

## ABSTRACT

Title of Document:                      Redeveloping Marie Reed Community Learning  
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Planning, and Historic Preservation

The recent redevelopment of the Adams-Morgan neighborhood, in Washington, D.C. is astounding. The district has gone from an underground arts center, to an immigrant quarter to a wealthy, desirable urban area in about 30 years. The Marie Reed Community Learning Center anchors the south end of the district. The building is more than a school: it also houses a community pool and recreation center, and a low-cost health clinic.

In this thesis, I will explore the idea of true community design and development by using the skills and knowledge I have acquired in my studies to assist the Adams Morgan residents generate proposals for redevelopment of this site. Thus, this thesis will be as much about the process as it is about the product. I will borrow and adapt the methodology of Walter Hood, Maurice Cox, and others – implementing design by observation and with the assistance of the community.

THE REDEVELOPMENT OF THE MARIE REED COMMUNITY LEARNING CENTER:  
A STUDY IN COMMUNITY-BASED DESIGN

By

Mark Joseph McKeivitz

Thesis submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
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2005

Advisory Committee:  
Dr. Brooke Wortham, Chair  
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## Site History



Figure 1. Overhead Photograph of the Marie Reed Community Learning Center Site

## Site History | Overview

The Adams-Morgan neighborhood is just outside L'Enfant's Washington, D.C., both literally and figuratively. It sits on the slope that divides L'Enfant's plan from the area that L'Enfant wouldn't touch because of the topography. The area originally served the upper middle-class, yet after WWII it became the center for the counter-culture, arts, and protest. The evolution continues today, as the wealthy move back in, and the artists and immigrants try to retain their presence in the neighborhood.

This selection of this site and project is based on two articles, one in the *Intowner*, the other in *D.C.*



Figure 2. 1937 Sanborn Plat Map

*North.* The articles spoke about real estate prices in the District of Columbia, and how developers have looked for available land to create new housing. The Marie Reed Community Learning Center (MRCLC) occupies a four and one-half acre site in the middle of Adams-Morgan, and is ripe for redevelopment. The current building was constructed in 1978, but created many site liabilities in the neighborhood.

The community leaders from One Adams Morgan and the Advisory Neighborhood Commission 1C (ANC 1C) spoke of wanting to redevelop the site following the model set forth by the Oyster School and the 21<sup>st</sup> Century School Fund, wherein a public-private partnership is formed, public land is sold to private developers, and with those profits a new school is constructed. The author of this

paper liked the idea of working with the community to help create a school design that the residents would like, and a site plan that would be feasible for developers.

## Site History | General

Adams-Morgan, while once a transportation route for Native Americans and horse-drawn carriages, sat undeveloped until the late nineteenth century. The District of Columbia, up until that point, had been content to grow within the boundaries of the L'Enfant plan of 1791. With the advent of public transit, and the rising land costs within the city rising, development spread.

In 1893, the northern section of the Marie Reed Community Learning Center (MRCLC) site, adjacent to Kalorama Road, had been declared a park. The location of the park appears to be random; however, the 1896 plat map shows the true motivation, as the U.S. Army Corp of Engineers put a water pumping station near the center of the site, which still stands and is in use to this day. The pump station and its owner, the United States government, ensured that the northern boundary of the MRCLC would remain a park.

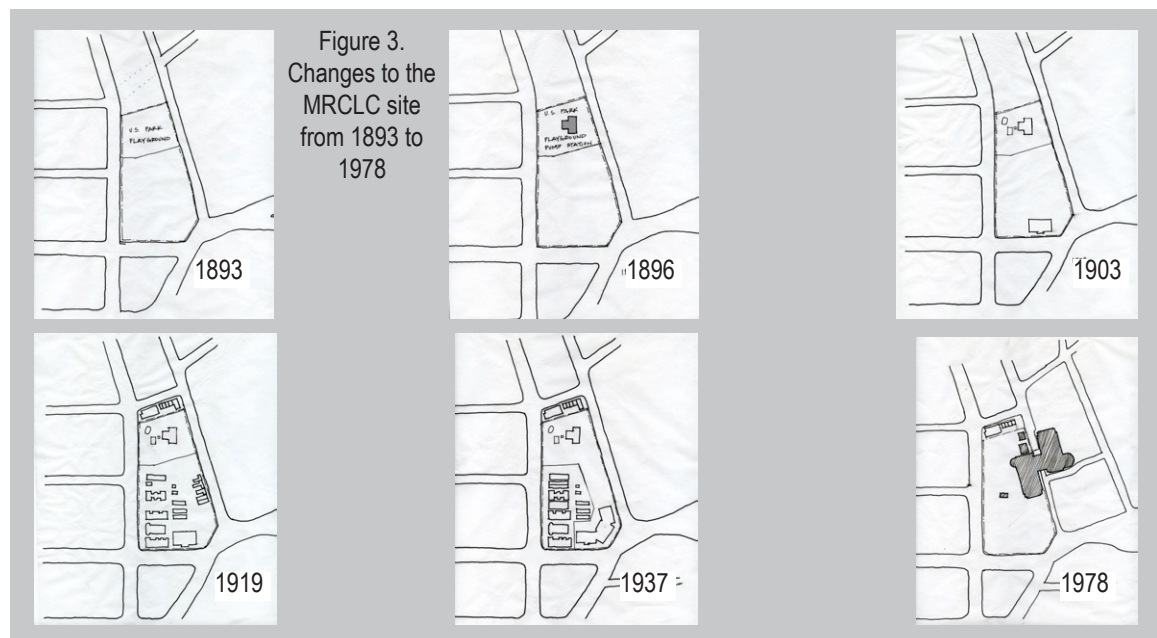






Figure 4. 1964 Sanborn Plat Map



Figure 5. Slope Analysis

The neighborhood grew around but not in the park. By 1903, the Thomas P. Morgan School opened at the south end of the site. The building sat at the south end of the MRCLC site, and developers built a series of rowhouses to along V Street and Florida Avenue. By 1913, a series of apartment buildings developed on the east side of 18<sup>th</sup> Street.

As the automobile became more common in the 1920s, Champlain Street evolved to serve this need; a series of car repair centers and gas stations were built along the street. This trend continued into the 1960s as the Cherner Motors Corporation opened an automobile showroom on the northeast corner of Champlain Street and Florida Avenue.

With the introduction of automobile support services, the east side of Champlain Street, near the MRCLC, became primarily an industrial area. Two industrial icons of the area, Federal Storage and the Potomac Electric Power Company electricity sub-station were built by 1937 east of the site continue, and continue to be a detriment.

### **Site History | Topography**

The topography of the area has had an enormous impact on the development. The L'Enfant plan for Washington, D.C. stops right before the MRCLC because of the slope. Boundary Street, now Florida Avenue, sits at the bottom of an escarpment that runs from the Potomac River in the west, arcs around to the Anacostia River to the east. This natural boundary prevented L'Enfant from pushing his plan further north.

The slope of the neighborhood affected the street grid as well. Champlain Street is a natural gully draining directly to the Florida Avenue Basin. The topography determined the path of this street, which in turn determined the crank in 18th Street at the intersection of Kalorama Road. If 18<sup>th</sup> Street had continued due north, it would have connected with Champlain, creating an awkward block.

The MRCLC site has used the slope to its advantage by burying two parts of the building, the recreation center and the health clinic. These parts of the building are underground. However, because of the gully-effect of Champlain Street, the health clinic is glazed on the west side, and the recreation center is glazed on the south side on the basement floor.

## Site History | Social

The Adams-Morgan neighborhood developed around the turn of the century as public transit allowed the city to spread. The area appears to have been a stable, uneventful upper-middle class neighborhood until after World War II and the Supreme Court rulings on desegregation. As infrastructure for the automobile increased and Washington spread farther out, Adams-Morgan went into a period of decline.

In the 1950s, Adams-Morgan began to acquire the character it has today. “The charm of Adams-Morgan isn’t cosmetic, it is rather one of sense, of attitude, and it’s difficult to identify but not hard to feel it once you’ve been there long enough.”<sup>1</sup> As more well-to-do citizens left the neighborhood, a new population moved in – a mix of young, immigrants, African-Americans and Italian-Americans. The neighborhood earned its name during this time as “community activists combined the names of two neighborhood schools predominantly white Adams and predominantly black Morgan.”<sup>2</sup>

In the 1960s and 1970s, Adams-Morgan was the center of counterculture movements and protests in the District. The neighborhood also became an arts and culture center during this time. The national trend of punk music was locally based in Adams-Morgan, and nationally renowned Bad Brains got their start at clubs in the area. Also in the 1970s, the MRCLC was constructed and the old Thomas P. Morgan school torn down.

In response from various civil wars and general upheaval, the 1980s saw an influx of immigrants from El Salvador, Nicaragua, and other Central American countries. The influence of this population is seen throughout the neighborhood with businesses providing services to both Spanish and English speakers.



## Site Analysis



Figure 6. Marie Reed Main Entrance

Figure 7. Marie Reed South Facade

Figure 8. Marie Reed Site Plan

## Site Analysis | Physical

The Marie Reed Community Learning Center resides in the northwest quadrant of the District of Columbia. The building and site are in the Adams-Morgan neighborhood, and occupy nearly 5 acres in a very desirable area of the city; thus, there is immense pressure to redevelop the MRCLC.

The MRCLC is a three-story building in a neighborhood primarily comprised of three-story row houses. Adams-Morgan is currently undergoing a housing boom; however, and new four and five story apartment and condominium buildings are being developed. Champlain Street has been the



Figure 9. 18th Street Facades



Figure 10. Typical Adams Morgan Building Stock

center of this development. Due to its industrial history, lackluster buildings, and abundance of surface parking lots, real estate has been easy to acquire and build on. The physical nature of the neighborhood is in flux.

The new, larger-scale buildings, along with the existing building stock, mostly use brick or stone as the material of choice. The newer buildings in the neighborhood tend toward hanging brink on steel or concrete frames, rarely using masonry as structure. The new Adams Row lofts, at the northeast corner of Champlain Street and Kalorama Road are typical of new development in the area.



Figure 11. 18th Street Facades



Figure 12. Land Use Map

Figure 13. Site Drainage Issues



Eighteenth Street serves as the main street of Adams-Morgan. It is largely commercial on the ground floor, with offices and some housing above. The majority of the commercial ventures are night clubs, restaurants, and cafes; however, there are music, clothing, and home furnishing stores as well.

The MRCLC site is quite bereft of trees, however, the surrounding area has a fair amount of street foliage. The MRCLC has a large issue with drainage and there is little in the way of pervious surfaces. This is partly due to the density of the neighborhood, and the program of the site. The northwestern section of the site is almost completely paved with tennis and basketball courts, while the southeast section remains a grass playing field.

The MRCLC site has a significant slope that runs from northwest to southeast on the site. The grade drops 36 feet over a distance of 692 feet. There is a 25 foot drop from west to east across the middle of the site.

The current MRCLC building runs primarily north-south. The long, west façade is largely brick with narrow, vertical windows. The building bridges



over a closed Champlain Street. According to residents, the intent of the architect was to provide a place for teenagers to meet and hang out. The unfortunate and unintended consequences have been crime and vandalism.

The eastern section of the MRCLC contains the health clinic and daycare, and is a more centralized form. The east wing of the building is setback from Ontario Street, and has play areas out in front. The east edge of the building has little in the way of pervious surfaces as well.

The inward focus of the building, along with its physical separation from anything around it, makes it a fortress within the city. The lack of transparency on any façade makes the building more foreboding as well.

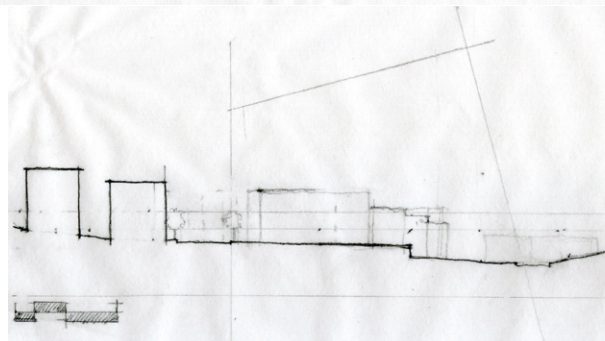
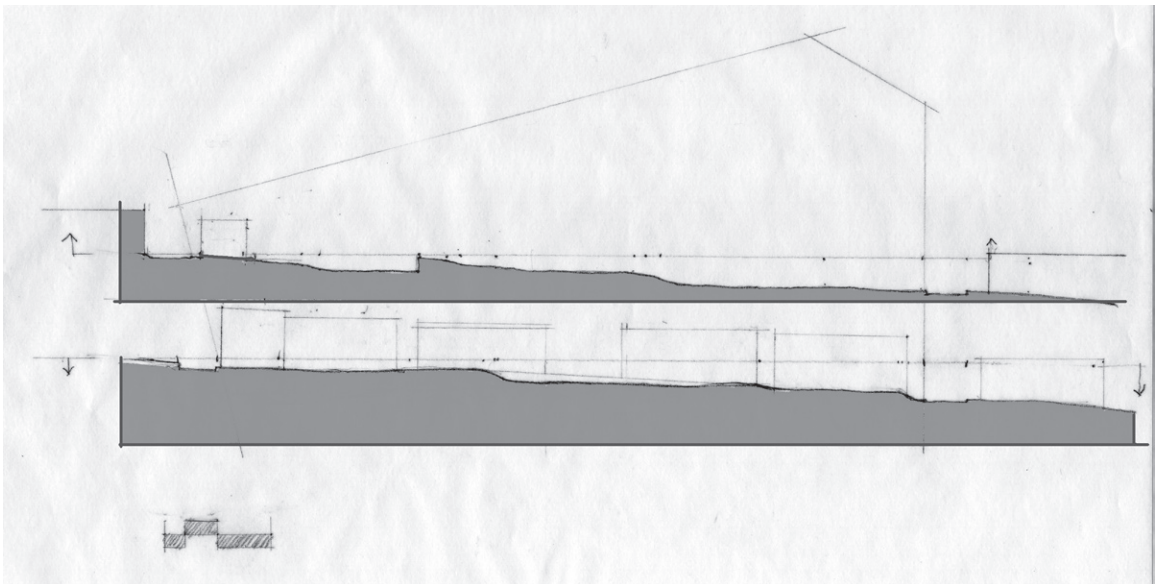


Figure 14. Site Sections - The longer sections run north south



Figure 15. People Walking in Adams Morgan after the 2003 Blizzard

### **Site Analysis | Societal**

The Adams-Morgan neighborhood has been a melting pot since the 1950s. The area continues to be in a diverse state between wealth and poverty, immigrant and native, new and old. The most telling statistics involve family income, family size, race and ethnicity.

The current socio-economic trend in Adams-Morgan is the in migration of wealthy, childless individuals and couples, and the resilient and large Latino population, mostly from El Salvador. The schisms in the neighborhood can be seen on the following series of maps. When seen in

