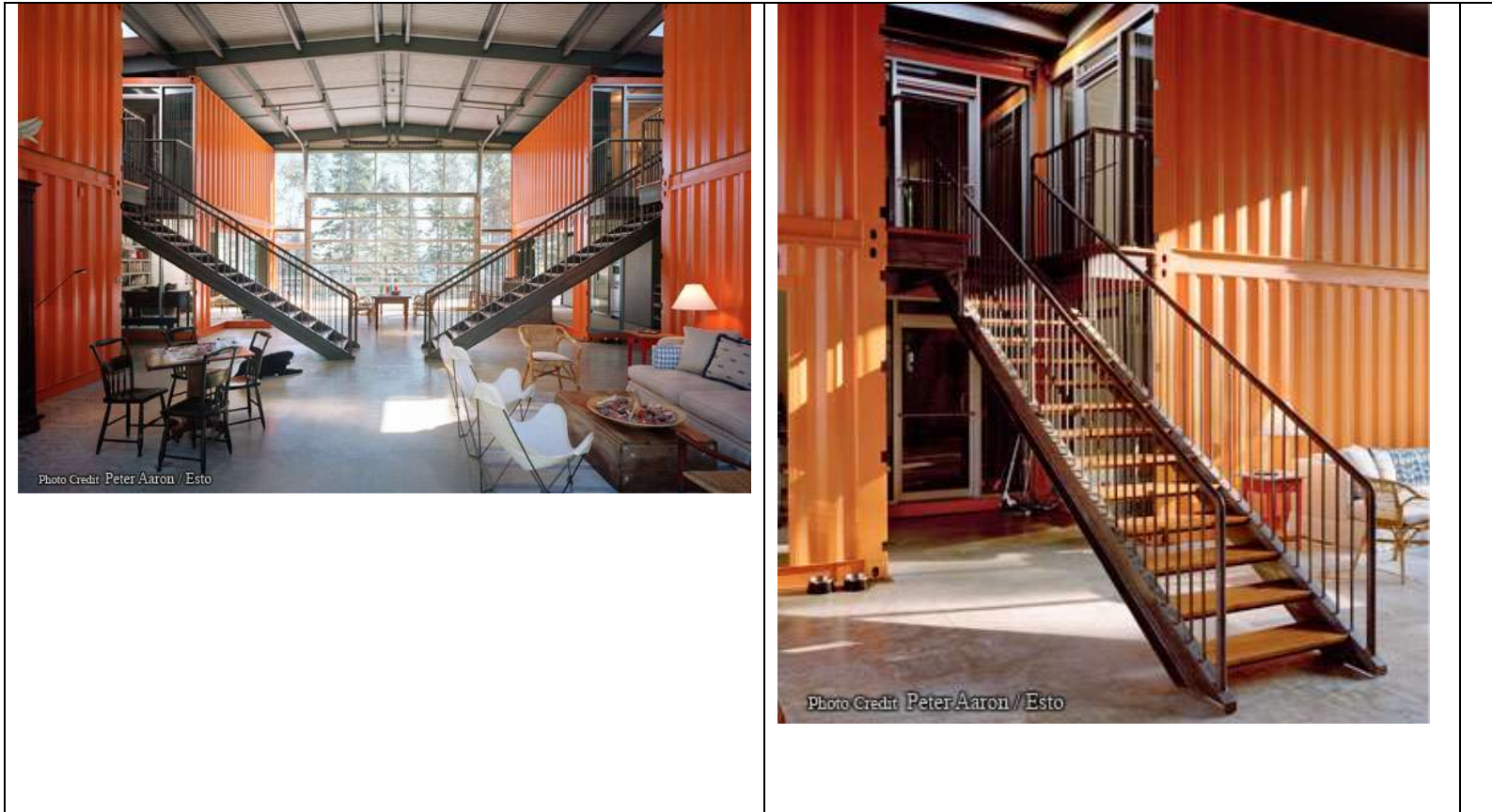
Location Unknown

The early direction was to incorporate shipping containers into an existing structure much like Le Corbusier envisioned his Unite d' Habitation building in which he inserted housing units like bottles on a wine rack. Here is a residential precedent I examined which shows the potential that could be related in my particular case.

<p>12 Container House Architect: Adam Kalkin</p> 	<p>Location- Unknown T- Shaped 2-story summerhouse. Custom prefabricated.</p> 	<p>Clients- Private Floor to ceiling windows, concrete floors, Two fireplaces and radiant in-floor heating.</p> 
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Figures 200 - 202

These photos were a relevant concept for conveying the style in which I wanted to showcase my interpretation of adaptive reuse of the BIG BOX.



Figures 203 & 204

The Old Lady House

Another particular project: also by artist/architect Adam Kalkin and is called the old lady house. This also examines the residential component done with container living.



Figures 205-209

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The book explores how communities handle a big retail store, when they don't want them there. The book examines how these large stores operate and get away with what they get away with. The book also covers topics such as how to talk to reporters, create a petition, and potentially beat or chase them out of town. Of particular interest, was the section on communities, and the fact that in order to make them work, you need a central location.

2. Berger, Alan. *Drosscape: Wasting Land in Urban America*, Princeton Architectural Press, New York: 2006.

This book explores the concept of what the author considers wasted land. The book looks at the horizontal expansion of economic growth in industrial areas of a city, and its effect on urban regions across the country. The author shows great examples of places of interest, beautiful photographs, along with colorful graphs that help to enhance his case. Of particular interest, is the section on "Demalling," or the vacancy that occurs to certain buildings when they are not used.

3. Christensen, Julia. *Big Box Reuse*: The MIT Press: Cambridge Massachusetts, 2008.

This book gives one a better understanding of the ways in which large retail stores are being converted into uses previously not intended. The book examines several examples of various big box adaptations that have been somewhat successful in certain locations of America. The author also studies how big box stores

acquire land, transform communities, and basically take over the local retail market. Of particular interest, was the section on shopping centers.

4. Vorsanger, Nancy, Terris, Jutka and Benfield, Kaid. *Solving Sprawl: Models of Smart Growth in Communities Across America*. National Resources Defense Council: 2001.

This book to examines communities, and how they strived to promote a sense of community through gathering places. The book covers strategies of smart growth across America and how they implemented tactics to make them work. Of particular interest was the section on co-housing which discussed how gardens could be a place of interaction among members of the community.

5. Rogers, Elizabeth and Kostigen, Thomas. *The Green Book: The Everyday Guide to Saving the Planet One Simple Step at a Time*. Random House Inc: 2007.

This book explores the ways in which we live our lives and what is wrong with how we do some of the things we do on an everyday basis. The book gives examples and solutions of what one can do to change that mode of thought. Of particular interest is the section on building, and employing various strategies to live a greener lifestyle, especially the section on solar panels.

Figures

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129 & 130. REVIT / Images produced by Mark Roderick
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