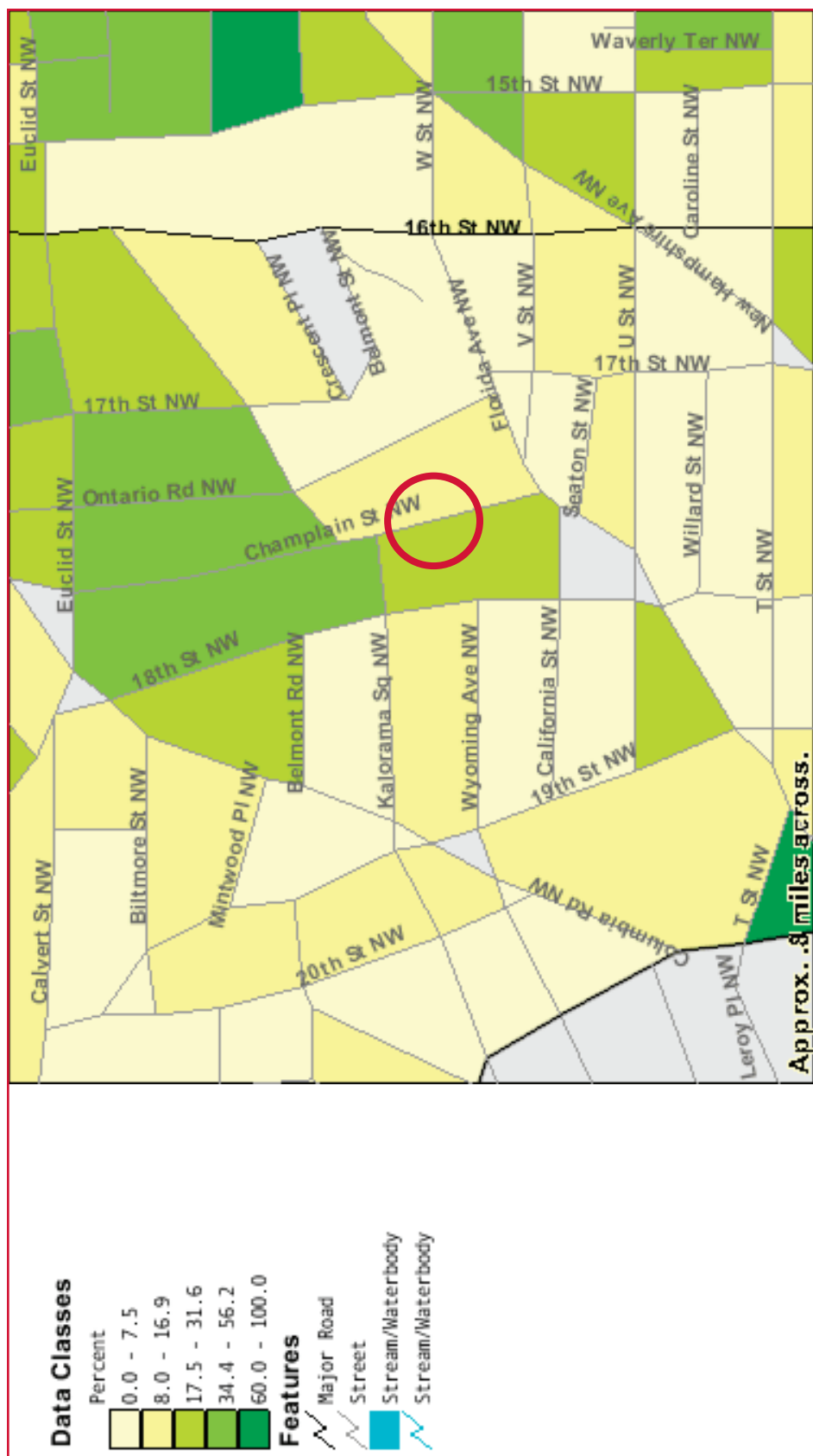


Figure 16. Latino Population (Percent) in Adams Morgan

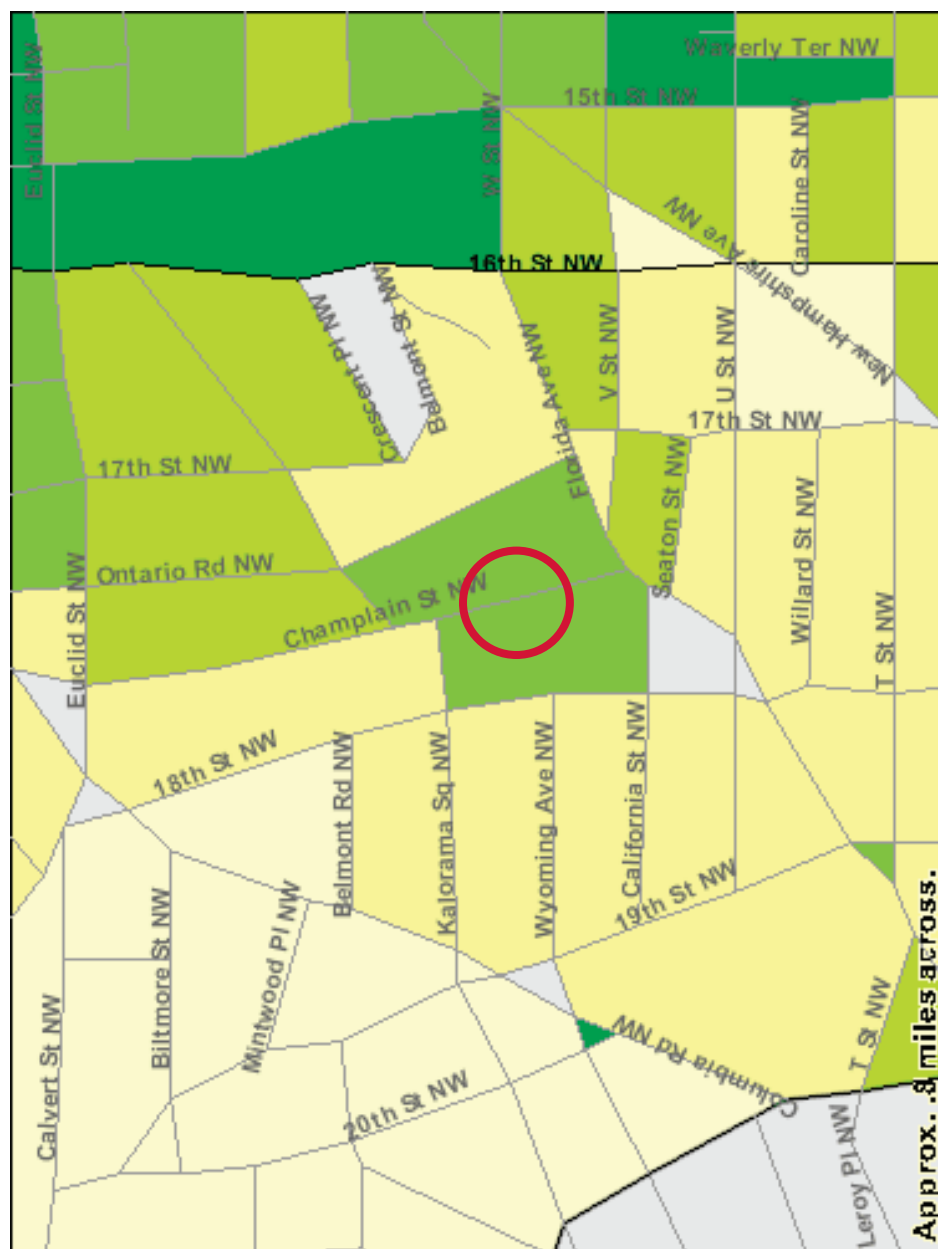


Figure 17. African-American Population (Percent) in Adams Morgan



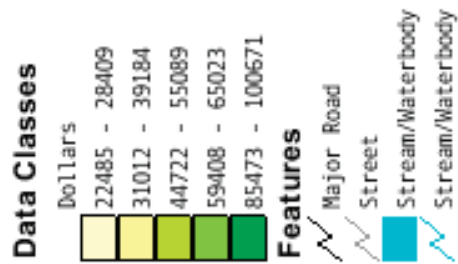
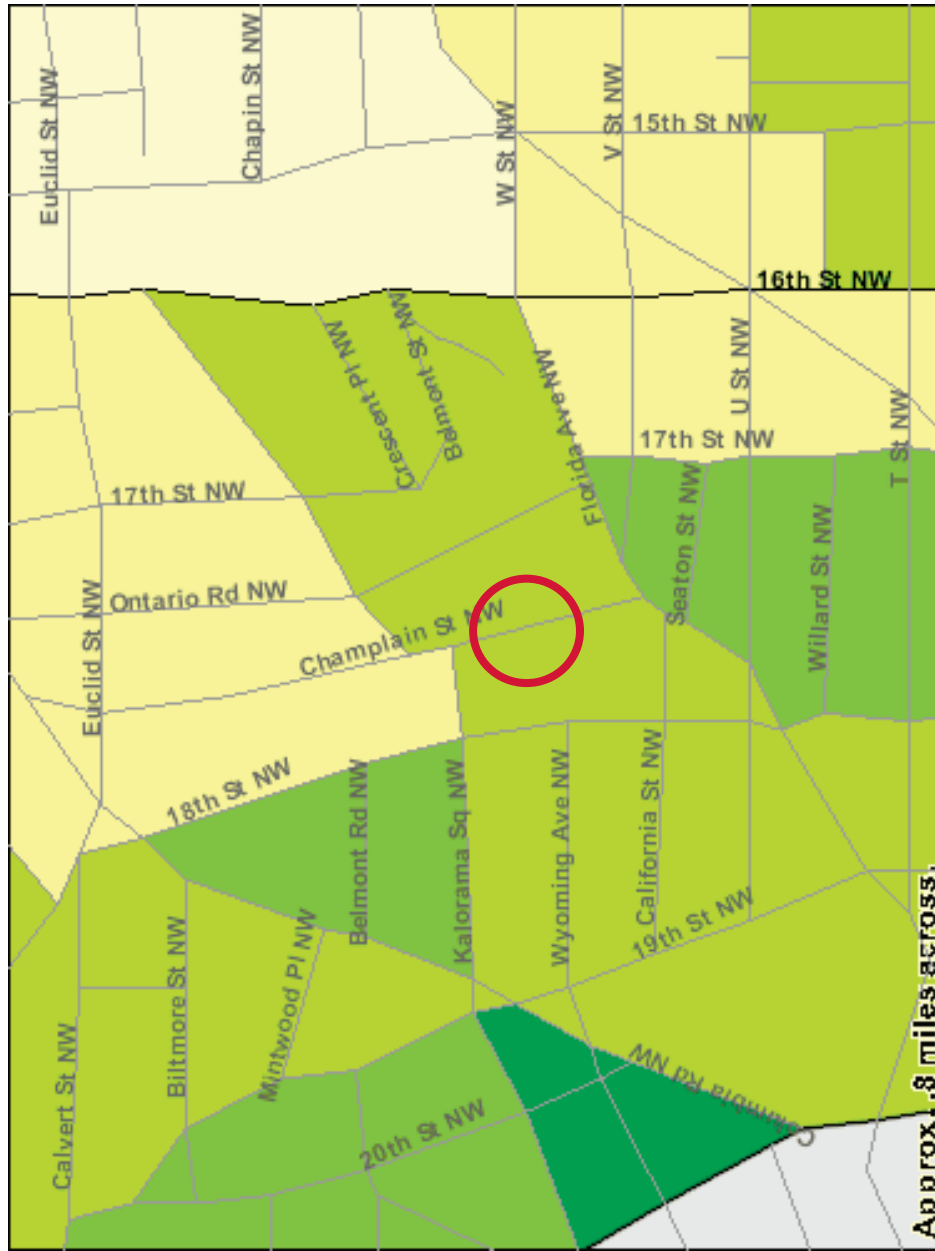


Figure 18. Household Income in Adams Morgan

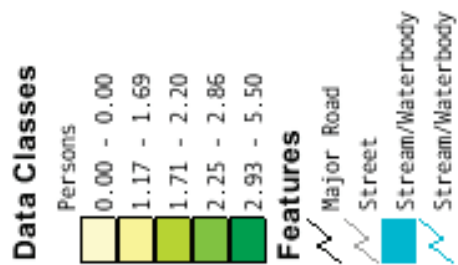
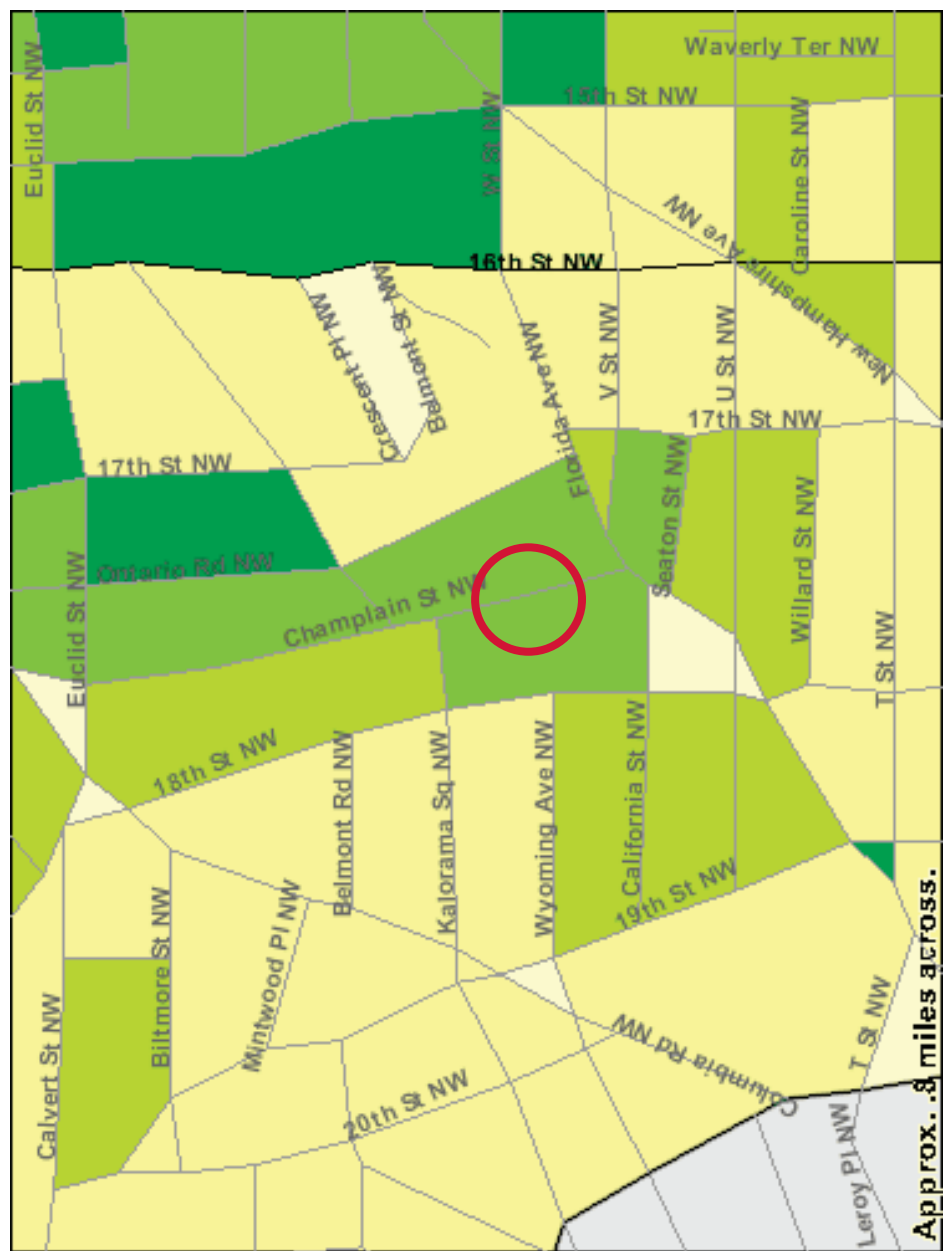


Figure 19. Family Size (Average) in Adams Morgan

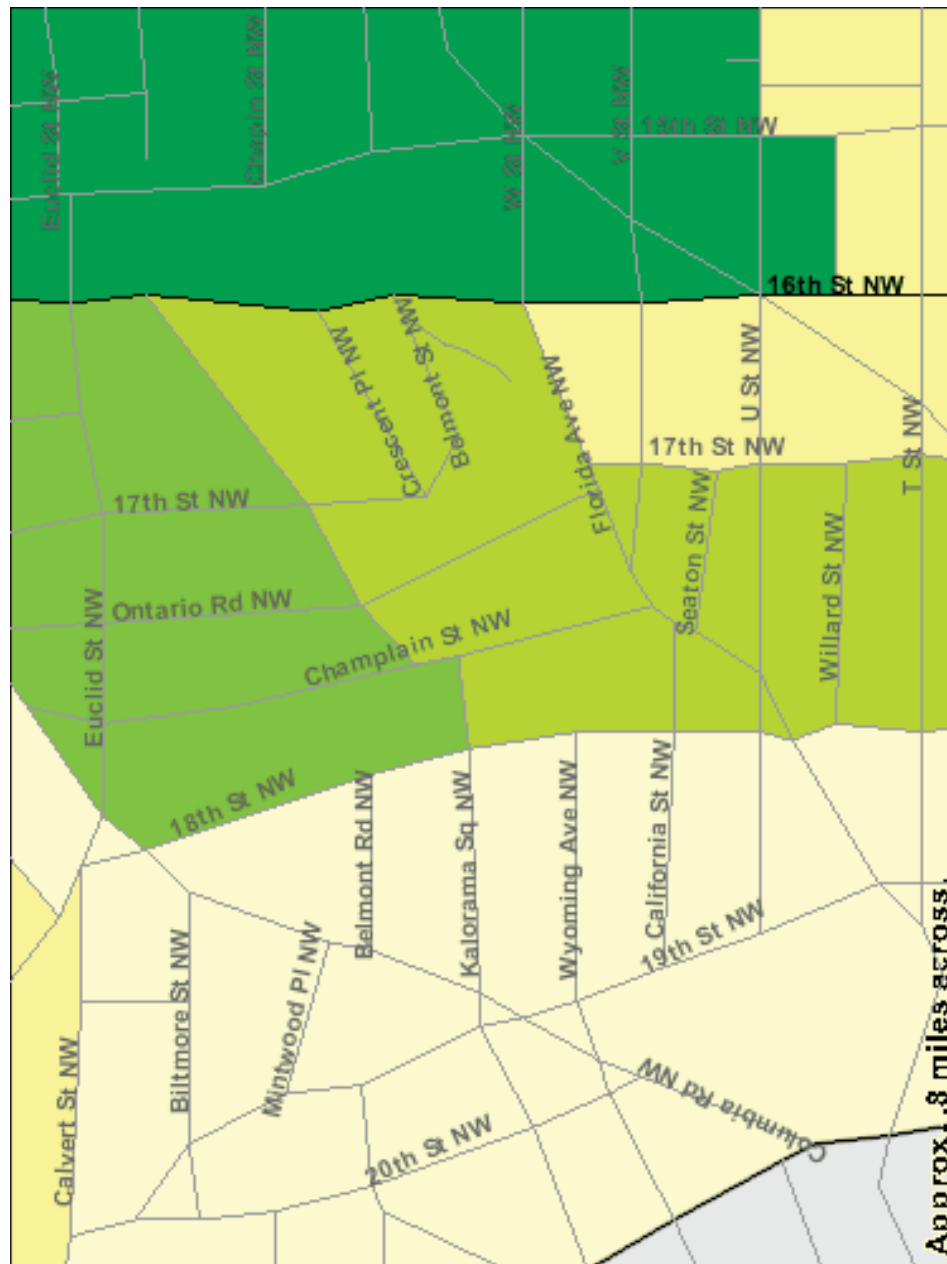


Figure 20. Families in Poverty (Percent) in Adams Morgan



Figure 21. Housing Units in Adams Morgan

series, one realizes that the Latino and African-American population is incredibly concentrated between Columbia Road and Kalorama Road. This area also displays the largest percentage of the population in poverty, along with the largest family size, and the lowest household income in the area. This reveals that the African-American and Latino populations have the largest families with the least income. This series of maps helps to explain the fact that the student population at the MRCLC is seventy-five percent Latino and twenty-five percent black. The incoming professionals and empty nesters have the most wealth and are moving into the neighborhood from west to east.

## Precedents

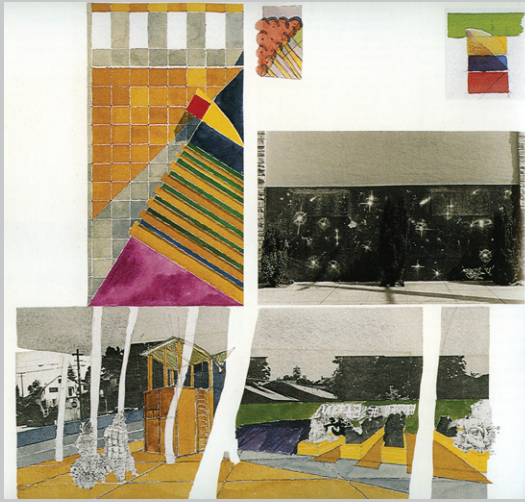


Figure 22. Walter Hood, Process, Durant Park



Figure 23. Rural Studio Community Center, Hale County



Figure 24. Residents and Legislators at the new Bayview, Virginia

## Precedents | Process

The design process is the heart of this thesis, thus, there are three process precedents that are included in this section. I have included the work of Walter Hood at Hood Design, the Rural Studio at Auburn University, and Maurice Cox, faculty at University of Virginia, and founding member of RBGC Architecture, Research & Urbanism to better understand the process of designing with and within the community.

Maurice Cox has been called “the country’s foremost practitioners of democratic design: That is, he understands that design’s impact grows when the designer allies himself with many partners.”<sup>1</sup>

Maurice Cox teamed up with Alice Coles, the head of Bayview Citizens for Social Justice, to redesign the town of Bayview. While Mrs. Coles served as the catalyst for change, Maurice Cox provided his specialized knowledge to help the community design the change. He worked with the community to include elements that are physical manifestations of their culture – front porches, barber/beauty shop – in the final design.

The Rural Studio at Auburn University has been dealing with the issue of poverty in Hale County, Alabama for nearly ten years. The founder and leader, Samuel Mockbee, believed in not only designing for less-than-privileged clients, he advocated living in the area, to better understand the client, the site, and the culture. The Rural Studio has designed and built many houses and structures for the people of Hale County, and the students continuously comment on how much knowledge they learn from the process.

Finally, Walter Hood designs for the community in a different way. He designs by observation. Hood follows a process he describes as “improvisation.”<sup>2</sup> He incorporates intensive site visits at the beginning of the process, and records the current (and perhaps unintended) uses and sketches potential interventions on the site. These “urban diaries” slowly evolve from abstract diagrams to site-specific designs. His interventions specifically address the use and users of the site first, setting aside specific space for local, neighborhood needs.

In undertaking this thesis, the author will borrow and adapt the aforementioned processes, specifically, the urban diary of Walter Hood, and the community meeting/design strategy of Alice Coles and Maurice Cox. The Friends of Marie Reed, the MRCLC Parent-Teacher Association, the Kalorama Citizens Association, and members from the District of Columbia Office of Planning, have scheduled three meetings for this summer that will be attended by the author of this paper. The outcome of these meetings will be a community-based agenda, and potentially building program, for a new MRCLC. Furthermore, an urban journal will be recorded over the course of the summer.



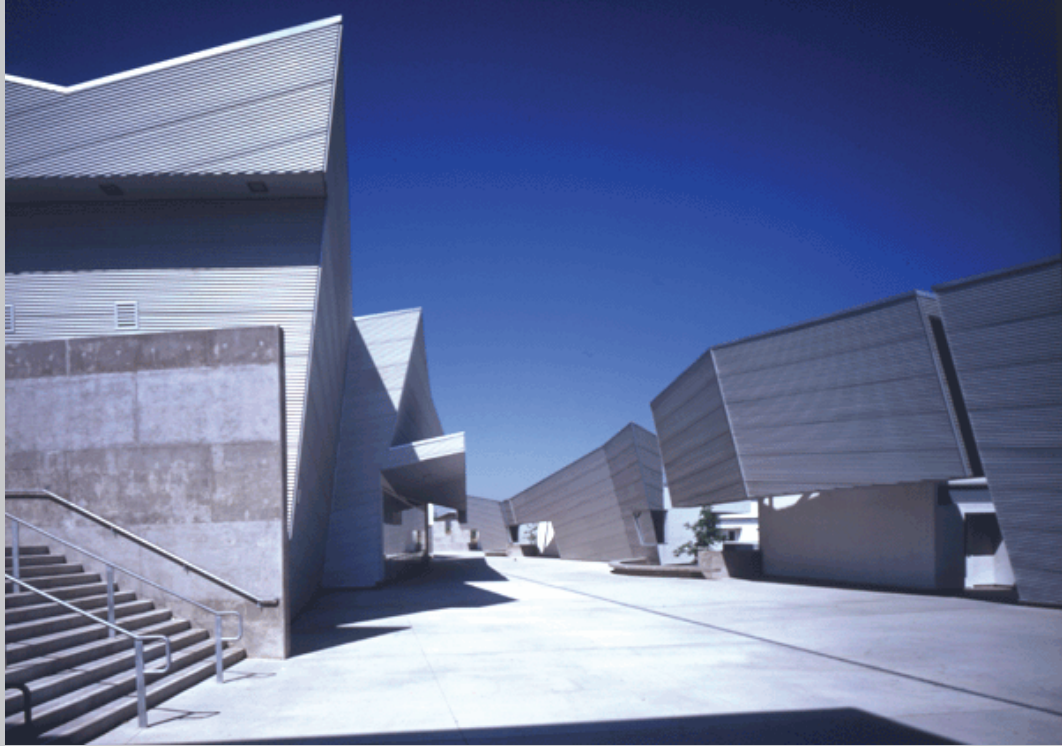


Figure 25. Diamond Ranch High School

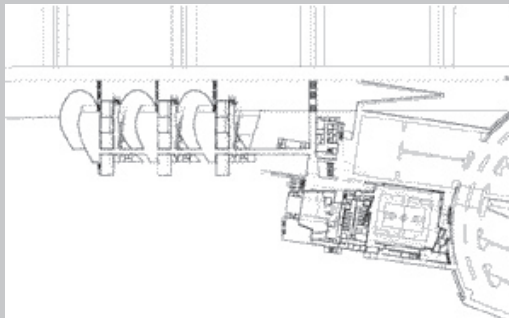


Figure 26. Diamond Ranch High School Site Plan

The school grounds, the building, and the users, will be diagrammed and dissected in order to create a better design for a new school.

## Precedents | Physical

The outcome of this thesis will involve multiple building types and interventions into the site on the urban, building, and landscape level. The precedents selected address issues related to type, use, site plan, formal attributes, and tectonic qualities. Some of the precedents selected address only one of the aforementioned characteristics, while others have multiple features to study.



*Diamond Ranch High School*, Morphosis, Pomona, California (1998)

This precedent was selected for many reasons: site plan, program, interior-exterior relationship, and form. The buildings of the Diamond Ranch campus are set into a site that slopes downward from south to north. The buildings are connected with a similar architectural language and the primary circulation is on the exterior. The program is similar to this thesis; however, it is a high school, and not an elementary school.

The relationship of building program to the plan displays a common thread throughout most school designs – the classrooms are separated from the administration, gymnasium, library, and cafeteria

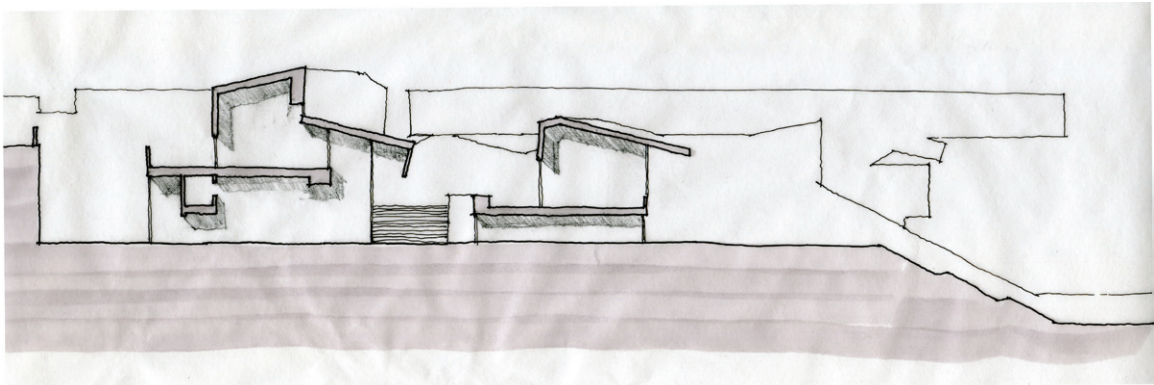


Figure 27. Diamond Ranch High School Section

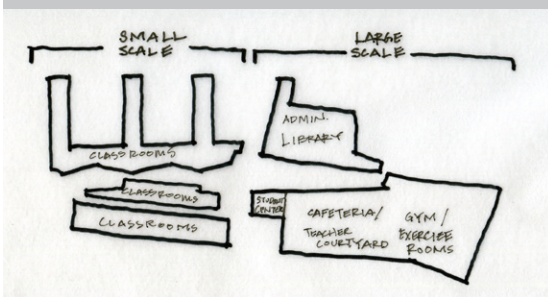


Figure 28. Diamond Ranch High School Program Distribution

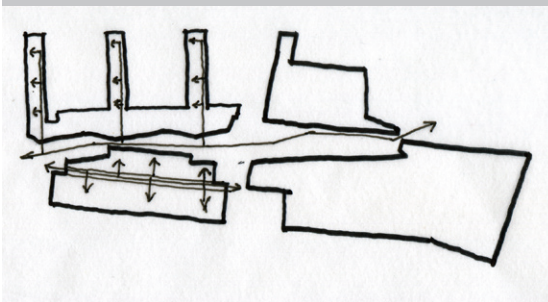


Figure 29. Diamond Ranch High School Circulation



Figure 30. Diamond Ranch High School Exterior

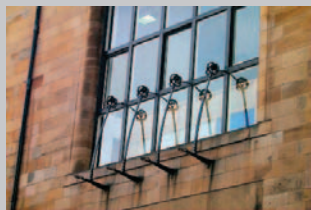
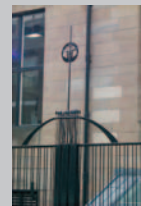


Figure 31. Glasgow School of Art  
 Figure 32. Window detail - reflecting the Celtic history and influence  
 Figure 33. Interior - Gallery  
 Figure 34. Entry Pylon Detail



of the school. Between the classrooms and larger scale items, Thom Mayne places the student center for Diamond Ranch High School, revealing a metaphorical link of student and teacher.

The main circulation of the Diamond Ranch campus is outside. The climate of southern California makes this possible. While it may not be possible to have as direct a relationship to the outdoors, one goal of this thesis is to design in the option and possibility for direct interior-exterior relationships.

*Glasgow School of Art*, Charles Rennie Mackintosh, Glasgow, Scotland (1897-1909)

The school is in a dense urban setting, and while there is no need for a playground, it is a similar

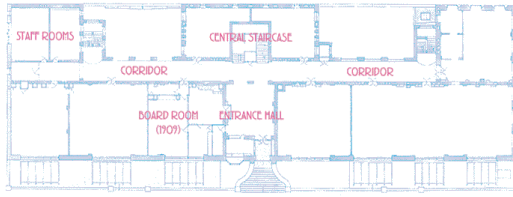


Figure 35. Glasgow School of Art Plan

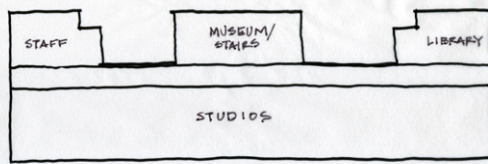


Figure 36. Glasgow School of Art Program Distribution Diagram

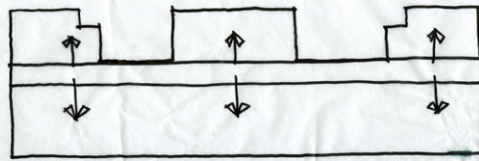


Figure 37. Glasgow School of Art Circulation Diagram

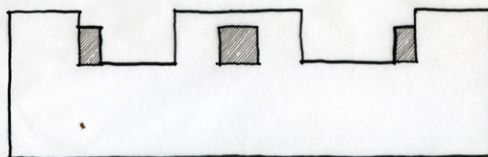


Figure 38. Glasgow School of Art Vertical Circulation Diagram

building program. The elements to study and adapt include the building footprint and urban stature; the use of a regionalist details, building vocabulary and building tradition; and the controlled daylighting.

*Greater Hartford Academy of the Arts: Academy for Math and Science*, Tai Soo Kim Partners, Hartford, Connecticut (2000)

The Academy for Math and Science has a very similar context, with small to medium scale residential buildings surrounding the site.

The site plan is dense and well conceived. The program is broken up into an urban campus, wherein there is a pedestrian walkway that runs east-west through the site. The Academy is spread over five buildings, housing a K-12 student body. The block that the schools are on also contains some housing to the south. The site is 16 acres, about four times the size of the MRCLC.

*Strawberry Vale School*, Patkau Architects, Victoria, British Columbia (1994)

The school is easily adaptable to the small school idea, as a central circulation space creates opportunities for shared uses on one side, and small schools within schools on the other side.



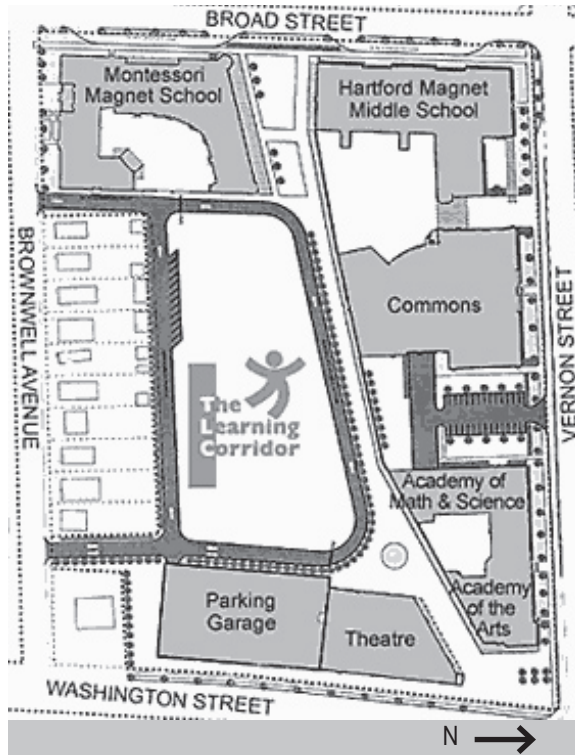


Figure 39. Greater Hartford Academy Learning Corridor Site Plan



Figure 42. Greater Hartford Academy Northwest



Figure 43. Greater Hartford Academy - High School

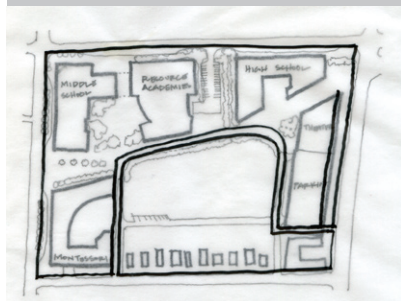


Figure 40. One reading of the Site Plan - two separate spaces

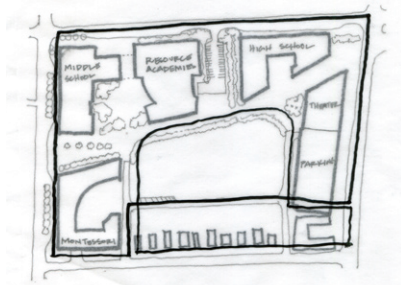


Figure 41. Second reading of the Site Plan - overlapping spaces

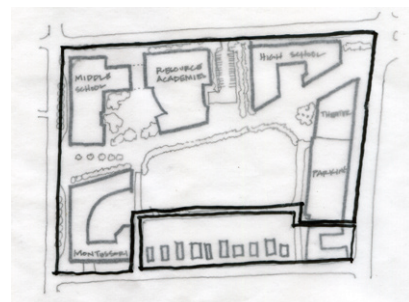


Figure 44. Third reading of Site Plan - very separate

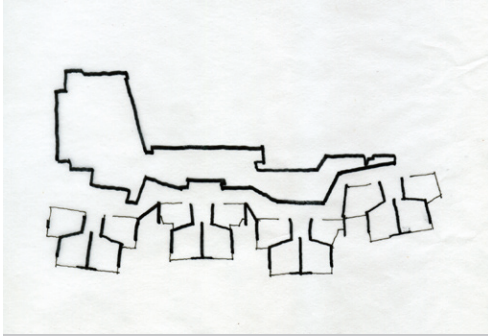


Figure 45. Strawberry Vale School Plan Diagram



Figure 47. Strawberry Vale School Exterior

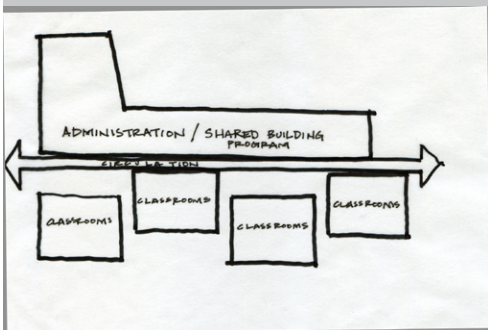


Figure 46. Strawberry Vale School Diagram - Circulation and Program Distribution



Figure 48. Strawberry Vale School - Interior



*Museum of the Earth, Weiss/Manfredi, Ithaca, New York, (2000)*

The building, while small, deals with the site in a clever way. The approach to the buildings and their form is derived from the local topography. The architects have used to the land formation to create an abstract, didactic form – revealing to the viewer the nature of the site.

The building is nestled into the site, at the edge of a steep change in grade. The promenade to the edge of the site takes one through a series of courtyards. The building skillfully uses the section by placing courtyards at multiple levels, as seen in the exploded isometric drawing. The building beautifully incorporates a ramp into the main entrance lobby.

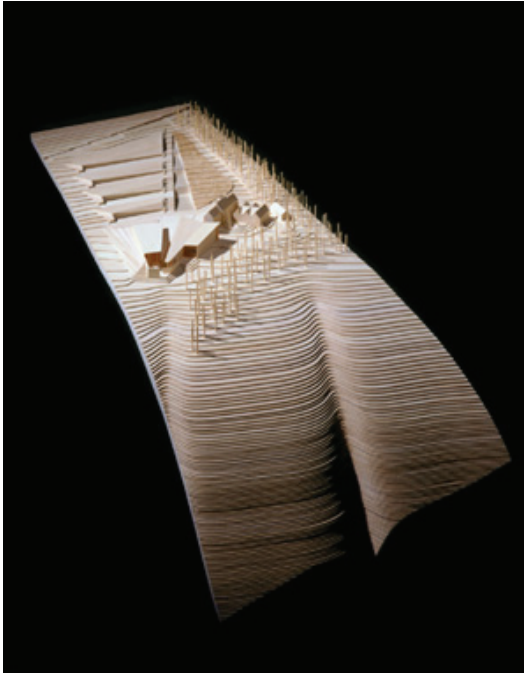


Figure 49. Museum of the Earth - Model

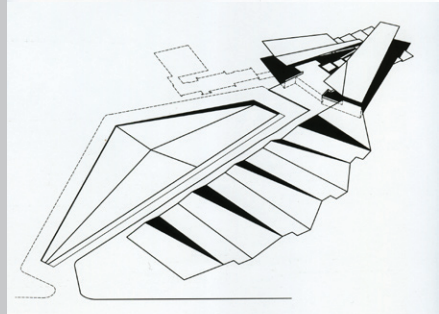
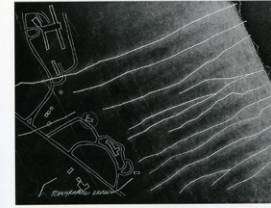


Figure 51. Museum of the Earth -Geological Influences (top) and Perspective Site Plan

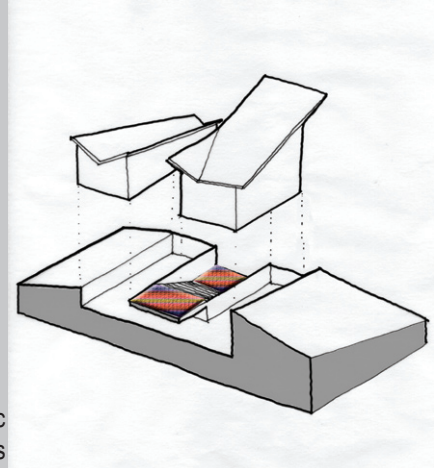


Figure 50. Museum of the Earth - Exploded Isometric drawing showing the multiple courtyards

### *Sumner School, Albert Cluss, Washington, DC (1872)*

The building was one of the first public schools for the District's African-American population.

The building uses a platonic square form and incredibly well-crafted brick walls to create a grand physical statement and strong urban presence.

### *Tongxian Art Center and Gatehouse, Tongxian, China, Office dA, (2003)*

The buildings share common materials, building method, and formal attributes. The buildings are being cited because of the way they incorporate brick into the design and construction.



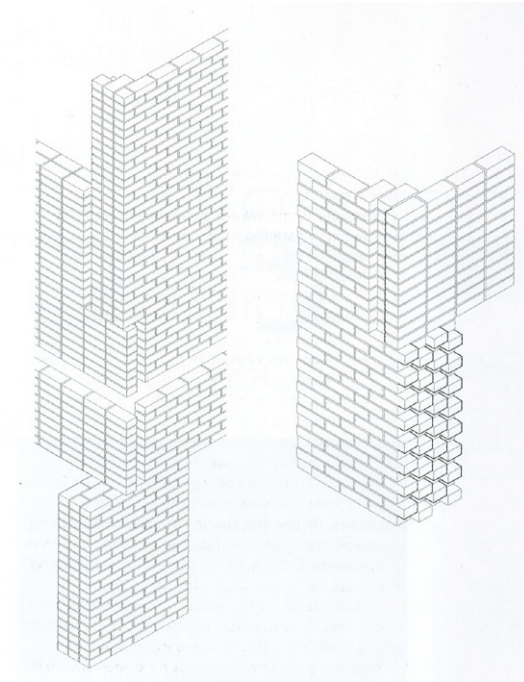


Figure 52. Office dA - Brick Details - Tongxian Art Center and Gatehouse

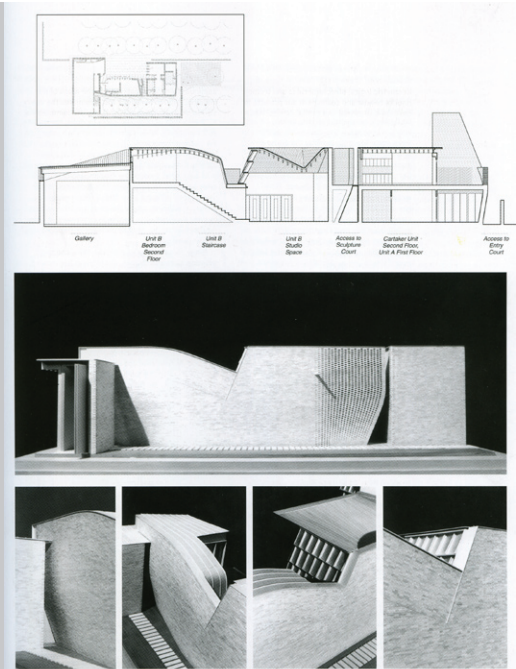


Figure 55. Tongxian Art Center Model and Section



Figure 53. Tongxian Art Center - Computer Rendering



Figure 56. Tongxian Art Center Model



Figure 54. Tongxian Art Center - Gatehouse



Figure 57. Tongxian Art Center - Gatehouse

## Building Program



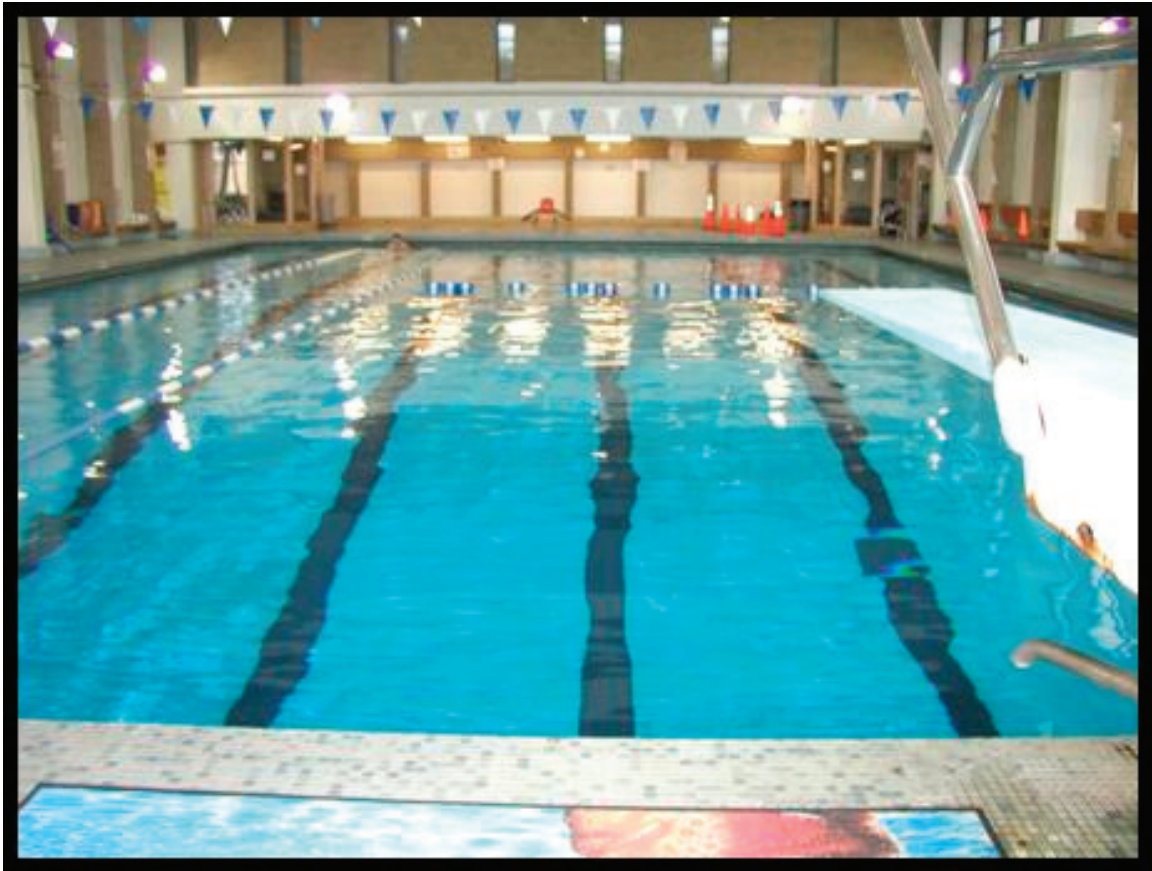


Figure 58. MRCLC Pool

### **Building Program**

The current Marie Reed Community Learning Center is based on the “open classroom” model of the 1970s, which means that there are no walls between the classrooms. The students have class in an open space on the second floor of the building. Teachers simulate classrooms by placing wipe-boards, blackboards, and bookcases throughout the second-floor to define space. There is no sound or visual barrier beyond these ad hoc constructions. The open school, as an idea, is dead, yet the teachers of today must live with the vestiges of this failed theory.

The hypothesis of the open school and the resultant building serve as an example of how an idea

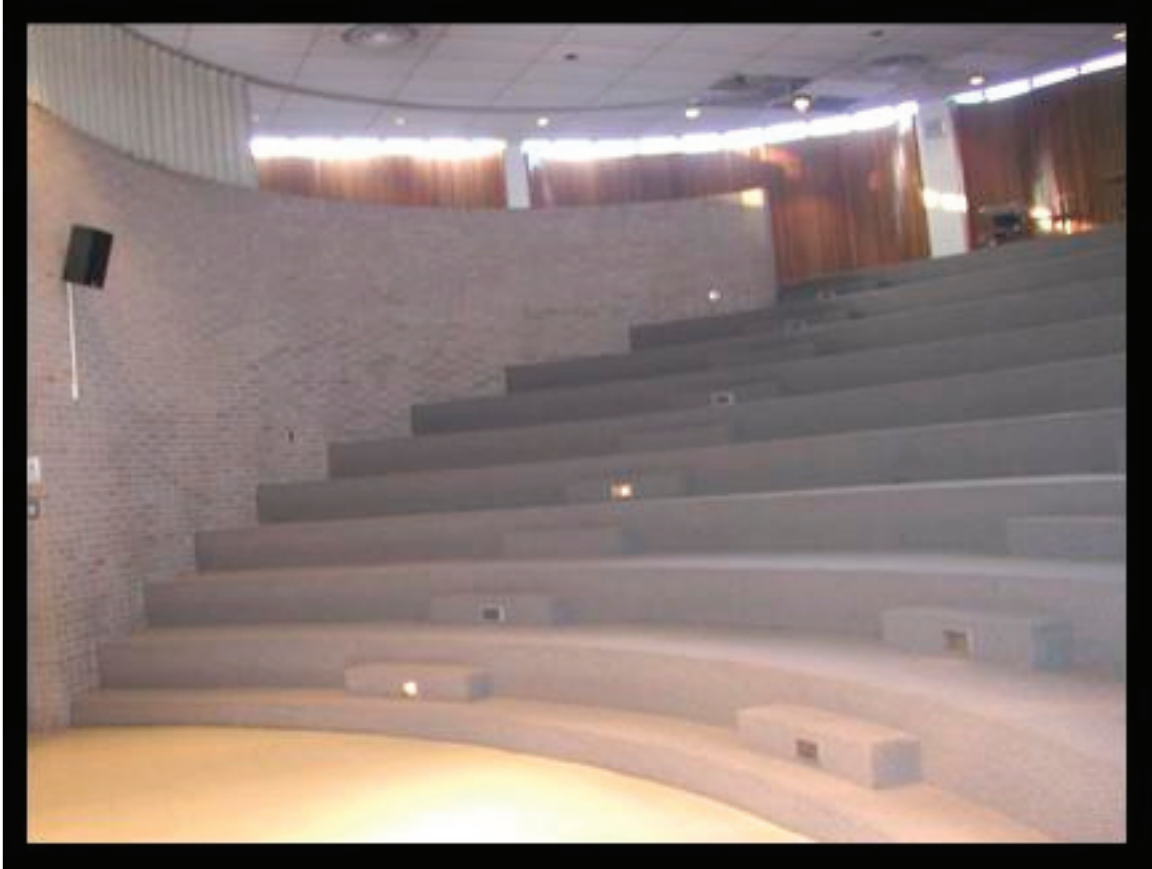


Figure 59. MRCLC Theater

can inform a building program which then influences the built form. A current trend in education reform that is challenging the standard school building program is the small school. “The wealthy have known for years what we now know, smaller schools, smaller class sizes, and more individual focus results in a better education.”

The idea of the small elementary school is to place one class each of first-graders, one class of second-graders, etc. up to the sixth grade, into one school. It is economically unfeasible to build small schools for 120 pupils; therefore, school districts continue to build on a larger scale. The difference is that in cities like Chicago, new large buildings are being broken down internally into several small schools. New small school designs separate clusters of classrooms out from a main

Table 1. MRCLC Program

**School Building**

Function	Sq Ft each	Total Sq Ft.
Lobby/Entry		1000
Media/Library		3000
Administration/offices		2500
Teacher Lounge		400
Dining		2500
Kitchen		1600
Mechanicals		900
Loading dock/shipping and receiving		900
Gym (Could be shared with Community Center)		7000
Multipurpose		3500
Art		900
Music		900
Teacher Workrooms (4)	300	1200
Teacher Restrooms (2)	500	1000
Computer Lab (Could be shared with Comm. Center)		1000
Classrooms		
PreK		1200
K (4)	1200	4800
1 (4)	1000	4000
2 (4)	1000	4000
3 (3)	1000	3000
4 (3)	900	2700
5 (3)	900	2700
6 (3)	900	2700
Student Bathrooms (6-8)	330	2700
Principle's Office		1300
Total - School Building	57400	
Plus 1.4 circ/etc.	80360	

**Community Center**

Entry/lobby		800
Administration		1200
Restrooms (4)	200	800
Smaller Library (Or, library and computer labs could be shared)		500
Dining/multi-pupose		900
Kitchen		440

Club Room		700
Dark Room		500
Arts and Crafts		500
Video Room		500
Gym		7000
Locker Rooms	600	1200
Pool (w/ 15' deck)		7500

Total - Community Center

22540

Plus 1.4 Circ/etc.

31556

### Health Center

Lobby		200
Reception/Registration		100
Payee Window		50
Physician Office/Consult		120
Exam Rooms (3)	133	400
Nurse Work Area		50
Patient Toilets (2)	60	120
Medical Storage		50
Soiled Utility Room		60
Medical Records		60
Staff Toilets (2)	60	120
Breakroom		100
Housekeeping		50

Total - Health Center

1480

Plus 1.4 Circ/etc.

2072

Total Square Footage

81420

Circulation at 25%

101775

Circulation at 40%

113988



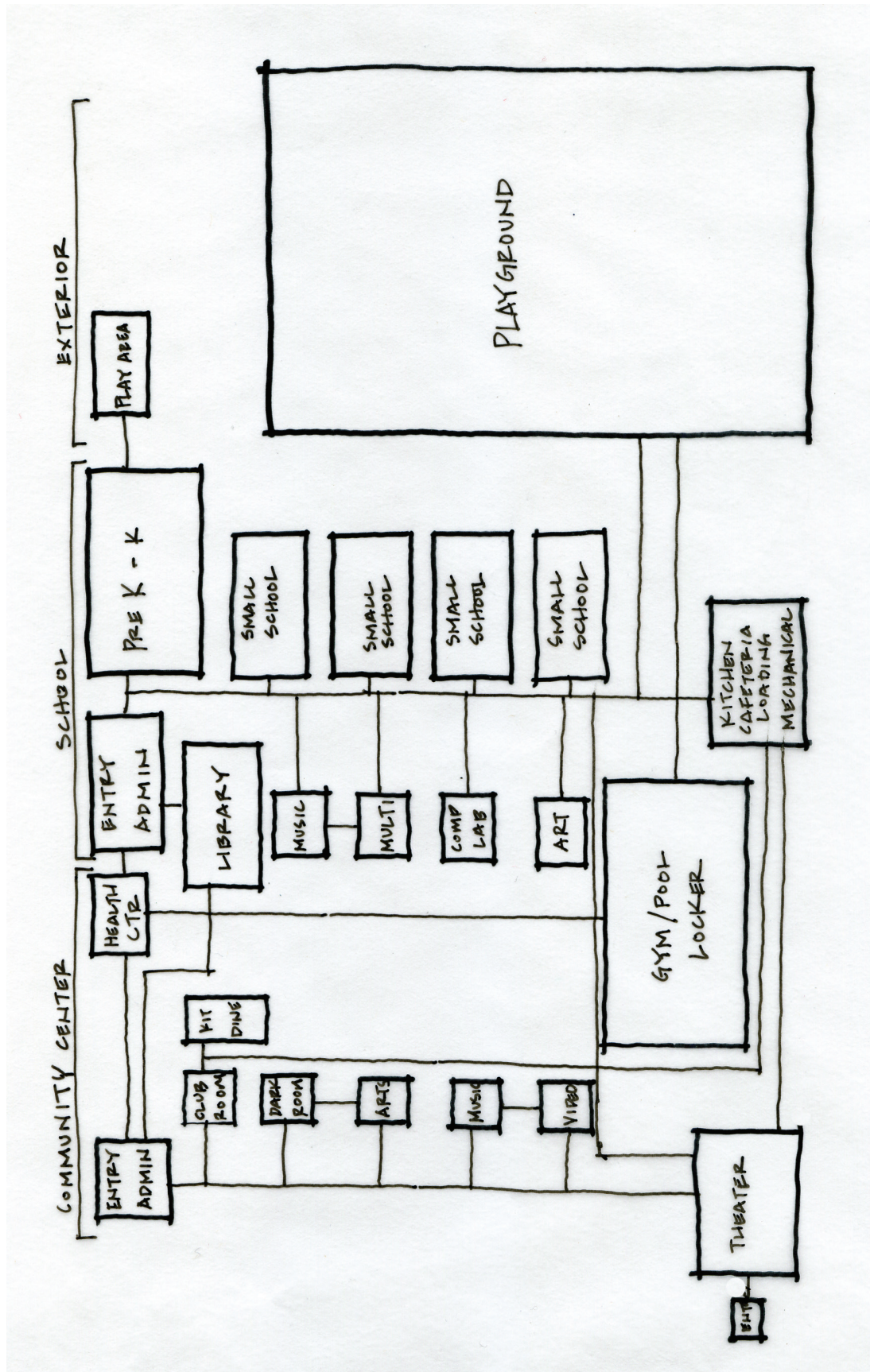


Figure 60. MRCLC Topological Diagram

concourse that houses shared functions of the school, such as the library or music room. In doing this, educators believe that a small school can be created.

The program for the new MRCLC takes the small school idea into consideration. Classrooms for students in the first-grade through the sixth-grade are to be clustered, with the kindergarten and pre-kindergarten children separated. The program elements that are considered to be shared are the cafeteria, music and art rooms, computer lab, library, gymnasium, and exterior playing fields.

The building currently serves as a community and health center as well, and the program has included space for this, by adding a pool, multipurpose room, and a smaller kitchen and dining area. The health center portion of the program follows that of a small doctor's office – waiting rooms, examination rooms, etc. The program reflects the arty nature of the Adams Morgan neighborhood with the addition of various arts functions – a community darkroom, traditional arts space, and new video and audio media rooms.

The current MRCLC contains a small theater. The proposed program expands the theater so that it may be used by local community theater groups, such as the Kuumba Players, or the Rorshoch Players. The expanded theater may be operated in conjunction with the District of Columbia Arts Center (DCAC), which currently operates a small, 50-seat black box theater up the block.

The building is only half of the equation for this program. There is a requirement for three exterior basketball courts, two tennis courts, and a large playing field that can be used for soccer, kickball, baseball, and football. The slope once again will prove difficult, as a large scale level field will need to be either cut into the site, or raised on a plinth.

The neighborhood currently uses the MRCLC site for traditionally un-programmed events like weekend flea markets and picnics. There is a concrete structure on the site that provides basic



shelter for foul weather; however, one wonders if that could be expanded to include an exterior shed that serves the need for picnics, and the weekend flea-market sellers.

The goal of the expanded program is activate the building and site twelve to fourteen hours a day, seven days a week. By adding theater, picnic, and flea-market program, one might be able to achieve this goal. In combining new arts-based functions with the existing recreation functions of the pool and gym, it may be possible to mix new demographics, and create a community center for all of Adams Morgan.

## Conceptual Design Strategies



Figure 61. Typical Adams Morgan Street Scene

## Design Goals and Approach

There are multiple goals within this thesis; some are process oriented, others are building, site, or typologically focused.

### Design Approach | Process

The overall goal of this thesis is to give the residents of the Adams-Morgan neighborhood a say in how redevelopment of the MRCLC proceeds. There is no doubt that change will come; how

it arrives, however, might be directed by those who use the school, health clinic, and recreation center, and not only by those looking to make a profit.

The idea of community-based design introduces two components to architecture that are not included in the pedagogy at the University of Maryland: the client, and the idea of collaboration with persons without a design education. It is a bottom-up approach, instead of the typical top-down, where users of the building and place get a say from the beginning of the project – what will be included programmatically, and how the building(s) and site should work.

### **Design Approach | Type**

A short history of the modern school building shows the transformation of the type from smaller, urban, neighborhood school, to large, automobile-based campuses placed out in the exurbs of current cities. As building sites expanded, the schools spread, and more facilities were included in the program. The expansion of the school buildings coincides with a larger student body, and this, according to education research, has been detrimental to student performance.

In the past twenty years, education reformers have been pushing for smaller schools. According to Susan Klonsky at the Small Schools Workshop at the University of Chicago, Illinois, small schools “largely counteract the negative effects of poverty on student achievement, especially for low-income children and students of color.” The small school eliminates student anonymity, encourages teacher interaction, and views parents as one of the most important links in the education chain.

One of the design goals of this thesis is to follow the small school model. This model places ideal enrollment for elementary schools at 350 pupils. This is larger than the current student



Figure 62. Marble Fairbanks Chicago Public School Building Competition Winner

population at the Marie Reed Community Learning Center; however, the common way of dealing with this issue is to create “small schools” within schools. Marble-Fairbanks Architects, the winners of the Chicago Public School Design Competition South Side site, used this idea and created three small schools off a central circulation core that provides each small school direct access to shared services, such as a cafeteria, music room, etc. This scheme allows each small school a connection to the outdoors. While this example may be too specific, the goal of the thesis remains to follow the small school model.





Figure 63. Overhead Perspective of Site



Figure 64. MRCLC from the south



Figure 65. MRCLC south side playground

## Design Approach | Building

The design of a school, community center, and grounds requires access for all members of the public; therefore, Universal Design will be incorporated into the design. The final design will follow the seven rules of UD (equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort, and size and space for approach and use) to make the compound available and usable for all.

The building(s) on this site will be designed with an eye toward sustainability. This word has recently come to mean everything environmental. The sustainable ideas that will be addressed in this thesis will come from nature first. The siting of the building (s), and passive solar design will be included. Technological features, such as photovoltaic panels, or geothermal controls will be included when and if possible.

The accessibility of the outdoors will also be a focus. The ability for schoolchildren or faculty to quickly get outside not only serves as a safety feature, it also easily accommodates unscripted activities or play. The direct connection to outside

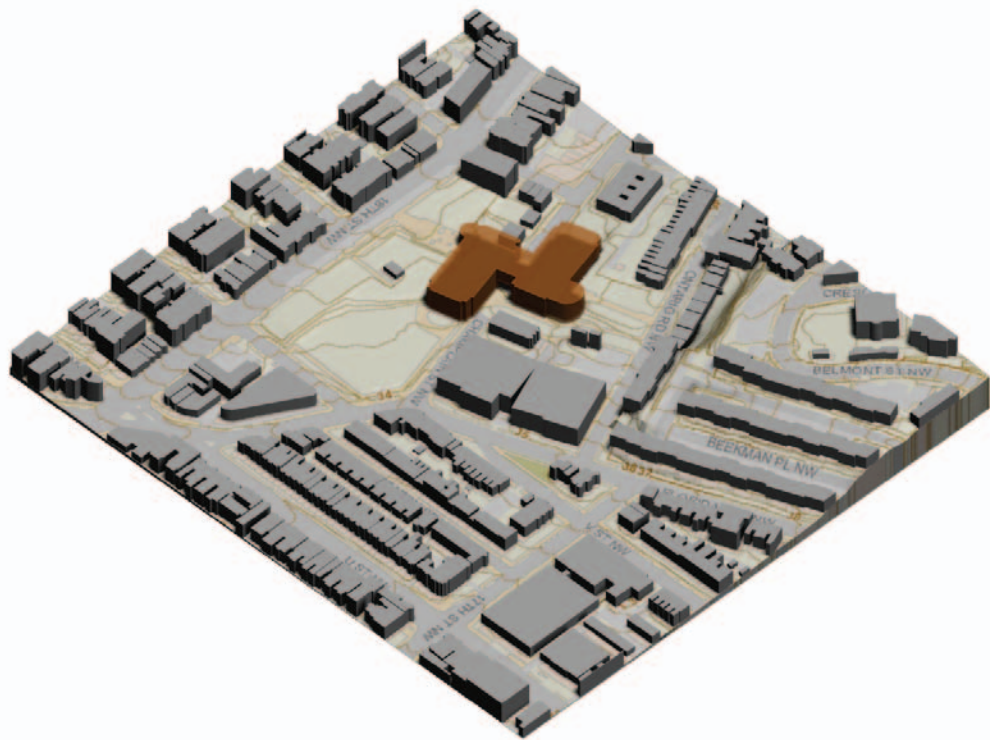


Figure 66. MRCLC Axonometric

may also promote a better understanding of botany or erosion or other environmental learning that can be done hands on.

### Design Challenges | Site

The site and context will prove to be the largest design problem to solve. The goal of the community organizations with interest in the MRCLC is to create enough value within the site so that a new MRCLC, along with housing and commercial properties, can be developed. Thus, the difficulty of the site is how to deal with the plentitude of functions that need accommodation.

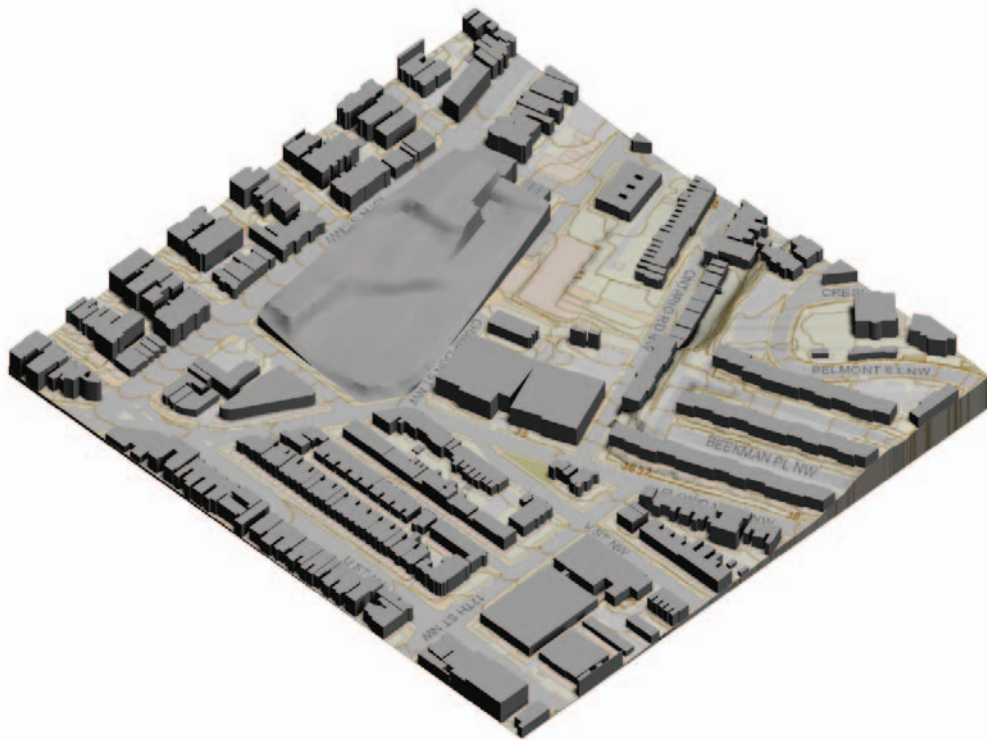


Figure 67. MRCLC Axonometric with height exaggerated four fold

There are property ownership issues as well. The MRCLC has no fewer than four different land holders on its site. The area in front of the school, along 18<sup>th</sup> Street, is owned by the District of Columbia Department of Parks and Recreation. The ground the school rests on, along with the playing field to the south, is owned by the District of Columbia Public Schools. The small, brick building directly adjacent to the MRCLC (to the north) is a pumping station owned and operated by the Army Corp of Engineers. Finally, Champlain Street has been discontinued and demapped south of Kalorama Road, The District of Columbia Department of Transportation owns the street, however, it is unclear where the boundaries lie.

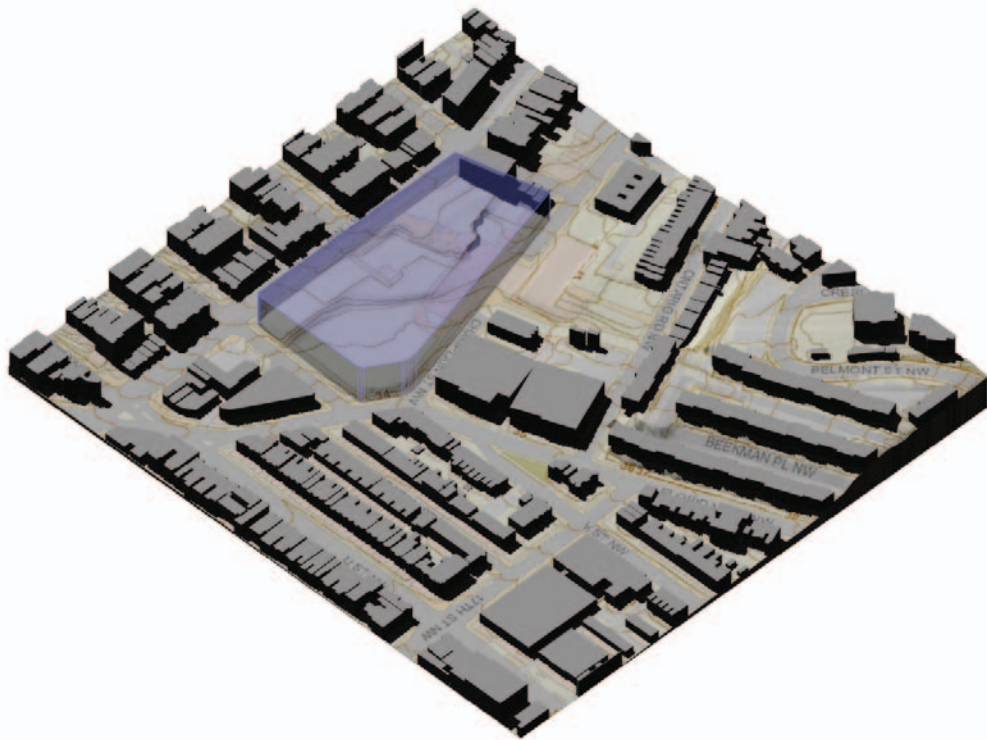


Figure 68. MRCLC Axonometric - with site accentuated

The slope and surrounding context add to the difficulty of the site. The site drops eight percent, from west to east, at the north end, and more at the south. There is a small pool and racquetball/handball courts near the Army Corp of Engineers' pumping station, and because of the slope and their sunken state, they are significant security threats. The slope also makes the placement of playing fields, basketball and tennis courts difficult.

The MRCLC sits directly across from a block of industrial buildings that are out of place in the neighborhood. Verizon Incorporated has a telephone switching building at the intersection of Florida Avenue and Champlain Street. Security Moving and Storage is directly next door, to the east. Both of these buildings are very introverted and present enormous brick walls, of three and

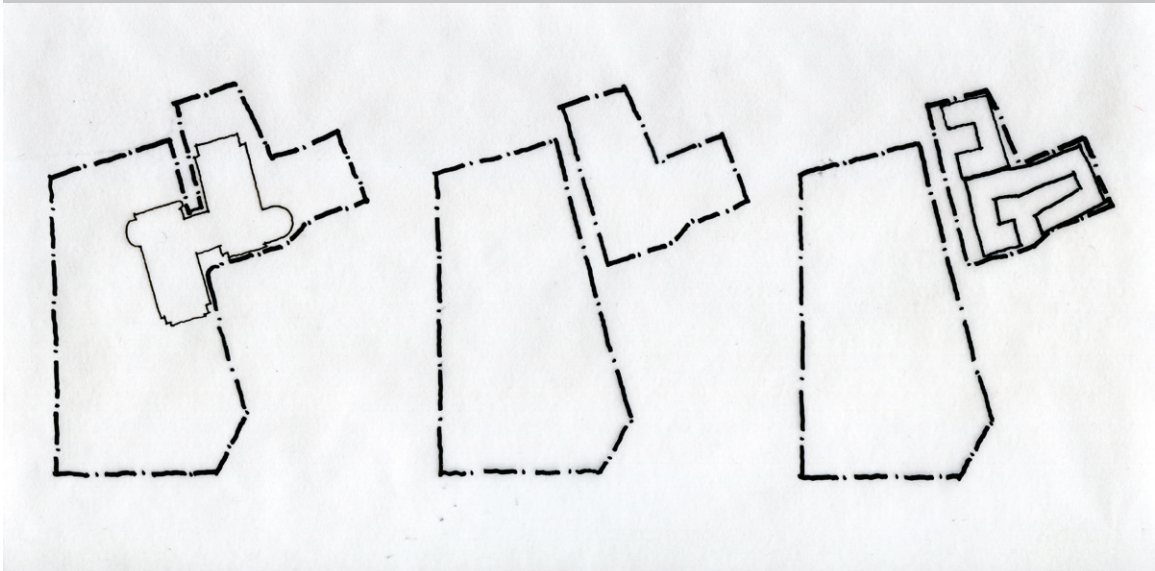


six stories, to the street. Potomac Electric and Power Company (PEPCO) has a power sub-station on the site, that has been there since at least 1937. This electricity sub-station comes complete with a ten-foot-high chain-link fence, and exposed power generator. The ideal situation would involve moving these services underground, if possible, or relocating them; however, with current real estate prices being what they are, it appears that these buildings aren't going anywhere soon. Therefore, this author would like to deal with this as a fixed problem, and something that can't be changed.



Figure 69. PEPCO Sub-station

Figure 70. The current site (left) will be divided in two, and Champlain Street reopened (center). The eastern part of the original site will be sold to condominium developers (right).





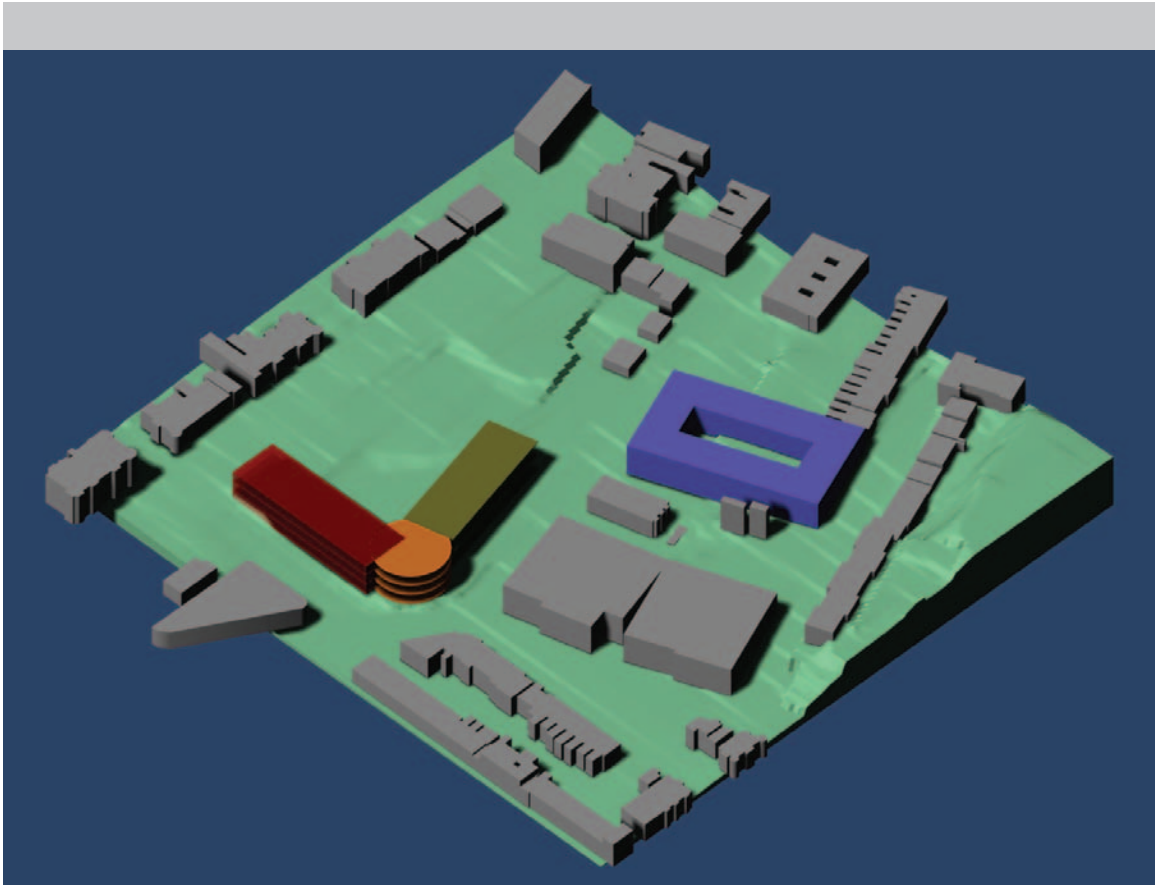


Figure 71. Initial Scheme 1 - Replacing Thos. P. Morgan School

## INITIAL PARTIS

Some initial partis were created early in the semester, to see what could work on the site. The first idea was to build on the same spot as the initial Thomas P. Morgan School. This scheme looked at creating a cylinder of shared program – library, computer lab, etc. – and building a school wing to the west, and a community center wing to the north.

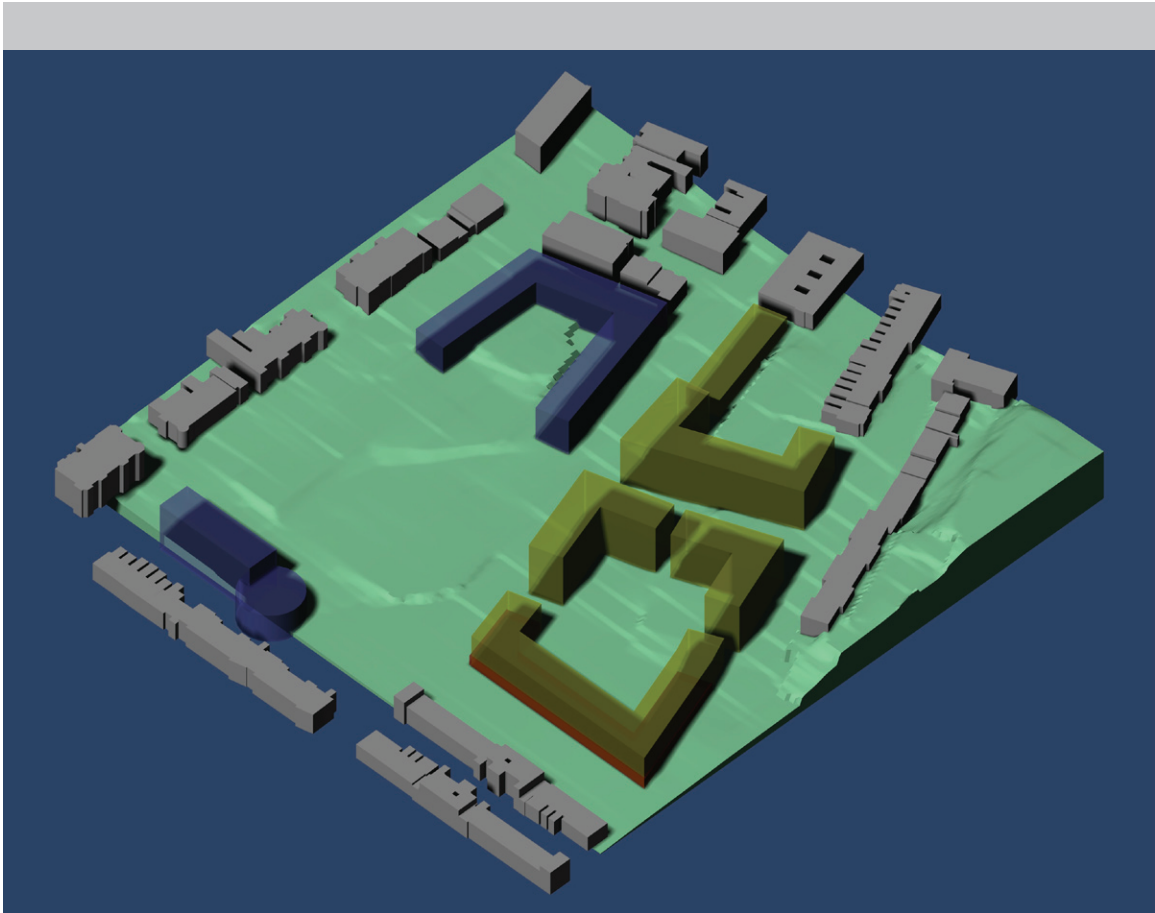


Figure72. Scheme 2 - Significant Urban Design Changes with a U-shaped school, and separate Community Center on the south side

The second scheme looked at the extended the urban fabric. The school is place to the north end of the site, and the community center is separate and across California Street to the south. There are significant urban design changes, as the industrial block, southeast of the MRCLC, is demolished and turned into courtyard housing.

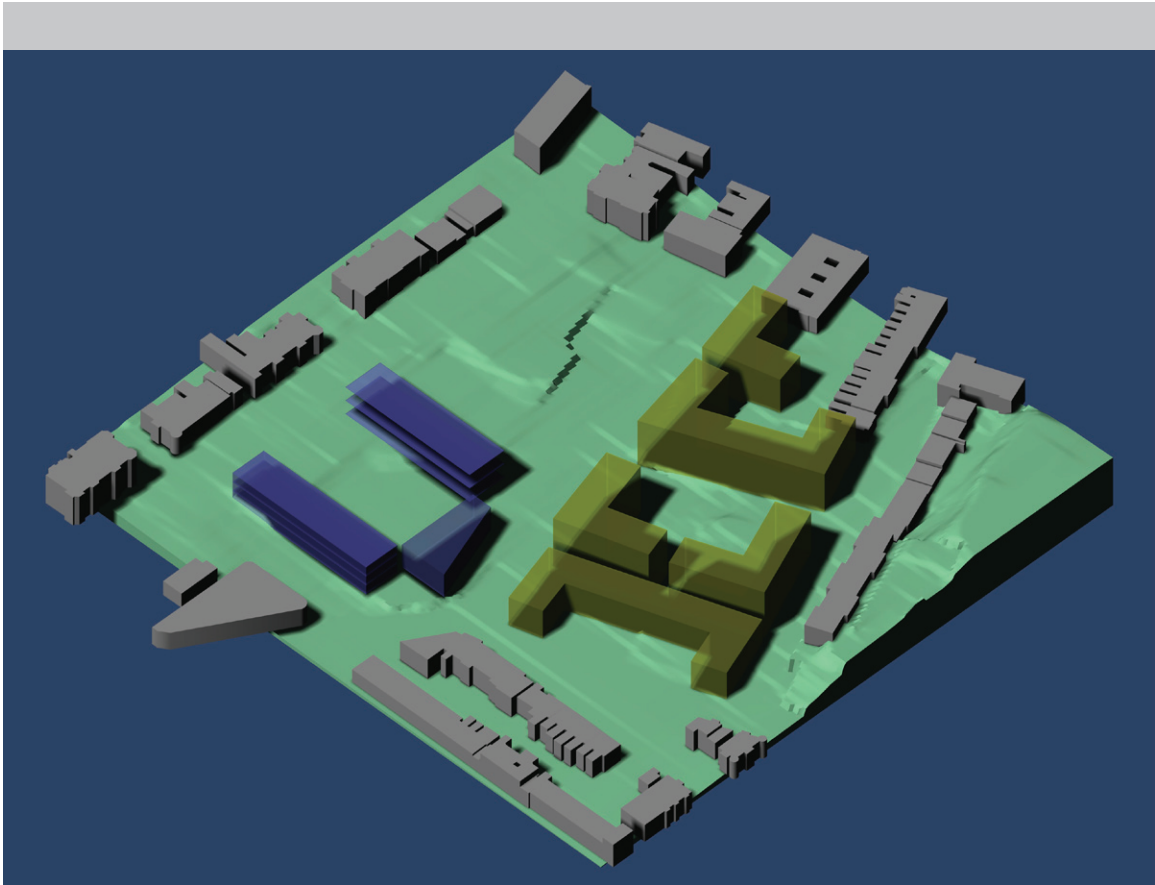


Figure 73. Scheme 3 - The urban design changes of scheme 2 remain. The school and community center become a west-facing, U-shaped configuration

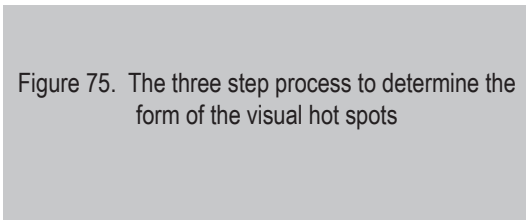
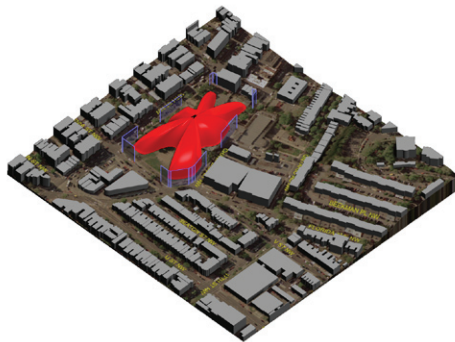
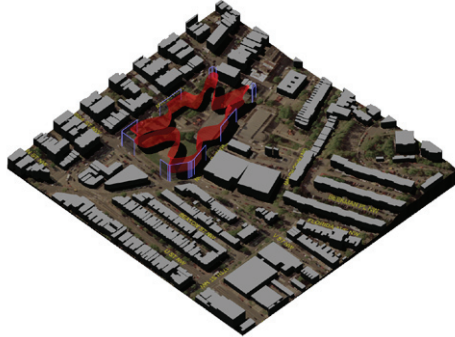
The third scheme kept the urban design changes from scheme two; however, it looked at creating a campus. The three buildings of this scheme create a west-facing courtyard. The hinge or hyphen building would serve as the community center, and the two wings would become a school. The buildings would create a controlled playground that would be good for pre-k and kindergarten aged children.



Figure 74. A wind rose is modeled, and then the form and data are used to create the parti, bottom right

### Additional Site Investigations

Throughout the semester, the phenomena of the site has been analyzed; however, additional study of the site was completed, looking at non-traditional data, giving that data form, and then creating partis based on this new visual information. The first study involved modeling a wind rose in three dimensions, and looking at how the shape of the wind might inform the building. The parti that arose from that study is a two-bar building form, with a tower in the middle to potentially collect the wind.



Another study of the site looked at areas of high visual prominence on the site. These areas were the terminus of streets or corners that would be exposed to multiple viewpoints. Once these were determined, a form was created that responded to the planes. As the visual prominence increases, an arm of the amorphous form reaches out to that point. Areas with less visual heat are recessed.

Figure 75. The three step process to determine the form of the visual hot spots



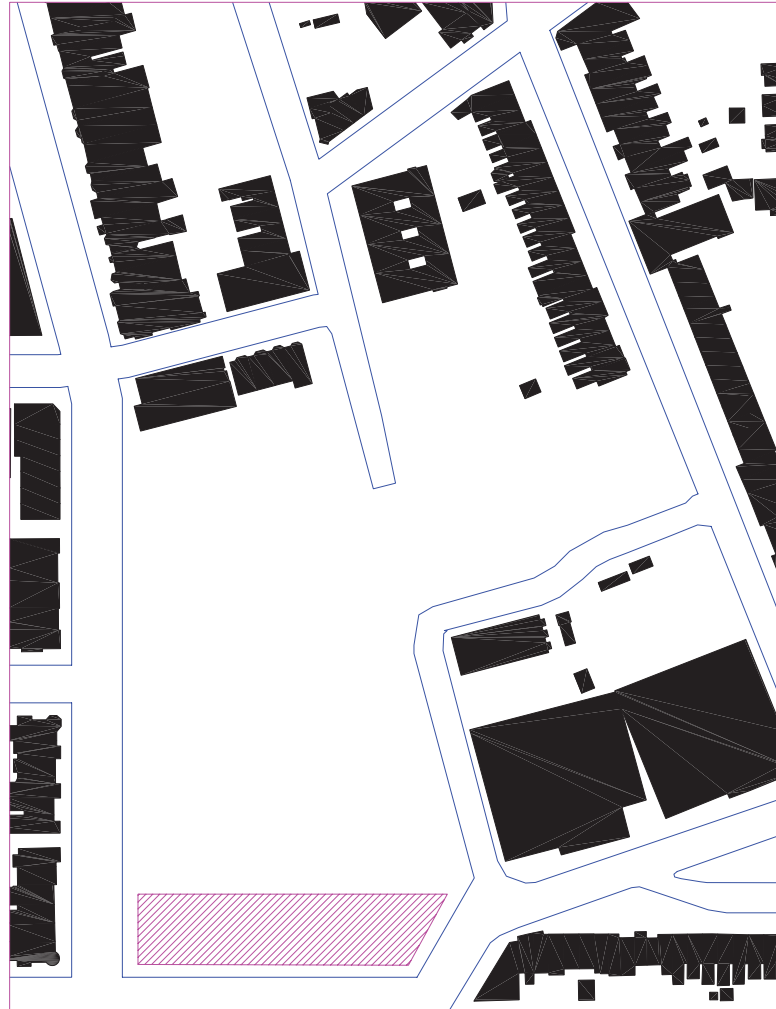


Figure 76. Site Plan - Bar Scheme

## Partis and Initial Plans

There are three schemes being proposed for the MRCLC site. The schemes are based on the analysis and data that has been collected over the course of the semester. The building schemes are the bar scheme with one building running along California Street, on the south end of the site. The second scheme, the E scheme, also covers the south end of the site, but runs north along 18<sup>th</sup> Street. Finally, the donut scheme differs in that the school and community center rests at the north end of the site. The building looks out over the 5 acre site.

The bar building site has many advantages. It is simple to break down into the small school school

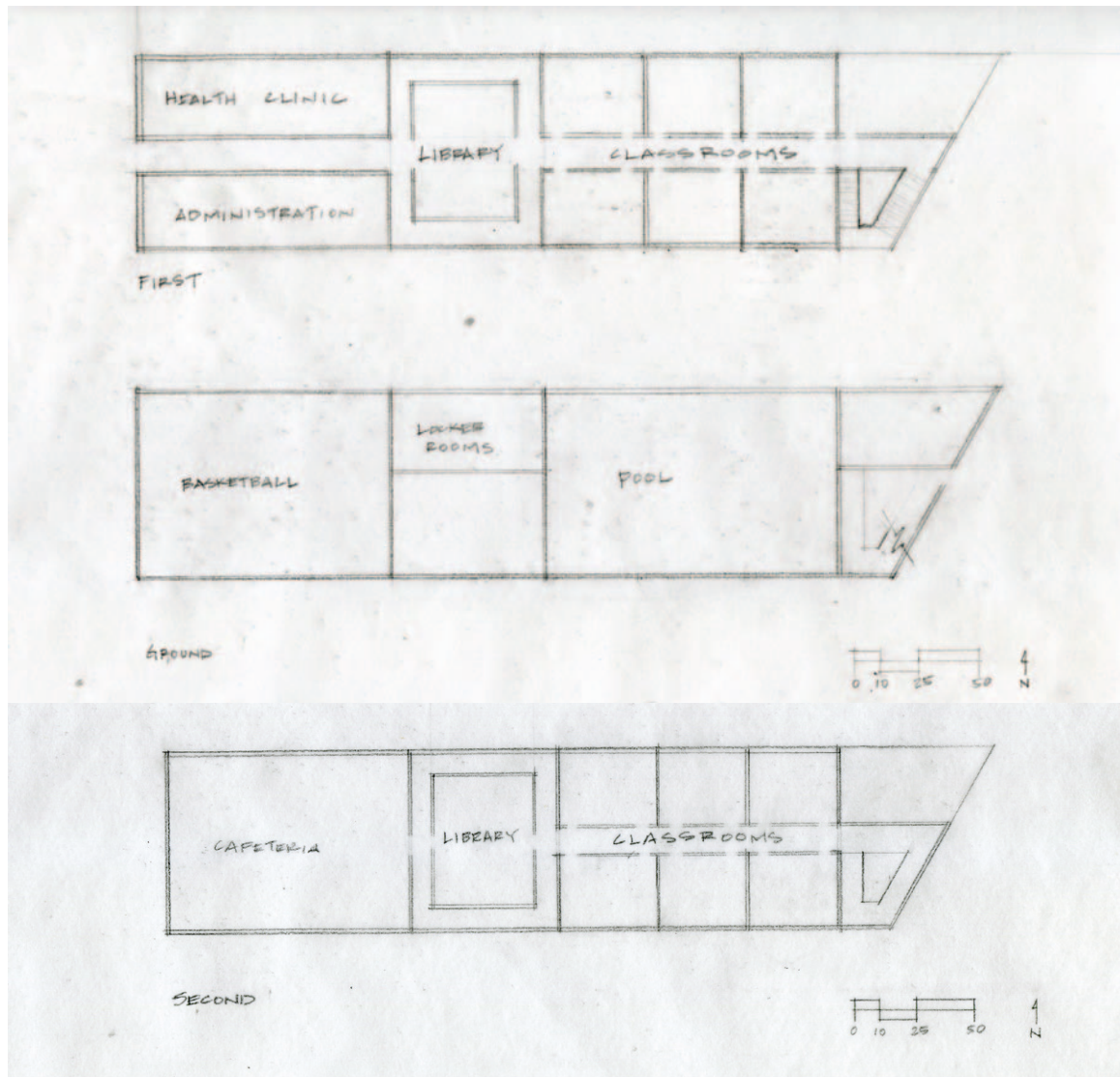


Figure 77. Schematic Plans - Entry Level, Ground Level, Second Level

model, with each floor having its own small school. The shared program fits in the vertical stack, and the community center shares those functions plus the basement pool and basketball courts. The vertical shared items also separate the administration health clinic, and other functions from the school.

The building has good solar orientation, and with some sun control, the entire south façade could be glazed. This configuration would be simple to construct, with a relatively straightforward structure. The bar building also has the smallest site impact, which creates an opportunity for more

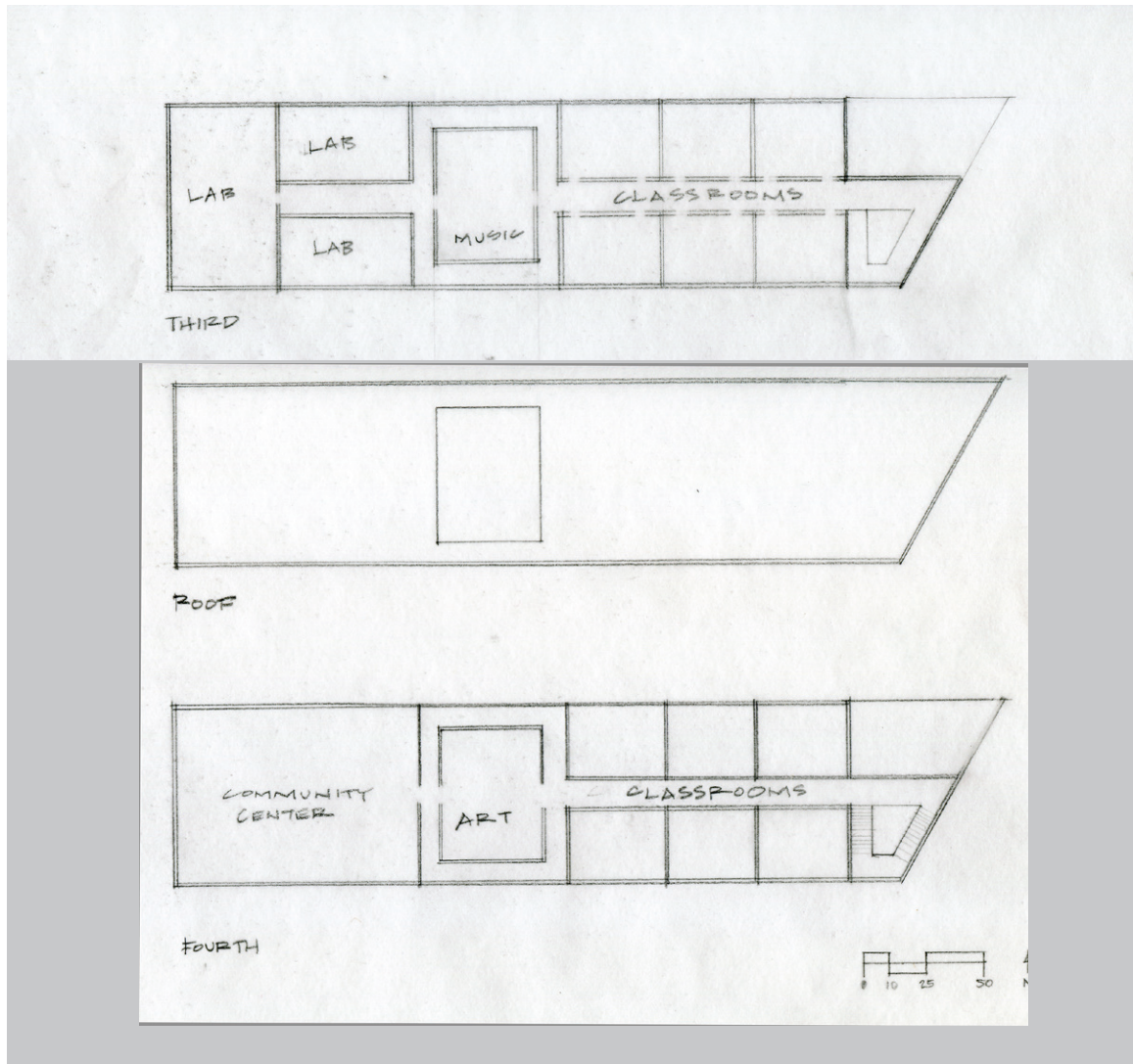


Figure 78. Schematic Plans - Third Floor, Fourth floor and Roof

greenspace.

The biggest drawback to the bar scheme is that the building has no nooks and crannies or courtyards to create a controlled exterior environment for pre-k and kindergarten students. Another potential drawback is the potential banality of the design.

The donut scheme differs significantly from the bar scheme, as it is a somewhat introverted scheme. The building has a controlled play space for children in the center of the donut. The



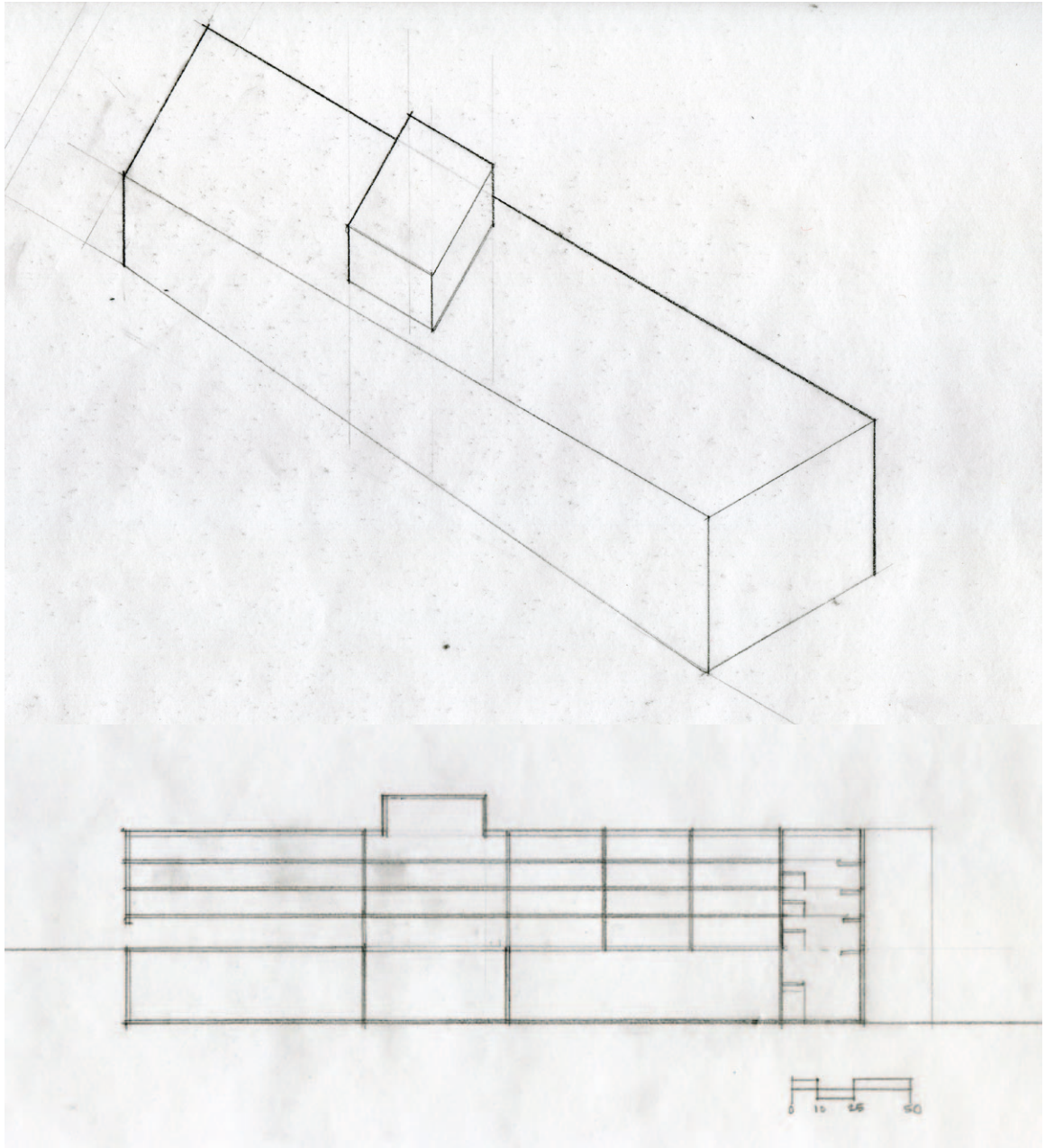


Figure 79. Bar Scheme Axon and Section

building could work well with the slope of the site, as the pool and gymnasium could be tucked under the eastern section of the site.

The building is sited well for solar gain, as the two long sides are oriented south/southeast. The building would have a narrow footprint, which would allow for cross-ventilation. There would be minimal need for retaining walls, as the building sits on a relatively flat section of the site. The

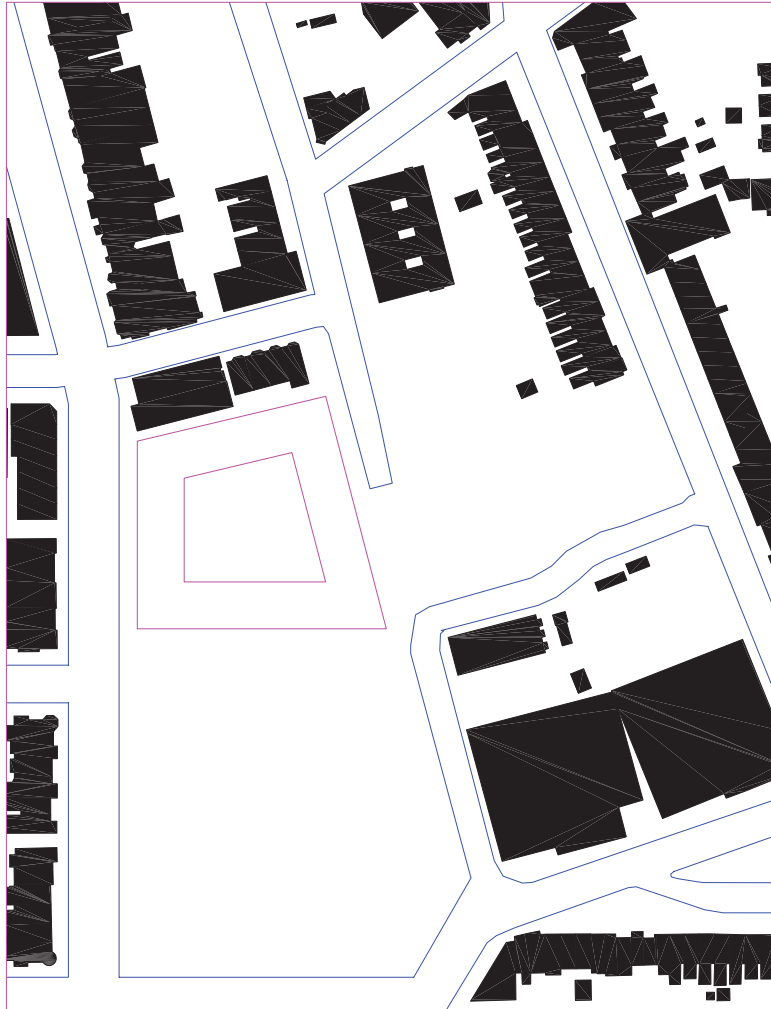


Figure 80. Donut Scheme - Site Plan

donut scheme would also continue the street wall, a bit further south along 18<sup>th</sup> Street.

The E scheme also has many positive attributes. It is easily transformed into the small school model, as each wing could become its own school. The building creates two to three controlled playgrounds on the site. The location of the theater is good, as it could be a great feature at that corner. The building works well with the urban environment as well. The building continues the street wall from south 18<sup>th</sup> Street.

The difficulties of the E-scheme; however, relate to the form. While the courtyards might be



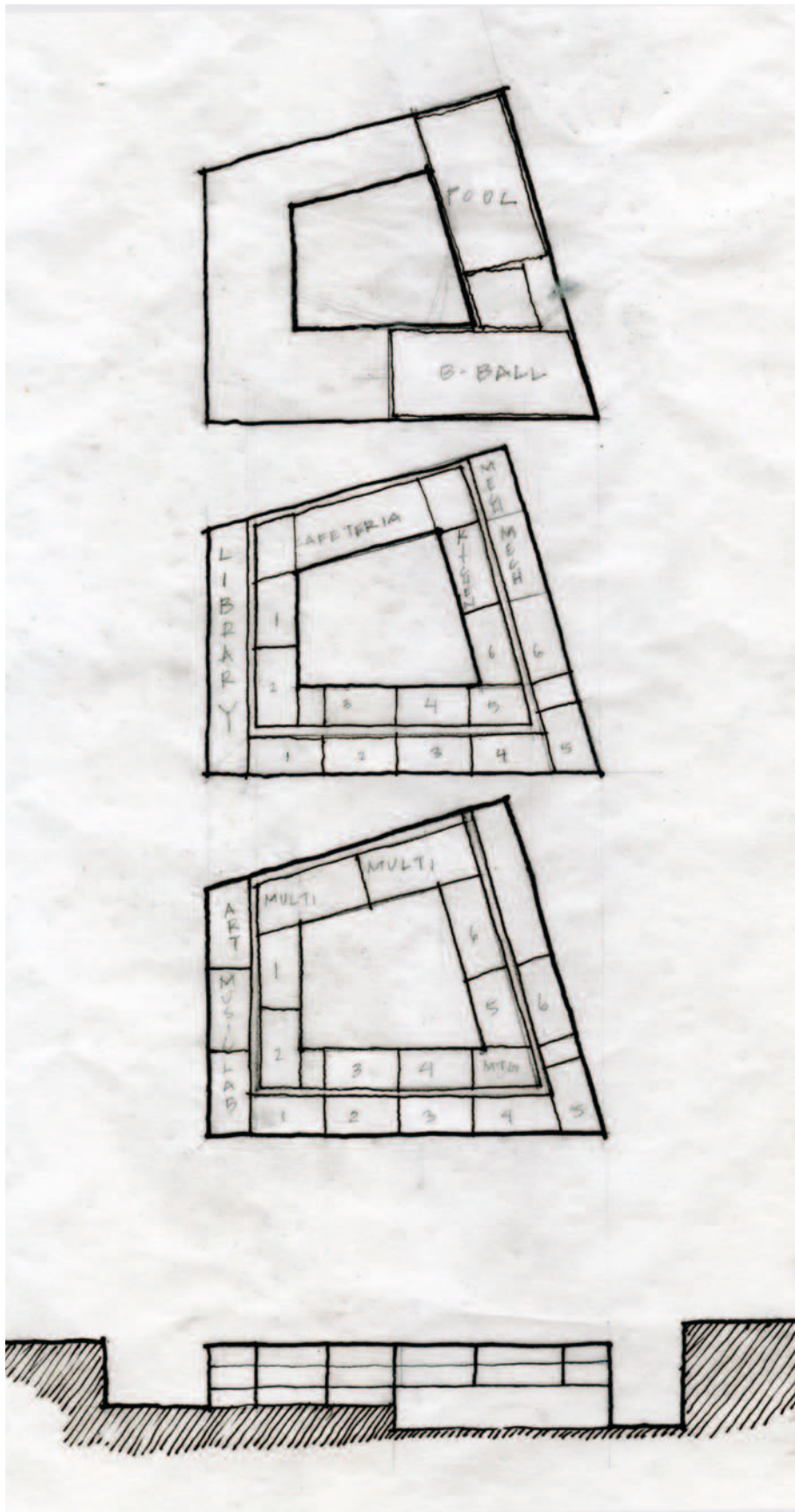


Figure 81. Donut Scheme - Plans and Section



Figure 82. E Scheme - Site Plan

controlled, they could become a haven for crime. The longest façade of the building faces west, and needs to have a lot of sun controls. The building ignores the east side of the site, and the intersection with Florida Avenue, Champlain Street, Seaton Street, and V Street is largest visual hotspot.

Each scheme has the potential to be developed into a well-designed, community-focused structure. The completion of this thesis should be challenging.

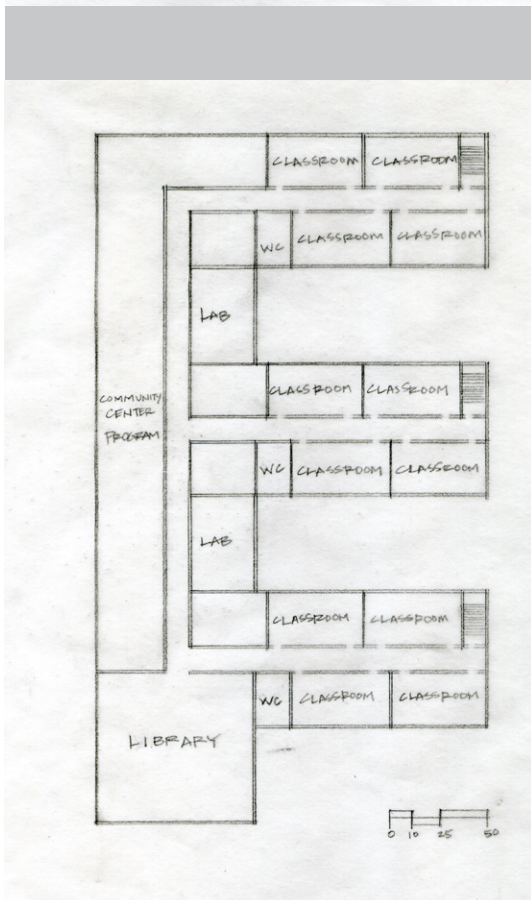
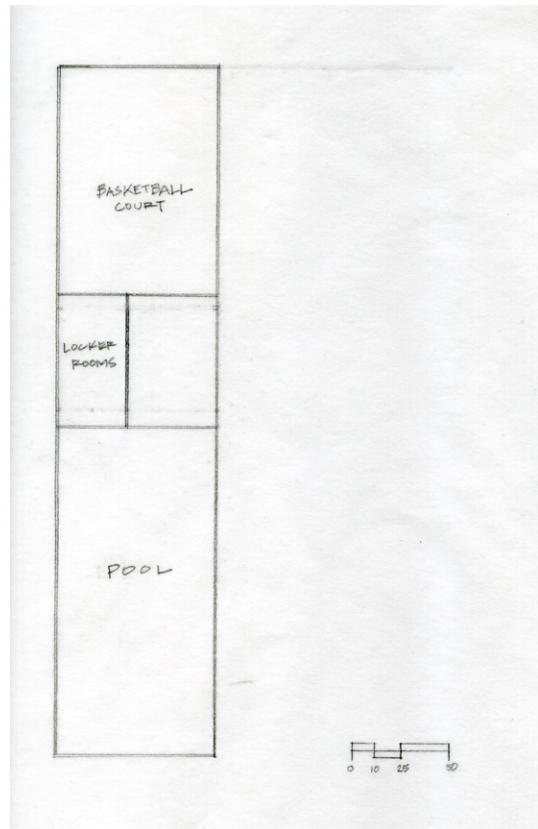
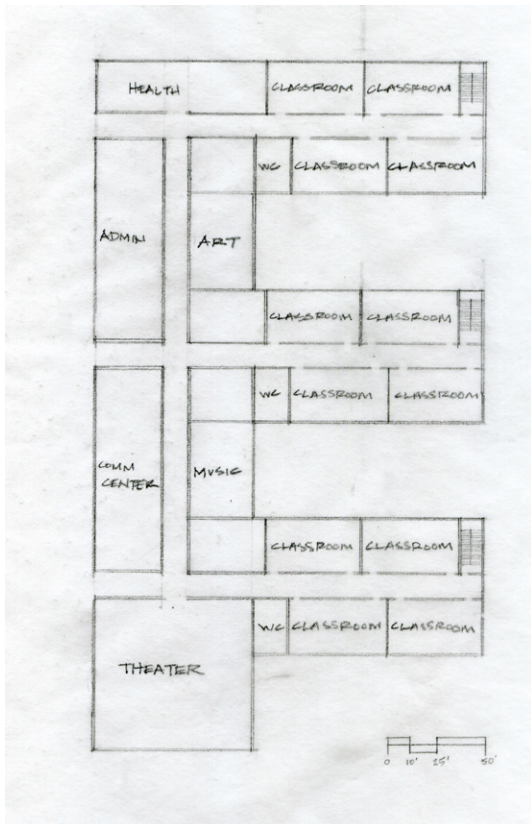


Figure 83. E Scheme - Plans - First Floor, Ground Floor, and Second Floor



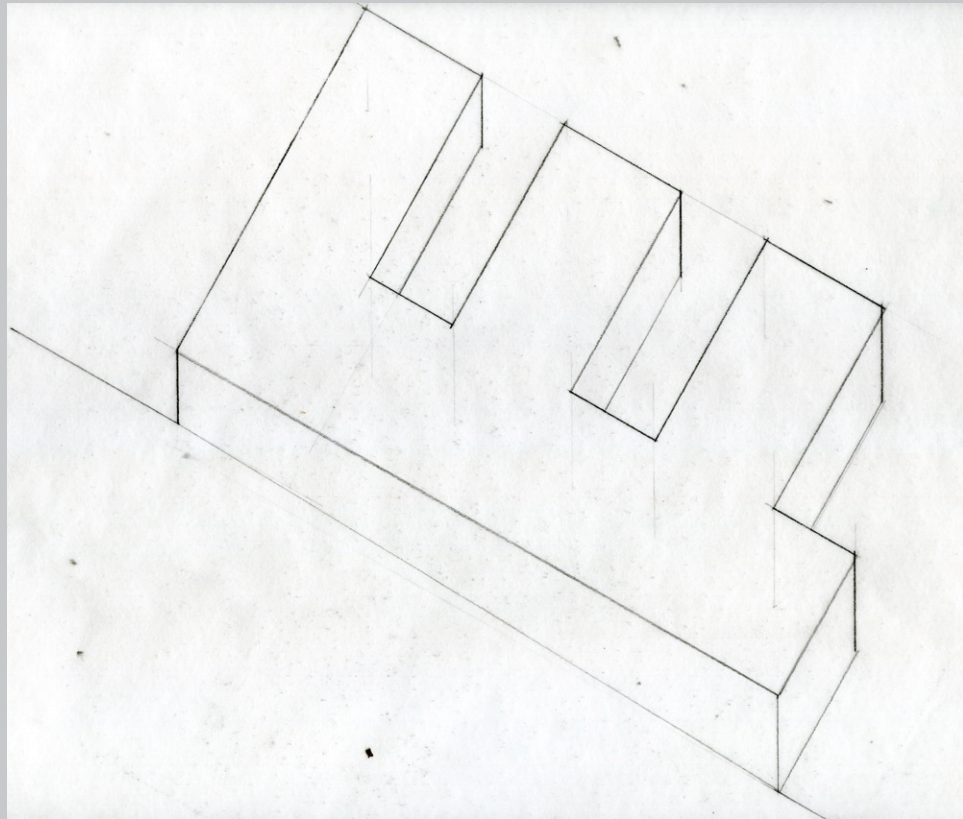


Figure 84. E - Scheme - Axonometric

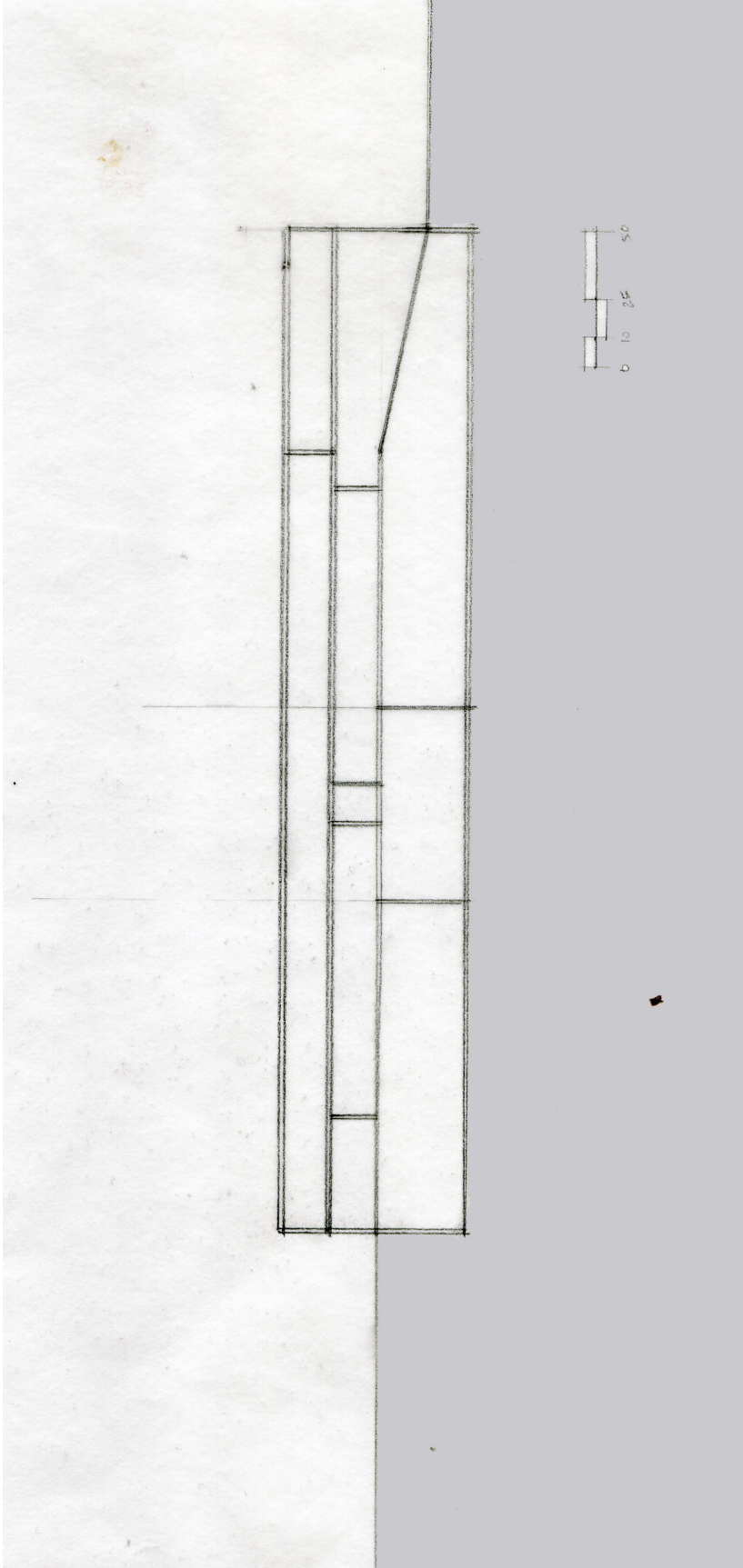


Figure 85. E - Scheme - Section



## Conclusion

Bringing about consensus in a community-based project is very difficult. The community members only agreed on four different items: 1.) Create as much greenspace as possible; 2.) All the functions of the current MRCLC need to be included in the new MRCLC; 3.) The current MRCLC must be kept open and operational while work was being done on the new MRCLC, and; 4.) Champlain Street will be reopened.

Those items drove some of the design, and community input in terms of building program also influenced the final product. It is a project that will continue into the future, as criticism taken from the final critique will be used to modify the architecture and create a better proposal for the Friends of Marie Reed, and other community groups.



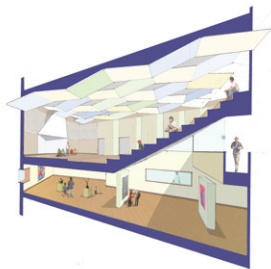
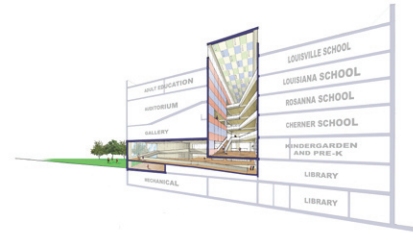
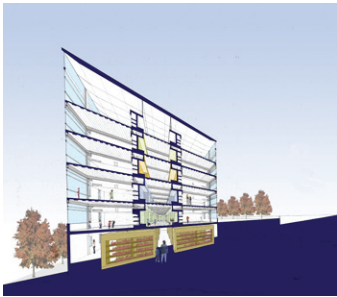
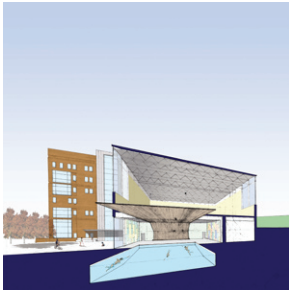


Figure 86. Final Drawings - Section Perspectives, Sections, and Elevations

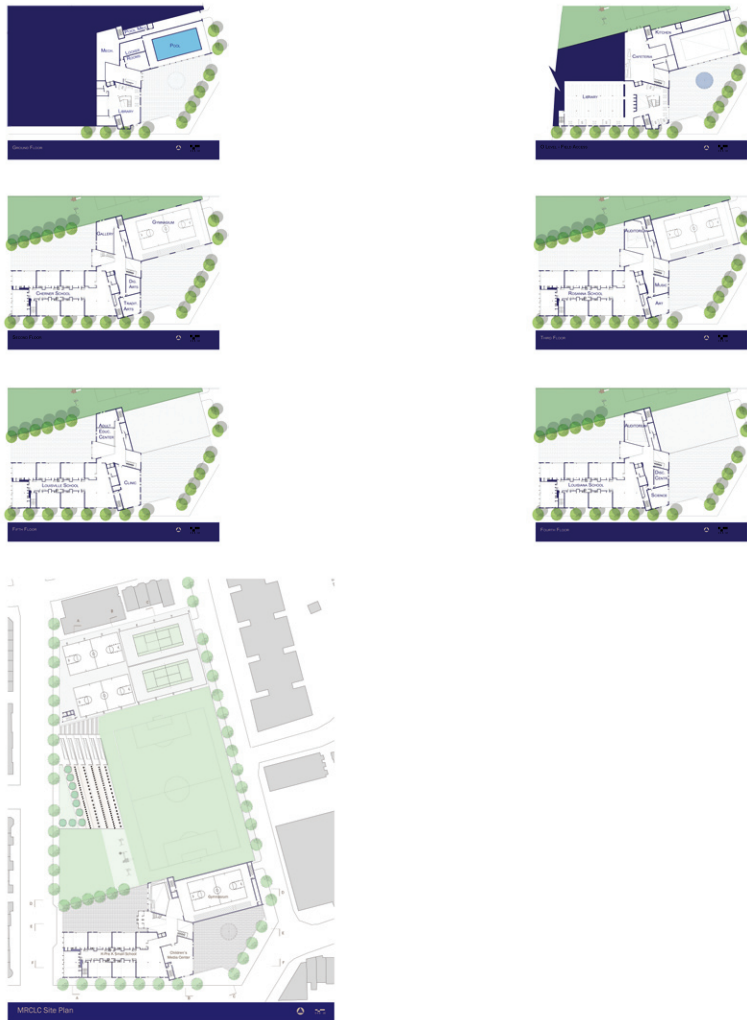


Figure 87. Final Drawings - Plans, Site Plan

## Appendix

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